FAO: CHALLENGES AND OPPORTUNITIES IN A GLOBAL WORLD
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FAO

CHALLENGES AND OPPORTUNITIES IN A GLOBAL WORLD
In September 2015, all of the United Nations Member States approved the 2030 Agenda for Sustainable Development and the 17 Sustainable Development Goals (SDGs).

“End hunger, achieve food security and improved nutrition and promote sustainable agriculture” (SDG 2) is one of the overarching objectives of the agenda, alongside the eradication of poverty (SDG 1).

Paradoxically, after decades of steady decline hunger has only increased – though slowly – since the advent of the 2030 Agenda. Other forms of malnutrition have also been on the rise. Furthermore, the agricultural sectors continue to be highly dependent on chemicals, pesticides and other factors that degrade natural resources and biodiversity, as well as contribute to climate change.

This comprehensive book intends to identify the challenges and opportunities facing food and agriculture in the context of the 2030 Agenda, present solutions for a more sustainable world and show how FAO has been structured to better support its Member Countries to achieve the Sustainable Development Goals.

Today, conflicts and the impacts of climate change are the primary causes of hunger. In fact, more than 60% of people suffering from hunger live in areas of conflict. However, hunger has also recently increased where the economy has slowed down or contracted, particularly in middle-income countries in Latin America, Africa and Asia.

Vulnerable rural communities and family farmers continue to be the bulk of people suffering from poverty and hunger. To face this situation, the implementation and strengthening of social protection programmes are very important. It is imperative to act on three fronts: (i) to build the resilience of rural communities in conflict areas – to save lives, we also need to save livelihoods; (ii) to promote the adaptation of family farmers to the impacts of climate change; and (iii) to mitigate economic slowdowns through social safety nets and public policies, such as school meal programmes that are based on local food purchases from family farming.

As the world continues to struggle with hunger, a more complex nutrition problem looms large: more than 2 billion people are overweight nowadays, of which 670 million people are obese. Projections estimate that the number of obese people in the world will soon overtake the number of people suffering from hunger (nearly 820 million). This has already happened in Latin America and the Caribbean. Furthermore, nearly 2 billion people are suffering from micronutrient deficiencies such as iron, iodine, zinc and vitamin A.

Obesity and micronutrient deficiencies are predominant in populations that consume poor-quality diets with little dietary diversity. One of the main reasons is the high
consumption of ultra-processed food. This kind of food (soft drinks, chips, packaged soups, chicken nuggets, hotdogs and so on) goes through multiple processes (extrusion, molding, milling, etc.) and contains little to no nutritional value, with a high content of saturated fats, refined sugars, salt and chemical additives.

In order to improve people’s diets, food systems must be reoriented to provide everyone with healthy food that is necessary for a healthy life. A food system cannot be only based on the availability of food and the access to it, but also on the quality of food. The production and consumption of local fresh food, for example, is an important part of the so-needed transformative change of our food systems.

Furthermore, we must bear in mind that to produce healthy food, we need healthy oceans, soils and seeds, as well as sustainable agriculture practices. Nourishing people must also go hand in hand with nurturing the planet. Today, it is fundamental to produce healthy food in a way that preserves the environment. This is what the 2030 Agenda and the Paris Agreement on Climate Change call for. The agricultural innovation model that resulted from the Green Revolution has reached its limits. In fact, high-input and resource-intensive farming systems have increased food production at a high cost to the environment, generating deforestation, water scarcity, soil depletion, and high levels of greenhouse gas emissions.

We need to promote a paradigm shift. The future of food and agriculture is not input-intensive, but knowledge-intensive. Countries need to implement sustainable practices that provide healthy and accessible food, ecosystem services and climate-change adaptation at the same time. This can be done, for instance, by reducing the use of pesticides and chemicals, increasing crop diversification and improving land conservation practices, just to name a few measures. All of these can also help to reduce greenhouse gas emissions from agricultural sectors, which nowadays account for 20 to 30% of the total emissions. In this regard, agroecology and climate-smart agriculture are highly promising. FAO has developed a broad range of tools to support countries in adopting more sustainable agricultural practices, including digital innovation and information technologies.

Our focus has always been on building a strong foundation to pursue FAO’s vision of a world free from hunger and malnutrition where food and agriculture contribute to improving the living standards of all, in an economically, socially and environmentally sustainable manner. This can only be achieved through strong commitment and collective action now and in the future.

José Graziano da Silva
FAO Director-General
## FAO in Seven Decades

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## An Open FAO

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A NEW VISION
For millennia, the lives of people, communities and civilizations have been marked by a permanent threat. That threat is hunger, a scourge that leads to weakness, desperation and, in the most extreme cases, death. Escaping hunger has been one of the main common threads throughout history causing large-scale migration, wars, conflicts and enormous sacrifices. But it has also given rise to unexpected alliances and served to sharpen human ingenuity and consolidate solidarity and fellowship between communities.

As a result of that ingenuity, that solidarity and the human inclination to escape the shackles of need, the second half of the twentieth century saw a significant increase in food production. Although that increase took – and still takes – a considerable toll on the planet’s natural resources, it helped to keep pace with population growth and to reduce the episodes of famine that periodically plagued much of the world.

It has now been several decades since our incapacity to produce enough food for all stopped being the reason why hundreds of millions of people are not eating enough for a decent and full life. Today, on the contrary, we produce more than enough food for the entire global population and even waste enormous amounts each year. If, at the end of the second decade of the twenty-first century, around 820 million people are trapped in the vicious circle of hunger, this is primarily due to a lack of political will to eliminate its root causes.
Recent history provides us with examples that if we want to get something done, then it can be done. Such examples include the rebuilding of Europe after the Second World War and the more recent case of Brazil. At the dawn of this century, in 2000, more than 11 in every 100 Brazilians were not eating enough.

As was the case in dozens of other countries, millions of people in Brazil were trapped in an endless spiral of hunger, poverty and lack of opportunities that was repeated generation after generation. At that time, right at the turn of the century, the United Nations Members set certain targets in order to achieve a fairer and more decent world by 2015.

The aim of the Millennium Development Goals was that by 2015 all nations on the planet would reduce the percentage of hungry people among their inhabitants by half with respect to 1990. But in Brazil, as of 2003, the Government decided to be even more ambitious. Reducing hunger was not enough. It had to be eliminated. “Fome Zero” (Zero Hunger) was the motto chosen, and even became the name of a ministry dedicated specifically to the task.

In order for expressions of goodwill to have meaning, they must be followed by effective decisions and programmes. And that effectiveness requires funding. One of the characteristics of the Brazilian case is that the executive’s political commitment led to plans and investments aimed specifically at rescuing millions of people from hunger and poverty.

The economy was growing fast and the country decided to include the hungry in its budgets and to share that increasing wealth with them. The plan of attack prepared by Luiz Inácio Lula da Silva’s executive focused on breaking the vicious cycle and turning it into a virtuous circle, where food production, the country’s macroeconomic policy and social protection measures would be coordinated and would feed back into each other. For instance, the Brazilian State started to provide nutritious school lunches for children from the most disadvantaged neighbourhoods.

As well as improving their diet, this encouraged them to attend class. Moreover, the food was bought from small-scale farmers in vulnerable situations and therefore many excluded families could access a source of income that allowed them to improve their circumstances and develop their businesses.

This system was complemented with other forms of subsidies and grants and up to 30 different measures contained in different social programmes. By 2015, the world in general had made considerable progress: in 1990, 23.3 percent of the planet’s inhabitants were not eating enough; 25 years later, that number had dropped to 12.9 percent. Seventy-two countries (from Bolivia (the Plurinational State of) to Nepal and from Mozambique to Uzbekistan) managed to reduce hunger by half on time.

However, the overall objective was not achieved and in 2015 there were still 780 million hungry people in the world. Brazil, for its part, took less than a decade to join the ranks of “hunger-free” countries. The country reached Zero Hunger in just a few years as a result of its political commitment, reflected in effective investments and programmes.
A GLOBAL COMMITMENT

Since then, the Zero Hunger Programme (developed by agronomist José Graziano da Silva, then Special Minister for Food Security in Brazil and current FAO Director-General) has been considered one of the major successes of hunger and poverty reduction at the international level and has become a model that is replicated and adapted by countries aiming to follow in the same direction.

Latin America was a pioneer in taking on this challenge and is the region that has made the most progress in terms of hunger and poverty reduction since the start of the twenty-first century. At the end of the 1990s, there were 66 million people (14.7 percent of the region’s population) suffering from hunger and without access to the food needed for a healthy life. In a decade and a half, that percentage dropped to five percent and the number of people affected decreased by 34 million (bearing in mind, moreover, that in that period the population increased by some 130 million).

The region’s success story is the result of the countries’ top-level political commitment in a context of macroeconomic and political stability that facilitated greater public spending on social programmes aimed at the most vulnerable in society, although progress has been slowing down in recent years.

Inspired and impressed by advances in the fight against hunger, then United Nations Secretary-General, Ban Ki-moon, made an appeal to world leaders and to all actors from both civil society and the private sector during the 2012 Rio+20 Conference on Sustainable Development. That appeal, known as the Zero Hunger Challenge and supported by the entire United Nations system, asked countries to redouble their efforts to eliminate hunger from the face of the earth once and for all.

Subsequently, numerous initiatives under the umbrella of Zero Hunger were launched in Asia and the Pacific in 2013. African Heads of State also joined the initiative in 2014 by adopting the Malabo Declaration, which determined to put an end to hunger on the continent by 2025. Lastly, the global target of Zero Hunger by 2030 was taken on by the entire international community when it was included as a Sustainable Development Goal (SDG 2) in the ambitious agenda adopted by all world leaders at the United Nations headquarters in 2015.

However, implementation of the SDGs has so far failed to produce positive results. In 2016, hunger increased for the first time after over a decade of decline, with around 820 million severely hungry people in 2018. According to most experts, the combination of conflicts and climate disasters is behind this increase. This upward trend should serve as a warning that things need to change if we really want to eliminate all forms of malnutrition by 2030. Recognizing the right of all people to adequate food, as an increasing number of countries are doing (above all thanks to parliamentary alliances between different political groups united against hunger), is a step in the right direction, but declarations alone are not enough.

IT’S STILL POSSIBLE

FAO is confident that we still have time to achieve SDG 2, but that this will require strengthening global commitment (and investments) and preventing hunger, food insecurity and all forms of malnutrition from losing relevance on the global agenda to other emerging issues, such as migration or climate change.
No plan for ending poverty and hunger will be worth the paper it’s written on if it lacks the funding (which demonstrates real commitment) to be put into practice. In this regard, investments from traditional development actors (cooperation from developed countries or organizations such as the World Bank) will not be enough.

Developing countries must be capable of mobilizing more resources and the involvement of the private sector will probably have to go beyond small corporate social responsibility projects. However, even in places with political will, specific programmes to fight against hunger and money to implement them, there are cases where progress is not visible or advances are too slow. This requires an analysis of what is going wrong: where are the bottlenecks that are undermining the effectiveness of the efforts made and which efforts are indeed yielding results?

There is little use, for example, in investing in improving the capacity of vulnerable coastal communities to fish and to process fish if there is no fight against the illegal fishing that is decimating stocks and, therefore, the number of potential catches among these communities. Nor is it very effective to allocate funds to supporting family farmers if women (and the households they sustain) are excluded from those programmes for legal or cultural reasons.

In some cases, such as the Horn of Africa or the Dry Corridor of Central America, a focus is needed on generating resilience among those who live off agriculture and livestock farming in the context of an increasingly unpredictable climate. In others, such as West Africa, an enabling environment is needed to develop the agro-industry and create opportunities and jobs for a growing population. In addition, in places such as the small islands states of the Pacific or the Caribbean, the economic impact of the population’s dependency on food imports will need to be mitigated.

The recipe for Zero Hunger must be specific to each territory and its circumstances. However, the example of Brazil reveals a necessary ingredient for any recipe to work: the adoption of measures to make food systems inclusive and sustainable not only in environmental terms, but also from the social and economic perspective. As long as food systems (with all their elements and actors from seed to table), urban systems and transport systems are geared solely towards economic growth and profit, it will be hard to advance towards the achievement of SDG 2 (or practically any of the others). Constant urbanization, population growth, climate change, the deterioration of natural resources, biodiversity and microbiodiversity, and the emergence of disruptive technologies present both obstacles and opportunities in the fight against hunger. The key to success, as shown in different examples around the world, from post-war Europe to Brazil in the 2000s and including other places that have experienced progress, such as Ethiopia or Bangladesh, requires placing the hungry and the poor centre stage and ensuring that they too enjoy the fruits of economic growth. While the criteria of inclusion, efficiency, equity and sustainability are being incorporated into economic activity (particularly in food systems), we need to invest words, actions, laws, programmes and resources to free humanity from this age-old scourge, which today comes in many guises, including undernutrition, obesity and micronutrient deficiencies.

Brazil reached Fome Zero in one decade. Eliminating hunger is not a technical matter or one linked to food production. It is a matter of will. Zero Hunger is still possible.

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**THE SDGs AND THE FIGHT AGAINST HUNGER**

The Sustainable Development Goals (SDGs), also known as the 2030 Agenda, represent the target the world has set itself for 2030.

Population growth, climate change and the environmental deterioration we have subjected the planet to since the start of industrialization compel us to urgently set targets like these. As does the injustice of hunger and poverty. That is why the countries within the United Nations have developed 17 goals to achieve a better (and sustainable) world before 2030. These goals are interconnected because, as we have seen, achieving some (ending hunger, for example) involves many others, including promoting education, generating jobs and ending poverty.

Specifically, the SDG most directly focused on achieving Zero Hunger is Goal 2: “End hunger, achieve food security and improved nutrition and promote sustainable agriculture.” However, there are others that are very closely linked to this, such as SDG 5, gender equality (to include and protect women in the elimination of hunger); SDG 6, access to water; SDG 12, responsible consumption and production; SDG 14, care of the oceans (including combatting overfishing); and SDG 16, peace, justice and strong institutions.
1945, CANADA. In the afternoon of 16 October 1945, the Food and Agriculture Organization of the United Nations (FAO) came into existence with the signature of its Constitution by more than 20 nations. ©FAO

1945
The Food and Agriculture Organization of the United Nations (FAO) was established on 16 October 1945. With 44 Members, FAO sprung to life with the mandate of “achieving a world free of hunger and malnutrition”.

1946
First World Food Survey. A full picture of the world food situation, confirming that widespread hunger and malnutrition were pressing concerns.

1960
Launch of the “Freedom from Hunger Campaign” to mobilize non-governmental organizations against hunger.

1963
Codex Alimentarius: FAO and WHO established international food standards.

1963
The World Food Programme is established to deliver urgent food aid in real time to affected areas.

1960-70
The Green Revolution contributed to lifting millions of people out of hunger, particularly in Asia. This was largely due to mechanization and the great increase in the production of improved cereal varieties.

1975
Committee on World Food Security created at FAO Conference that same year.

1986
AGROSTAT is launched: The world’s most important source of agricultural information and statistics.

1987
Measures against radioactive contamination in food: in 1986 the release of radioactive particles from Chernobyl spread across Europe and Asia, causing serious problems for food production and trade.

1994
Special Programme for Food Security was created to support low-income food-deficit countries in their efforts to improve food security, reduce the variability of agricultural production year on year, and improve their people’s access to food.

1996
World Food Summit convened at FAO headquarters and adoption of the Rome Declaration.

2001
International Treaty on Plant Genetic Resources for Food and Agriculture. It is a legally binding agreement that promotes sustainable farming by ensuring equitable access to plant genetic resources and by sharing their benefits among plant breeders, farmers and public and private institutions.

2002
World Food Summit: it reaffirmed the international community’s commitment to halving the number of people suffering hunger by 2015.

2007
Committee on Fisheries: a legally binding global agreement in which 119 countries approved a proposal to develop measures to address the illegal, unreported and unregulated fishing.

2011
Eradication of rinderpest. Thanks to a decades-long international cooperative effort, FAO and the WHO announce the eradication of rinderpest – a deadly cattle disease – from the natural environment.

2012

2013
FAO changes its goal from “reducing” hunger to “eradicating” hunger.

2014
Second International Conference on Nutrition (ICN2). It was a high-level intergovernmental meeting that focused global attention on addressing malnutrition in all its forms.

2015
The United Nations’ General Assembly approves the 2030 Agenda for Sustainable Development, which includes 17 Sustainable Development Goals.

2015, ITALY. Awards ceremony recognizing achievements in the fight against hunger, at FAO headquarters in Rome. ©FAO

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2015, ITALY. Awards ceremony recognizing achievements in the fight against hunger, at FAO headquarters in Rome. ©FAO
As the prime connection between people and the planet, food and agriculture can help achieve multiple Sustainable Development Goals (SDGs). Properly nourished, children can learn, people can lead healthy and productive lives and societies can prosper. By nurturing our land and adopting sustainable agriculture, present and future generations will be able to feed a growing population with healthy and nutritious food. Agriculture is the world’s biggest employer and provides the main source of food and income for the extreme poor, which is why sustainable food and agriculture have great potential to revitalize the rural landscape, deliver inclusive growth to countries and drive positive change across the 2030 Agenda for Sustainable Development.

FAO faces this Agenda with long-standing and still pending issues such as eradicating hunger and food insecurity, including the most vulnerable or preserving the natural resource base; and other emerging challenges such as climate change or obesity and diet-related NCDs, on its plate. In order to help countries face the increasing number of challenges in sustainable agricultural development and achieve Zero Hunger,
ACHIEVING FAO’S GOALS TO END HUNGER AND POVERTY IS A CHALLENGING TASK. THANKS TO MAJOR CHANGES IN HOW WE DO BUSINESS, TODAY FAO IS A MORE FLEXIBLE ORGANIZATION, WITH ACTIVITIES DRIVEN BY FIVE STRATEGIC OBJECTIVES.

FAO’S STRATEGIC OBJECTIVES

SO1 Help eliminate hunger, food insecurity and malnutrition

SO2 Make agriculture, forestry and fisheries more productive and sustainable

SO3 Reduce rural poverty

SO4 Enable inclusive and efficient agricultural and food systems

SO5 Increase the resilience of livelihoods to threats and crises

in 2013 the Organization renewed its Strategic Framework with five key Strategic Objectives (SOs).

The SOs represent FAO’s main areas of work to achieve its vision of a world free from hunger and malnutrition, where food and agriculture help to improve the living standards of all, especially the poorest, in an inclusive, economically, socially and environmentally sustainable manner. Through its Strategic Objectives, FAO has developed a flexible structure adapted to the multisectoral nature of today’s global challenges – centring the focus of its work, broadening its fields of action, generating new synergies, strengthening its capacity at regional and country levels, and contributing at the same time to the implementation of the 2030 Agenda for Sustainable Development.

FIVE BIG OBJECTIVES, A MORE COMPREHENSIVE VISION

Eradicating hunger and all forms of malnutrition is closely linked to eliminating poverty, and both goals require inclusive and socially, economically and environmentally sustainable food systems; inclusive social protection systems; and preventive efforts to build resilience before any potential setbacks or disasters. All of which necessarily comes through governments’ political will and interventions at community and household levels.

Complex realities like that of the Horn of Africa’s pastoralists, for instance, can lead to a situation in which specific efforts, such as keeping the herds healthy, fighting zoonoses, providing access to water and animal feed, developing meat drying methods or building milk collection centres, end up focusing on their own concrete results and may lose sight of the broader goals. Of course, these issues are important, but having access to education and health services are equally so. Moreover, pastoralists need economic safety nets to increase resilience to droughts or conflicts, while securing access to markets and food storage systems or getting specific support for women and youth.

Bearing in mind these goals, FAO’s five Strategic Objectives (SOs) are the basis for programming coherent support, monitoring impact and assessing results. These five SOs enable FAO’s technical specialists to align their work with the results pursued, assessing their contribution to achieving each SO and subsequently establish the priority areas of support. In light of this, rather than focusing on the specificities of a single area of work (Are we reducing illegal
fishing?), each action area is viewed through the lens of the Strategic Objectives (Are our efforts against illegal fishing contributing to more sustainable fisheries? Are they helping to reduce poverty in fisheries? etc.). Moreover, the SOs allow countries to align their planning and roadmaps in order to meet these very same objectives, and they pave the way towards new partnerships with other development actors, the civil society and the private sector by shaping areas in which the interest of both parties may concur.

HOW DOES FAO DELIVER THE STRATEGIC OBJECTIVES?

The SOs are delivered through Strategic Programmes (SPs) that are managed by Strategic Programme Teams, staffed and equipped with focal points from FAO’s technical divisions and regional offices. The aim of the SP Teams is to lead and coordinate the Organization’s actions towards achieving the SOs, which ultimately feed into the SDGs. The Organization’s technical knowledge and expertise also underpins everything it does, while fully integrating its cross-cutting themes of gender, governance, nutrition and climate change impacts in all aspects of its work.

The Strategic Framework helps governments measure FAO’s contribution to each SO and ensure consistency across multiple projects and programmes developed at the country level. Coordination at national level has also been enhanced by the SPs, especially at the regional level through the Regional Initiatives. The SP structure’s conceptual and structural flexibility presents significant opportunities for the Organization to position itself strategically before the current and emerging global challenges.

CHAD
A poultry farm worker carrying cartons of eggs. This is one of many poultry farms participating in the South-South Cooperation project. ©FAO/S. KAMBOU

FAO’S WORK ON THE GREAT CHALLENGES AND THE 2030 AGENDA

Given that the SOs were established before the 2030 Agenda for Sustainable Development, FAO has now aligned both roadmaps to measure its contribution to the SDGs and their targets. Food and agriculture lie at the core of many
Sustainable Development Goals (SDGs) and, consequently, of current and future big challenges. In this context, as a technical Organization, with a renewed and timely Strategic Framework, FAO is in a good position to address such challenges with ambition and determination.

Demographic growth projections – over 9.7 billion people by 2050 – immediately point to the need for more food. However, the growth of food production in the past decades came at a high price for the planet’s natural resources, which means we will need to feed an increasing population with a lower impact on water, soils or forests. In short, agriculture, fisheries and forestry need to be more efficient and sustainable – socially, economically and environmentally speaking – wasting less at all levels of the value chain, while also preserving natural resources (SO2).

A reduction of hunger and levels of malnutrition cannot be achieved solely by producing more food. Rather, it is necessary to understand the root causes and consequences of both and link the political will to eradicate them with adequate public policies and private contributions (SO1). Food availability needs to be matched with access to food for all, which requires creating jobs, social protection networks and, ultimately, reducing poverty (SO3), particularly in rural areas and among the most vulnerable groups such as the extreme poor, rural women, youth or indigenous peoples. Promoting rural transformation and revitalizing marginal territories or communities, and supporting their empowerment, are also powerful tools to prevent conflict and promote social progress.

In addition, since agriculture and food production are part of an integrated food system, it is necessary to guarantee that
smallholder farmers and the landless, small and medium-sized enterprises and poorer countries are included in global value chains and markets. Transitioning into more efficient agricultural and food systems also requires reducing food losses and waste and ensuring that available and accessible foods are nutritious and safe for human consumption, especially for the continuously growing urban populations (SO4).

Despite all these efforts, climatic patterns, natural disasters, pests and diseases or conflict can still unexpectedly disrupt food systems and push vulnerable populations to cycles of hunger, malnutrition and poverty that may become extreme. Therefore, it is essential to build resilience and strengthen governments’, communities’ and people’s capacity to mitigate risks and avoid that isolated catastrophes or climatic events become protracted crises or deprive affected communities of their livelihoods. It is equally essential to rebuild livelihoods and restart food production as soon as possible through conflict-sensitive programming and scaling up social protection systems while building comprehensive responses along the humanitarian–development–peace nexus (SO5).
As one example, this strategic framework has united, under the umbrella of all the five SPs, the work of FAO’s technical divisions, regional offices and country offices to support the revitalization of rural areas in Colombia and the reincorporation of former fighters during the country’s stabilization phase.

At a time when more than half of the world’s population – the figure keeps on growing – lives in urban areas, coordinated action across the SPs has led to a joint effort from all relevant divisions to address the new urban food agenda. Cities will have to play an increasingly important role in ensuring sustainable and healthy diets for urban dwellers, who are ever more disconnected from food production. The ongoing cooperation among different FAO Strategic Programmes aims at addressing nutritional, social, economic and environmental issues more holistically when seeking to strengthen different components of the food system, from farm to fork.

While progress in addressing old and well-known problems such as undernourishment has stagnated or even backtracked in recent years...
A NEW VISION

FAO AIMS AT ADDRESSING NUTRITIONAL, SOCIAL, ECONOMIC AND ENVIRONMENTAL ISSUES MORE HOLISTICALLY WHEN SEEKING TO STRENGTHEN DIFFERENT COMPONENTS OF THE FOOD SYSTEM.

— the number of hungry people is around 820 million – new issues also emerge. Prevalence of micronutrient deficiencies remains high and obesity and “diet-related” non-communicable diseases (diabetes, cancer, cardiovascular events, etc.) are on the rise (more than 672 million adults are obese worldwide), both in developed and developing countries. As food systems play a critical role in these issues, FAO is positioning itself to help countries play a larger role in those areas, traditionally confined to the health sector. Additionally, the Organization has increased its focus on promoting the adaptation of agriculture and food systems to the impacts of climate change in a way that agriculture, forestry and other land use sector’s (and its related post production activities) can also mitigate the emission of greenhouse gases.

At the same time, there is mounting evidence supporting the idea that climate change aggravation, hunger stagnation or obesity expansion share many of the same root causes. In particular, limited access to social services and growth-oriented food, transportation or urban systems that pass over health or equity

The following series of flyers highlights the work being carried out under FAO’s Strategic Programmes.
The SP teams, both at FAO headquarters and regional offices, help deliver each of the five Strategic Objectives, which are also aligned with the 2030 Agenda for Sustainable Development.

VIET NAM
Veterinarians administering free vaccines to chickens to prevent another outbreak of the H5N1 virus, at one of the many vaccination points set up by the Vietnamese Government.
©FAO/HOANG DINH NAM
issues, threaten biodiversity, and often ignore new science. For example, there is increasing evidence that the influence of the microbiome – the complex micro-organic ecosystem of water, soils or human bodies – on food and agriculture and the planet’s natural balance can no longer be forgotten.

In this and other fields, FAO continues to keep pace with the latest developments in science and technology, which will require further innovation in the ways it engages with academia and the private sector. Agricultural and food production techniques evolve at breakneck speed, and the Organization works to ensure its research and technological capacity to anticipate and assess the environmental, economic and social implications of such progress. Digital innovation and artificial intelligence, along with other technological developments in the agri-food sector will also require a continuous effort to keep the Organization updated and on the front line in meeting the challenges of ending all forms of malnutrition and promoting sustainability, inclusion, efficiency and resilience.

When the Food and Agriculture Organization of the United Nations (FAO) was founded in 1945, in the aftermath of World War II, its key missions included “freedom from want” (especially from hunger and extreme poverty) and the attainment of the ordinary needs of a decent, self-respecting life. In the decades that followed, the Organization focused mainly on supporting food production and the accompanying technical innovations and agricultural development that led to a reduction of hunger and episodes of famine.

Today, FAO faces the 2030 Agenda with long-standing and still pending issues – such as eradicating hunger and food insecurity, preserving the natural resource base and other emerging challenges such as climate change, obesity and diet-related non-communicable diseases.

FAO’s traditional structure tended to resemble that of its country counterparts – that is, ministries of agriculture. Therefore, different divisions were established to address specific challenges: Animal Health, Plant Production and Protection, Fisheries Policies and Resources, etc. Given that these divisions – each with their own governmental focal points – tended to define their own priorities, the Organization’s work was often carried out in independent silos.

Building on the premise that the challenges around food and agriculture are multidisciplinary and transnational (the same premise that in 2015 would inspire the Sustainable Development Goals and the 2030 Agenda), in 2013 FAO introduced its renewed Strategic Framework encompassing five Strategic Objectives (SOs).

This renew framework acknowledges the need for an integrated approach to address current and emerging challenges and is intended to overcome compartmentalization and generate synergies among FAO’s different technical departments, while avoiding duplication. This approach arises above assumptions that the issues of, for instance, pastoralists in the Horn of Africa are limited to keeping their herds healthy, and as such, that they only require better access to water and animal feed. Of course, these are important, but having access to education and health services are equally so. Moreover, pastoralists need economic safety nets to increase resilience to droughts or conflicts, while securing access to markets and food storage systems or getting specific support for women and youth.

To achieve progress in its mission against the root causes of hunger, food insecurity and malnutrition, the Organization works in a cross-cutting way with ministries and departments in charge of rural and local development, social affairs, health, employment, environment, trade, finance, etc.

Through its Strategic Objectives, FAO has developed a flexible structure adapted to the multisectoral nature of these global challenges. It has centred the focus of its work, broadened the fields of action, generated new synergies and strengthened its presence and capacity at regional and country level.
After decades of steady progress in the fight against hunger, we have recently witnessed some backtracking, taking us back to the figures registered a decade ago: it is estimated that around 820 million people suffer from hunger. Climate variability and extremes, a surge in the number and complexity of conflicts and economic slowdowns and downturns are the main drivers behind the rise in hunger. Meanwhile, other forms of malnutrition are also on the rise: almost four out of ten adults worldwide are overweight or obese – a trend which is associated with a surge in diet-related noncommunicable diseases both in the developed and developing world. At the same time more than two billion people suffer from various micronutrient deficiencies.

Investments in agriculture have led to higher productivity, ensuring global food production keeps pace with a population that has more than doubled since 1970. However, despite stronger political commitment, with countries progressively acknowledging that everyone has the right to adequate food, the latest statistics show that investments and policies have not been fully effective in fighting hunger and malnutrition and that some population groups have not been reached by these efforts. As a specialized UN agency with a mandate to help countries in this endeavour, FAO works in partnership with governments and other development actors at global, regional and national levels. One of the main types of FAO’s support relates to the development of adequate policy and institutional environments and the strengthening of countries’ capacities to help them translate their political commitments into concrete action and eradicate hunger, food insecurity and malnutrition.

Eradicating hunger requires policy action that is multidimensional in approach. Depending on the specific context of a country, the requirements can range from increasing agricultural productivity and accessing markets to investing in family farming, small-scale fisheries and forestry, fostering governance of land tenure and natural resources, strengthening nutrition-sensitive social protection mechanisms, addressing gender inequalities, improving monitoring and coordination mechanisms for food security and nutrition, and investing in education, health, water and sanitation, or a combination of the above.

FAO’s Strategic Programme 1 supports Members in their efforts to ensure that people have regular access to enough high-quality food, particularly by developing cross-sectoral policy, programme, strategy and investment plans; strengthening inclusive food security and nutrition governance mechanisms; improving access to information and data for better decision-making; and enhancing governments’ capacities to implement policies for eradicating hunger.

FIRST, THE NEW POLICY ASSISTANCE FACILITY

Since its inception in 2015, the FAO/EU FIRST Policy Assistance Facility has helped countries create an enabling environment to make investments by governments, donors and private sector produce impact on food security, nutrition and sustainable agriculture.

This is thanks to its network of policy officers embedded in the relevant ministries or national institutions of over 30 countries. Above all, FIRST acts as a broker between those who want change (governments), those who are willing to support those efforts with investments (like the EU) and those who can provide their expertise and technical assistance (like FAO).

FIRST has supported countries like Niger in developing agricultural investment plans, which are aligned with the budgeting of relevant ministries to ensure steady progress towards achieving food security and nutrition. FIRST has also assisted governments in the ECOWAS region in reviewing the policies and needs of the fisheries sector (with a specific focus on the trade-offs between commercial fisheries aimed at exports and small-scale fisheries) as well as the challenges and opportunities related to developing aquaculture in the region. In Myanmar, FIRST has helped the government link nutrition-sensitive agriculture with land tenure issues. Several legal changes now support crop diversification and encourage farmers and other actors to invest in different farming activities, from fruits and vegetables to aquaculture. By combining government efforts and priorities, EU funding and support and FAO expertise, FIRST has already made a significant contribution. Representing just 0.1% of the EU’s resources for food security and nutrition, the Facility adds value to over 4 billion euro in investments.
In the recent decades, the world has seen huge progress in agriculture development. The rapidly expanding population together with the intensification of agriculture have been the driving force behind the rapid growth of food supplies by more than threefold. A variety of factors, including the increased use of fertilizer, water, pesticides, drugs, new crop varieties and animal breeds, and innovative agriculture practices, have contributed to enhance food production.

This progress, however, has also come at a high cost to society and to the environment. Oceans are now over-exploited and many rivers, lakes and seas are polluted with chemicals. Soils are degraded and have lost much of their fertility. Pesticides are devastating people’s health and the environment, while high levels of greenhouse gas (GHG) emissions from input-intensive agriculture aggravate the menace of climate change. In short, our agricultural systems are the result of unsustainable farming practices that have squandered our natural resources.

Hence, there is compelling evidence to suggest that building more efficient and equitable agriculture and food systems and investing in rural development can accelerate achievement of goals and targets across the 2030 Agenda.

FAO’s Strategic Programme 2 calls on everyone’s efforts to move towards sustainable agricultural production systems, but this endeavor entails more than just protecting our natural resources. Sustainable agricultural development requires integration and synergies between sectors and entails policy coherence with all stakeholders, including the private sector, civil society, academia and research institutions. It is a process with overarching frameworks that range from technical, governance and financing aspects to developing partnerships and accountability at different levels.

In order to contribute to the aim of the 2030 Agenda of shifting societies and economies onto a sustainable development pathway while “leaving no one behind” and achieve such a significant transformation, FAO has developed a common vision for sustainable food and agriculture that is based on five key principles that balance the social, economic and environmental dimensions of sustainability, and provides a basis for developing adapted policies, strategies, regulations and incentives.

More specifically, FAO supports countries to work towards more sustainable food and agriculture by:

- **Supporting producers** in adopting more innovative, productive, sustainable and climate-resilient practices that increase productivity and resilience to climate change, while preserving natural resources.
- **Promoting the transition** to sustainable and climate-resilient agricultural policies and governance mechanisms through stronger policies, investment strategies and programmes and cross-sectoral dialogue, in order to enhance the role of agriculture, forestry and fisheries in national sustainable development.
- **Gathering and sharing knowledge** needed to support the transition to productive, sustainable and climate resilient agriculture and strengthening the capacity of institutions to collect and analyze data and produce evidence for informed decision-making.
- **Strengthening national capacities** to implement international instruments that promote productive and sustainable agriculture and developing new frameworks to incentivize the transition.
Poverty remains one of the biggest obstacles to human development and economic growth, and most of the world’s poor live in rural areas affected by hunger and food insecurity. Therefore, reducing rural poverty is essential to FAO’s mission. Although progress has been made in reducing the number of the poor in the past decades, more than 700 million people continue to live in extreme poverty and most of them (around 80 percent) live in rural areas and depend on agriculture for their livelihoods. Poor communities are often constrained by limited access to resources, services, technologies, markets and economic opportunities, which lower their agricultural productivity and income in rural areas.

UN member countries have committed to eradicating extreme poverty and hunger for people everywhere by 2030. Through its Strategic Programme 3, FAO is helping countries to achieve the goals of poverty reduction by making ongoing processes of rural transformation more pro-poor and inclusive, to make sure that no one is left behind. Among other activities, FAO supports governments in the design of pro-poor policies, strategies and programmes that promote inclusive and sustainable agriculture; it helps countries improve access to technologies, services and markets, as well as access to and sustainable management of natural resources; and works to empower the rural poor and strengthen rural institutions.

In low-income countries in particular, investing in agriculture reduces poverty more directly than investing in other sectors, as it offers the most direct route for rural people to benefit from land and labour – their main assets. However, because the poor often need to engage in multiple economic activities, reducing rural poverty requires a vision of rural transformation that includes an economic diversification that can generate jobs and empower people in agriculture and beyond.

Recognizing the diverse spectrum of poor rural households, FAO proposes a broad approach with differentiated strategies to help the rural poor and extreme poor move to a higher labour status and productivity and reach decent standards of living through their livelihoods. This multisectoral approach aims to address the social, economic, political and daily challenges that poor rural people face by:

- Increasing access to natural resources and other assets; ensuring supportive extension and information systems to improve their income and capacity to manage risks; and linking small-scale agriculture to markets and food systems, while also ensuring food security.
- Mobilizing investments to create decent employment opportunities for the rural poor as well as productive enterprises in agriculture and in the nonfarm economy.
- Building and scaling up social protection systems.
- Strengthening local governments and empowering the rural poor and their organizations to benefit from the development process.

FAO enhances the capacity of countries to use data and utilize ongoing research initiatives for policy making. In Latin America, FAO launched a regional Alliance of experts for the Elimination of Rural Poverty and produced the first FAO Regional Flagship on Rural Poverty. FAO is also supporting countries, Panama and Morocco as two examples, to boost their capacities to use poverty analysis in the design of multisectoral strategies for poverty reduction in rural areas, fostering coordination through a common vision of development.

FAO, together with IFAD and the World Bank, has developed the Rural Livelihoods Information System (RuLiS) to provide policymakers with evidence to more effectively formulate differentiated policies and monitor indicators related to SDG 1 and SDG 2. This initiative will support countries’ efforts to better understand the challenges of rural poverty as well as enhance poverty measurement and assessments.

Since 2017, FAO has worked with the World Bank and IFAD on a Joint Initiative for Focusing Agricultural and Rural Development Research and Investment on Achieving SDGs 1 and 2, which aims to strengthen and raise the profile of research and data to support pro-poor investments in agriculture and rural areas within the partner agencies, as well as amongst policymakers, civil society and the private sector.
Agricultural and food systems in the world are undergoing dramatic changes. On one hand, globalization, rapid urbanization and changing consumer preferences have created opportunities for the agriculture sector. On the other, industrialized food systems have contributed to malnutrition, increased incidences of food safety issues and transboundary animal and plant disease outbreaks, the misuse of antimicrobials that results in antimicrobial resistance, significant levels of food loss and waste, environmental degradation and climate change.

In addition, those segments of society that traditionally have less access to education, resources and capital, namely women, youth, urban and rural poor, indigenous peoples, and smallholders, face barriers to participate in modern value chains. Small-scale farmers, herders and fisherfolk, and small and medium agro-enterprises are increasingly dependent on dominant actors further downstream in value chains. And poorer countries that may be relatively minor players in the global market, risk exclusion from new market opportunities.

Approximately three-quarters of the world’s agricultural value-added activities take place in developing countries, which means that the increasing demand for high-value products on international and domestic food markets provides an opportunity for developing countries to generate economic growth and gainful employment. In our increasingly interconnected world, agriculture and food systems are crucial for countries in meeting the objectives set out in the 2030 Agenda for Sustainable Development to eliminate hunger, improve nutrition, reduce rural poverty and increase resilience to climatic and economic shocks. However, countries require assistance and capacity building in accessing international markets and meeting international standards for food safety.

Through its Strategic Programme 4, FAO assists developing countries in the implementation and enforcement of food safety and hygiene standards. For instance, it ensures that governments are active members of FAO and WHO’s Codex Alimentarius and builds countries’ capacity to apply guidelines and codes of practice, as well as to meet the necessary procedures for accessing markets. Besides facilitating dialogue on issues related to trade agreements, FAO also assists in the design of appropriate trade policies and produces international market data as basis for trade and market policies.

Increased investments are also key to produce better quality products that ensure nutritional needs are met and higher prices attained by producers. FAO develops the capacity of countries to design, plan and implement investments together with the public and private sectors. Moreover, the Organization also provides assistance to enhance the inclusiveness of food and agriculture systems by engaging smallholder producers and economically small countries. By supporting market models that link smallholders to large buyers, promoting the participation of women at higher levels along the value chain, and encouraging South-South Cooperation to allow countries to learn from the successful experience of others, amongst other activities, FAO aims to develop inclusive and efficient value chains.

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**FAO’S 3E APPROACH AND THE COMPREHENSIVE AREAS OF SUPPORT (CAS) TO THE URBAN FOOD AGENDA**

**EXPANDING**
- CAS 7. Evidence-based outreach for improved global urban food governance

**EXECUTING**
- CAS 3. Short food supply & public food procurement
- CAS 4. Agri-food innovation across small towns
- CAS 5. Food and green environments for healthy cities
- CAS 6. Optimized supply chains & circular bioeconomy

**ENABLING**
- CAS 1. National urban and territorial policies and transformative Institutions
- CAS 2. Integrated food system planning and inclusive local food governance
Every year, millions of people who depend on the production, trade and consumption of crops, livestock, fish, forests and other natural resources, are confronted by disasters and crises. They can strike suddenly – like an earthquake or a violent coup – or unfold slowly, like drought-flood cycles.

As the magnitude and impact of crises and disasters increase more and more households, communities and governments of developing countries are less able to absorb, recover and adapt, making them more vulnerable to future shocks. The combination of acute shocks and chronic stressors causes widespread human suffering and huge economic losses and threatens progress made in ending hunger and malnutrition. It creates a vicious downward spiral, pushing poor families into destitution and, ultimately, dependency on costly humanitarian aid.

Building the resilience of agricultural livelihoods to threats and crises and promoting agriculture’s role in reducing conflict and sustaining peace are key to making sustainable development a reality and offer a powerful lever for reaching the Sustainable Development Goals’ pledge of leaving no one behind. Agriculture and food systems must be resilient and risk sensitive in order to feed present and future generations. By bringing together humanitarian and development actions – with a deliberate focus on contributing to sustaining peace – FAO strives to both meet the immediate needs of those impacted by crises while simultaneously addressing root causes of hunger and vulnerabilities and seeking to open new opportunities tailored to local livelihoods and agri-food systems.

FAO’s Strategic Programme 5 has developed a resilience programme to strengthen risk informed and shock-responsive systems based on four mutually reinforcing areas:

- **Strengthen crisis and disaster risk governance** to establish enabling policies and institutional structures that reduce multiple and increasing levels of threats affecting the agriculture sector.
- **Monitor crisis and disaster risks** in order to prepare for and reduce the impact of such shocks.
- **Apply risk reducing practices** before, during and after emergencies.
- **Respond to emergencies and rehabilitate agricultural livelihoods** to ensure that people do not become destitute and dependent on international assistance.

### Global Network Against Food Crises

Conflict, climate variability and extremes, and economic downturns are deepening acute and chronic hunger and malnutrition. If we are to achieve Zero Hunger, we must simultaneously meet immediate humanitarian needs while addressing underlying fragilities through a mix of humanitarian, stability, peace-building and development interventions. The Global Network against Food Crises (GNFC) was established by the European Union, FAO and the WFP in 2016 during the World Humanitarian Summit in Istanbul, Turkey, to combat food crises from humanitarian and development perspectives and tackle its root causes. The GNFC acknowledges the centrality of food and agri-food systems in preventing food crises and mitigating their impact, boosting recovery and reconstruction. It also acknowledges the need to coordinate actions in relation to other complex drivers of vulnerability, such as conflict and insecurity, climate change and demography. The GNFC is a global collaboration that aims to promote an enhanced coordination among stakeholders, share data and analyses, define innovative approaches and pursue evidence-based advocacy for food and nutrition security in contexts at risk of food crises.

To ensure a robust and practical results-based approach to all of its work, FAO must ensure that it has the internal technical capacity and integrity to achieve the expected results. Therefore, the Strategic Framework guarantees integration of technical capacity and cross-cutting issues in the delivery of the Strategic Objectives. The following cross-cutting areas of work are fully integrated in the way FAO works through the Strategic Objectives action plans.

**GENDER**
The agricultural sector is underperforming in many developing countries, partly because women tend to be locked out of land ownership, access to credit and productive farm inputs and access to markets as well as other resources and services. This gender gap impedes development and costs societies in terms of lost agricultural production, food security, nutrition and economic growth. Women are the backbone of rural economies, working as farmers, laborers and entrepreneurs. FAO works with partners to eliminate gender-based barriers and support countries in devising equitable agricultural and rural development policies to increase the participation and empowerment of women and narrow the gap between them and men.

**GOVERNANCE**
Governance refers to the rules, policies and processes through which public and private actors articulate their interests and make, implement, monitor, and enforce decisions. Development processes affecting food security, nutrition, livelihoods, and the management and sustainable use of resources, all face increasingly complex governance challenges. To address these challenges, stakeholders will need to reach a common understanding and to increase the dialogue within and across sectors. Achieving progress requires involving stakeholders, including the private sector, civil society, academia and research institutions, and developing partnerships at different levels. FAO’s cross-cutting theme on governance enhances the effectiveness of our policy assistance and better addresses the complex challenges of achieving our Strategic Objectives in all aspects of our work.

**CLIMATE CHANGE**
A world without hunger will not be possible without a global concerted effort to respond to changing climatic patterns. FAO supports countries to combat this challenge head on by pursuing more productive, sustainable and climate-resilient agricultural development. Poverty, health, water use and biodiversity will all be affected by a changing climate. Productive, sustainable and climate-resilient agricultural development is among the most effective ways to address and mitigate these inter-related challenges.

**NUTRITION**
In November 2014, world leaders adopted the Rome Declaration on Nutrition and the Framework for Action at the Second International Conference on Nutrition (ICN2), reinforcing their commitment to end all forms of malnutrition by 2030. To meet these commitments, FAO works for nutrition-sensitive food systems that deliver healthy diets for everyone all year. This approach requires action at every level of the food system – from input supply, through production, postharvest management, processing, retailing to consumption – and cuts across all of the FAO Strategic Programmes. Our work promotes the sustainable production of nutrient-dense foods with the protection of biodiversity in favour of more diversified food consumption; the development of nutrition-sensitive value chains and trade and effective consumer protection and seeks to ensure that the poorest have access to healthy foods and good nutrition even in times of crisis.
Ending hunger and malnutrition and ensuring food access for all

The climate change threat

Natural resources under pressure: biodiversity and water

Transforming food systems

Towards sustainable forest management

Safeguarding our oceans and fisheries

Conflict and food security

Combatting rural poverty

Leaving no one behind: rural women and youth as agents of change

Innovation: FAO sowing the seeds of transformation
FAO'S CHALLENGES IN THE 21ST CENTURY
While global hunger has decreased in recent decades thanks to the joint efforts of countries and international organizations, the last few years have seen a worrying reversal in this trend. The number of undernourished people, meaning those facing chronic food deprivation, has grown in recent years to around 820 million people, which represents almost 11 percent of the world population (one nine people).

After a prolonged decline, hunger is returning to levels from a decade ago. This recent increase in hunger has been largely attributed to persistent instability in conflict-ridden regions, adverse climate events that have hit many regions of the world, and economic slowdowns that have affected more peaceful settings and worsened the food security situation.
Food insecurity experiences range from the anxiety of running out of food to compromises in diet quality and reductions in the quantity of food consumed due to lack of money or other resources.

Under the second goal of the 2030 Agenda for Sustainable Development, also known as the Zero Hunger Goal, the world has committed to eliminating hunger and ensuring access to safe, sufficient, nutritious food for all. As such, SDG 2 has entailed a global rethink of the broad Zero Hunger concept, to align it with the complex set of food-related challenges that our world is faced with now. Going beyond hunger is necessary in a context where multiple forms of malnutrition – from micronutrient deficiencies, to stunting, wasting and obesity – exist in poor and rich countries alike and are very often present within countries, households and even individuals.

Meeting requirements for dietary energy consumption (which is captured by the FAO indicator: the prevalence of undernourishment – PoU) is not enough to demonstrate progress on SDG 2. People who consume sufficient food to meet their energy needs may still be forced to reduce quality and/or quantity of food and face uncertainty about their ability to obtain food, all of which can have serious consequences for mental and physical well-being. There is a need to capture more than hunger, as SDG 2 goes well beyond it.

Food insecurity, characterized by the lack of reliable access to adequate food, goes beyond hunger to encompass experiences that correspond to different levels of severity, ranging from relatively mild conditions, such as facing anxiety over food running out, to more severe ones, like going day(s) without eating.

As one of several causes of poor nutritional status, food insecurity contributes to malnutrition via multiple pathways. Poor access to food, for example, and particularly to healthy food, contributes to undernutrition as well as overweight and obesity. Food insecurity increases the risk of low birthweight, childhood stunting and anaemia in women of reproductive age, yet it is also linked to overweight in school-age girls and obesity among women, particularly in upper-middle- and high-income countries.

There are several explanations for the seemingly paradoxical coexistence of food insecurity and obesity. When resources are limited, people are often forced to eat lower-cost, less-healthy, more energy-dense foods, which can lead to them becoming overweight and obese. Affordable, readily-available, ultra-processed foods that are high in fat, sugar and salt, combined with shifts away from traditional diets towards convenience foods, contribute to explaining the association between food insecurity and overweight and obesity.
Periodic episodes of food insecurity and deprivation can also lead to disordered eating and stress-related metabolic responses. This can increase the risk of obesity and non-communicable chronic diseases such as cancer, diabetes, hypertension and heart disease. Additionally, maternal and infant/child food deprivation can result in foetal and early childhood “metabolic imprinting”, which increases the risk of obesity and diet-related non-communicable diseases later in life.

GLOBAL TRENDS IN MALNUTRITION

As already described, malnutrition ranges from undernutrition (wasting, stunting or underweight) to overweight and obesity to micronutrient deficiencies. Stunting (low height for age) in children under five years of age is a largely irreversible outcome of inadequate nutrition and repeated bouts of illness. Recent data tell us that stunting is declining, yet the numbers remain high. Globally, approximately 151 million children under five (over 22 percent) suffer from stunting, particularly concerning given that stunting before the age of two can lead to poor cognitive and educational outcomes, as well as an increased risk of developing obesity and non-communicable diseases later in life. Additionally, wasting (low weight for height) continues to affect 7.5 percent of children under five worldwide, exposing them to a higher risk of mortality.

Recent estimates reveal more than two billion people to be suffering from at least one form of micronutrient (vitamin and mineral) deficiency. Often called “hidden hunger” due to the frequent lack of visible signs, the consequences are nevertheless serious. Anaemia in women of reproductive age, for instance, affects over 613 million women worldwide and contributes significantly to maternal deaths, yet it can be present in women who appear healthy or are even overweight. The prevalence of anaemia among women of reproductive age has been slowly yet steadily increasing, with nearly one in three women affected in 2016. While the causes of anaemia vary, it is estimated that half the cases are due to dietary deficiencies of iron, vitamin B12 and/or folic acid.

Likewise, rates of obesity have continued to rise, as more than one in eight adults, or 672 million people, are now obese. Obesity increases the risk of many non-communicable diseases (NCDs), including heart attacks, stroke, diabetes, degenerative joint diseases and some forms of cancer. These conditions are costly, in terms of individual well-being, healthcare expenses, lost income and earning potential, and reduced labour productivity.
Overweight and obesity are on the rise in all regions of the world, and the speed with which they are increasing is of great concern. Obesity more than doubled between 1984 and 2014. It is not only adults who are affected either; an alarming 38 million children under five years of age were overweight in 2017 globally – an increase of 8 million since 2000. Experts suggest that if there is no major shift in policy, by 2030, the number of overweight and obese people will have increased from 1.33 billion in 2005 to 3.28 billion.

In other words, the issue will affect almost one-third of the global population projected for that year, according to estimates from the 2016 Foresight report by the Global Panel on Agriculture and Food Systems for Nutrition. But where does this increase in the prevalence of obesity and overweight come from? The explanation is quite complex and depends on multiple factors and causes.

Recent decades have seen a shift in dietary patterns worldwide. Rapid urbanization, the globalization of food chains, food cultures and consumer markets, together with rising incomes, especially in low- and middle-income countries, have been key drivers to this change.

In certain parts of the world, richer incomes have led to greater demand for, and consumption of, nutrient-rich foods such as fruit, vegetables, wholegrains and seafood. Nevertheless, in many other parts of the world – especially in urban contexts – more income, coupled with less time available to prepare family meals, has led consumers to progressively rely on supermarkets, fast food outlets, street food vendors and take-away restaurants. This has contributed to an increase in consumption of cheap, highly processed foods.
Rapid rates of urbanization and technological advances accelerate demand for highly processed foods, which are often low in vitamins and minerals, and cheaper than nutrient-rich foods.

TRADE AND NUTRITION

*International trade is an important and essential tool in our effort to eradicate hunger and malnutrition* in its various forms, by allowing food to move from surplus to deficit regions and contributing to making it available and affordable for people. At the same time, it can contribute to diversifying diets, for instance by making certain fruit and vegetables available in countries where they cannot be grown, or they can only be grown at much higher costs including to the environment. However, trade can also increase the availability of ultra-processed food that is unhealthy.

Globalization, rising incomes, urbanization and changing lifestyles have all led to the increasing demand for ultra-processed and convenience foods. Studies suggest that, among other factors, trade and investment liberalization have led to increased imports and consumption of fatty meats, vegetable oils and processed foods and thus contributed to drastically increasing obesity rates in the Small Island Developing States (SIDS) in the Pacific, which heavily rely on food imports. Other studies suggest that highly processed foods, typically loaded with saturated fats, refined sugar, salt and chemical additives are made available to an increasing number of low- and middle-income countries (LMICs) through trade and foreign direct investment (FDI) and may contribute to the obesity epidemic in these countries.

FOOD SYSTEMS FOR HEALTHY DIETS

Rather than delivering the diets that people need for a healthy life, the globalized food system is contributing to obesity, overweight and other forms of malnutrition. In fact, the food challenges facing humanity nowadays are not only related to availability and accessibility, but to the quality and sustainability of food people eat. Healthy diets depend on our food systems’ ability to make them available and affordable to everyone,
FAO’S CHALLENGES IN THE TWENTY-FIRST CENTURY

ENDLING HUNGER AND MALNUTRITION IN ALL ITS FORMS SHOULD REMAIN CENTRAL FOR COUNTRIES AS THEY FULFIL THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT.

ADULT OBESITY IS RISING EVERYWHERE AT AN ACCELERATING PACE

SOURCE: FAO. 2017. THE STATE OF FOOD SECURITY AND NUTRITION IN THE WORLD.

MORE INFORMATION ON FOOD SYSTEMS IN PART 2, CHAPTER 2.4, TRANSFORMING FOOD SYSTEMS
In light of emerging global priorities and crises – from obesity and the surge of non-communicable diseases, to climate change and environmental degradation, to migration, conflicts and natural disasters – global leaders and national decision makers must remain steadfast in their efforts to achieve the SDG 2 Zero Hunger targets and prevent further backtracking on the progress made over the past few decades.

Besides a global rethink on how to eradicate hunger and poverty, the 2030 Agenda has also proposed a global focus on eradicating all types of malnutrition, with a clarion call to ensure that sustainable agriculture works for nutrition. Ending hunger and malnutrition in all its forms through sustainable agriculture and food systems should indeed remain central for countries as they fulfil the 2030 Agenda.

As implementation of the 2030 Agenda gathers momentum, countries are increasingly recognizing that in order to achieve SDG 2, and the SDGs more generally, it is important to promote coherent policy action across sectors with an explicit focus on Zero Hunger. Only by pulling together the efforts and strengths of all stakeholders can countries wipe out the root causes that keep the hungry, food

**WHAT IS A HEALTHY DIET?**

A healthy diet is one that meets the nutritional needs of individuals by providing sufficient, safe, and diversified foods to maintain an active life and reduce risks of disease. It contains fruits, vegetables, legumes (e.g. lentils, beans), nuts and whole grains (e.g. unprocessed maize, millet, oats, wheat, brown rice), and is low in fats (especially saturated fats), free sugars and salt. Unhealthy diets are an important cause of malnutrition. They are now responsible for more adult deaths and disabilities than alcohol and tobacco use.

FAO FACILITATES DIALOGUE BETWEEN GOVERNMENTS AND PROVIDES TECHNICAL ASSISTANCE TO STRENGTHEN THEIR CAPACITIES TO IMPLEMENT POLICIES AND PROGRAMMES.

THE GLOBAL COST OF MALNUTRITION

Burdens of hunger, food insecurity, and malnutrition pose a significant economic challenge for all countries, especially less developed ones, given the health costs and loss of productivity, which could represent up to 5 percent of global gross domestic product (GDP), equivalent to USD 3.5 trillion per year or USD 500 per person. It is estimated that the costs of undernutrition and micronutrient deficiencies represent 2–3 percent of global GDP, or between USD 1.4 trillion and USD 2.1 trillion per year. Although there are no global data available on the economic costs of people being overweight and obese, it is estimated that the cumulative cost of all non-communicable diseases – for which being overweight and obese are among the main risk factors – reached approximately USD 1.4 trillion in 2010 (SOFI 2013).

The current hunger and malnutrition situations call for urgent and scaled-up action by countries and their partners in line with the international commitments made at the Second International Conference on Nutrition (ICN2, 2014), the UN Decade of Action on Nutrition 2016–2025 and the 2030 Agenda for Sustainable Development.


insecure and malnourished trapped in a vicious circle of chronic deprivation.

However, despite stronger political commitment, the latest statistics show that investments and policies have neither been fully implemented nor effective in fighting hunger and malnutrition, and that some population groups have been neglected. As a specialized UN agency with a mandate to help countries in the fight against hunger and malnutrition, through its Strategic Programme 1 (“Help eliminate hunger, food insecurity and malnutrition”) FAO works in partnership with governments and other development actors at global, regional and national levels to develop adequate policy and institutional environments and strengthen countries’ capacities to translate their political commitments into concrete action.

Designing policies, programmes and legal frameworks

Political commitment is crucial for change, but it is not enough on its own. Commitment must be reflected in policies, laws and investment plans across a number of sectors, if the most vulnerable are to see any improvement in their lives. This can imply a radical transformation at policy and institutional levels, beginning with the setting up of enabling environments for inclusive political processes and dialogues, where the most vulnerable people are given a voice.

FAO works in partnership with governments and other development actors at global, regional and national levels to develop adequate policy and institutional environments to help countries translate their commitment into action and achieve SDG 2.

Increasingly, countries recognize the need for support to guide them through this process. FAO is assisting them in assessing how well existing development policies address current and future food security and nutrition trends of the country.

Once countries have taken an accurate stock of their policy needs, FAO supports them to adopt or redesign policies, strategies, laws and investment plans, within and across sectors, to sharpen their effectiveness in addressing food insecurity and malnutrition and factor in related outcomes.

FAO, in collaboration with different partners – in particular with economic bodies like the Community of Latin American and Caribbean States (CELAC), the Economic Commission of West African States (ECOWAS), or the New Partnership for Africa’s Development (NEPAD) Planning and Coordination Agency – has guided countries in outlining the need for greater policy focus and
coherence across sectors to achieve better food security and nutrition. In one example, the joint FAO/EU FIRST policy assistance facility (see box) has revamped policy dialogue on food security, nutrition and sustainable agriculture among policymakers and development partners in countries like Chad, Ethiopia, Kenya, Myanmar, Pakistan, Guatemala and Honduras.

**Strengthening governance and coordination**

Ridding the world of hunger, food insecurity and malnutrition requires action at all levels, from consumers to producers and their organizations, to civil society organizations, the private sector, governments, and international organizations. FAO assists all these stakeholders in enhancing their governance and coordination mechanisms at national, regional and international levels. Through FIRST, for example, FAO has contributed to revising the draft statutes of the participatory council for food security and nutrition in Timor-Leste (KONSSANTIL), and has supported the council to prioritize the most relevant food security and nutrition interventions planned in the Zero Hunger National Action Plan.

FAO also supports various platforms and committees bringing stakeholders to work together and share experiences and best practices on ending hunger and food insecurity by 2030. A noteworthy example is the World Committee for Food Security (CFS). It offers an international platform for inclusive intergovernmental dialogue on issues that are key to food security and nutrition. Discussions held at the Committee lead to policy recommendations, sometimes taking the form of voluntary guidelines for countries as they work to achieve food security and nutrition for all.

**Improving evidence-based decision-making**

Targeted action to eradicate hunger, food insecurity and malnutrition requires a common understanding of the root causes of such deprivation. Arriving at a common understanding is often hindered by unreliable, fragmented or non-existent information, or the lack of information regarding the contributions and actions by different sectors and stakeholders to food security and nutrition.

FAO works hand in hand with governments to collect data, feed various information systems and produce relevant information products such as *The State of Food Security and Nutrition in the World* (SOFI) and its regional overviews. The Organization also promotes methods, tools and training programmes to assist countries in
generating credible data and statistics, strengthening their capacities to analyse them, and supporting the development of policies, investment and action plans based on this evidence. Further, FAO provides support to countries to monitor ongoing policies, programmes and investments, and assesses the impact of these initiatives on rates of hunger, food insecurity and malnutrition.

Enhancing governments’ capacities to implement policies and programmes

New policies, however, are only effective if institutions are able to implement them: countries must continue to develop the capacities of their institutions to bring real and lasting change to the lives of people.

FAO supports governments in assessing their financing needs and helps them to map existing resources to increase mobilization of resources. The Organization also assists countries in undertaking capacity needs assessments and in developing institutional capacities for national budgeting and resource allocation that can turn policies and plans into effective action. In 2018, over 15 countries received support to develop investment plans for their sectoral strategies which integrated issues of extreme poverty, social protection and nutrition.

Parliamentary fronts and alliances against hunger

The first parliamentary fronts and alliances for food security and nutrition began in Latin America, but thanks to FAO’s support similar alliances now exist worldwide, from the Caribbean, to Europe, to the Near East and Africa. These neutral platforms, populated by lawmakers from across the political spectrum, provide a forum and a great opportunity to debate issues of food security and nutrition beyond national politics. Through them, parliamentarians become aware of the various instruments they can bring to bear through their legislative powers. Parliamentary fronts and alliances, together with other legislative initiatives, contribute to strengthening legal and policy frameworks at global and local levels while enabling a progressive realization of the right to adequate food.
The First Global Parliamentary Summit against Hunger and Malnutrition, held in Madrid in October 2018, hosted around 200 parliamentarians from 80 countries.

**REGIONAL INITIATIVES: TURNING POLITICAL COMMITMENT INTO ACTION**

The role of FAO on the ground is primarily as a catalyst for turning theory into practice, seeking to strengthen regions’ programming, mechanisms, capacity and delivery needed to end hunger by 2030. Three FAO regional initiatives in Africa, Asia and Latin America seek to strengthen actions made by countries in these regions to achieve Zero Hunger within the next two decades. In each region, FAO is working closely with a diverse range of stakeholders, including inter-regional organizations, NGOs, associations and grass-roots organizations, among others, that are already engaged in the fight against hunger.

**HUNGER-FREE LATIN AMERICA AND CARIBBEAN INITIATIVE**

Latin America and the Caribbean vowed that the present generation of children, women and men would be the first to see hunger eradicated. In 2005, the region committed to end hunger by 2025 and became the first and only region to achieve both the Millennium Development Goal of halving hunger rates, and the more ambitious goal of the World Food Summit (WFS) of 1996 to reduce by half the absolute number of undernourished people.

High-level plans, such as the Community of Latin American and Caribbean States (CELAC) Plan for Food Security, Nutrition and Hunger Eradication 2025, have been successful in showing other regions that ending hunger can be achieved.

**AFRICA’S COMMITMENT TO END HUNGER BY 2025**

In Africa, FAO supports governments with technical expertise on food security and nutrition policies and programmes through the Comprehensive Africa Agriculture Development Programme (CAADP) initiative. Countries are supported in capacity strengthening and inter-sectoral coordination for accountability on

**FAO STRENGTHENS ITS SUPPORT TO COUNTRIES THROUGH ITS REGIONAL ZERO HUNGER INITIATIVES, AS VEHICLES FOR INCREASED PARTNERSHIPS WITH REGIONAL AND NATIONAL ORGANIZATIONS.**

**TRANSFORMING FOOD SYSTEMS**

**FAO has a lead role to play in linking food and nutrition initiatives at the global level,** for example through the UN Decade of Action on Nutrition and the 2030 Sustainable Development Goal Agenda. Boosted by the commitment of countries to end all forms of malnutrition, leaving no one behind, these initiatives present opportunities to reform food systems for healthy diets. Under the UN Decade for Action on Nutrition, several action networks have been formed to address specific nutrition-related issues. A network for actions on food labelling was established on the initiative of Chile, France and Australia.

In addition, FAO supports countries in the development of Food Based Dietary Guidelines (FBDGs) – the Organization is working with 12 countries in Africa to develop FBDGs as a means to inform institutional procurement and provide guidance on healthy diets.

To address the issue of insufficient access to reliable information on food consumption, FAO and WHO have developed a tool (FAO/WHO Global Individual Food consumption data Tool) to provide simple and accurate food-based indicators, derived from sex and age disaggregated data on individual food consumption.

FAO’s Challenges in the Twenty-First Century

Investments and more harmonized programme delivery. The aim is to accelerate and add value to ongoing regional and country efforts. The Malabo Declaration on “Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods”, and its vision of ending hunger in Africa by 2025, is implemented across the continent today. More efforts are now being channelled into establishing an African Centre that will facilitate learning and innovation among African policymakers and practitioners in their work on food security issues.

Asia and the Pacific’s Zero Hunger Challenge
Launched in 2013, the Zero Hunger Challenge saw FAO and UN partners prepare a “Regional Guiding Framework for Achieving Zero Hunger in Asia and the Pacific”, calling on everyone to continue the momentum. To support countries, FAO is spearheading the Regional Initiative to support the Zero Hunger Challenge in Asia and the Pacific. For example, in Bangladesh, the Initiative outlines a country plan for food security and nutrition, drawing on the success of the strengthening food policy capacity programme.

Equally important for FAO is to improve capacity for measuring and calculating undernourishment in the region, and to improve nutrition for children so that stunting becomes a thing of the past.

Stories from the Field
Chile: pioneer in responsible labelling
In 2010, Chile discovered that 60 percent of its population was overweight and that 25 percent of children under six years of age suffered from obesity, making the problem of malnutrition due to excess the country’s main public health concern. Faced with this issue, a group of parliamentarians led by Senator Guido Girardi asked itself the question: What determines people’s food habits and nutritional status? There is no simple answer. They are determined by multiple factors and one of the most influential is the food environment, including marketing and advertisement, the information available and nutrition labelling. That is where Chile wanted to make a difference.
This led to the adoption of Law 20.606 on the Nutritional Composition of Food and Food Advertising in 2012, though it did not come into force until 2016. The law provides for the creation of mandatory front warning labels for products that exceed the limits set by the Ministry of Health in relation to the recommended intake of sugar, saturated fats, salt and calories.

The law improves the nutritional information available, encouraging healthy food choices through the mandatory addition of front warning messages on black labels: “HIGH IN” followed by calories, saturated fats, sugar or sodium. It also restricts advertising food with black labels to children under 14 years of age and provides that healthy food must be offered in schools, prohibiting the sale, promotion and free delivery of black-labelled products in schools.

The Implementing Regulations for Law 20.606 consisted of two phases. In June 2018, the second phase entered into effect, reducing the initial limits. The law now provides that for every 100 cc, drinks exceeding 80 calories, 100 mg of sodium, 5 g of sugar or 3 g of saturated fats will have to carry a warning label. For solid food, the limit is set for every 100 g and any food exceeding 300 calories, 500 mg of sodium, 15 g of sugar or 5 g of fat will require a warning label. In 2017, the Chilean Government published the first evaluation report on the law, finding that compliance stood at 72 percent.

After a year in force, its success is perhaps best reflected in the population’s perception of it. Ninety-four percent of the 1,067 people surveyed thought it was “good or very good” to require labels for products that are “high in”; 91 percent also approved of prohibiting their sale in schools; and 74 percent approved of prohibiting their advertisement to children. The products that have most felt the impact of the labelling law are biscuits, followed by drinks and crisps: these are the things Chileans claim to be consuming less of now.

**Timor-Leste**

In 2014, Timor-Leste became the first country in Asia-Pacific to launch a national campaign on the Zero Hunger Challenge. A National Plan of Action was developed to reach this ambitious goal and through its implementation, the country with 15th youngest population in the world (74 percent of the population are under 35 years of age) aims to eradicate hunger and malnutrition by 2025, while increasing agricultural production and diversifying the population’s diet. Through the existing coordination mechanism, FAO is strengthening institutional capacities for forging policies, laws, programmes and plans that ensure 100 percent equitable year-round access to adequate nutritious and affordable food for all.

A needs assessment pointed out that achieving the goals established in the national action plan for a Hunger and Malnutrition-Free Timor-Leste (PAN-HAM-TIL) would require, among other measures, the simplification of priorities, increasing budget and improving coordination. Through the FIRST policy assistance facility and other programmes, FAO is assisting the Government in addressing those bottlenecks and resume progress.

**Ethiopia**

Several regions in Ethiopia are still suffering from acute food insecurity, mostly caused by lack of resilience before droughts and climatic patterns. However, Africa’s second most-populous country has made significant progress in fighting hunger in the last two decades, with significant support from FAO on policymaking. With double-digit economic growth in the last 10 years, the Government has put in place public programmes and policies to fight unemployment and improve education or public health that have been paired with indirect subsidies (on wheat, electricity or fuel) and a nascent social security network. Differences across regions are still important, but the whole package of measures has paved the way for the prevalence of undernourishment to decline by 20 percentage points since the year 2000.
FAO’S CHALLENGES IN THE TWENTY-FIRST CENTURY
“There is no peace without tackling food security and eliminating hunger and there will be no food without tackling climate change.”

José Graziano da Silva, FAO Director-General

Climate change is already having profound consequences on people’s lives and our planet’s diversity of life. Sea levels are rising and oceans are warming. Longer, more intense droughts threaten freshwater supplies and crops, endangering efforts to feed a growing world population. The livelihoods of smallholder farmers, fishers and foresters, who have contributed least to climate change, are already suffering most from extreme weather events that damage infrastructure, wipe out harvests, compromise fish stocks, erode natural resources and endanger species. Between 2006 and 2016, agriculture bore the brunt of 26 percent of the total damage and loss caused by climate-related disasters in developing countries.

While no other sector is more vulnerable to extreme and volatile weather events, food and agriculture provide numerous opportunities to adapt to, mitigate and build resilience to climate change.
Achieving the commitments that countries made to transform food systems and promote sustainable agriculture approaches can still deliver a world without hunger and malnutrition by 2030.

The ever-increasing impacts of the changing climate threaten to undercut and possibly reverse the progress that has been made in the fight against hunger and malnutrition in recent years. Slow-onset environmental change processes, increasing climate variability and more frequent and severe extreme weather events impact agricultural productivity and add pressure to already fragile food and ecological systems. Smallholder producers and the rural poor in developing countries are particularly vulnerable to the effects of climate change and climate variability largely due to limited resilience and diversity in their production systems.

Agriculture and food systems are partly responsible for increased temperatures but are also a fundamental part of the solution to mitigate greenhouse gas emissions and promote adaptation to a changing climate, especially for rural family farmers in developing countries. Often the poorest, they are also the most vulnerable to climate change.

The capacity of the agricultural sectors to respond to climate change has far-reaching impacts on the livelihoods of the majority of people in many developing countries and on national economies. More than 3 billion people, 80 percent of the poor, live in rural areas, with around 2.5 billion people dependent on agriculture for their livelihoods. Farmers, pastoralists, fisherfolk and community foresters, whose work is inextricably linked to climate, require greater access to technologies, markets, information and credit for investment to adapt their production practices to the changing climate, build resilience and continue to contribute to national economic growth.

The food and agricultural sectors are central for human development and they need to be at the centre of the global response to climate change. World leaders made historic commitments in 2015, to tackle the great challenges facing our planet, promising to build a sustainable future for humankind through the 2030 Agenda for Sustainable Development, and pledging action to address climate change in the Paris Agreement, reached at the Twenty-first Conference of the Parties (COP 21) of the United Nations Framework Convention on Climate Change (UNFCCC).

Today, these great challenges persist. The October 2018 report of the Intergovernmental Panel on Climate Change (IPCC) tops a series of recent studies that call for urgent action to avert the disastrous consequences of global warming. Focusing on the scenario of a global temperature rise this century of 1.5 °C above pre-industrial levels, the report notes that 122 million more people could experience extreme poverty by 2030, mainly due to higher food prices and declining health.
The IPCC report sounds the loudest alarm bell yet for concerted action to respond to the existential threat that predominantly faces poor rural populations in developing countries.

**CHALLENGES AND OPPORTUNITIES OF CLIMATE CHANGE IN THE FOOD AND AGRICULTURAL SECTORS**

Without action, the changing climate will seriously place food production at risk in countries and regions that are already highly food insecure. It will affect food availability by reducing the productivity of crops, livestock and fisheries, and hinder access to food by disrupting the livelihoods of millions of rural people who depend on agriculture for their incomes. It will expose both urban and rural poor to higher and more volatile food prices. Inevitably, it will cause distress migration and jeopardize progress towards the Sustainable Development Goals.

In the crop sector, there is evidence that climate change has already negatively affected wheat and maize yields in many regions and at the global level. The Intergovernmental Panel on Climate Change (IPCC) warns that decreases in some crop yields of 10 to 25 percent and more may be widespread by 2050. The increased frequency of warmer nights in most regions is damaging for many crops, with observed impact on rice yields and quality. The number of crop varieties has decreased dramatically during the twentieth century, raising concerns for adaptive capacity, genetic vulnerability and nutritional diversity. Ecological processes which are typical in diverse cropping systems have been replaced or suppressed by the use of external inputs. Intensive mono-cropping systems have expanded across the globe, leading to lower resilience of agro-ecosystems and livelihoods. The conservation of both crop and wild plant genetic resources is therefore an important adaptation measure.

Climate change is also expected to have a significant impact on the frequency and intensity of plant pest and disease outbreaks. For example, an increase in extreme weather events (i.e. drought spells or intense short-lived widespread rainfall, including cyclones), in addition to causing severe disruption in their own right, can lead to more frequent and intense plant pest and disease outbreaks, as was the case during the Desert Locust outbreaks in Northwest Africa and in Yemen in late 2015 and early 2016.

This holds true particularly in developing countries, where the food and agricultural sectors contribute significantly to national GDP but are already absorbing approximately 26 percent of the economic impact of the world’s greenhouse gas emissions, afforestation, sustainable forest management and reducing deforestation make forests one of the most cost-effective and immediate solutions to curb climate change. To fully exploit the magic of forests, it will be crucial to address the drivers of deforestation and degradation, ensure responsible governance and legitimate tenure of forests and land; and put in place effective systems for forest monitoring and reporting.

**KEY MESSAGES**

**Agriculture must transform from being part of the climate change problem to becoming part of its solution**

- The agriculture sector is responsible for almost a quarter of global greenhouse gas emissions but has great potential to store vast quantities of carbon in soils, forests and oceans. We can make significant reductions in emissions by adopting smarter, integrated farming systems; better forest governance and land-use planning and shifting to approaches that safeguard biodiversity, use natural resources sustainably and promote ecosystem services. Adopting best practices in livestock feeding and manure management and making better use of technologies such as biogas generators and energy-saving devices are also part of the transformation to sustainable agriculture.

**Strengthening resilience can prevent a climatic shock from becoming a crisis**

- About a quarter of the total damage and loss caused by climate-related disasters in developing countries occurs in agriculture. It is time to strengthen the resilience of farmers, foresters and fisherfolk through social protection and other programmes, moving from a reactive response to crises to proactively preventing and anticipating them, supporting people before, during and after shocks. Those with resilient livelihoods are better able to prevent and reduce the impact of climate change and the risk of disasters on their lives.

**Forests are one of the most cost-effective solutions to curb climate change**

- The ability of forests to store large amounts of carbon in their trees, undergrowth and soils represents our best way of confronting climate change. While tropical deforestation and forest degradation account for 11 percent of the world’s greenhouse gas emissions, afforestation, sustainable forest management and reducing deforestation make forests one of the most cost-effective and immediate solutions to curb climate change. To fully exploit the magic of forests, it will be crucial to address the drivers of deforestation and degradation, ensure responsible governance and legitimate tenure of forests and land; and put in place effective systems for forest monitoring and reporting.

**Soils are our allies in the fight against hunger and climate change**

- Making up the greatest pool of terrestrial organic carbon, soils helps to supply clean water and food, prevent desertification and provide resilience to flood and drought, while mitigating climate change through carbon sequestration. Today, however, a third of our global soils are moderately to highly degraded, unable to provide key ecosystem services. By sustainably managing soils, restoring degraded land and improving soil health, we can unlock the full potential of soils to not only respond to climate change but to maintain biodiversity and help eliminate hunger, food insecurity and malnutrition in the world.

**Oceans and inland waters are critical to global food security and the regulation of the world’s climate**

- Covering 71 percent of our planet’s surface, oceans are the Earth’s life-support system, providing free goods and services, from the food we eat to the oxygen we breathe. With about one-third of human-induced emissions ending up in the oceans, they act as the planet’s largest active carbon sink. Climate change, ocean acidification and changes in waterbodies’ physical and chemical characteristics are adding to the sense of urgency to ensure resilient socio-ecological systems.

SOURCE: FAO. 2018. FAO’S WORK ON CLIMATE CHANGE
caused by medium- and large-scale natural hazards and disasters. Additionally, climate change impacts livestock both directly (for example through heat stress and increased morbidity and mortality) and indirectly (for example through quality and availability of feed and forage, and animal diseases). Smallholder livestock keepers, fisherfolk and pastoralists are among the most vulnerable to climate change. However, a wide range of adaptation options are available, including water management, breeding animal and forage species for resistance to drought, heat and harsh environments, providing cooling or shading and implementing on- and off-farm diversification. Impacts of climate change on animal health are also documented, especially for vector-borne diseases since rising temperatures increase the survival of vectors and pathogens over the winter. Best practices and technologies in livestock feeding and manure management – as well as greater use of underused technologies such as biogas generators and energy-saving devices – could help the global livestock sector cut its outputs of global warming gases by up to 30 percent.
The negative impacts of climate change are being felt by all countries, and most severely in Least Developed Countries (LDCs), Small Island Developing States (SIDS) and areas with particularly fragile ecosystems (e.g. drylands, mountains and coastal areas). These are the same locations where attaining the goals of Agenda 2030 is already challenging. We need to move from a reactive response to crises to proactively preventing and anticipating them, supporting people before, during and after shocks. People with resilient livelihoods are better able to prevent and reduce the impact of climate change and the risk of disasters on their lives.

In 2015, Cyclone Pam, caused widespread devastation in Vanuatu, affecting approximately 200,000 people, which equates to 73 percent of the population, and causing an estimated USD 590 million in damages (65 percent of GDP). Reefs were damaged and fishing infrastructure destroyed. Additionally, 70 percent of food crops were destroyed, putting more pressure on already declining fisheries for local consumption. Cyclone Pam was followed only months later by a severe El Niño-

**FACTS & FIGURES**

- World hunger is on the rise: the estimated number of undernourished people is now around 820 million. Much of the increase in hunger can be traced to a rise in conflicts, often exacerbated by climate-related shocks.
- According to a recent IPCC report, if temperatures rise by 1.5 °C this century above pre-industrial levels, 122 million additional people could experience extreme poverty by 2030, mainly due to higher food prices and declining health.
- Between 2006 and 2016, 26% of the total damage and loss caused by climate-related disasters in developing countries was in the agriculture sector.
- Between 2006 and 2016, 30% of the agricultural losses caused by disasters were due to drought, costing over USD 29 billion.
- In developing countries, up to 83% of all damage and loss caused by drought, which climate change is expected to intensify, is absorbed by agriculture.
- The IPCC warns that declining crop yields are already a fact, and that decreases of 10–25% may be widespread by 2050.
- Increasing soil organic carbon by improved land management techniques can raise food production by 17.6 megatonnes per year and help maintain productivity in drier conditions.
- While the degradation of the world’s soils has released roughly 78 gigatonnes of carbon into the atmosphere, the rehabilitation of agricultural and degraded soils can remove up to 51 gigatonnes of carbon from the atmosphere.
- Climate change is expected to bring additional burdens on water systems already stressed. This will intensify competition for water, affecting regional water, energy, fisheries and food security.
- Livestock supply chains account for 14.5% of global anthropogenic greenhouse gas emissions. Cattle (beef, milk) are responsible for about two-thirds of that figure.
- FAO estimates that the potential to reduce emissions from livestock production, in particular methane, is about 30% of baseline emissions.
- By 2055, species redistribution prompted by rising ocean temperatures may reduce potential catches of many fish in the tropics by 40–60%, and in high latitudes by by 30–70%.
- Tropical deforestation and forest degradation through agricultural expansion, conversion to pastureland, destructive logging, forest fires, and other causes accounts for 11% of the world’s greenhouse gas emissions.
- Since 1990 over 20 countries have demonstrated that it is possible to improve food security while maintaining or increasing forest cover.
- The world’s forests store an estimated 296 gigatonnes of carbon in both above- and below-ground biomass.
- Fisheries and aquaculture make a minor contribution to global emissions but offer significant opportunities to reduce fuel consumption and emissions.
- Currently, one-third of the food we produce is lost or wasted. This costs up to USD 2.6 trillion per year, including USD 700 billion in environmental costs and USD 900 billion in social costs.

**SMALL ISLAND DEVELOPING STATES (SIDS)**

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induced drought that exacerbated the impacts of the cyclone, impeded recovery and resulted in further crop losses and water scarcity.

**THE EFFECTS OF EL NIÑO AND LA NIÑA WEATHER PHENOMENA**

New information from country food balance sheets points to reductions in food availability and price increases in regions affected by the El Niño phenomenon in 2015–16. This event resulted in large climatic deviations and anomalies compared to historical norms, which were experienced in different ways and to varying degrees of intensity in various parts of the world. In some areas, severe drought conditions have resulted from the El Niño phenomenon, particularly in regions where many low- and middle-income countries are situated.

The Dry Corridor in Central America – in particular in El Salvador, Guatemala and Honduras – was one of the regions heavily impacted by El Niño in 2015–2016. The drought impact was severe and prolonged, with late and irregular onset of rains, below-average rainfall, above-average temperatures and river levels 20 to 60 percent lower than normal. The drought was one of the worst in the last ten years and resulted in significant reductions in agriculture production, with losses estimated at 50–90 percent of crop harvest. In Guatemala alone, the Ministry of Agriculture, Livestock and Food estimated that 82,000 tonnes of maize were lost, representing a total financial loss of USD 30.8 million, while 118,200 tonnes of black beans were lost, at a cost of USD 102.3 million. More than 3.6 million people were in need of humanitarian assistance as result of this drought.

**ENVIRONMENTAL MIGRANTS**

Environmental and climate stresses on livelihoods – such as droughts, floods and unpredictable weather patterns – are a strong trigger for rural people to migrate. As land is farmed more intensively, soil degradation increases, production declines, and incomes fall. Likewise, water scarcity caused by prolonged drought and conflicts over water use may induce poorer farmers to abandon the land. Temporary, seasonal and permanent migration can also be a form of livelihood diversification, which provides significant benefits to many rural households. On the downside, migrants often face multiple hardships, risks and dangers. It is expected that hundreds of millions of people might need to flee their homes as a result of climatic and environmental pressures between now and 2050.
**FAO ACTION AREAS**

As part of its Strategic Programme 2 ("Make agriculture, forestry and fisheries more productive and more sustainable") FAO helps countries transform their food systems by: safeguarding natural resources, supporting producers in adopting more productive, sustainable and climate-resilient practices; promoting the transition to sustainable and climate resilient agricultural policies; and enhancing the implementation of Nationally Determined Contributions (NDCs), among others activities.

**Leaving no one behind in the climate change agenda**

The poor and most marginalized people are disproportionately affected by hazards and crises, often exacerbated by climate change. FAO provides policy guidance and support to countries to strengthen livelihoods and food systems and reduce people’s exposure to crises, particularly the most vulnerable. These actions help build more resilient and inclusive rural economies and foster sustainable agricultural practices. Women are more vulnerable to climate change because they face discrimination and inequalities in accessing land and water, markets, technologies and credit. This makes it particularly difficult for them to adapt to climate change.

In the international setting, FAO takes a leading role in advocacy for food security, and the Organization’s key messages are gaining traction. Most recently, during the 2015–2016 Conferences of the Parties of the three Rio Conventions (UNCCD, UNFCCC and CBD), food and agriculture featured prominently as a result of growing attention to the simultaneous vulnerability and potential of the sectors.

The adoption of the Koronivia Joint Work on Agriculture by COP 23 in 2017 marked an important turning point for the status of agriculture in the international climate discourse. Following the decision by 90 percent of countries to include the agricultural sectors (crops, livestock, fisheries, aquaculture and forestry) as a priority in their Nationally Determined Contributions (NDCs) under the Paris Agreement, Koronivia re-emphasizes the importance of agriculture and food security in the climate change agenda. Countries agreed to work together to address issues related to soil, livestock, and nutrient and water management, as well as on the food security and socio-economic impacts of climate change across the agricultural sectors. FAO is working to support countries in the development and implementation of this joint work through webinars and workshops allowing agriculture experts under the UNFCCC to informally share their views on how to develop and implement the decision.

**Helping to maintaining carbon in the soil**

FAO and the Global Soil Partnership support countries in the Implementation of the Voluntary Guidelines of Sustainable Soil Management to increase the resilience of soils and natural resource systems to the effects of climate change, while simultaneously reducing GHG emissions from soils.
FAO’s Support to Countries

- Working with countries to develop policies, including National Adaptation Plans, and enabling environments that support farmers, foresters and fisherfolk to accelerate the adoption of tools and practices that reduce risk and disaster impacts and enhance the resilience of production systems to climate-related shocks and change.

- Developing climate change impact and vulnerability assessments for crops, livestock, fisheries, aquaculture and forestry, as well as those who depend on these sectors for their livelihoods.

- Supporting countries to analyse the nexus between climate change, climate risks and poverty to effectively strengthen resilient livelihoods.

- Assisting countries to formulate multi-sectoral pro-poor development policies, strategies and programmes that integrate climate change and support the rural poor, especially women and youth, to increase their resilience and adaptability to climate change impacts.

- Adopting a comprehensive approach to strengthening resilience and reducing poverty in rural areas through risk-informed and shock-responsive social protection systems.

- Working with countries to monitor, report and reduce emissions from agricultural sectors using Nationally Appropriate Mitigation Actions (NAMAs), including deforestation and forest degradation (REDD+), as well as to enhance carbon sequestration in soils and through conservation, management and expansion of forests.

- Promoting engagement and investments of private sector and small-scale forest and farm producers in climate-friendly forest and land-use activities.

- Supporting improved natural resource management, e.g. sustainable and integrated land and water management, inland fisheries, soil conservation, and resilient crops, trees, fish varieties and livestock breeds.

- Improving weather and climate forecasting, predicting changes in aquatic ecosystems (e.g. salinity, oxygen, and pH), and communicating these to farmers.

- Enhancing early warning systems and rapid reaction mechanisms and contingency planning for natural disasters, as well as for transboundary plant pests and diseases and developing disaster risk reduction management capabilities.

- Developing the capacity of countries to enhance their transparency framework for action and support in the agricultural sectors, including support to develop their National Determined Contributions and incorporating agriculture in their National Adaptation Plans.

- Enabling women farmers to have access to land and resources, information and technologies to help their communities cope with the impacts of climate change.

- Helping to scale up climate investment for the agricultural sectors by assisting countries to access funding from the Green Climate Fund, the Global Environment Facility, and other sources.

Climate Financing
Agricultural investment has long been an effective and sustainable way to reduce hunger and poverty, but it also holds massive potential to deliver climate and other benefits. The Global Environment Facility (GEF) has funded action on sustainability for over two decades, allocating USD 17 billion in grants and mobilizing an additional USD 88 billion in financing. They have been joined by the Green Climate Fund (GCF) – the UN Framework Convention on Climate Change’s financing mechanism for developing countries and the Addis Ababa Action Agenda to help the global financial system invest in the right places. FAO was accredited to the Green Climate Fund (GCF) in 2016 and has since significantly scaled up its support, which is increasingly producing results for Member Countries.

Knowing your forests to store more carbon
FAO, the UN Development Programme and UN Environment Programme established a collaborative partnership known as the UN Programme on Reducing Emissions from Deforestation and Forest Degradation, and the conservation and enhancement of forest carbon stocks (UN-REDD+) in 2008 to support countries wishing to participate in reducing emissions from deforestation and forest degradation.

Disaster Risk Reduction
About a quarter of the total damage and loss caused by climate-related disasters in developing countries occurs in agriculture. FAO works to strengthen the resilience of farmers, foresters and fisherfolk through social protection and other programmes, moving from a reactive response to crises to proactively preventing and anticipating them, supporting people before, during and after shocks. Those with resilient livelihoods are better able to prevent and reduce the impact of climate change and the risk of disasters on their lives. Drought, in particular, can threaten local food security and nutrition and aggravate humanitarian conditions, which can trigger large-scale human displacement and create conditions for conflict. In agriculture-dependent communities in low-income contexts, droughts have been found to increase the likelihood of violence and prolonged conflict at the local level, which can eventually pose a threat to societal stability and peace.

FAO and its partners have highlighted the threat of drought and advocated for immediate response among governments and donors to ensure that early warning is matched by early action through various food security and early warning systems – such as its management of the Food Security and Nutrition Analysis Unit in Somalia, its use and dissemination of the Integrated Food Security Phase Classification system and its partnership with governments and non-governmental agencies at country and regional levels.
In response to increasing demands, FAO’s climate change portfolio has expanded. Since 2009, over 300 projects and programmes have addressed climate change adaptation and mitigation in the agricultural sectors. Through its extensive network of professionals, FAO supports countries on a wide range of climate-related issues, from policy design to improved practices and capacity development. Some examples of projects are highlighted below.

**Building resilience in disaster-stricken Haiti**
The FAO–GEF (Global Environment Facility) project, Strengthening Climate Resilience and Reducing Disaster Risk in Agriculture to Improve Food Security in Haiti post-earthquake, was designed to help farmers to produce more food, increase their incomes and improve the resilience of their livelihoods in the face of disasters. Sustainable and climate-resilient practices include the cultivation of drought-tolerant varieties of staple crops, conservation farming, agroforestry, tree planting, and contour and slope farming have been introduced using the Farmer Field School (FFS) approach.

The project established 130 locally adapted model farms that focus on climate-smart agricultural production and 20 FFSs for innovative adaptive agricultural systems. At the policy level, a technical compendium on climate change adaptation and disaster risk management practices was created; Haiti’s National Action Plan for Adaptation to Climate Change (NAPA) was revised and updated; technical assistance was provided for the creation of the Climate Change Directorate; and ten Community Disaster Risk Management Plans were developed and validated by recipients. The project supported farmers in acquiring the knowledge needed to improve the production of market garden crops and other climate-resilient staple crops. The comprehensive approach adopted in Haiti has improved food security, increased the resilience of household livelihoods and safeguarded the environment.

**Climate resilience and food security in rural Mali**
Mali, a country that has always had high rainfall variability, is currently experiencing some of the most extreme impacts of climate change. Over the past 50 years, a period in which the country’s population has grown threefold, Mali’s climate has been prone to dry years and prolonged drought, which have contributed to the vulnerability of rural communities and the degradation of the fragile ecosystems they depend on.

An FAO project funded by the GEF has built on an expanding network of Farmer Field School (FFS) initiatives to incorporate climate change adaptation concerns, strategies and tools in the agriculture, forestry and pastoralist sectors.
The project has enabled farmers to share knowledge on how to diversify production, improve soil health and fertility, determine the toleration limits of different species to temperature and rainfall, and choose more resilient seeds and varieties. Through agricultural adaptation measures carried out over 123,000 hectares, the project has helped improve the climate resilience of 41,000 smallholder farmers. The project has reported increases in average crop yields of between 21 percent and 77 percent for sorghum, millet, rice, corn, sesame and cotton. Increases in yields of 97 percent were reported for hybrid sorghum seeds.

**Putting agriculture at the heart of adaptation in Kenya**

In Kenya, climate change is threatening the agriculture sector, the country’s main source of livelihood and the Kenyan economy’s beating heart. Agriculture employs over 40 percent of Kenya’s population, rising to over 70 percent in rural areas and directly contributes 26 percent of GDP, and another 27 percent of GDP indirectly through links with other sectors. The Integrating Agriculture into National Adaptation Plans Programme (NAP-Ag), a partnership between FAO and the United Nations Development Programme (UNDP), aims to address climate change adaptation. It supported country-level consultations on Kenya’s Climate-Smart Agriculture Framework Programme, aiming to mainstream climate change into national development planning and budgeting. These consultations have engaged government representatives to establish baselines, targets, and provisions for local guidance.

**Paraguay: PROEZA – an integrated approach to fighting extreme poverty and climate change**

In Paraguay, more than two-thirds of the extreme poor are self-employed in agriculture and climate-sensitive activities. Many of them are indigenous people, who live in remote areas, lack resources and ownership rights, and depend on natural resources to meet their basic needs. This makes them extremely vulnerable to climate change and other shocks. FAO and the Government of Paraguay have formulated the Poverty, Reforestation, Energy and Climate Change (PROEZA) project to improve the resilience of poor and extreme poor households to climate change, through risk-informed social protection, while combating deforestation, and mitigating greenhouse gas emissions. The Green Climate Fund approved USD 90 million for the project.

**Above** KENYA

A man feeding some of his surviving cattle, which he managed to save from a decimating drought thanks to a collaborative intervention programme led by FAO that provided fortified feed to mitigate drought in his home village.

©FAO/MARCO LONGARI

**Right** PARAGUAY

The farmers’ traditional corretas is still the most common means of transporting people, produce and other heavy loads. New equipment and techniques are being adopted to raise production levels.

©FAO/K. PRATT
Floating gardens: Climate-Smart Agriculture production system in Bangladesh

Evidence of climate change in Bangladesh can be seen in an accumulation of heavy rains, frequent storms and rising sea levels that result in severe flooding. Due to continuous water-logged conditions, crops are often lost and land for agriculture has become scarce. The low-lying areas of Bangladesh remain submerged for 6–8 months every year, especially during the monsoon season. As a result, crop cultivation is not possible on land. In these circumstances, location-specific adaptation and resilience measures to climate change have become a priority for improving the food security of the nation’s vulnerable people. In 2015, FAO conducted a study on a successful climate-smart production system in the country’s lowlands that was based on the local knowledge of farmers. These farmers have converted the prolonged flooding season into an opportunity: “floating gardens”. Floating plots made from local organic material are used to grow around 30 species of vegetables, spices and other crops. The project is being replicated in other regions and countries with similar flooded wetland ecosystems.

FAO CHALLENGES AND OPPORTUNITIES IN A GLOBAL WORLD

BANGLADESH

Ferdousy Begum, 35, member of a Farmer Field School posing for a portrait while working in her vegetable field. ©FAO

Central and Western Africa is one of the regions most affected by the impacts of climate change. FAO is implementing a project there to provide tools to assist stakeholders involved in water management, from policymakers to small-scale farmers, to design adaptation strategies in small-scale irrigation systems that respond to the specific needs of poor farmers.

This project is conducting participatory assessments on the climate change impacts, vulnerability and adaptive capacity of different rural communities in Côte d’Ivoire, the Gambia, Mali and Niger. “In the past, the harvest could sustain households for 12 months if the rainy season was good, but now, with the impact of climate change, fewer people manage to consume their produce beyond six months,” said Manka Trawally, a farmer from Salikeni, the Gambia.

Farmers know it is time to “rethink” agriculture to cope with the impacts of climate change: adopting short cycle rice varieties; diversifying crops; adjusting the crop calendar to take into account the impact of climate change on seasons; adapting irrigation systems to the new climate variability; or creating sustainable infrastructure able to cope with climate change.

Restored and sustainable productive landscapes in Rwanda.

Rwanda has committed to restoring 2 million hectares of degraded land by 2020 as its pledge for the Bonn Challenge to be able to sustainably feed its growing population. To meet this ambitious challenge, FAO facilitates the efforts of a cross-sectoral platform that brings together key government and development partners, with a view to accelerating the transition towards restored and sustainably productive landscapes.

SOURCE: FAO. 2017. FAO’S WORK ON CLIMATE CHANGE.
FAO'S CHALLENGES IN THE TWENTY-FIRST CENTURY
The air we breathe, the water we drink and the food we eat all rely on biodiversity – but the demands of a growing population and the practices of unsustainable agriculture are compromising access to humanity’s most basic needs.

A major factor in overcoming the global challenges we face is safeguarding and using biodiversity, the variety of life on our planet. Biodiversity is integral to ecosystem health, essential to the sustainable increase of food production and necessary to build resilient livelihoods. However, the alarming pace of biodiversity loss today threatens devastating consequences for humankind if it goes unchecked. While changes to the climate may be reversible in time, there is no going back once species become extinct.

Farmers, pastoralists, forest dwellers and fisherfolk helped weave the rich web of life over hundreds upon hundreds of generations. But it is only now that we are beginning to understand the negative impact that unsustainable human development has had on biodiversity and the consequences for our planet. To take just one
example, in just 12 years, between 2005 and 2016, livestock breeds classified as being at risk of extinction increased by 13 percent.

Modern food systems are having a profound effect on both food production and consumption patterns. Just five crops – rice, wheat, maize, millet and sorghum – provide about half of human food-energy needs; five animal species – cattle, sheep, goats, pigs and chickens – deliver about a third of the average daily protein consumed; and ten species of fish account for more than a quarter of capture production from the oceans and seas. Using such a small number of species, often with a narrow genetic base, increases the vulnerability of production systems and puts food security and nutrition at risk.

To feed the ten billion people projected to live on planet Earth in 2050 we must strike a balance between quality and diversity, linking productivity to sustainability and addressing the needs of people. There is growing recognition that managing natural resources sustainably, and safeguarding and mainstreaming biodiversity must be a priority in national plans if we are to deliver nutritious food for present and future generations and achieve the 2030 Agenda for Sustainable Development.

Today, some 820 million people still suffer from chronic hunger, nearly a quarter of children under the age of five are stunted, and malnutrition affects a third of the global population. The rise in obesity, affecting one in eight people on the planet, is a worrying new trend, driven ever higher by rapid urbanization and the relatively easy access poor people have to cheap, energy-dense, processed food high in fats, salts and sugars.

A major response to malnutrition, climate change, emerging diseases, pressures on feed and water supplies, and shifting market demands is to conserve and sustainably use a wide range of plant and animal diversity. Sustainable agriculture is the answer to reversing trends that lead to biodiversity loss, damaged ecosystems, and the deterioration and degradation of our natural resources. Techniques that successfully integrate all three dimensions of sustainability (social, economic and environmental) have the potential to better conserve natural resources while growing more and healthier food with fewer resources, responding to increasing urban demand for greater nutrition and responsible consumption. Mainstreaming biodiversity, integrating landscape and seascape approaches into actions, policies and investments, and supporting farmers’ rights to genetic resources, are key to building resilient livelihoods.

FAO and biodiversity

FAO strives to harmonize the need for food with that of protecting natural resources through the development of an integrated approach to sustainability across agriculture, forestry, fisheries and aquaculture. Recognizing that biodiversity is an integral part of agriculture, FAO is committed to supporting governments and working with other key actors to mainstream biodiversity as a vital element of sustainable food and agriculture. This is part of the work that the Organization realizes through its Strategic Programme 2 (“Make agriculture, forestry and fisheries more productive and sustainable”), which promotes an effective transition towards more integrated and sustainable agriculture production systems by increasing productivity and employment; protecting natural resources; improving livelihoods and fostering economic growth; and enhancing the resilience of people, communities and ecosystems.

Since its inception, FAO has provided an intergovernmental platform in which biodiversity-related policy is discussed, and where relevant agreements are

THE STATE OF THE WORLD’S BIODIVERSITY FOR FOOD AND AGRICULTURE

Launched in 2019, The State of the World’s Biodiversity for Food and Agriculture is the first-ever report to analyse the state of plants, animals and micro-organisms that support food and agricultural production – at genetic, species and ecosystem level.

Biodiversity for food and agriculture encompasses both wild and domesticated plants and animals that provide food, feed, fuel and fibre, and “associated biodiversity” – the myriad of organisms that support food production, including bees other pollinators; plants, animals and micro-organisms that help purify water and air, keep soils fertile, fish and trees healthy, and fight crop pests and livestock diseases.

The report was prepared by FAO under the guidance of its Commission on Genetic Resources for Food and Agriculture – the only permanent intergovernmental body that specifically addresses biological diversity for food and agriculture – and is based on the analysis of global data and reports provided specifically for this report by 91 countries.
negotiated and adopted by its Members. The Organization hosts more than 70 instruments and mechanisms working on the sustainability of sectoral and cross-sectoral issues, many of them referring to biodiversity. FAO develops and supports countries in the implementation of normative and standard-setting instruments, such as international agreements, codes of conduct, international plans of action, technical standards and others that address biodiversity directly or indirectly.

**The importance of ecosystem services for a healthy planet**

Tapping into ecosystem services reduces the need for external inputs and improves efficiency. Agriculture benefits from healthier ecosystems and approaches that integrate ecosystem concerns into crop, livestock, forestry, fisheries and aquaculture practices.

Ecosystems provide four types of services:

- **Provisioning services** are the materials from which people benefit for supply of food, feed, water, fibre, wood and fuel. They directly support livelihoods and are valued in markets. They include domesticated crops and livestock raised by farmers and livestock keepers, trees planted and harvested by forest dwellers, and aquatic species harvested or raised by fishers and aquaculture practitioners.

- **Regulating services** are the benefits obtained from the regulation of ecosystem processes such as the regulation of air quality and soil fertility, control of floods or crop pollination.

- **Supporting services** are necessary for the production of all other ecosystem services, by providing plants and animals with living spaces, allowing for diversity of species, and maintaining genetic diversity.

- **Cultural services** are non-material benefits people gain from ecosystems, like aesthetic and engineering inspiration, cultural identity and spiritual well-being.

Appreciating the totality of these four ecosystem services is fundamental to maintaining a healthy planet.

**Nutrition and healthy diets**

Domestication and agricultural selection have targeted and improved a small share of the thousands of plant and animal species that our ancestors used to hunt, fish and gather. While this led to better performance and adaptation to specific conditions, allowing us to feed a growing population, it also resulted in a loss of diversity.

Today, only three staple crops (rice, maize and wheat) together provide the
majority of the world’s food-energy intake. Production intensification and wider use of external inputs have resulted in a reduction in the range of varieties used in crop production. Globalization and changing patterns of food production and consumption are also contributing to a crucial shift towards dietary simplification. Diets low in variety but high in energy contribute to the escalating problems of obesity and chronic disease, which are increasingly found alongside micronutrient deficiencies.

Biodiversity, often safeguarded by ancestral and traditional agricultural practices, plays a key role in ensuring dietary adequacy. Micronutrient needs for human health cannot be satisfied without animal, fish and plant genetic diversity, species diversity and ecosystem diversity. Pollination leads to higher nutrient content in many crops and fruits. The alarming pace of biodiversity loss and ecosystem degradation makes a compelling case for re-examining agricultural systems and diets.

Sustainable diets promote the use of diverse foods, including traditional and local foods, that make use of nutritionally rich species, varieties of plants and breeds of animals, as well as wild, neglected and underutilized species.

FAO has long conducted assessments of food and agriculture (The State of Food and Agriculture), forests (The State of the World’s Forests; Global Forest Resources Assessment), and fisheries and aquaculture (The State of World Fisheries and Aquaculture). These have contributed to knowledge of the state of species and ecosystems of relevance to food and agriculture.

In 2015, FAO, in collaboration with the Intergovernmental Technical Panel on Soils, published the first report on the Status of the World’s Soil Resources.

Further, in 2019, FAO published its first ever reports on The State of the World’s Aquatic Genetic Resources for Food and Agriculture and The State of the World’s Biodiversity for Food and Agriculture.
FOR MORE THAN HALF A CENTURY, FAO HAS LED WORK ON BIODIVERSITY IN PURSUIT OF OBJECTIVES TO END HUNGER AND MALNUTRITION AND ALLEVIATE POVERTY. HERE IS A TIMELINE OF FAO ACTION THROUGH THE DECADERS.

1950s
FAO adopts the International Plant Protection Convention, a multilateral treaty for the application of phytosanitary measures by governments to protect their plant resources from harmful pests introduced through international trade.

1983
FAO establishes the first intergovernmental body specifically dealing with biodiversity relevant to food and agriculture, today known as the Commission on Genetic Resources for Food and Agriculture. Counting 178 countries and the European Union as Members, the Commission coordinates global measures promoting biodiversity for food and agriculture. It has adopted several Global Plans of Action on plant (1996 and 2011), animal (2007) and forest genetic resources (2013).

1994
FAO begins strong collaboration with the newly formed Convention on Biological Diversity (CBD).

1995
FAO adopts the Code of Conduct for Responsible Fisheries. The Code is based on due respect for ecosystems and biodiversity as part of effectively balancing conservation, management and development of living aquatic resources.

2013
FAO–WHO adopt the International Code of Conduct on Pesticide Management. The Code provides standards of conduct on sound pesticide management for all stakeholders involved in the pesticide life cycle from formulation to disposal.

2017
FAO launches the Biodiversity Mainstreaming Platform at the Fourteenth Session of the Conference of the Parties to the CBD in Cancun, Mexico, to facilitate the integration of actions for the conservation, sustainable use, management and restoration of biological diversity across agricultural sectors at national, regional and international levels.

2018
FAO hosts its first multi-stakeholder dialogue on biodiversity mainstreaming across sectors of agriculture in collaboration with the Secretariat of the CBD, bringing together experts with the aim of building a community of practice, planning the Biodiversity Mainstreaming Platform’s future work, spreading awareness and mobilizing resources.

2019
FAO publishes its first assessment of biodiversity for food and agriculture worldwide. It describes the state of efforts to promote the sustainable use and conservation of biodiversity for food and agriculture, including through the development of supporting policies, legal frameworks, institutions and capacities.

FAO PUBLISHES ITS FIRST ASSESSMENT OF BIODIVERSITY FOR FOOD AND AGRICULTURE WORLDWIDE. IT DESCRIBES THE STATE OF EFFORTS TO PROMOTE THE SUSTAINABLE USE AND CONSERVATION OF BIODIVERSITY FOR FOOD AND AGRICULTURE, INCLUDING THROUGH THE DEVELOPMENT OF SUPPORTING POLICIES, LEGAL FRAMEWORKS, INSTITUTIONS AND CAPACITIES.

**KEY MESSAGES**

**Safeguarding natural resources and biodiversity is critical to people’s health and planetary wealth.**

- Biodiversity is crucial to sustainably producing enough nutritious food in the face of challenges such as climate change, emerging diseases, pressures on feed and water supplies and shifting market demands of a growing human population. Production should address not only the quantity of food or calories but also high nutrient values such as vitamins, minerals and other micronutrients. In agricultural ecosystems, safeguarding biological diversity is important to food production, (nutrition), and to conserve the ecological foundations necessary to sustain life and build rural livelihoods.

**Agricultural sectors are major users of biodiversity but also have the potential to contribute to the protection of biodiversity.**

- Sustainable agriculture is key to reversing trends that lead to biodiversity loss, damaged ecosystems, deforestation and the overall deterioration of our natural resources. If terrestrial, freshwater and marine ecosystems are managed sustainably, agricultural sectors can contribute to the provisioning of ecosystem services. These include maintenance of water quality, nutrient cycling, soil formation and rehabilitation, erosion control, carbon sequestration, resilience, habitat provision for wild species, biological pest control and pollination.

**Good governance, enabling frameworks, stewardship incentives and sound monitoring are key to mainstreaming biodiversity.**

- Writing legislation to manage and regulate access to genetic resources; creating conservation areas to reverse the degradation of natural habitats; fashioning incentives to promote ecosystem services; and monitoring the biodiversity of plants and animals to identify varieties and breeds at risk of extinction are all part of the enabling framework for mainstreaming biodiversity. FAO works with partners to integrate actions for the conservation, sustainable management and restoration of biological diversity across agricultural sectors at national, regional and international levels.

**SOURCE:** FAO. 2018.

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**Biodiversity Mainstreaming Platform**

The Fortieth Session of the FAO Conference welcomed FAO’s initiative to lead the Biodiversity Mainstreaming Platform and requested FAO, in collaboration with the Convention on Biological CBD, other UN organizations and partners, to facilitate the integration of actions for the conservation, sustainable use, management and restoration of biological diversity across agricultural sectors at national, regional and international levels.

The ultimate goal of the Platform is the adoption of good practices across all agricultural sectors that will support biodiversity conservation, thus increasing the productivity, stability and resilience of production systems, and reducing pressure on natural habitats and species. Addressing SDGs 2, 14 and 15 in particular, the Platform will also facilitate the exchange of expertise to improve the design and coordination of policies from local to international levels, as well as the exchange of information and data among stakeholders to reach a common understanding of the status quo, trends and trade-offs in the conservation and use of biodiversity services.

Through FAO, the Platform will also serve as a mechanism to assist in translating the richness and variety of knowledge forms into policy-related actionable recommendations. The first major event organized by the Platform, the Multi-stakeholder Dialogue on Biodiversity Mainstreaming across the Agricultural Sectors, took place in Rome on 29–31 May 2018, enabling cross-sectoral linkages between the Committees. Following consideration of the Dialogue’s outcomes, the Technical Committees on Agriculture, Fisheries, Forestry and Commodity Problems requested FAO to develop a strategy on biodiversity mainstreaming across agricultural sectors, ensuring consistency with other FAO strategies, including that of climate change, and in line with the preparation of the post-2020 biodiversity framework of the CBD, the fifteenth meeting of the Conference of the Parties (COP 15) to the Convention. The strategy will demonstrate FAO’s commitment to playing a catalytic role in building the momentum to achieve a “Paris moment” at the Fifteenth Session of the Conference of the Parties to the CBD. The Biodiversity Mainstreaming Platform will require working on two parallel and inter-connected tracks:

**Global Level**

- Raising awareness of the importance of biodiversity across agricultural sectors.
- Promoting dialogue on key issues such as policies, metrics, practices and territorial planning.
FACTS & FIGURES

LAND AND WATER
> Sails host a quarter of our planet’s biodiversity, and yet 20–30 percent of lands are degraded.
> Over 1 000 species of invertebrates can be found in one square metre of forest soil.
> The estimated global rate of erosion in croplands corresponds to 193 kilograms of soil organic carbon per ha per year.
> Roughly 64–71 percent of wetlands have been lost since the beginning of the twentieth century.
> Agriculture uses 70 percent of all freshwater withdrawals globally, and up to 95 percent in several developing countries.
> Almost 40 percent of the global irrigated area is reliant on groundwater.

FISHERIES AND AQUACULTURE
> Almost 600 aquatic species used for global food production come from aquaculture. Ten species alone (shellfish, crustaceans, plants and fin fish) account for half of the total aquaculture production.
> Fish provide 20 percent of animal protein to 3 billion people.
> Coral reefs provide vital habitat for 25 percent of the world’s known marine species.
> In 2013, 68.5 percent of assessed commercial fish stocks were fished within biologically sustainable levels, down from 90 percent in 1974.
> An estimated 31.5 percent of fish stocks are classified as overfished.
> Only ten species provide about 30 percent of marine capture fisheries.

FORESTS
> There are more than 60 000 tree species in the world. Globally, around 2 400 species of trees, shrubs, palms and bamboo are actively managed for products or services.
> Large-scale commercial agriculture causes 40 percent of forest conversion in the tropics and subtropics, 33 percent is caused by local subsistence agriculture and 27 percent by infrastructure development and mining, among other activities.
> As of 2015, natural forests accounts for 93 percent of total forest area.
> Globally, natural forest area is decreasing and planted forest area is increasing. However, the global annual net loss of natural forests decreased from some 10.6 million hectares in the 1990s to 6.5 million hectares between 2010 and 2015.
> Mountain areas host approximately 25 percent of terrestrial biodiversity.

LIVESTOCK
> Livestock diversity includes a pool of 38 species of domesticated birds and mammals with more than 8 800 breeds currently used for food and agriculture.
> There are more than 1 000 breeds of cattle in the world, each with different valuable traits.
> As of October 2018, from 8 800 known livestock breeds, 8 percent are extinct, 26 percent of breeds are at risk and 66 percent are classified as being of unknown risk status because of lack of data.
> About 150 livestock breeds have become extinct between 2000 and 2018.
> Three species (cattle, pigs, chickens) together with three staple crops (rice, maize and wheat) provide the majority of total calories in human diets.

CROPS
> Globally, there are almost 400 000 plant species. Of these, only nine plants – sugar cane, maize, rice, wheat, potatoes, soybeans, oil palm fruit, sugar beet and cassava – account for over 66 percent of all crop production.
> Three out of four crops around the globe producing fruits or seeds for human use as food depend, at least in part, on pollinators.
> Pollinators affect 35 percent of the world’s total crop production by volume, supporting the production of 87 of the leading food crops worldwide.
> The volume of agricultural production dependent on pollinators has increased by 300 percent in the past 50 years.
Agroecology is the integrative study of the ecology of the entire food system, encompassing ecological, economic and social dimensions. From tackling hunger, poverty and inequality to responding to climate change to safeguarding biodiversity and expanding nutritional choice, agroecology echoes reinforces the 2030 Agenda and Sustainable Development Goals.

Family farmers promote environmental sustainability of agricultural systems thanks to their understanding of local ecologies and land capabilities, and to their preservation of seeds and other genetic resources. There are more than 370 million indigenous people, accounting for 5 percent of the world’s population and 15 percent of all the poor (UN, 2009). Traditional Indigenous territories encompass up to 22 percent of the world’s land surface and coincide with areas that hold 80 percent of the planet’s biodiversity (WB, 2008).

Globally Important Agricultural Heritage Systems (GIAHS) are outstanding landscapes of aesthetic beauty that combine agricultural biodiversity, resilient ecosystems and a valuable cultural heritage. These ancestral agricultural systems constitute the foundation for contemporary and future agricultural innovations and technologies. Their cultural, ecological and agricultural diversity is still evident in many parts of the world, maintained as unique systems of agriculture.

More information in Part 2, Chapter 2.10, Innovation: FAO Sowing the Seeds of Transformation

Sustainable Water Use in Agriculture

Water scarcity: one of the greatest challenges of the twenty-first century

Today, significant parts of the world are struggling with water scarcity. From California to China’s eastern provinces, from
Jordan to the southern tip of Africa, estimates indicate that over 4 billion people live with severe water shortages for at least one month each year.

The drivers of the perceived water crisis are well known: demographic growth, economic development, urbanization and pollution are putting unprecedented pressure on renewable water resources, especially in semi-arid and arid regions. There is also competition for available freshwater resources in and between economic sectors such as agriculture, industries, services and households. Climate change also affects freshwater resources negatively, in terms of both quantity and quality. More frequent and severe droughts impact agricultural production, while rising temperatures translate into increased water demand in agriculture sectors. Moreover, water withdrawals grew at almost twice the rate of population increase in the twentieth century, and a 50 percent surge in food demand is expected by 2050.

Of all economic sectors, agriculture is the sector where water scarcity has the greatest relevance. Currently, agriculture – encompassing crops, livestock, fisheries, aquaculture and forestry – accounts for an estimated 70 percent of global water withdrawals and more than 90 percent of consumptive use, while competition with other sectors for water is increasing. Agriculture is both a cause and a victim of water scarcity.

The excessive use and degradation of water resources is threatening the sustainability of livelihoods dependent on water and agriculture. Inefficient and uncoordinated water use depletes aquifers, reduces river flows and degrades wildlife habitats, and it has caused salinization on 20 percent of the global irrigated land area. Changes in water use and management can lead to biodiversity loss. The inappropriate use of fertilizers and pesticides translate into water pollution, affecting rivers, lakes and coastal areas. The bulk of production in capture fisheries comes from coastal waters, where both the productivity and quality of fish stocks are severely affected by pollution, a great part of which comes from agricultural crop production, aquaculture and livestock. In this context, it is clear that there is an urgent need to address water scarcity and increase water-use efficiency.

Farmers worldwide hold tested solutions to water scarcity, but they need to be supported with appropriate policies, the right mix of public and private investments, and access to knowledge and resources for producing more and better with less water. Various adaptation measures that deal with climate variability and build on improved land and water management practices have the potential to create resilience to climate change and address water scarcity. The sustainable intensification of food production with more efficient water management systems adapted to climate variability and local circumstances can help increase water productivity and raise on-farm incomes. Countries in water-scarce regions will increasingly need to devise food security strategies that explicitly consider structural food supply deficits and trade arrangements that will provide protection from food price volatility.

**DIMENSIONS OF WATER SCARCITY**

*Water scarcity is defined as the gap between available supply and expressed demand of freshwater in a specified domain, under prevailing institutional arrangements and infrastructural conditions. The several dimensions of water scarcity are summarized as follows:*

- Scarcity in availability of fresh water of acceptable quality with respect to aggregated demand, in the simple case of physical water shortage;
- Scarcity in access to water services, because of the failure of institutions in place to ensure reliable supply of water to users;
- Scarcity due to the lack of adequate infrastructure, irrespective of the level of water resources, due to financial constraints.

SOURCE: FAO.
FAO, SDG 6 and the importance of water
Against this backdrop, the adoption of Sustainable Development Goal (SDG) 6 creates an opportunity to systematically engage with key water-scarce countries and to inform and orient national policies towards effective, sustainable models of water management and governance. Target 4 of SDG 6 aims to reduce the potential for conflict by ensuring sustainable withdrawals of water and increasing water-use efficiency, with the objective of reducing the number of people suffering from water scarcity. FAO is the custodian agency for the two indicators of target 6.4, supporting Members in developing and reinforcing their monitoring capacity, with the aim of having better and more consistent information to support their policy decisions.

Among FAO initiatives on this matter, the AQUASTAT database provides an established platform for the integration of the different types of data required for the computation of the indicators. The GEMI project, implemented by FAO in the context of a multi-agency UN effort, is providing methodological support and capacity development assistance to the member countries. Beyond the actions on monitoring, the Organization is also supporting the implementation of measures to ensure that countries meet target 6.4, including the water scarcity initiative and the water productivity project.

The Global Framework on Water Scarcity in Agriculture
The Global Framework on Water Scarcity in Agriculture (WASAG), established at FAO headquarters in April 2017, supports the development and deployment of policies, strategies, programmes and field capacity for the adaptation of agriculture to water scarcity, using context-specific approaches and processes tailored to specific circumstances and needs, including support for the formulation of transformational projects.

WASAG aims to help governments and related stakeholders in the achievement of the water-related targets of the 2030 Agenda for Sustainable Development Goals (SDGs), with particular emphasis on SDG 6 (Clean Water and Sanitation) and SDG 2 (Zero Hunger). WASAG also contributes to SDG 1 (No Poverty), SDG 13 (Climate Action), SDG 15 (Life on Land), and SDG 17 (Partnerships for the Goals).

WASAG recognizes the intricate links and complex feedback loops between sustainable agriculture, food security, water scarcity and climate change; therefore, it is holistic and multidimensional in scope. Water scarcity is the main entry point for the Global Framework. One key dimension comprises agriculture and food systems, which includes crops, livestock, fisheries and forestry, as well as value and supply chains, consumption and trade. A second dimension is climate change, encompassing both adaptation and the mitigation of greenhouse gas emissions.

This broad scope means that WASAG comprises a wide range of available coping mechanisms, both in the agriculture sectors and beyond. It addresses food loss and waste, diets and nutrition, nexus approaches, diversification, wastewater reuse, trade, sustainable livestock and forest management, innovative landscape approaches, water productivity and how private sector actors can integrate such measures into their practices and operations, as well as their supply chains.

Progress on water-use efficiency
Access to safe water and sanitation and sound management of freshwater ecosystems are at the very core of sustainable development. SDG target 6.4 addresses water-use efficiency and
water stress, aiming by 2030, to “substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity”.

In the case of indicator 6.4.1 – Change in water-use efficiency over time – FAO now provides technical and/or logistical support to countries that request it. FAO developed the methodology for indicator 6.4.1 on the basis of a testing process in five pilot countries – Jordan, the Netherlands, Peru, Senegal and Uganda – which helped establish the global baseline period (2015–2018) for this indicator.

Using the methodology behind the pilot study, FAO’s first assessment on water-use efficiency at the global and regional levels was based on nationally and internationally available data sets, with figures available for 168 countries. The FAO AQUASTAT database was used to provide data on water use for agriculture, industry (MIMEC) and services. Economic data for the same sectors – from sources such as the World Bank, United Nations Statistics Division (UNSD) and Organisation for Economic Co-operation and Development (OECD) – allowed for countries’ data and economic performances to be compared internationally. The results of the first FAO assessment reveal that water-use efficiency – defined as the value added per volume of water withdrawn in all water-using sectors – is a little over USD 15/m³ worldwide, though there are significant differences among countries and regions. Lowest regional water-use efficiencies are USD 2/m³ in Central and Southern Asia, around USD 7/m³ in sub-Saharan Africa and almost USD 8/m³ in Northern Africa and Western Asia. The highest values are USD 50/m³ in Oceania and USD 38/m³ in Europe and Northern America. Average values are found in Eastern and South-Eastern Asia (around USD 15/m³) and Latin America and the Caribbean (about USD 13/m³). Ultimately, increasing water-use efficiency over time means decoupling economic growth from water use across the main water-using sectors, which are agriculture, industry, energy and municipal water supply.
Supporting countries and working with partners, these stories provide a snapshot of how FAO contributes to mainstreaming biodiversity in agriculture, fisheries and forestry through projects and programmes across the globe.

KENYA
Ecosystem service and biodiversity for food security and nutrition as a Blue Growth Initiative

Mangrove ecosystems have immense worth, providing a multitude of goods and services, stretching from clean water to climate regulation to sustaining the lives of coastal dwellers.

Responding to declining areas of mangroves in Kenya, FAO, as part of the Blue Growth Initiative, has implemented a multifaceted project with strong agroecological elements, including watershed management techniques to support improved ecosystem services at the same time as food, nutrition and livelihood security. Through partnerships with various stakeholder groups, an estimated 268,122 seedlings were planted in 41 hectares of degraded mangrove forest areas, and three new mangrove nurseries were established in combination with aquaculture and bee-keeping activities.

These activities to rehabilitate mangrove forests have benefits for both livelihood generation and ecosystem services. One significant result was increased biodiversity of fish fingerlings and other aquatic animals within the restored areas.

LAO PEOPLE’S DEMOCRATIC REPUBLIC
Growing a rice–fish culture

Lao People’s Democratic Republic enjoys a rich aquatic biodiversity, with rice fields home to an impressive diversity of aquatic organisms. Fish, frogs, eels, snails, crabs and aquatic insects are key to the nutritional and food security needs of the country’s population.

Working with extension officers and pilot communities on integrated aquaculture–agriculture techniques, FAO helped local farmers construct small, plastic-lined earth ponds that can be used to intensify their rice–fish culture system.

The ponds allow farmers to nurse seed fish that can be used as a source of food during dry seasons when food is often scarce.

As a result of the project, in 2016, 28 families produced a total of 68,000 seed fish. These numbers increased in 2017, with 30 families producing a total of 102,000 seed fish. The project shows that partnering with farming communities and national agricultural extension services can deliver innovative interventions that are well within farmers’ technical and financial capabilities to enhance food and nutrition security and enrich biodiversity.
Brazil
Forest data at the service of biodiversity

Almost 60 percent of Brazil’s territory is covered by forest, accounting for a significant proportion of global terrestrial biodiversity. Brazil’s forests are one of the most biologically diverse ecosystems in the world. In 2011, FAO began helping the Brazilian Forest Service establish a national forest monitoring and assessment system. The Global Environment Facility-funded project supports the government, the private sector and other non-governmental actors in making informed decisions by providing timely and relevant information and policy analysis regarding the state and dynamics of Brazil’s forest resources.

The project works with public and private sectors to collect botanical samples: 91,021 botanical samples of trees have been collected and 5,158 tree species have been identified. By providing different analyses of collected data, including a baseline and periodically monitored forest resource indicators, the project enhances Brazil’s capacity to identify and reduce environmental threats by adjusting policies, strategies and
interventions, and to highlight their effectiveness. Private sector and other non-governmental decision makers are also able to make more informed decisions that, with appropriate policy incentives, can further protect biodiversity and conserve and enhance carbon stocks.

SAHEL
Water cisterns give hope to Sahelian farmers
Inspired by a similar programme implemented in Brazil through its “Fome Zero” programme, the “1 million cisterns for the Sahel” programme aims to give access to safe drinking water to millions of people across the Sahel and to provide them with sufficient water for household agricultural production in order to improve their food security and nutrition and strengthen their resilience. In 2018, FAO together with partners and communities, launched pilots in Senegal and the Niger. In Senegal, 16 cisterns – each measuring 15 m³ – were constructed for families and three cisterns – each measuring 50 m³ – for agricultural production at community level, reaching a total of 360 beneficiaries. In the Niger, FAO constructed five family cisterns and six community cisterns, reaching a total of 500 beneficiaries. Family cisterns cover household drinking water needs during the entire dry season, and can also be used for micro-gardening, while community cisterns cover water needs for agricultural production during recurring dry spells during the rainy season and ensure an additional production cycle for 0.5 ha of land. The project contributes to providing safety nets as local communities also receive cash in exchange for work to build the cisterns using
local materials. In the coming three years, the project is expected to reach an additional 10,000 women in Senegal, 5,000 in the Niger and 5,000 in Burkina Faso. Resource mobilization is ongoing to increase the number of beneficiaries and the countries involved in the initiative.

GLOBAL

Protecting biodiversity through sustainable soil management

The Global Soil Partnership (GSP) was established in December 2012 to enhance collaboration and synergy of efforts for sustainable soil management. According to FAO’s Status of the World’s Soil Resources report (2015), soil organic carbon and soil biodiversity are crucial to increasing food availability and the soil’s ability to buffer against climate change effects. The GSP strives to raise awareness of the role of sustainable soil management in safeguarding biodiversity, highlighting that soils are a key reservoir of global biodiversity. It is sustained by the FAO Soil Charter (1981) and the endorsement of World Soil Day on 5 December every year, by the General Assembly of the United Nations, and the proposed Voluntary Guidelines for Sustainable Soil Management.

FAO manages the Secretariat of the GSP, with 194 countries actively participating in all meetings. Nine regional soil partnerships are well established and have consolidated implementation plans. They work in close collaboration with FAO regional and national offices in establishing an interactive consultative process with national soil entities. Since 2012, the GSP has delivered capacity development in over 100 countries through activities such as monitoring soil biodiversity; maintaining or enhancing soil organic matter levels; regulating authorization and use of pesticides in agricultural systems; using nitrogen fixing leguminous species; and restoring plant biodiversity and crop rotation.

GLOBAL

Monitoring livestock diversity around the world

Many livestock breeds possess unique characteristics that contribute to building people’s resilience and meeting various challenges such as those related to climate change. Yet, indiscriminate cross-breeding and use of exotic breeds, together with unprofitable local breeds and weak policies are combining to place the world’s remaining livestock diversity at risk. Supporting countries in making informed decisions and in taking action to protect livestock breeds from extinction, the Domestic Animal Diversity Information System (DAD-IS) offers a database of breed-related information and photos for animal genetic resources around the world. It allows users to analyse the status of diversity of livestock breeds on national, regional and global levels, including breeds’ risk of extinction.

By late 2018, more than 8,800 breeds had been reported from 182 countries covering 38 species. This number included 7,745 local breeds (i.e. reported in only one country), 511 regional transboundary breeds (reported in more than one country of one region) and 547 international transboundary breeds (reported in more than one region).

Maintained and developed by FAO, with regular updates from national coordinators nominated by countries, DAD-IS provides countries with the means to meet international obligations for reporting on the status of animal genetic resources. Countries are obliged to report on the status of the genetic diversity of domesticated animals within the framework of the Convention of Biological Diversity (CBD) as well as under the 2030 Agenda for Sustainable Development.
FAO'S CHALLENGES IN THE TWENTY-FIRST CENTURY
In our increasingly interconnected world, strengthened agriculture and food systems have a critical role to play in achieving the targets of the Sustainable Development Goals of eliminating poverty and hunger and increasing our resilience to climatic and economic shocks.

Food systems encompass all the stages of keeping us fed: growing, harvesting, packing, processing, transforming, marketing, consuming and disposing of food.

Agricultural and food systems influence the availability, affordability, sustainability, diversity, quality and safety of food and agricultural products and they are undergoing dramatic changes. They are becoming increasingly globalized, concentrated, industrialized and science and capital-intensive. Rapid urbanization and increases in income levels are also driving changes in consumer preferences. Although these developments can provide immense opportunities, they can also give rise to challenges including: growing malnutrition (micronutrient deficiency, overweight and obesity); increased incidences of food safety issues and transboundary animal and plant disease outbreaks; the misuse of antimicrobials that results in antimicrobial resistance; and significant levels of food loss and waste. Other more global challenges include environmental degradation and climate change.
In addition, those segments of society that traditionally have less access to education, resources and capital, namely women, youth, urban and rural poor, indigenous peoples, and smallholders, face barriers to participate in global value chains. Likewise, small-scale farmers, herders and fisherfolk, and small- and medium-sized agro-enterprises are increasingly dependent on dominant actors further downstream in value chains. Also, poorer countries that may be relatively minor players in the global market, risk exclusion from new market opportunities.

Food systems are crucial for addressing problems of food insecurity, malnutrition, and diet-related health problems. Many countries, communities and even households face situations where undernutrition exists side by side with the fast-growing problem of overweight, obesity and diet-related non-communicable diseases. The problems and their causes are complex and evolving fast. New challenges arising from demographic changes, climate change, and globalization further add to the complexity.

It is critical to go beyond a focus on agriculture and production to consider the interlinked nature of livelihoods and food systems and the implications for building climate resilience as part of a wide-ranging transformation of food systems for improved nutrition and sustainable healthy diets.

FAO believes that ensuring access to decent farm and non-farm employment for the rural poor in food systems is critical to realize sustainable food systems. That is why FAO is committed to:

▶ Promoting agricultural and food security policies that are sensitive to working conditions and able to implement protective coping mechanisms against shocks, taking into account gender and age differentiations.
▶ Enabling the adoption of sectoral codes of conduct that embed decent rural employment aspects.
▶ Supporting the implementation of the principles for responsible investment in agriculture and food systems which favour employment generation and foster decent work.
▶ Supporting governments in developing specific employment creation investments plans.

THE CHALLENGES AND OPPORTUNITIES: TRANSFORMING FOOD SYSTEMS

Globalization, rapid urbanization and changing consumer preferences have created opportunities for agricultural and food systems. Rapid demographic, social and economic changes in many low- and middle-income countries
have led to changes in food systems, lifestyles and eating habits. As a consequence, dietary patterns have shifted toward increased consumption of processed foods that are often energy-dense, high in saturated fats, sugars and salt, and low in fibre. Such changes bring with them a shift in the profile of nutritional status and diet-related diseases. In pre-transition conditions, the nutritional problems that predominate among the more vulnerable population groups are undernutrition and nutrient deficiencies. The transition gradually brings about increased intake of calories in the population, including among the more vulnerable. Under such conditions, undernutrition and some nutrient deficiencies begin to decline, while the excessive consumption of energy-dense, processed foods high in fats, salt and sugars becomes a major issue. These consumption habits lead to increasing rates of overweight and diet-related non-communicable chronic diseases, such as cardiovascular disease and diabetes.

How can we enable our food systems and natural resources to cope with feeding a growing global population if dietary patterns change and if we lose or waste a third of our food today? How can we mitigate and adapt to changing climatic patterns that wreak havoc on our fragile food systems and the livelihoods of our poorest citizens? Fuelling these questions and more is a growing awareness that a paradigm shift is sorely needed if, collectively, we are to transform our food systems for the better.

If we are to feed a population of about 10 billion in 30 years’ time, a substantial part of the increase in food production must come from current agriculture production areas with enhanced food systems, ones that are more productive and efficient.

We must learn to produce more food with less resources and do so under much harsher conditions. As volatile climatic patterns increase, competition will inevitably intensify over natural resources.

Meeting global food demand in a sustainable way is achievable, but requires adequate institutional systems, policies and practices in the agriculture, crop, livestock, forestry, fisheries and aquaculture sectors.

The vision of FAO for sustainable food and agriculture is one where food is nutritious and accessible for everyone and where natural resources are managed in a way that maintain ecosystem functions to support current as well as future human needs. Through its **Strategic Programme 4 (“Enable**

**KEY MESSAGES**

- **Continuing population growth and urbanization** are projected to add 2.5 billion people to the world’s urban population, which means that by 2050, 2/3 of people will live in urban areas and 90% of this increase will take place in Asia and Africa.

- **Roughly one in three people** worldwide work in the agri-food system.

- **Approximately three-quarters of the world’s agricultural value-added activities** take place in developing countries. The increasing demand for high-value products on international and domestic food markets provides an opportunity for developing countries to generate economic growth and gainful employment.

- **FAO provides assistance and capacity building** to countries to improve access to international markets, and to meet international standards for food safety, plant health and animal health.

- **FAO supports countries and their subnational and local governments** to develop strategies, policies and regulatory frameworks that support efficient and inclusive agricultural and food systems.

- **FAO assists countries to mobilize and improve public and private sector investment** in agricultural and food systems, to strengthen the technical and managerial capacity of stakeholders along agri-food value chains and facilitate their access to finance, and to improve the sustainability, efficiency and inclusiveness of these chains.

**SOURCE:** FAO. 2019.
inclusive and efficient agricultural and food systems”), FAO seeks to address the many challenges across the value chain that small producers and small economies face. The Organization helps develop necessary tools such as analytical information for sound policies; building capacities at the institutional and individual levels; and helping to fight food losses and waste.

REDUCING FOOD LOSS AND WASTE

Food loss and waste contributes to food and nutrition insecurity, squanders precious natural resources, unnecessarily increases greenhouse gas emissions, and generally slows economic and social development. Food waste predominantly occurs at the retail and consumption stage, whereas food losses arise from inadequate infrastructure, technologies and practices along the value chain. The causes of food loss and waste in low-income countries are mainly connected to financial, managerial and technical limitations in harvesting techniques, storage and cooling facilities in difficult climatic conditions, infrastructure, packaging and marketing systems.

Given that many smallholder farmers in developing countries live on the margins of food insecurity, a reduction in food losses could be translated to an increase of their income, which in turn has an immediate and significant impact on their livelihoods. In 2011, FAO launched Save Food, a global initiative promoting awareness and the exchange of ideas and best practices on preventing and reducing food loss and waste. Since then, FAO has developed methodologies for identifying food losses, their causes and potential sustainable solutions along the entire food value chain – from production, storage and processing to distribution and consumption.

The methodology has been implemented on various value chains in more than 40 developing countries, providing substantial evidence on
hot spots for losses and feasibility analysis of solutions, supporting governments in formulating effective policies and action plans to reduce food losses. As custodian agency for SDG target 12.3, FAO has developed a Food Loss Index for measuring and quantifying post-harvest losses up to retail, facilitating monitoring and reporting against 12.3. FAO is also working with the UN Environment Program in developing an Index for Food Waste at retail and consumer level.

The Organization has also partnered with the International Food Waste Coalition to develop the first educational materials on food waste for school children of all ages, including supporting manuals for teachers. It organized numerous regional and global awareness raising and advocacy campaigns on the issue. The pilot testing of the materials has been ongoing in Italy, France and the United Kingdom, and the success of the results have generated more interests from other countries. Recognizing FAO’s technical leadership in addressing the issue of food loss and waste, member countries have requested the Organization to develop codes of conducts for food loss and food waste to be submitted to the next session of the Committee on Agriculture (COAG) in 2020.

**URBAN AGRICULTURE**

Urban and peri-urban agriculture (UPA) can be defined as the growing of plants and the raising of animals within and around cities. UPA is practiced worldwide and provides employment and income for poor women and other disadvantaged groups. Urban vegetable growers spend less on transport, packaging and storage, and can sell directly through street food stands and market stalls. More income goes to them instead of middlemen. Consumers – especially low-income residents – enjoy easier access to fresh produce, greater choice and better prices.

With specific care and methods, UPA can make an important contribution to household food security, especially in times of crisis or food shortages. Produce is either consumed by the producers, or sold in urban markets, such as the increasingly popular weekend farmers’ markets found in many cities.

The food provisioning system of any city across the globe, whether small or large, is always a hybrid food system, combining different modes and sources of food provisioning and consumption (institutional, retail, street foods). Some cities are mainly, though

**FACTS & FIGURES**

- 55% of the world’s population resides in urban areas
- 70% of all food produced is destined for consumption in cities
- 60%+ of primary energy demand and 70 percent of CO2 emissions stem from cities
- 34% of the global population lives in small cities or towns
- 30% of all greenhouse gas emissions stem from food production and distribution
- 80%+ of urban dwellers are exposed to air quality levels that exceed WHO limits

not exclusively, fed by urban, peri-urban and nearby rural farms and food processors, while other cities rely largely, though not entirely, on food produced and processed in other countries or continents.

Rapid urban growth, growing urban food and nutrition insecurity and unbalanced food availability, distribution and access are challenging traditional thinking on how cities are fed. The year 2015 marked the signing of the first international protocol by cities calling for development of more sustainable and resilient urban food systems. The protocol, the Milan Urban Food Policy Pact, has been signed to date by over 180 cities in the Global North and South and pledged to develop actions and strategies to improve their urban food system.

FAO supports the transformation of UPA into a recognized urban land use and economic activity, integrated into national and local agricultural development strategies, food and nutrition programmes, and urban planning. It helps national and regional governments and city administrations optimize their policies and support services for urban and peri-urban agriculture, and improve production, processing and marketing systems.

**BRAZIL**

Fruit vendors at the São José Slow Food Market in Rio de Janeiro. ©FAO/GIUSEPPE BIZZARRI

**FAO Framework for the Urban Food Agenda**

Fostering resilient and economically prosperous food systems, integrated across landscapes and based on multi-stakeholder, multi-scalar and multi-sector collaboration, is key to supporting more sustainable urbanization processes through safeguarding ecosystems services and provision of goods. Urgent and coordination action is required to help national and local governments to make food systems more efficient, inclusive and resilient to price volatility, weather shocks and climate change in time of rapid urbanization.

In 2019, FAO published its Framework for the Urban Food Agenda, responding to demands for a holistic approach to food insecurity and malnutrition across the rural–urban continuum. It aims to support governments in tackling the complex food security and nutrition challenges and opportunities created by urbanization through sustainable food system development.

As a result of an inclusive consultative process, the Framework articulates guiding principles, purposes and targeted outcomes, compatible with the objective of the 2030 Agenda. Its overall goal is to
FAO’s work in supporting decision makers at global, national, territorial and urban levels to recognize the role of cities and sub-national governments as key strategic sites and actors to address the complex socio-economic and ecological issues that constrain food security and nutrition.

**TOWARDS SUSTAINABLE FOOD SYSTEMS**

By addressing economic, institutional and financing barriers, FAO works to create enabling conditions for sustainable production systems. In this way, resources are used more efficiently, and we create an environment that supports diversification and natural resources conservation. Farmers can also better adapt to and mitigate climate change. FAO’s programmes reflect an integrated approach that takes into account the complex linkages and competition that exist among the users of resources and the natural environment. More integrated approaches ensure that trade-offs and synergies of the impacts of decisions in one sector are looked at in conjunction with other sectors, while taking food and nutritional security aspects into account.

With a holistic approach to agriculture, wise choices can be made for inclusive and sustainable practices. Since 2014, FAO has supported 245 initiatives in 89 countries in sustainable agricultural production practices using participatory approaches, including over 80 initiatives in Africa alone. Out of 89 countries, 41 percent were able to reduce the gap in crop yields and over half of the countries had reduced the area of natural vegetation and protected ecosystems lost to agriculture.

FAO promotes Climate-Smart Agriculture (CSA) as an approach that can transform and reorient agricultural systems to effectively support development and ensure food security in a changing climate. The approach, in practice, pursues the triple objectives of:

- Sustainably increasing productivity and income;
- Adapting to climate change; and
- Reducing GHG emissions, where possible.

FAO supports countries to enhance the evidence base and strengthen policies and planning for the adoption of Climate-Smart Agriculture at the farm, landscape and national level. At field level, FAO works on capacity development with producers adopting CSA practices through Farmer Field Schools and other advisory services. As an active member of the Global Alliance of Climate-Smart Agriculture and regional CSA alliances, FAO fosters knowledge and supports collaboration to enhance the scale of CSA implementation.

Furthermore, the UN Decade of Action on Nutrition is a commitment by United Nations Member States to undertake ten years of sustained and coherent implementation of policies, programmes and increased investments to eliminate malnutrition in all its forms, everywhere, leaving no one behind.

**FAO PROVIDES ASSISTANCE TO ENHANCE THE INCLUSIVENESS OF FOOD AND AGRICULTURE SYSTEMS BY ENGAGING SMALLHOLDER PRODUCERS AND ECONOMICALLY SMALL COUNTRIES.**

It provides an operational framework for strengthening efforts to end hunger and eradicate all forms of malnutrition worldwide, including through nutrition-sensitive disaster risk reduction and climate adaptation policies and programmes to strengthen the resilience of people’s livelihoods and food systems for healthy diets. FAO works with countries, UN sister agencies and other partner organizations, in particular the World Health Organization (WHO), to achieve sustainable food systems for healthy diets and improved nutrition.

In the context of the Sustainable Development Goals, different food systems that could provide answers in terms of sustainability, resilience and environmental management are considered in a more integrated manner. It is within this global debate for sustainable food systems that indigenous food systems have gained international recognition. Using local indigenous knowledge and merging it with novel cultivation practices, small family farm households who cultivate Neglected and Underutilized crops could benefit from stronger food production systems, which can improve food security, increase income-generating opportunities, and enhance coping mechanisms against climate change.

**ENABLING INCLUSIVE AND EFFICIENT AGRICULTURE AND FOOD SYSTEMS**

Assisting countries to benefit from trade

New and existing trade and trade-related agreements and mechanisms play a key role in facilitating the development of enabling trading systems that are important to the functioning of food systems and food security. FAO assists countries in building capacities to better understand rapidly changing international markets, trade rules and the potential consequences of these changes, including the threats and opportunities of opening to trade, and potential strategies to address them. FAO works with countries to
# FAO’s Challenges in the Twenty-First Century

## Measures to Improve Food Environments That Support Healthy Diets

<table>
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<th>Food Subsystems</th>
<th>Measures</th>
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| Agricultural production             | • Encourage policies and investments that support diversification and the production of nutrient-rich foods (e.g., fruits and vegetables and legumes).  
• Promote value chain development for nutrient-rich food crops  
• Ensure that agriculture research investments focus not only on staples but also on nutrient-rich crops |
| Food storage, transport and trade   | • Invest in transport and cold-chain infrastructure in order to reduce food loss  
• Encourage domestic trade, rural-urban linkages, short food supply chains (where feasible) for nutrient-rich foods, especially for vegetables, fruits, legumes and nuts  
• Lower tariff and non-tariff trade barriers for fruits and vegetables, especially during off-season periods, or increase import tariffs on foods high in fats, sugars and/or salt |
| Food transformation                 | • Encourage food reformulation laws  
• Take measures to introduce food and nutrition labelling laws  
• Support the establishment of investment funds for startup Small and Medium Enterprises that produce nutrient-rich foods  
• Create incentives for processing techniques that reduce costs and increase the nutritional value of foods |
| Food retail and provisioning        | • Support policies to improve food safety in informal and wet markets  
• Offer price incentives to encourage street vendors to use ingredients of better nutritional quality while ensuring food safety standards  
• Impose taxes to discourage the consumption of foods high in fat, sugar and/or salt, such as sugar-sweetened beverages  
• Support the review of food subsidies, to cover foods such as fresh fruits, vegetables and legumes and make them affordable to consumers  
• Implement planning regulations and investments to support wholesale markets, wet markets and informal retailers that provide fresh produce to consumers, especially low-income populations  
• Establish social protection policies and programmes to ensure that nutrient-rich foods can be accessed by vulnerable populations — e.g., school food and nutrition programmes that provide nutrient-rich foods, or conditional cash transfers to facilitate access to fresh fruits and vegetables  
• Introduce legislation to ensure institutional procurement from local smallholder farmers  
• Apply zoning for fast food outlets, especially around schools |
| Other                               | • Introduce strategies and actions to promote, protect and support breastfeeding  
• Control the marketing of foods and beverages targeted at children  
• Introduce mandatory regulation of advertising to children, and of other forms of marketing of food and beverages to children  
• Support mass media informational campaigns and social marketing campaigns encouraging healthy eating  
• Support education reforms to introduce food and nutrition education into school curricula |


The increasing demand for high-value products in international and domestic food markets is an opportunity for developing countries to generate economic growth and gainful employment. However, modernizing agro-industries and agri-food chains also pose risks in terms of equity, sustainability and inclusiveness, particularly for smaller-scale farmers and agro-enterprises thus underscoring the need for policies and strategies that address these risks. FAO works with countries to formulate and implement agro-industry, agribusiness and value chain development strategies and platforms, in tandem to providing related policy guidance, knowledge generation and capacity development. The Organization also works to strengthen the capacities of producer organizations, promote effective policies on decent job creation, entrepreneurship, and incentives for innovation and investment, especially for women, whose work is often key along the value chain.

### Developing Inclusive and Efficient Value Chains

### Ensuring Policy Supportive of Food System Development

There is growing recognition by decision makers that policies need to be monitored and evaluated in order to become more effective and to achieve national objectives.

The way policies interact can support or hinder the efficiency and development of agricultural and food systems and, as a result, agricultural sector growth. Unstable policy environments and volatile prices due to rapidly evolving international as well as domestic market forces have affected production decisions, consumption levels and marketing/trade options in most developing countries. Understanding the factors that lead to price volatility particularly in domestic markets and the drivers of policy/institutional instability will help decision makers and other stakeholders make better-informed decisions and adopt evidence-based risk management strategies and tools. FAO supports countries in policy monitoring and evaluation for improved price and market incentives. The specific areas of support range from
improving national data collection, to developing relevant indicators, to analysing and disseminating them and to enhancing evidence-based policy dialogue.

**Nutrition and food systems**

Malnutrition affects all countries and one in three people. It takes many forms, from chronic hunger, to micronutrient deficiency, and from child stunting to obesity. Nutrition starts with what we eat. Protecting and promoting healthy diets should be a central objective of food system and agricultural policies. Crop production, fisheries, livestock, and forestry provide the diverse, safe and nutritious foods we need. Enhancing their impact on nutrition requires attention at all stages in the value chain: from the promotion of healthy soils and protection of biodiversity; the choice of inputs and what we produce; to how we store, transport, transform and market foods.

Access to safe, nutritious and sufficient food must be framed as a human right, with priority given to the most vulnerable. Policies that promote nutrition-sensitive agriculture and food systems are needed, with special attention to the food security and nutrition of children under five, school-age children, adolescent girls and women in order to halt the intergenerational cycle of malnutrition. FAO calls for changes in policies to incentivize the provision and consumption of healthy diets, including marketing regulations and economic incentives. FAO also facilitates high-level dialogue between governments and their partners to develop common norms and approaches for sustainable food systems and healthy diets.

**There is no food security without food safety**

Read access to safe and nutritious food is a basic human right. Yet every year around the world, over 420 000 people die and some 600 million people – almost one in ten – fall ill after eating contaminated food. The increased globalization of the world’s food supply means populations worldwide are more exposed to food hazards. In fact, food-borne hazards are known to cause over 200 acute and chronic diseases from digestive tract infections to cancer. Regardless of where the food is produced, consumers have the right to expect that the food they buy is safe and of the expected quality. FAO works with governmental authorities, with local industry and other relevant stakeholders to ensure that this expectation is met.

**Protecting health and facilitating trade**

Internationally agreed standards on plant health, animal health and food safety make a critical contribution to the safety and quality of food, thereby protecting consumers. Countries need support to implement and enforce the relevant regulations and standards and value chain operators must have the ability to comply with the food standards prepared by FAO and WHO, namely Codex Alimentarius. Codex covers the entire production chain, allowing governments to establish science-based, internationally acceptable standards in order to establish criteria for food to ensure safety
SCIENCE-BASED INITIATIVES TO SUPPORT FOOD SAFETY

- The Joint FAO/WHO Expert Committee on Food Additives (JECFA) has been meeting since 1956 to provide scientific advice on food additives, contaminants and residues of veterinary drugs in food as well as principles and guidance for safety assessment of chemicals in food.

- The Joint FAO/WHO Expert Meetings on Microbiological Risk Assessment (JEMRA) began in 2000 as an international scientific expert group that evaluates different aspects of microbiological hazards in the food supply.

- The Joint Meeting on Pesticide Residues (JMPR) is an expert ad hoc body administered jointly by FAO and WHO to harmonize the requirements and risk assessment on pesticide residues. The JMPR has met annually since 1963 to conduct scientific evaluations of pesticide residues in food, providing advice on the acceptable levels of pesticide residues in food traded internationally.

- Joint FAO/WHO Expert Meetings on Nutrition (JMNUN) was established in 2010 to strengthen the role of FAO and WHO in providing scientific advice on nutrition to Member States and bodies such as the Codex Alimentarius Commission and in particular the Codex Committee for Nutrition and Foods for Special Dietary Uses (CCNFSU) with a view to set appropriate health-protective and trade-inclusive global nutrition standards.

GUATEMALA

Strengthening the School Feeding Program in the framework of the Hunger-Free Latin America and the Caribbean Initiative. ©PEP BONET/NOOR FOR FAO

SAFE FOOD IS UPPEDPINNED BY SCIENCE

Science is central to the work of FAO on food safety and quality along the supply chain. In close collaboration with WHO, FAO provides neutral and independent scientific advice as the essential basis for the international food safety standards, guidelines and codes of practice established by the Codex Alimentarius Commission, and for supporting the development of modern food control systems by national authorities such as whole genome sequencing for epidemiological surveillance for food-borne pathogens. Better data is needed to understand far-reaching impacts of unsafe food.

FOOD SAFETY REQUIRES SHARED SOLUTIONS

Food safety and human health are closely interlinked with the health of animals and the environment around us. FAO promotes a “One Health” approach as an integrated way of preventing and mitigating health
threats across the Animal–Human–Plant–Environment interface. This is clearly demonstrated by transmission of microorganisms to people through food – from fruit and vegetables contaminated with soil and from animal-sourced foods. Farmer Field Schools (FFS) have proved to be an effective vehicle for enabling farmers to understand and adhere to good practices. FFS are developed to fully integrate food hygiene with production issues such as integrated pest management techniques.

With regards to animal food-borne diseases, FAO promotes practices that decrease the likelihood of live animals carrying pathogens transmissible to people and prevent the transfer of contaminants from the environment to foods. The Organization encourages food production practices that reduce the use of antimicrobials; enhance food hygiene and sanitation during processing to limit cross-contamination; and monitor progress in producing food that is free from antimicrobial-resistant pathogens.

**Food safety in emergencies**
Outbreaks of food-borne illnesses and food recalls can have wide-reaching consequences and impact consumer confidence in the safety of the food supply. This calls for enhanced food safety risk communication with consumers among all stakeholders in the agri-food chain, beginning with risk managers and decision makers. This two-way exchange of information and opinions between all involved is key in restoring confidence and protecting people’s quality of life.

FAO assists countries in building food safety emergencies prevention and management systems to strengthen country resilience to food chain crises. In order to promote and facilitate the rapid exchange of information during food safety related events, FAO and WHO coordinate the International Food Safety Authorities Network (INFOSAN). Operating in its 15th year, INFOSAN has facilitated communication across borders, and between network members, during hundreds of food safety emergencies.

**REGIONAL INITIATIVES**

FAO seeks to help address the many challenges across the value chain that small producers, and even small economies face. Food and agricultural systems need to increase inclusiveness by linking smallholder producers with agribusiness enterprises and supply chains for effective and sustainable participation in rapidly changing markets. To do this, FAO helps develop necessary tools such as analytical information for sound policies; building capacities at the institutional and individual levels; and helping to fight food losses and waste.

**Mali**
Moukuna, plant used to enrich the soil in azot, growing alongside sorgo, and used to feed animals.
@FAO/SWITOSLAW WOJTKOWIAK
Latin America and the Caribbean: sustainable family farming and inclusive food systems
This Regional Initiative aims at improving access of poor people to productive assets (land, water, energy, facilities) as well as financial (credit, savings, insurances) and non-financial (technical assistance, innovation, knowledge) rural services. FAO works to strengthen producers’ organizations and promote rural communities’ participation in sustainable development strategies, focusing on building inclusive, efficient, resilient and nutrition-sensitive food systems. FAO promotes the strengthening of value chains and public supply systems, and the increase of fresh and healthy food while reducing country dependency on imports and enabling rural families to become more resilient before economic and natural shocks.

Africa: sustainable production intensification and value chain development
Following the “Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods”, this Regional Initiative addresses bottlenecks along value chains through which production increases resulting from actions to sustainably intensify production and increase productivity. Improved management of value chains will contribute to market and agribusiness development with specific attention to providing opportunities and services that cater to women and youth.
Value chains for food security and nutrition in the Pacific Islands

The declining export competitiveness of farmers and fishers, coupled with increased dietary dependence on imported food, has led public and private stakeholders in the Pacific to prioritize improving the capacity of their agri-food sectors to meet their domestic food needs. Since 2014, the Inter-regional Initiative on SIDS – Pacific Component aims at developing local value chains for food and nutrition security. It focuses FAO efforts to strengthen the capacities of local food producers, to supply more food to domestic and tourist markets, to meet demands for a balanced and nutritious diet, and to reduce food and feed imports. This includes supporting the development of policy and regulatory frameworks, which rely on improvements in capacity to assemble, integrate, analyse and disseminate information on food, nutrition and natural resources.

GEORGIA

Workers processing anchovies according to food quality and safety standards as part of an FAO project designed to strengthen capacity in fish landing and processing techniques to meet standards for export to international markets. ©FAO/KHATIA GOGOLADZE

Agri-food trade and market integration in Europe and Central Asia

Through its Regional Initiative, FAO assists countries in creating a supportive policy environment for trade in agriculture and food commodities. The Organization develops capacities to design and implement trade agreements and analyse market opportunities. FAO also works in building capacity on WTO issues, prevention and control of risks to animal health, plant health and food safety, trade facilitation and dispute resolution. The application of modern methods of risk analysis and standards from Codex Alimentarius, International Plant Protection Convention (IPPC) and World Organisation for Animal Health (OIE) is central. In addition, FAO supports country capacities in short value chains, local food production, use of Geographical Indications and organic agriculture to promote sustainable production methods, increase food quality and as a branding tool. Beneficiaries include civil servants, scientists and food producers with a focus on small and medium-sized enterprises. It further supports countries in their strategies to reduce Food Losses and Waste.
Forests are more than just a cluster of trees, they are an ecosystem full of life. Forest areas cover around 30 percent of global land area and include about 80 percent of the Earth’s biodiversity. They are home to more than 80 percent of all terrestrial species of animals, plants and insects, and around a third of the world’s population (or 2.4 billion people) make use of wood to provide basic energy services such as cooking, boiling water and heating. Since its foundation, FAO has worked hard to respond to the needs of the evolving forestry sector and ensure its contribution to sustainable development. As the United Nations organization with the mandate for forests and forestry, FAO fulfills the global responsibility of supporting its Members to protect, conserve and manage the world’s forests in a sustainable way.

Seventy years ago, when FAO completed its first Global Forest Resources Assessment (FRA), the major concern was whether there would continue to be sufficient timber to satisfy global demand. Since then, the broader global relevance of our forests and trees has been increasingly recognized, not only for timber extraction but also for the well-being of the people and the planet. Forests bolster livelihoods, they provide clean air and water, protect our soils and help respond to climate change by stocking carbon in their biomass. Furthermore, they provide many products and services that contribute to the socio-economic development of millions of people in rural areas, including food, medicines and fuel.
Today, there is increasing evidence showing the profound interlinkages that exist between forests and the goals of the 2030 Agenda for Sustainable Development, which enables policymakers to incorporate a forestry approach in the pathways to sustainable development. In 2017, the UN General Assembly adopted the first ever UN Strategic Plan for Forests 2017–2030, which includes goals and targets closely linked to the Sustainable Development Goals (SDGs) and other international commitments related to forests, such as the climate objectives under the Paris Agreement and the Aichi Biodiversity Targets.

**FORESTS AND SUSTAINABLE AGRICULTURE**

Time is running out for the world’s forests, whose total area is shrinking by the day. From 1990 to 2015, forest land has decreased in 93 countries with a total net loss of some 129 million hectares, which represents a decrease from 31.6 percent of global land area to 30.6 percent. This percentage may seem insignificant, but a loss of one percent of the total land area represents more than 100 million hectares.

Halting global deforestation, particularly when caused by agriculture, is one of FAO’s key objectives and requires immediate action. The world’s population is projected to increase from around 7.6 billion today to close to 10 billion people by 2050, and the corresponding global demand for food – estimated to grow by 50 percent during this period – is placing enormous pressure on our natural resources. This not only threatens the livelihoods of forest communities and Indigenous Peoples and local communities (IPLCs), but also results in a loss of valuable habitats for plants and animals, land degradation, soil erosion, a decrease in clean water, and the release of carbon into the atmosphere affecting everyone.

As part of its new framework for more coherent and effective actions in agriculture, forestry and fisheries, FAO helps countries to manage their forests sustainably, focusing on balancing social, economic and environmental goals aimed at conserving and maintaining forest ecosystems for the benefit of present and future generations – a major component of Strategic Programme 2 (“Make agriculture, forestry and fisheries more productive and sustainable”). Although agriculture and forestry are often considered as competing land uses, forests and trees support sustainable agriculture, as they contribute to soil and climate stabilization, regulate water flows, provide a habitat for pollinators and the natural predators of agricultural pests, and increase soil productivity.

Since 1990, more than twenty countries, including China, Chile, Costa Rica, India, the Gambia and Viet Nam, have increased their food production....

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**FOREST AREA AS A PROPORTION OF TOTAL LAND AREA IN 1990, 2010 AND 2015**

<table>
<thead>
<tr>
<th>Region</th>
<th>1990</th>
<th>2010</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia and New Zealand</td>
<td>45%</td>
<td>44%</td>
<td>43%</td>
</tr>
<tr>
<td>Europe and North America</td>
<td>41%</td>
<td>40%</td>
<td>39%</td>
</tr>
<tr>
<td>Eastern and Southeast Asia</td>
<td>42%</td>
<td>41%</td>
<td>40%</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>44%</td>
<td>43%</td>
<td>42%</td>
</tr>
<tr>
<td>Latin America and the Caribbean</td>
<td>40%</td>
<td>39%</td>
<td>38%</td>
</tr>
<tr>
<td>Central and South Asia</td>
<td>43%</td>
<td>42%</td>
<td>41%</td>
</tr>
<tr>
<td>North Africa and Western Asia</td>
<td>43%</td>
<td>42%</td>
<td>41%</td>
</tr>
<tr>
<td>Oceania*</td>
<td>41%</td>
<td>40%</td>
<td>39%</td>
</tr>
<tr>
<td><strong>World</strong></td>
<td>42%</td>
<td>41%</td>
<td>40%</td>
</tr>
</tbody>
</table>

*Excluding Australia and New Zealand.
security levels while increasing or maintaining their forest area. They have demonstrated that it is not necessary to cut down trees in order to produce more food. Their experience shows that it is possible to create stronger synergies between agriculture and forestry through integrated approaches, including favourable economic conditions, appropriate financing and resolving land tenure rights, among other factors. Recognizing and acting on the profound interlinkages that exist between forests and agriculture will enable policymakers to speed progress towards the goals and targets of the 2030 Agenda.

THE IMPORTANCE OF DATA

Collecting, compiling and disseminating information in order to support the development of forest policies is a fundamental part of FAO’s work. The Organization is one of the key sources of global forest statistics and has been compiling data on forests and forests products since 1946. For sustainable forest management (SFM) is the practice of meeting forest resource needs and values of the present without compromising the future. This means a land stewardship ethic that integrates the reforestation, managing, growing, nurturing and harvesting of trees for useful products with the conservation of soil, air and water quality, wildlife and fish habitat and aesthetics.

In 2007, the United Nations General Assembly recognized that forests and trees outside forests provide multiple economic, social and environmental benefits, and emphasized that sustainable forest management contributes significantly to sustainable development and poverty eradication. The resolution lists the following seven elements of sustainable forest management: (1) extent of forest resources; (2) forest biological diversity; (3) forest health and vitality; (4) productive functions of forest resources; (5) protective functions of forest resources; (6) socio-economic functions of forests; and (7) legal, policy and institutional framework.

SOURCE: FAO. 2018. STATE OF THE WORLD’S BIODIVERSITY FOR FOOD AND AGRICULTURE.
Data collection and analysis is a key step to understanding the state of our forests and leveraging their contribution.

In 2010, only 45 countries worldwide were able to assess changes in forest area and characteristics through consecutive, systematic national forest inventories, suggesting a serious gap in information. FAO has created a new set of guidelines to help governments develop strong forest monitoring systems to collect more and better national data regarding trends and outlook in the forestry sector and monitor progress towards the Sustainable Development Goals (SDGs).

Global Forest Resources Assessment
Collecting national forest data is extremely important for the FAO Global Forest Resources Assessment (FRA). Since the first FRA was published in 1948, FAO has reported periodically on the situation of the world’s forests, serving the international community with the best information available. Today, FRA is published every 5 years, and the wealth of data is provided directly by the countries through a well-established, consolidated, transparent and traceable reporting process. FRA’s secretariat analyses the information and converts national data into regional and global estimations, in order to provide a comprehensive review of the state of our world’s forests and resources and explain how they are changing.

In September 2015, FAO launched the thirteenth issue of FRA during the XIV World Forestry Congress “Forests and people: Investing in a Sustainable Future” in Durban, South Africa. The report included information on forest cover, forest management and uses for all countries and territories of the world. FRA 2015 notes that, in the 2010–2015 period, the global forest area decreased at a rate of 3.3 million hectares per year, particularly in Africa and South America. However, the report also highlights that the net annual rate of forest loss has slowed down by 50 percent between the periods 1990–2000 and 2012–2015, and attention paid to sustainable forest management has never been higher. For instance, 96 percent of forests in the world are governed by policies that support sustainable forest management, and the area of forests under forest management plans has also increased.

In March 2018, coinciding with FRA’s 70th Anniversary, FAO launched an innovative online platform to improve governments’ reporting process for FRA, which will be used for the 2020 Global Forest Resources Assessment.

Forest sector statistics
Every year, FAO compiles and publishes statistics on the production, trade and consumption of forest products. Statistical information is based primarily on data provided to the FAO Forestry Department by the countries, through questionnaires or official publications. In the absence of official data, FAO makes an estimate based on the best information.
available. The need for reliable global statistics on forests and forest products is increasing, for example to indicate the progress being made in achieving the SDGs and the Paris Agreement on climate change.

The year 2018 marked the 70th anniversary of the Yearbook of Forest Products, a milestone in international cooperation and collaboration between international organizations on international statistics. This edition is particularly remarkable, signifying over 70 years of collaboration with governments and international statistical entities to gather forest sector statistics. It includes annual data on the production and trade of forest products, including data on quantity and value. An important foundation for evidence-based forest policymaking, the yearbook is used to set milestones for socio-economic development in many countries.

**LEVERAGING FOREST ECOSYSTEM SERVICES**

**Forests against climate change**

One of forests’ benefits is the potential to absorb carbon emissions from the atmosphere: they absorb the equivalent of roughly 2 billion tons of carbon dioxide each year. All elements of the forest, including plants, trees, and soils act as carbon sinks. As such, when forests are felled, they can become major sources of green-house gas emissions (GHG), and the carbon they stock escapes back into the air. Globally, it is estimated that deforestation and forest degradation accounts for 11 percent of all carbon dioxide emissions. As concern about impacts of climate change has grown throughout the world, forests’ role in climate change mitigation and adaptation has also become a major focus of FAO’s work.

In this regard, afforestation, sustainable forest management and the reduction of deforestation are making forests one of the most cost-effective and immediate solutions to curb climate change. FAO has partnered for almost ten years with UN Environment and the United Nations Development Programme (UNDP) to support developing countries in their efforts to reduce emissions from deforestation and forest degradation (REDD+) and enhance carbon sequestration through conservation, management and expansion of forests. Over 64 countries have benefited from FAO support for REDD+ in a number of key areas, including their capacity in national forest monitoring and setting forest emissions reference levels.

Moreover, FAO has developed e-learning courses supporting countries to build a sustainable national GHG inventory and to assess emissions from the forest sector. Thanks to its support, some 34 governments have been able to submit critical baseline data on forest carbon stores and forest-related GHG emissions to the United Nations Framework Convention on Climate Change (UNFCCC).

**Protecting our soil and water**

Forest and land degradation also affect negatively soil protection and the water cycle, undermining agriculture and productive ecosystems and threatening the livelihoods of millions of people. The uncontrolled felling of trees causes soil erosion and desertification, which in turn contributes to a decline in soil nutrient levels and crop yields. In response to this, FAO established the Forest and Landscape Restoration Mechanism in 2014, which supports countries in meeting the Bonn Challenge of reforesting 150 million hectares of degraded and deforested land in the world by 2020. The Mechanism has already shown results in three continents. In Africa, FAO and partners organized an investment forum to promote investments in forest and landscapes, including climate change mitigation and adaptation. In Lebanon, innovative restoration models have helped reduce erosion accelerated by intense weather events. In Uganda, the integration of restoration activities in the national forest investment programme allows for greater climate change mitigation action.

Forest cover loss also impacts water availability. Degraded soils reduce water infiltration, soil water storage capacity and ground water recharge. While three-quarters of the globe’s accessible freshwater comes from forested watersheds, research shows that...
40 percent of the world’s 230 major watersheds have lost more than half of their original tree cover. Despite this, the area of forests managed for soil and water conservation has increased globally over the past 25 years, and in 2015 a quarter of forests were managed with soil and/or water conservation as an objective.

The publication *Forests and Water: A Five-year Action Plan* marks the transition from discourse to action for an international process known as the Forests and Water Agenda, which has been promoting the role of forests in the water cycle and water supply since the Shiga Declaration on Forests and Water in 2002. More than 25 organizations (including FAO), institutions and other stakeholders have engaged in the process, including the development of the five-year action plan.

It is a collaborative workplan that aims to consolidate and shape projects and activities related to forest–water interactions with a view to developing effective strategies for conserving, managing and restoring water-related environmental services. As part of its commitment to implementing the action plan, in 2016 FAO developed a new programme on forests and water.

For two decades FAO has also played a leading role in the sustainable development of mountain regions, which are beset by high levels of forest degradation threatening vital global water supplies. Their populations, including many indigenous people, have high rates of poverty and food insecurity, and these regions are amongst the most threatened by climate change. Through the Mountain Partnership, FAO has played a key role in securing inclusion of mountain issues in the SDGs, and is tracking the state of mountain ecosystems through the Green Cover Index.

**Urban and peri-urban forests**

Coupled with climate change, accelerated urbanization is increasingly threatening cities’ abilities to respond to the needs of urban dwellers. In view of this, trees, parks and forests are a must for planners designing the sustainable cities and peri-urban landscapes of the future. Given that it removes pollution, offers shade and contributes to numerous health benefits, greenery is crucial for the well-being of city people, who globally outnumber those living in rural locations. Many cities, such as New York, Vienna, Bogotá, Tokyo and Johannesburg, obtain a large share of their drinking water from protected forests. In addition, the integration of green space and tree cover in urban planning is also associated with a reduction in levels of both obesity and crime, which highlights the contribution of trees to many of the goals and targets of the 2030 Agenda.

For many years, FAO has played an active role in raising awareness of the importance of the sound management of forests and trees in and around cities. In 2016, FAO published the Guidelines on Urban and Peri-urban Forestry, aimed at providing guidance on the planning, design and management of urban and peri-urban forests and trees to national and local authorities. The Organization also fosters dialogue, collaboration and exchange through international fora and meetings. It co-organized the first World Forum on Urban Forests that was held in Mantova, Italy, in November 2018. The aims of the Forum were to strengthen existing international networks, support the implementation of the New Urban Agenda and promote the potential of urban forests in the achievement of SDGs.


**FORESTS, TREES AND LIVELIHOODS**

Besides providing key ecosystem services that support life on Earth, forests also contribute to reducing poverty and hunger, and provide basic energy services to one third of the world’s population. Evidence points to around 40 percent of the extreme rural poor – around 250 million people – living in forest and savannah areas. Access to forest products, goods and services is vital for the livelihoods and resilience of the poorest households, as these contribute directly to food security by providing food and dietary diversity, supplying wood energy for cooking food, and enhancing the resilience of the ecological and social systems surrounding agricultural lands.

**Making a difference in food security and nutrition**

Forests and trees provide many goods of biological origin other than wood derived from forests, other wooded land and trees outside forests, known as non-wood forest products (NWFP). It is estimated that NWFP – such as edible nuts, fruits, spices, fibres, and plant and animal products used for medicinal, cosmetic or cultural purposes – provide food, income, and nutritional diversity for an estimated one in five people around the world, notably women, children, landless farmers and others in vulnerable situations. Since trees, other forest plants and wildgame (if hunted sustainably) are often more resilient to adverse weather conditions than agricultural crops, forest-based food items contribute to household resilience by serving as an important safety net in times of crises and emergencies.

Another important contribution of forests to food security is the provision of woodfuel for cooking, for instance. According to FAO, globally around 2.4 billion people use woodfuel to cook their food. Woodfuel is equally important for boiling and sterilizing water, and is often the only available means that forest-dependent communities have to ensure safe water for drinking and food processing.

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**PERCENTAGE OF HOUSEHOLD INCOME FROM NON-WOOD FOREST PRODUCTS (NWFP)**

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Bangladesh</th>
<th>Burkina Faso</th>
<th>Congo Basin</th>
<th>Ghana</th>
<th>Malawi</th>
<th>Mozambique</th>
<th>Northern Benin</th>
<th>Northern Ethiopia</th>
<th>Sahel</th>
<th>South Africa</th>
<th>Southern Ethiopia</th>
<th>Sudan</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>10</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>50</td>
<td>60</td>
<td>70</td>
<td>80</td>
<td>90</td>
<td>100</td>
<td>0</td>
<td>50</td>
</tr>
</tbody>
</table>
Woodfuel is also used in food preservation (e.g. smoking, drying), which extends the supply of food into non-productive periods.

For the first time ever, the Committee on World Food Security (CFS), at its 41st Session in 2014, requested the High Level Panel of Experts on Food Security and Nutrition to conduct a study on “sustainable forestry for food security and nutrition”. The report was launched in June 2017 as a major contribution to the 44th Session of the CFS.

The CFS formally recognized forestry’s role in “making a difference in food security and nutrition” and, in October 2017, it adopted recommendations to support the integration of policies and action on food security and nutrition across the agriculture sectors. The recommendations centred on the need for an integrated policy approach to forestry, agriculture, water and food security and nutrition by reinforcing cross-sectoral coordination. Tenure of land and other resources was identified as key in the recommended approach, with the CFS acknowledging the greater role that the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security could play.

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CHAPTER 2.5

TOWA R DS SUSTA I NA BLE FOR E ST M A NAGE M E N T

enabling conditions for smallholder and community-forestry to thrive
over the some 732 million hectares of the world’s forest estate where
these are the dominant land use types. FAO is leading global efforts
to address these challenges through the VGGT mentioned above,
but also through disseminating tested national assessment tools for
forest tenure and community-based forestry. If acted on, these could
appreciably improve the livelihoods of the millions of impoverished
people living in forests, advance ecosystem restoration, and better
protect forest biodiversity.

MANAGEMENT RIGHTS
OF PUBLICLY-OWNED FORESTS
100%

3%

90%

9%

12%

89%

86%

15%

80%
70%
60%
50%

95%

82%

40%
30%

FAO’s work on wildlife and protected area management has a twofold aim: first,
to conserve native faunas together with their habitats; second, to improve the
livelihoods of rural communities in developing countries through normative
work, capacity building and field programme activities, in collaboration with
major international partners.
Millions of forest-dependent people rely on wild meat for food and
income. If hunting for wild meat is not managed at sustainable levels, then
wildlife populations will decline and rural communities may suffer rising
levels of food insecurity. To respond to this challenge, in 2017, FAO and
partners launched the Sustainable Wildlife Management (SWM) Programme,
which is a seven-year initiative involving African, Caribbean and Pacific
Group of States (ACP). It is funded by the European Union and implemented
by a consortium of partners including FAO, the French Research Centre for
International Development (CIRAD), the Center for International Forestry
Research (CIFOR) and the Wildlife Conservation. The aim is to tackle
unsustainable levels of wild meat hunting, conserve their biodiversity and
natural heritage, and to strengthen people’s livelihoods and food security.
Moreover, human–wildlife conflicts (HWC) have become more frequent
and severe, particularly in Africa, due to increasing competition for land in
previously wild and uninhabited areas. Wildlife and people will continue to
share landscapes and resources with conflicts likely to worsen unless actions
are taken. In view of this, FAO, CIRAD and other partners developed an HWC
toolbox that provides effective measures to help resolve, prevent and mitigate
the growing problem of conflict between humans and wild animals.
The need to address wildlife issues in a coordinated manner has led to
collaboration with conservation organizations and conventions in efforts to
maintain biodiversity. For instance, the Collaborative Partnership on Sustainable
Wildlife Management (CPW) – a voluntary partnership of 14 international
organizations, including FAO – serves as an important forum to promote
sustainable use and conservation of wildlife worldwide.

Sustainable wood and fuel

20%
10%
0%

Sustainable wildlife and protected area management

1990

PUBLIC
ADMINISTRATION

20 0 0
PRIVATE
BUSINESS

20 05

2010

COMMUNITIES

OTHER

SOURCE: FAO. 2015. GLOBAL FOREST RESOURCES ASSESSMENT.

Wood is unquestionably forests’ main product. It is harvested in the form of
sawlogs, pulplogs, wood chips etc., which are in turn converted to boards,
planks, paper and energy, among others. Harvesting is often done by
professional forest workers on dedicated forest land, both on natural forests
and planted forests. As the world population – expected to reach 9.8 billion by
2050 – and incomes increase, demand for wood harvesting is also expected to
rise. In this context, sustainable forest management is set to play an ever more
important role. Using wood more efficiently to meet this demand (doing “more
with less”) is crucial to achieving a more resource-efficient, circular and biobased economy. Planted forests are becoming ever more important in the global
wood supply, and in many countries they form the basis for the forest sector.

FAO CHALLENGES AND OPPORTUNITIES IN A GLOBAL WORLD

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Well-managed planted forests can provide various forest goods and services and help to reduce the pressure on natural forests. Farm forestry including trees outside forests can also be a major source of food and wood products, while they fulfill a fundamental protective role.

In addition, forests supply about 40 percent of global renewable energy in the form of woodfuel – as much as solar, hydroelectric and wind power combined. Emphasis must now be on using woodfuel more sustainably to reduce forest degradation, as well as more cleanly and efficiently to improve the health of millions of people, particularly women and children. According to FAO, up to seven percent of global greenhouse gas emissions caused by humans come from the production and use of fuelwood and charcoal. This happens largely due to unsustainable forest management and inefficient charcoal manufacture and fuelwood combustion.

Changing the way wood is sourced and charcoal is made offers a high potential for reducing greenhouse gas emissions. A shift from traditional kilns or furnaces to highly efficient modern kilns could reduce greenhouse gas emissions resulting from carbonization of wood by 80 percent. At the end-use level, a transition from traditional stoves to improved stoves could reduce emissions by around 60 percent.

Finally, improved forest law enforcement and governance can help increase government revenue collection and investments in sustainable forest management and efficient wood conversion technologies. One of the key messages of the Sustainable Wood for a Sustainable World conference, convened by FAO and partners in late 2017, is that environmentally friendly, socially responsible and economically sound wood value chains are crucial for transitioning to sustainability.

**EFFECTIVE AND FAIR FOREST GOVERNANCE**

Forest governance – or who is allowed to decide what about forests and how – is a matter of life and death for millions of people around the world and is profoundly relevant for us all. But decisions about forests and trees are often in the wrong hands or made badly. Much depends on ‘tenure’ – or who owns and controls the forests and trees. The owners may be those who need the forests and look after them well or those who degrade them with no regard for the well-being of others.

The right of stakeholders to be consulted during the development and implementation of forest-related policies, programmes and plans should be formalized to account for the needs of forest users and other stakeholders. To the contrary, an absence of good governance is often at the root of illegal logging.

**FAO–EU FLEG**

The FAO–EU Forest Law Enforcement, Governance and Trade (FLEG) Programme seeks to reduce and eventually eliminate illegal logging. With the support of its donors, the Programme funds projects created by governments, civil society and private sector organizations in Latin America, Africa and Asia to improve forest governance.

FAO–EU FLEG aims to reduce illegal logging by strengthening sustainable and legal forest management, improving governance and promoting trade of legally-produced timber. In 2016–2017, the programme supported 25 countries, with a new focus on private sector engagement, improving national timber-tracking and control systems to monitor timber products along the supply chain. Overall, FLEG has supported more than 200 projects in some 40 tropical timber-producing countries.

**Forest concessions**

Over 70 percent of forests in the tropics used for harvesting timber and other forest products are state-owned or public; most of the public forests are managed through concessions that governments give to private entities or local communities.

Forest concessions can be poorly managed due to a lack of adequate skills in tropical forest management; weak governance; over-complicated rules and expectations; focus on short-term benefits, leading to overharvesting; inadequate benefit sharing, infringement and lack of recognition of local people’s rights; and no economic returns.

In May 2018, FAO launched the first voluntary guidelines for forest concessions in the tropics, which provide a set of principles to be respected by all stakeholders during the full cycle of concessions: governments, concession-holders, local communities, donors, and non-governmental organizations. They offer suggestions on how to shift from short-term harvesting objectives, which can lead to forest degradation or even deforestation, to long-term forest management, building the case for true sustainable forestry in the tropics.
THREE PILLARS FOR GOOD FOREST GOVERNANCE

Pillar 1. Policy, legal, institutional and regulatory frameworks – the long-term systems of policies, laws, rules and regulations within the forest sector and in other sectors that impinge on forests.

Pillar 2. Planning and decision-making processes – the degree of transparency, accountability and inclusiveness of key forest governance processes and institutions.

Pillar 3. Implementation, enforcement and compliance – the extent to which the policy, legal, institutional and regulatory frameworks are implemented.

Pillar 4. Monitoring, evaluation and accountability – the means by which the effectiveness of forest governance is assessed and improvements are made.

Pillar 5. Engagement and participation – the extent to which the voices of forest users are heard and taken into account in forest governance processes.

Improving livelihoods of indigenous women in Nicaragua
In the Bosawás Biosphere Reserve in Nicaragua, indigenous women have rediscovered the tuno tree, with which they have a historical relationship. The tree, from which they made their clothes until the arrival of Spanish colonizers, today provides them with raw material for their handicrafts. Mayangna women extract the bark of the native tuno tree to craft bags, folders and wallets. They are an example of how forests contribute to preserving the culture and improving the livelihoods of millions of communities, particularly strengthening the economy of thousands of indigenous women.

The Forest and Farm Facility partnership (FFF), hosted by FAO, has supported Mayangna women to sell local products and improve their livelihoods. Capacity-building workshops have taught the women how to improve product quality and equipped them with market knowledge, while also helping to preserve their culture. At the same time, the FFF helps Mayangna women gain social and economic empowerment by strengthening the position of women’s producer organizations.

In 2015, the FFF collaborated with the Mayangna Nation’s board of directors and Mayangna women’s organizations to strengthen their engagement in policy processes. Together, they addressed issues such as food security, domestic violence, and the improvement of production systems. Meetings were also held in each Mayangna territory to discuss strategies to improve the position of women’s organizations. Increasing internal unity and organization were identified as priorities, as was the need to increase the participation of these women in public institutions and decision-making.

National Forest Inventories in Bangladesh and Papua New Guinea
For more than 50 years, FAO has been supporting countries to collect forest information that meets national and international needs – because better information leads to improved decisions, which leads to more effective action in the forest sector and beyond. Today, FAO is supporting multipurpose national forest inventories (NFIs) in 20 countries. National forest inventories under way in Bangladesh and Papua New Guinea are integrating biodiversity and socio-economic, field and remote sensing information to enable informed decision-making on forest management and use.

In both countries, this is the first time that such comprehensive NFIs have been undertaken. The Bangladesh Forest Department is leading Bangladesh’s NFI process, which is the first to fully deploy the free, open-source inventory tools developed by FAO. In Papua New Guinea, the Forest Authority is responsible for implementing the NFI, which, among other things, is systematically assessing the country’s forest biodiversity.
The NFIs are going beyond measuring timber volume and estimating carbon stocks and greenhouse gas emissions to examine various other important aspects of forests. In Bangladesh, there is an emphasis on understanding socio-economic dimensions and the valuation of the spiritual, cultural and recreational roles of forests. And in Papua New Guinea, the NFI is the first in the country’s history to integrate a full set of forest biodiversity indicators in each sample plot – assessing the biodiversity of trees, other plants, invertebrates and vertebrates.

### Blazing a trail for timber traceability in Benin

Every year, the National Timber Office of Benin (ONAB) produces around 50 000 cubic metres of logs from 14 000 hectares of state plantations. Local businesses buy the timber, mainly teak, before processing and exporting much of it to international markets. However, since 2013 businesses have struggled to export timber to the European Union (EU) – one of the world’s largest single importers of wood – following the entry into force of the EU Timber Regulation, which works to minimize the risk of illegally harvested timber entering the EU market.

For developing countries such as Benin, one of the fastest ways to open EU doors is to get certification that timber has been legally produced – a process that starts with a solid traceability system, ONATRACK. This assigns a unique identifying code to individual trees, so that timber can be traced back to its origin throughout the processing chain – from felling and storage to transport, and sometimes even as far as a finished product.

When ONAB’s existing paper-based traceability system was found to be unreliable, the office sought support from the FAO-EU FLEGT Programme to switch to a barcode system as a first step towards certification. ONATRACK comprises a software programme to generate unique barcodes for trees and their stumps and logs, and a smartphone application for scanning and recording information in the field. Even when workers deep in the forest are unable to get a phone signal, data is stored and automatically updated in a central database when they are back within range.

By providing real-time information, the system not only discourages fraudulent actions in the numbering, transport and marketing of state timber but also works as a decision-making tool for ONAB in its efforts to manage state plantations sustainably. “Apart from its original function of establishing the ‘pure traceability’ of our wood products, ONATRACK has enabled us to devise new working procedures directly related to improving the profitability of our plantations,” says Clément Kouchadé, Director General of ONAB at the time.
<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>1945</td>
<td>✪ First Session of the FAO Conference recognizes the importance of forestry both for the production of goods and services and their relation to agriculture.</td>
</tr>
<tr>
<td>1946</td>
<td>✪ Establishment of the FAO Division of Forestry and Forest Products, with Marcel Leloup as its first Director.</td>
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<tr>
<td>1947</td>
<td>✪ European Forestry Commission (EFC) established. ✪ Publication of the first issue of Unasylva, the international forestry review of FAO’s Division of Forestry and Forest Products.</td>
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<tr>
<td>1948</td>
<td>✪ Latin American and Caribbean Forestry Commission (LACFC) is established. ✪ First global forest inventory compiled (Forest Resources of the World).</td>
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<tr>
<td>1949</td>
<td>✪ Asia-Pacific Forestry Commission (APFC) is established.</td>
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<tr>
<td>1951</td>
<td>✪ FAO Conference requests that FAO collect and publish information on the forest resources of all countries of the world at five-year intervals.</td>
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<tr>
<td>1952</td>
<td>✪ Near East Forestry Commission (NEFC) established.</td>
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<tr>
<td>1964</td>
<td>✪ Advisory Committee on Wood-Based Panel Products established.</td>
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<tr>
<td>1969</td>
<td>✪ FAO Conference approves establishment of the FAO Forestry Department.</td>
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<tr>
<td>1972</td>
<td>✪ First meeting of the Committee on Forestry (COFO), FAO’s highest forestry statutory body.</td>
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<tr>
<td>1978</td>
<td>✪ Eighth World Forestry Congress held in Jakarta, Indonesia. It emphasizes forests’ social benefits and their importance for people.</td>
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<tr>
<td>1985</td>
<td>✪ International Year of Forests declared by the FAO Council in 1984; the theme for the year was Forestry and Food Security.</td>
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<tr>
<td>1989</td>
<td>✪ Ninth World Forestry Congress in Mexico City, with the theme “Forest resources in the integral development of society.”</td>
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<td>1995</td>
<td>✪ First State of the World’s Forests report, subsequently published every two years. ✪ First Ministerial Meeting on Forests, attended by over 30 ministers responsible for forests from different countries.</td>
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<tr>
<td>1996</td>
<td>✪ At the first World Food Summit, FAO Members pledge to promote sustainable production and use of forest products to enhance food security.</td>
</tr>
<tr>
<td>1999</td>
<td>✪ FAO Conference approves the FAO Strategic Plan for Forestry. ✪ Second Ministerial Meeting on “Sustainability Issues in Forestry, National and International Challenges.”</td>
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<tr>
<td>2002</td>
<td>✪ FAO is lead agency for the International Year of Mountains.</td>
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<tr>
<td>2005</td>
<td>✪ FAO’s third Ministerial Meeting focuses on international cooperation to prevent and control forest fires; its declaration is adopted by ministers and senior officials from 127 countries. ✪ Launch of FRA 2005, covering six themes of sustainable forest management: extent of forest resources, forest health, biological diversity, productive functions of forest resources, protective functions of forest resources, socio-economic functions of forest resources.</td>
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<tr>
<td>2006</td>
<td>✪ Publication of voluntary guidelines for responsible management of planted forests and voluntary guidelines for fire management, both prepared through collaborative processes.</td>
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<tr>
<td>2010</td>
<td>✪ FRA 2010 added the seventh theme of sustainable forest management (legal, policy and institutional framework) and was supplemented by a Global Remote Sensing Survey.</td>
</tr>
<tr>
<td>2011</td>
<td>✪ The International Year of Forests in 2011 “Forests for People” was a celebration of the central role of people in the management, conservation, and sustainable development of the world’s forests. ✪ Open Foris, providing online access to FAO open-source tools for forest data collection and analysis, is launched.</td>
</tr>
<tr>
<td>2012</td>
<td>✪ Launch of Voluntary Guidelines on the Responsible Governance of tenure of Land, Fisheries and Forests in the Context of National Food Security promote secure forest tenure rights as a means of eradicating hunger and poverty and supporting sustainable development. ✪ The United Nations General Assembly proclaimed 21 March the International Day of Forests (IDF) in 2012. The Day celebrates and raises awareness of the importance of all types of forests. On each International Day of Forests, countries are encouraged to organize activities involving forests and trees.</td>
</tr>
<tr>
<td>2013</td>
<td>✪ International Conference on Forests for Food Security and Nutrition. ✪ Collaborative Partnership on Sustainable Wildlife Management (SWM) established.</td>
</tr>
<tr>
<td>2014</td>
<td>✪ Forest and Landscape Restoration Mechanism established. ✪ Sustainable Forest Management Toolbox (SFM) released. ✪ First State of the World’s Forest Genetic Resources.</td>
</tr>
<tr>
<td>2015</td>
<td>✪ Fourteenth World Forest Congress celebrated in Durban, South Africa, on “Forests and People: Investing in a Sustainable Future.”</td>
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<tr>
<td>2018</td>
<td>✪ FRA 2015 used pre-filled forms, eliminated some difficult variables, and introduced the Collaborative Forest Resources Questionnaire, developed with regional data collection partners to help reduce countries’ forest-related reporting burden.</td>
</tr>
</tbody>
</table>
Oceans and seas support livelihoods and whole communities, providing nutritious food and potential for prosperity for hundreds of millions of people around the world. Covering more than 70 percent of the surface of our planet, oceans and seas provide half of the world’s oxygen, sequester carbon, and serve as home to 80 percent of life on Earth.

A stand-alone goal in the form of SDG 14, which aims to conserve and sustainably use the oceans, seas and marine resources for sustainable development, clearly illustrates their crucial role for human well-being and the health of our planet.

International recognition of the importance of conserving our ocean resources is helping build global momentum around this issue. However, SDG 14 goes far beyond conservation to focus on the people and coastal communities, particularly those in developing countries, who rely on these marine resources.

Oceans, along with coastal and marine resources, play an essential role in human well-being and social and economic development worldwide. They are particularly crucial for coastal communities, who represented 37 percent of the...
global population in 2010. Oceans provide livelihoods and tourism benefits, as well as subsistence and income. Fisheries sustain millions of jobs, and fishers often pass down traditions and knowledge from generation to generation. Fish is among the most widely traded food commodities, at a value of USD 145 billion annually. Sixty percent of the volume of fish trade originates in developing countries, providing opportunities to workers in the fisheries and aquaculture sectors. Moreover, fish has the potential to help meet the demand for nutritious food of the nearly 10 billion projected to live on earth in 2050. Healthy oceans and seas are more important than ever, and FAO’s Strategic Programme 2 aims to strengthen global governance as well as the managerial and technical capacities of member countries to improve conservation and utilization of aquatic resources.

### FAO’S ROLE AS CUSTODIAN FOR SDG 14 INDICATORS

In March 2017, the UN Statistical Commission endorsed 230 indicators to monitor the SDG’s 169 targets. These global indicators will help countries measure the progress they are making towards achieving objectives, learn from experiences and understand which areas to prioritize. Although FAO is actively involved with all aspects of SDG

#### WORLD FISHERIES AND AQUACULTURE

**PRODUCTION AND UTILIZATION**

(MILLION TONNES)  

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<tbody>
<tr>
<td><strong>PRODUCTION</strong></td>
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<td>Capture</td>
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<tr>
<td>Inland</td>
<td>10.7</td>
<td>11.2</td>
<td>11.2</td>
<td>11.3</td>
<td>11.4</td>
<td>11.6</td>
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<td>Marine</td>
<td>81.5</td>
<td>78.4</td>
<td>79.4</td>
<td>79.9</td>
<td>81.2</td>
<td>79.3</td>
</tr>
<tr>
<td>TOTAL CAPTURE</td>
<td>92.2</td>
<td>89.5</td>
<td>90.6</td>
<td>91.2</td>
<td>92.7</td>
<td>90.9</td>
</tr>
<tr>
<td>Aquaculture</td>
<td></td>
<td></td>
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<tr>
<td>Inland</td>
<td>38.6</td>
<td>42.0</td>
<td>44.8</td>
<td>46.9</td>
<td>48.6</td>
<td>51.4</td>
</tr>
<tr>
<td>Marine</td>
<td>23.2</td>
<td>24.4</td>
<td>25.4</td>
<td>26.8</td>
<td>27.5</td>
<td>28.7</td>
</tr>
<tr>
<td>TOTAL AQUACULTURE</td>
<td>61.8</td>
<td>66.4</td>
<td>70.2</td>
<td>73.7</td>
<td>76.1</td>
<td>80.0</td>
</tr>
<tr>
<td><strong>TOTAL WORLD FISHERIES AND AQUACULTURE</strong></td>
<td>154.0</td>
<td>156.0</td>
<td>160.7</td>
<td>164.9</td>
<td>168.7</td>
<td>170.9</td>
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<tr>
<td><strong>UTILIZATION</strong></td>
<td></td>
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<tr>
<td>Human consumption</td>
<td>130.0</td>
<td>136.4</td>
<td>140.1</td>
<td>144.8</td>
<td>148.4</td>
<td>151.2</td>
</tr>
<tr>
<td>Non-food uses</td>
<td>24.0</td>
<td>19.6</td>
<td>20.6</td>
<td>20.0</td>
<td>20.3</td>
<td>19.7</td>
</tr>
<tr>
<td>Population (billions)</td>
<td>7.0</td>
<td>7.1</td>
<td>7.2</td>
<td>7.3</td>
<td>7.3</td>
<td>7.4</td>
</tr>
<tr>
<td>Per capita apparent consumption (kg)</td>
<td>18.5</td>
<td>19.2</td>
<td>19.5</td>
<td>19.9</td>
<td>20.2</td>
<td>20.3</td>
</tr>
</tbody>
</table>

1 Excludes aquatic mammals, crocodiles, alligators and caimans, seaweeds and other aquatic plants.

2 Utilization data for 2014–2016 are provisional estimates.

3 Source of population figures: UN, 2015.
14, it has a special role to play working with the following indicators for which FAO acts as custodian:

- **14.4.1 Proportion of fish stocks within biologically sustainable levels**
  FAO’s analysis of assessed stocks concludes that the share of stocks within biologically sustainable levels has exhibited a downward trend, declining from 90 percent in 1974 to 66.9 in 2015. Thus, 33.1 percent of stocks in 2015 were fished at biologically unsustainable levels and therefore overfished.

- **14.6.1 Progress by countries in the degree of implementation of international instruments aiming to combat illegal, unreported and unregulated (IUU) fishing**
  Two years after its entry into force, significant progress in adherence to the FAO Agreement on Port State Measures is being made. Code of Conduct for Responsible Fisheries implementation questionnaires indicate numerous countries have developed and implemented national plans of action to combat IUU fishing.

- **14.7.1 Sustainable fisheries as a percentage of GDP in Small Island Developing States (SIDS), least-developed countries and all countries**
  Access to relevant data on the value of fisheries within the national economy offers an opportunity to examine the comparative success of specific country policies on fisheries management and economic development, providing valuable insights for fishery-dependent countries, including SIDS.

- **14.b.1 Progress by countries in adopting and implementing a legal/regulatory/policy/institutional framework that recognizes and protects access rights for small-scale fisheries**
  The Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries includes specific chapters on the responsible governance of tenure and on value chains, post-harvest and trade, providing an important tool for achieving SDG 14.b.1. FAO supports countries and regions actively engaged in the implementation of these Voluntary Guidelines.

**SIXTY PERCENT OF THE VOLUME OF FISH TRADE ORIGINATES IN DEVELOPING COUNTRIES, PROVIDING OPPORTUNITIES TO WORKERS IN THE FISHERIES AND AQUACULTURE SECTORS.**

**WORLD CAPTURE FISHERIES AND AQUACULTURE PRODUCTION**

[Graph showing capture and aquaculture production from 1950 to 2015]

*NOTE: Excludes aquatic mammals, crocodiles, alligators and caimans, seaweeds and other aquatic plants.*

*SOURCE: FAO. 2018. THE STATE OF WORLD FISHERIES AND AQUACULTURE.*
Seas and oceans have the potential to help meet the demand for nutritious food of the almost ten billion people projected to live on Earth in 2050. As recognized at the Second International Conference on Nutrition in 2014, fish has an important role to play in human nutrition. More than 3.1 billion people around the world depend on fish for at least 20 percent of their total animal protein intake. Population growth and economic development will increase demand for fish as part of a healthy diet. Fish is not only a source of protein and healthy fats, but also a unique source of essential nutrients, including long-chain omega-3 fatty acids, iodine, vitamin D, and calcium. The multiple benefits of fatty fish high in omega-3s and small fish eaten whole, which contain nutrients in the skin and bones, clearly illustrate seafood’s irreplaceable nutritional value.

An increased focus on fish and nutrition aids both developing countries and the developed world. In many developing countries, fish is the main or only source of animal protein, and is essential to providing micronutrients. Dietary patterns are also shifting in developed and middle-income countries, and an increasing emphasis on non-communicable diseases and overall health has led to an increased demand for fish.

Furthermore, fish plays a crucial role in a child’s healthy development. Expectant women throughout the world face demanding nutritional needs. The so-called 1 000 day window of a child’s life – from pregnancy to the child’s second birthday – is now recognized as a key time to promote proper nutrition for development. Fish consumption by expectant mothers aids their children’s neurodevelopment, from promoting optimal brain development to ensuring strong bone growth and providing sufficient levels of iron and zinc.

Sustainable fisheries management practices that safeguard our fisheries resources for future generations are more crucial than ever.
HOW FAO CONTRIBUtes TO ACHIEVING SDG 14

THE CODE OF CONDUCT FOR RESPONSIBLE FISHERIES

- **What it is:** A negotiated instrument. The Code represents a global consensus on a wide range of fisheries and aquaculture issues.
- **What it does:** Lays forth principles of sustainable fisheries and aquaculture management
- **Since:** 1995

Over 20 years after its approval, the Code of Conduct for Responsible Fisheries remains more relevant than ever. Throughout its two decades, the Code’s principles have given rise to various instruments that seek to improve the conservation, management and development of the fisheries and aquaculture sector. These include technical guidelines and plans of action, ecosystem approaches to fisheries and aquaculture, the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries, the Port State Measures Agreement, the Catch Documentation Schemes, and the Blue Growth Initiative.

Member countries and all those involved in fisheries and aquaculture have been working to implement the Code through their policies. FAO is responsible for monitoring implementation and supporting countries in their efforts to implement the Code, providing capacity support when necessary.

Back in 1995, FAO Members drafted, negotiated and adopted a forward-looking instrument that seized upon the growing global interest in sustainable development.

The Code, which consists of a collection of principles, goals and elements for action, took more than two years to elaborate, involving representatives from FAO Members, inter-governmental organizations, the fishing industry and non-governmental organizations.

**CODE OF CONDUCT FOR RESPONSIBLE FISHERIES**

Provides principles and standards applicable to the conservation, management and development of all fisheries, including:

- Relationship with other international instruments
- Implementation and monitoring
- Requirements of developing countries
- Fisheries management
- Fishing operations
- Aquaculture development
- Coastal area management
- Post-harvest
- Trade
- Fisheries research

*SOURCE: FAO, 2018.*
At the time, the fisheries and aquaculture sectors were experiencing enormous changes. The high production levels in the fisheries sector and increasing concerns in the early 1990s about the risks of overfishing, shifted the debate from greater production to sustainable production.

In 1991, FAO’s Committee on Fisheries (COFI) first called on FAO for the development of new concepts for responsible, sustainable fisheries. The International Conference on Responsible Fishing held in Cancun, Mexico, in 1992 followed up on this process. The process was further boosted by the United Nations Conference on Environment and Development, the Earth Summit, later that year in Rio de Janeiro, Brazil. The Earth Summit positioned sustainable development high on the international agenda, paving the way for negotiations and adoption of the Code.

This responded to the need to better integrate conservation and environmental considerations into fisheries management and to ensure food security for future generations.

**FAO PORT STATE MEASURES AGREEMENT TO PREVENT, DETER AND ELIMINATE ILLEGAL, UNREPORTED, AND UNREGULATED FISHING**

- **What it is:** A negotiated international treaty
- **What it does:** Prevents illegally caught fish from entering international markets through ports
- **Since:** 2016

Illegal, unreported, and unregulated (IUU) fishing is believed to represent 20 percent of total catches per year. Estimates place the cost of illegal fishing between USD 10–23 billion annually.

In 2009, a key measure designed to prevent illegally caught fish from ever entering international markets through ports was adopted by FAO Members: The Port State Measures Agreement to Prevent, Deter and Eliminate Illegal, Unreported, and Unregulated Fishing. The Agreement promotes collaboration between fishers, port authorities, coast guards and navies to strengthen inspections and control procedures at ports and on vessels. Under the terms of the treaty, vessels must request permission for port entry. Port entry and port services must be denied to offending vessels after regular inspections, and international ports must exchange information about suspect vessels.

On 5 June 2016, the Port State Measures Agreement officially entered into force as an international treaty. This was a tremendous achievement, and one that could only have been reached in this current environment of international collaboration on oceans. Positive momentum to end IUU fishing worldwide advances, as countries continue to accede to or ratify this important treaty.

The Agreement itself recognizes the special requirements of developing states and includes provisions to establish funding mechanisms for implementation to countries that have become Party to the Agreement. These mechanisms are intended to be directed towards developing and enhancing capacity for monitoring, control and surveillance and compliance activities relevant to port state measures, as well as training for port managers, inspectors and enforcement and legal personnel.

*MORE INFORMATION IN PART 3, CHAPTER 3.5: LEGAL INSTRUMENTS FOR RESPONSIBLE FISHERIES*

**GLOBAL RECORD OF FISHING VESSELS, REFRIGERATED TRANSPORT VESSELS AND SUPPLY VESSELS**

- **What it is:** A state-certified repository of vessels involved in fishing operations
- **What it does:** Provides a tool for eliminating illegal fishing
- **Since:** 2017

The Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels emerged from a process begun in 2005 with the adoption of the Rome Declaration on illegal, unreported and unregulated (IUU) fishing.
The Global Record is a single tool in which state authorities and regional fisheries management organizations compile information about all vessels authorized for fishing operations in their countries or regions. Each vessel is registered into the database with a unique vessel identifier (UVI), which remains with a vessel throughout its lifespan, regardless of change of the vessel’s name, ownership or flag.

The database is crucial for the work of inspectors, port state authorities and flag state authorities, making it easier to identify vessels not regularly identified and registered by the proper national and regional authorities.

Combined with the Port State Measures Agreement and catch documentation schemes, the Global Record forms part of a powerful set of instruments and measures aimed at eliminating illegal fishing, and ensuring consumers that the fish reaching their plates can be legally traced from the moment of harvesting and along the value chain leading to its purchase.

THE VOLUNTARY GUIDELINES FOR CATCH DOCUMENTATION SCHEMES

- **What it is:** Negotiated voluntary guidelines
- **What it does:** Provides better and more harmonized traceability of fish along the value chain
- **Since:** 2017

The Voluntary Guidelines for Catch Documentation Schemes are aimed at combating illegal, unregulated and unreported (IUU) fishing. Catch documentation schemes are tracking and tracing systems that monitor the fish from the point of catch through the whole supply chain to its final destination, thereby documenting the legality of the seafood catch.

A five-year negotiation process led by FAO successfully carried out the task set out for it in the Fisheries Resolution adopted by the United Nations General Assembly in December 2013, calling upon FAO Members to elaborate, in accordance with international law and agreements established under the World Trade Organization, guidelines for catch documentation schemes that would help to guarantee ‘sea to plate’ traceability of all seafood products.

The guidelines were unanimously approved in 2017 by a member country-driven FAO technical committee, and officially adopted by the FAO Conference at its Fortieth Session in July 2017.

Although voluntary, the Guidelines enjoy a high level of buy-in by governments after the lengthy and participatory negotiation process. These Guidelines are considered the standard to which new catch documentation schemes at the national, regional or international level will adhere. Additionally, because the guidelines call on countries to comply with existing international laws as well as agreements established under the World Trade Organization, relying on them to develop catch documentation schemes will allow countries to avoid unwanted trade.

VOLUNTARY GUIDELINES FOR SECURING SUSTAINABLE SMALL-SCALE FISHERIES IN THE CONTEXT OF FOOD SECURITY AND POVERTY ERADICATION

- **What it is:** Negotiated voluntary guidelines
- **What it does:** Recognizes and supports the important role of small-scale fishing communities
- **Since:** 2014

In 2014, FAO’s Committee on Fisheries adopted an instrument negotiated by FAO Members – the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food security and Poverty Eradication. The Guidelines are the first internationally agreed instrument for the small-scale fisheries sector.

This ground-breaking instrument recognizes the key role small-scale fishing communities – comprising more than 90 percent of the world’s capture fishers and fish workers – play in contributing to poverty alleviation and food security.
The Guidelines support investing in health, literacy, and education, eradicating forced labour, promoting social security protection, mandating gender mainstreaming, and building fisheries’ resistance to climate change and extreme weather events.

FAO supports countries as they work towards implementing the Voluntary Guidelines in their national policies and programmes.

Over four decades ago, the Government of Norway and FAO began a collaboration, alongside Norway’s Institute of Marine Research, to create a marine research partnership that was far ahead of its time. In the 1970s and 1980s, before environmental awareness was widespread, scientists on the Nansen embarked on survey voyages around the globe, measuring the health of our oceans.

**EAF-Nansen Programme**

- **What it is:** A marine research programme, which includes a research ship
- **What it does:** Conducts marine research for the benefit of developing countries
- **Since:** 1974

The only marine research vessel to fly the UN flag, the R/V Dr. Fridtjof Nansen has carried out its research primarily in Africa but also in Asia, in some of the least observed waters on the planet. And in over forty years of conducting this marine research for the benefit of developing countries and global ocean research, the successive Nansen vessels have sailed the impressive equivalent of sixty times around the globe.

Nansen surveys provide a platform for many developing countries that lack the proper infrastructure to conduct such marine research independently. Without these resources, many of these countries would face challenging obstacles in assessing their fisheries resources, a crucial step to make sound fisheries management decisions. All of the collected data are input into a dedicated database and made available to the countries and regions. This unique partnership allows many developing countries to achieve their efforts of managing sustainable fisheries and to obtain critical information key to their reporting on SDG 14 achievements.

Over the years, the Nansen has welcomed aboard hundreds of scientists from around the world, but primarily those from developing countries. A robust gender policy ensures that many of these young scientists and researchers are women. Many of these marine researchers may not have had the opportunity to conduct research at sea before setting sail on the Nansen. Yet they join the...
international crew with great enthusiasm, sharing their areas of expertise and local knowledge, and absorbing the knowledge of the other scientists on board. At journey’s end, the scientists return to their countries to apply their newly acquired knowledge and experience within their universities, research institutes and ministries.

The newest Nansen vessel, the third since the start of this programme, was launched in Oslo’s harbour 24 March 2017. The new Nansen is the most advanced marine research vessel of its kind. New laboratories facilitate research in climate change and the study of marine plastics in addition to its fisheries management research activities. The new Nansen began its marine research off the coast of northwestern Africa in May 2017, has since operated in the waters of over 25 countries and will continue to carry out its research in support of SDG 14 in 2019.

WEST AFRICA

Above, the ship sailing through the waters of West Africa. Below, left to right: Amphipod collected in the stomach of a fish. Photo taken during a research trip on the coast of Dakar. And finally, image taken during the Nansen Boat exploration in the waters of Ghana. © IMR/REDDAR TORESEN, DEBORAH CATENA, HINDE ARDELOUAHAB / EA/NANSEN PROGRAMME

BLUE GROWTH INITIATIVE

- **What it is:** Programme and overarching policy
- **What it does:** Supports sustainable fisheries and aquaculture development and SDG 14
- **Since:** 2013

FAO launched its Blue Growth Initiative in 2013 and it has featured in high-level fora such as the Global Action summit in the Hague, the Netherlands. It grew from the “blue economy” concept that emerged from the Rio+20 Conference in 2012, and emphasizes the three pillars of sustainable development – economic, social and environment. Blue Growth prioritizes the sustainable management of natural aquatic resources, fully taking into consideration environmental, social and economic needs. Blue Growth emphasizes efficient resource use in capture fisheries and aquaculture, ecosystem services, trade, livelihoods and food systems.
BLUE GROWTH PRIORITIZES THE SUSTAINABLE MANAGEMENT OF NATURAL AQUATIC RESOURCES, FULLY TAKING INTO CONSIDERATION ENVIRONMENTAL, SOCIAL AND ECONOMIC NEEDS.

The approach minimizes environmental degradation, biodiversity loss and the unsustainable use of resources, while maximizing the economic and social benefits that build strong communities. The approach also aims at creating an enabling environment for workers involved in fisheries and aquaculture, and those workers along the entire seafood value chain, to act not only as resources users, but also to play an active role in protecting and safeguarding these natural resources for the benefit of future generations.

The Blue Growth Initiative and the objectives of SDG 14 are complementary. The activities undertaken in countries to achieve SDG 14 and to mainstream Blue Growth into national and regional policies and programmes are important steps forward in conserving ocean resources and strengthening coastal communities.

THE STATE OF WORLD FISHERIES AND AQUACULTURE

▶ What it is: An FAO flagship publication
▶ What it does: Presents and analyses latest official fisheries and aquaculture statistics and trends major exporters
▶ Since: 1994

In 1994, FAO began publishing its flagship publication for fisheries, *The State of World Fisheries and Aquaculture*. This premier advocacy document is published every two years to provide policymakers, civil society and those whose livelihoods depend on the sector a comprehensive, objective and global view of capture fisheries and aquaculture, including associated policy issues.

The report is the only publication synthesizing information on global fisheries and aquaculture, covering a range of topics relevant to the sector. Each issue presents the latest official statistics on fisheries and aquaculture to evaluate a global analysis of trends in fish stocks, production, processing, utilization, trade and consumption. It also reports on the status of the world’s fishing fleets and analyses activities related to the people involved in all stages along the fish value chain.
Improving the efficiency of Thai trawl fishing fleets

The profitability of the global commercial fishing fleet is presently challenged by volatility in oil prices, despite recent global reductions in the price of oil. Coupled with concern over greenhouse gas emissions from the combustion of fossil fuel, greater focus is also now being placed on energy-intensive fisheries and the application of fuel-saving practices to fishing vessels and fishing gear. One FAO activity in Thailand focuses attention on the issue of fuel use and links to greenhouse gas mitigation from the capture fisheries sector. The Thai context is fairly typical of the fishing industry in the Southeast Asia region – labour costs in Thailand are generally low and fuel consumption comprises a full 70 percent of costs for Thai trawl fishing operations. Reducing fuel use provides multiple economic and environmental benefits. An energy audit was carried out to systematically evaluate the potential cost and environmental impacts of fuel saving practices in fisheries. Interviews carried out for this audit showed that the captains generally did not understand the important role they play in lowering fuel consumption. Implementing changes to lower the fuel consumption of Thai trawl fishing vessels can help the industry decrease greenhouse gas emissions, thereby lowering the carbon footprint.
Supporting maritime fishing nation Morocco to develop aquaculture

With its long coastline, Morocco possesses a strong tradition of maritime fisheries. Its national fisheries production totalled 1.3 million tonnes in 2014, making it the largest maritime fisheries producer in Africa and the twenty-fifth in the world. Fisheries contribute 2.3 percent to the GDP. It is estimated that 3 million people in Morocco depend on fisheries for their livelihoods. Despite this generally positive outlook, Morocco is concerned about how to meet increased demand for fish products, particularly in light of challenges related to climate change, without placing additional strain on its marine resources. For this reason, Morocco is working with FAO to sustainably expand its aquaculture sector. Morocco and FAO believe that aquaculture can be a solution to meeting increasing internal demand for fish as part of a healthy diet, and crucial to expanding trade. Additionally, aquaculture activities have a strong potential to contribute to improving the living standards of all, especially the poorest, in an economically, socially and environmentally sustainable manner.
Training women boat builders in Somalia

Rebuilding the fisheries sector in Somalia, following years of conflict, is crucial for strengthening food security and nutrition among the Somali population. In Somalia today, over one million people face severe food insecurity. Generating employment in the fisheries sector is key. A Norwegian-funded component of the fisheries programme developed with FAO has focused on the need to build better and safer vessels for small-scale Somali fishers, replacing the unsafe boats currently being used by the majority of coastal fishers. The new vessels are being constructed in Mogadishu, Berbera and Bossaso entirely by Somalis. The boat building project has experienced a great deal of enthusiasm from the trainees themselves, who are eager to put their new skills to work. Among these trainees are women who were selected to learn valuable vessel building skills. The success of the sea trials of these boats built to FAO safety standards has generated significant interest in the new vessels, and private-sector companies are already showing interest in purchasing boats directly from the boat yards. This success bodes well for men and women trainees, as it is expected to generate longer-term employment in the sector.

Boosting fish trade in Georgia

This country in the Caucuses enjoys significant fish resources. Along its Black Sea coastline, annual catch of anchovies totals 60 000 tonnes. Most of that is sold fresh to neighbouring countries or processed into fish oil. Georgia would like to export directly to the world’s largest fish importing market, the European Union (EU), to earn higher revenues, but it does not yet meet a number of EU criteria for fish inspection, certification, laboratories and related legislation. FAO is providing support to Georgia, assessing its landing sites, factories and fish markets with an eye to meeting EU requirements, training its
Building back better after Typhoon Hainan in the Philippines

In 2013, Typhoon Haiyan damaged 30,000 fishing boats, comprising two-thirds of the assets of Filipino fishing communities. The typhoon also resulted in massive destruction to forests that shelter fisheries and provide building materials for the traditional wooden Filipino vessels, called bancas. In order to minimize the environmental stress while building back the fleet with better and safer vessels, FAO developed a hybrid banca vessel. This new fishing vessel, which local workers were trained to build, is constructed with a fiberglass keel rather than the traditional wooden structure. However, the vessel’s new and improved design preserves the traditional boat form, while still being built to full FAO safety standards. This creates a safer, more efficient vessel, while still staying faithful to traditional designs. Innovation that minimizes resource use must still appeal to tradition and be accepted by the local fishing communities.

Transforming women’s lives in Côte d’Ivoire through simple technologies

Smoked fish is extremely popular in western Africa. Women in Côte d’Ivoire handle all tasks related to fish smoking over traditional smoking ovens, which have adverse effects on their health and the health of their children, who are often nearby as they...
smoke. These women spend long hours over these ovens, often in poorly ventilated areas, as they smoke the fish. Adopting simple and relatively inexpensive technologies can often revolutionize the lives of these women. FTT-Thiaroye ovens were developed jointly with FAO and introduced in 2014 in Côte d’Ivoire as a simple, but efficient, alternative to traditional fish smoking. The ovens are cleaner and require less wood for smoking. Benefits for women have proved to be numerous: healthier working environment, lower instances of respiratory problems, better quality of products that also fetch higher prices, and extra time to attend literacy classes.

Experimental capture-based aquaculture of Napoleon fish in Indonesia

The humphead wrasse is an iconic reef fish, more commonly known as the Napoleon fish, that is found in shallow, tropical waters of the Indian and Pacific Oceans where it can grow to the size of a large man. With its numbers decreasing over the past two decades, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) now lists the Napoleon fish among its protected species. The inclusion of the Napoleon fish on the CITES listing calls for strict management conditions to be put in place that would not be detrimental to the sustainability of remaining stocks. As local fishers in Indonesia’s Anambas and Natuna islands witnessed the decline of Napoleon fish in their reefs, they began to adjust to what is being called capture-based aquaculture. FAO has been working with the Government of Indonesia, CITES and partners to review the interesting and innovative fisheries management experiment currently under way in these Indonesian islands. The fishing communities collect large numbers of the juvenile fish when they are 2–3.5 centimetres over a short harvest period, transferring them to culture nets where they feed them and wait for them to ‘grow-out’ to market size, preferably 600 g – 1 kg. This can take the slow-growing Napoleon fish from 3 to 5 years. Although still in the early stages, this Indonesian example is proving a promising attempt to merging the livelihoods requirements of the fishing communities with conservation efforts that will allow the Napoleon fish to return in greater numbers to Indonesia’s reefs.
Pacific fisheries key to food security, improved livelihoods and nutrition

There is growing concern by Pacific Island leaders that the present trend towards low rates of economic growth experienced in many Pacific Island countries over the last decade will continue. And with the majority of Pacific Small Island Developing States (SIDS) facing a growing “triple burden” of malnutrition, in which undernutrition, micronutrient deficiencies, and overnutrition co-exist within the same populations, a new collaborative effort between FAO and the Pacific Community has begun. Efforts aim at enhancing the contribution made by sustainable fisheries to food security, nutrition and livelihood improvement. In the Pacific, coastal fishing contributes the bulk of locally consumed fish. Local consumption of fish is estimated to be 2–3 times that of global averages and is especially high in atoll nations, and is thought to provide 50–90 percent of dietary animal protein in coastal communities in the Pacific. Currently, many coastal shallow water resources are depleted. Supplementing shallow water coastal resources with tuna and other oceanic species by growing production from the small-scale fisheries sector to supply safe and nutritious fish for domestic consumption is one solution and can help to support more nutritious diets. These opportunities complement successful offshore fisheries where most fish is destined for sale and consumption in foreign markets. For many Pacific island countries and territories, tuna and other oceanic species are also readily accessible to coastal communities. Together with other key regional partners, FAO and the Pacific SIDS are working collaboratively on a new coastal fisheries supply chain project aimed at increasing the sustainable and safe supply of fish for domestic consumption and livelihood improvement.

Prioritizing Blue Growth in Cabo Verde

This African archipelago Small Island Developing State is surrounded by ocean. Working with FAO, Cabo Verde decided to harness the potential of the seas surrounding it by designing and
implementing a Blue Growth Charter. Adopted in 2015, this Blue Growth Charter prioritizes environmental, economic and social development of ocean-related priorities. These priority activities include climate change research, conservation of sharks, developing marine-protected areas, strengthening fisheries communities, improving sanitation and quality of fish products through better practices and storage, favouring local fish products in tourism and empowering women’s groups to market their fish directly to restaurants and hotels, developing ecotourism, improving marine transport networks to facilitate tourism and exploration of other islands, and creating jobs for young people who are too often forced to seek work abroad. Blue Growth policies and activities cut across ministries and jurisdictions, and a cohesive approach allows Cabo Verde to prioritize Blue Growth activities for the benefit of its people.

Reducing bycatch in Latin America and the Caribbean

In recent years, the bycatch – the fish or other marine species caught unintentionally when targeting different species – of fishery resources has become a growing concern. Public scrutiny has grown alongside a heightened interest in conservation issues and concerns about the magnitude of food loss and waste. The levels of bycatch can vary tremendously from industry to industry. For example, on average, the quantity of bycatch for a tropical shrimp trawl can reach a level from 3 to 15 times higher than the targeted species. About 1.9 million tonnes of bycatch is discarded annually from shrimp trawlers alone. FAO work in Latin America and the Caribbean is addressing these concerns by reducing bycatch and promoting more responsible fisheries practices. Brazil, Colombia, Costa Rica, Mexico, Suriname and Trinidad and Tobago are six countries participating in an initiative aimed at reducing food losses and encouraging sustainable livelihoods by improving the management of bycatch and minimizing discards and sea-bed damage. In this way, the project aims at transforming bottom trawl fisheries into responsible fisheries.
For more than a decade, the number of violent conflicts around the world has been increasing significantly, hitting rural communities the hardest. This surge in conflict is driving greater food insecurity, fuelling violence and creating new tensions. The situation has also deteriorated in some peaceful settings, particularly those affected by economic slowdowns. A number of countries heavily dependent on commodity exports have suffered dramatically reduced export and fiscal revenues in recent years, which has affected both food availability through reduced import capacity and food access through reduced fiscal potential to protect poor households against rising domestic food prices.

The proportion of undernourished people is almost three times as high in countries experiencing conflict and protracted crises as in other developing countries. Malnutrition tends to affect children the most and, when it happens within the first 1,000 days of a child’s life, may cause lifelong mental and physical handicaps. Conflict has lasting, multigenerational impacts on human development.

**COLOMBIA**
Over 250,000 people were killed and millions displaced in Colombia’s 52-year armed conflict. A peace deal was signed in 2016, with more and more displaced farmers returning.

©FAO/Marco de Gaetano
Food insecurity can exacerbate conflict drivers and tensions: sharp increases in food prices in many countries in 2008 – accompanied by cuts in food and fuel subsidies – reduced people’s incomes, especially in urban areas, and triggered food riots in many countries. Dispossession of assets, such as land or cattle, or other threats to food security can also fuel conflict. Reduced access to food may compound other forms of grievance and discontent, such as poverty, unemployment or marginalization.

Conflict and violence have also led to the displacement of millions of people, causing and protracting food insecurity in host communities. For example, the civil war in the Syrian Arab Republic has caused some 6.6 million people to flee their homes to other locations within the country and another 5.6 million to other countries.
For decades, FAO has worked in and across both the humanitarian and development spheres to protect, save and restore livelihoods, reduce food insecurity and malnutrition, and improve resilience of livelihoods and agricultural systems. FAO supports investments in capacity at the local, national, regional and global levels to reduce poverty and build sustainable food and agricultural systems.

Supporting agriculture-based livelihoods, ensuring effective coverage of social protection systems, addressing issues of land tenure and of access to natural resources, and fostering employment opportunities for youth can effectively contribute to sustaining peace and post-conflict recovery. They can also help people stay on their land when they feel it is safe to do so, and create conducive conditions for the return of refugees and the internally displaced.

The 2030 Agenda for Sustainable Development acknowledges these challenges and recognizes peace as a vital threshold condition for development, as well as a development outcome in its own right. The first two Sustainable Development Goals focus on the eradication of poverty and hunger, and on achieving food security and making agriculture sustainable. The 2030 Agenda sees achievement of these goals as critical to achieving the further objective of ensuring the establishment of peaceful and inclusive societies.

Recognizing that preventing crises and sustaining peace are shared Charter-based responsibilities across the entire UN system, the 2030 Agenda opens the way to new and collaborative approaches that integrate humanitarian assistance and conflict-prevention through resilience-building efforts.

The UN system must work in an integrated and coherent manner to provide timely humanitarian assistance, build resilience to reduce risk, mitigate and prevent conflict, and sustain peace. FAO and its partners have a key role to play on all of these fronts, with successful experiences to build on. Peace dividends, particularly at the local level, can be derived from conflict-sensitive interventions supporting agriculture and food security.

Reducing armed conflict and extreme poverty – and addressing their consequences – are key to ending hunger. Along with the eradication of hunger, peace is essential for achieving the Sustainable Development Goals.

Food security and agriculture have a meaningful and often unnoticed contribution to make in addressing this global challenge.
both meet the immediate needs of those impacted by crises, while simultaneously addressing root causes of hunger and seeking to open new opportunities tailored to local livelihoods and agri-food systems.

**Maintaining food security during conflict**
FAO activities improve household food security and nutrition, ease pressures on host communities and help reduce tensions in conflict situations where food supplies and markets are severely strained. For instance, despite conflict during 2016, agricultural production was still possible in many parts of the Syrian Arab Republic. Even amid the violence, FAO was operating in 13 of the country’s 14 governorates, working to help families stay on their land (when safe to do so) and continue producing food to feed themselves, their communities and the country. With improved seeds from FAO, farmers were able to make the most of cultivable areas. In 2017, despite enormous challenges and constraints, Syrian farmers produced 2 million metric tonnes of wheat.

**Managing information for early action**
Informing stakeholders and building technical consensus on the severity of food insecurity is vital, particularly during conflicts when humanitarian access may be compromised. Together with 13 partners, including UN agencies, international NGOs, donor-related bodies and regional intergovernmental bodies working on food security, FAO promotes a common approach and standards for food security analysis through the Integrated Food Security Phase Classification (IPC). IPC is a set of standardized tools currently used in over 30 countries to generate evidence and information on the severity and causes of food and nutrition crises as well as persistent food insecurity. FAO plays a fundamental role in this process, ensuring that timely, accurate and coherent information is available for decision-making.

**NIGER**
Women returning home with bags of improved millet and green bean seeds from an FAO distribution centre. ©FAO/ISSOUF SANOGO
The role of the United Nations (UN) Security Council in dealing with food security in conflict situations is highlighted. The UN Security Council Resolution 2417 is considered a significant step in condemning the use of food as a weapon of war. It calls for urgent action to prevent conflicts and protect civilians from hunger and malnutrition.

The FAO–Interpeace Partnership was established to operationalize the FAO Corporate Framework. This partnership seeks to harness the expertise of the International Peacebuilding Advisory Team (IPAT) and ensure that FAO’s work on food security and peacebuilding is embedded across the entire organization.

FAO is working closely with UN peacekeeping actors to reintegrate former combatants into society. This includes replacing lost productive assets and supporting sustainable agriculture and fisheries-based livelihoods in conflict- and disaster-affected areas. The FAO’s Corporate Framework aims to guide the organization in its work on food security and sustainable agriculture in the context of Agenda 2030.

FAO’s work on food security is closely linked to the concept of “sustaining peace.” It seeks to ensure that its efforts are practical and embedded across the Organization. The FAO–Interpeace Partnership is crucial in operationalizing the Corporate Framework and ensuring that FAO’s work is rooted in the principles of sustainable agriculture and development.

Supporting rehabilitation and reintegration is a key aspect of FAO’s work. When families are displaced by armed conflict, communities become resource-poor, and livelihood opportunities and food sources are limited. Disarmament, demobilization, and reintegration (DDR) programmes aim to support the voluntary disarmament and discharge of combatants from armed groups. FAO works with UN peacekeeping actors to reintegrate former combatants, particularly in the Democratic Republic of the Congo, Mali, and the Philippines.

Controlling disease, contributing to peace is another area of focus. Conflict has profound implications for animal health and, in turn, for access to milk, meat, and blood. These impacts directly affect food security and nutrition. FAO vaccination campaigns offer an important channel through which to build social trust and establish intercommunity ties.

Conflicts have strong and unambiguous adverse effects on food security and nutrition. They contribute to food insecurity and malnutrition, which can have lifelong impacts on human development and leave children with physical and mental handicaps. Conflict tends to affect children the most and leave lifelong physical and/or mental handicaps. Food insecurity can be a source of conflict, but it is never the only catalyst. Building resilience through peace-building efforts is critical for food security and nutrition.

Causal effects of the conflict-food security nexus vary across conflict zones, but common features include disruption of food production and food systems, plundering of crops and livestock, loss of assets and incomes, and threats to food security (including sudden food price increases). Conflict often exacerbates existing vulnerabilities and triggers new ones, leading to food insecurity and malnutrition, which in turn affects human development.

Conflict has lasting impacts on human development as a result of increased malnutrition, which tends to affect children the most and leave lifelong physical and/or mental handicaps. Food insecurity can be a source of conflict, but it is never the only catalyst. Building resilience through peace-building efforts is critical for food security and nutrition.

The concept “sustaining peace” encompasses activities aimed at preventing the outbreak, escalation, continuation, and recurrence of conflict, including addressing root causes and moving towards recovery, reconstruction, and development. The objective of the framework is to guide the Organization in its work on food security and sustainability agriculture in the context of Agenda 2030.

New FAO Corporate Framework
In 2018, FAO published its Corporate Framework to support sustainable peace in the context of Agenda 2030. The objective of the framework is to guide the Organization in ensuring that its work on food security, nutrition, and sustainable agriculture seeks in a deliberate manner to have a transformative impact on sustaining peace. The framework aims to prevent conflicts and ensure peace through FAO’s work on food security and sustainable agriculture.

FAO–Interpeace Partnership
To help operationalize its Corporate Framework, FAO has sought to harness the expertise of the International Peacebuilding Advisory Team (IPAT). The two organizations signed a Memorandum of Understanding in September 2017 and are developing and testing tools tailored to and rooted in FAO’s work that will enable more systematic and robust conflict-sensitive programming – while ensuring they are practical and can become embedded across the Organization.

UN Security Council Resolution 2417
In May 2018, the UN Security Council unanimously adopted a landmark resolution on preventing hunger in conflict zones. Resolution 2417 reiterates the condemnation of starvation as a tool of war. It calls on all parties to armed conflict to comply with their obligations under International Humanitarian Law to minimize the impact of military actions on civilians, including on food production and distribution, and to allow humanitarian access in a safe and timely manner to civilians needing life-saving food, nutritional assistance, and medical assistance.

A panel discussion at the UN General Assembly in September 2018 – opened by the UN Secretary General and including senior officials from FAO, IFAD, WFP, the European Commission, the Government of the Netherlands and the head of Action Contre la Faim – focused on how to operationalize Resolution 2417, promote investments in food security that sustain peace, and improve access to quality data on hunger in fragile contexts.
dialogue, which contribute to improved prospects for local peace. For instance, eliminating Rinderpest in 2011 would not have been possible without a conflict-sensitive approach to animal health, as the last vestiges of the disease were harboured in communities plagued by revenge cycles of violent livestock raids. In East Africa, community-based animal health workers negotiated peace pacts between rival pastoral groups, both in order to gain access to vulnerable herds and as a pre-condition for Rinderpest vaccinations.

Mitigating and preventing pastoralist conflict
The cross-border pastoralist communities of Kenya and Uganda have been conflict hotspots for many years. The conflicts are mainly linked to cattle raiding among the Pokot tribe in Kenya and the Karamojong in Uganda. This has

CONFLICT AND FOOD SECURITY
FACTS AND FIGURES

- The proportion of undernourished people living in countries in conflict and protracted crises is almost three times higher than that in other food-insecure countries.
- Post-conflict countries with high food insecurity are 40 percent more likely to relapse into conflict within a ten-year timespan.
- Since 2000, 48 percent of civil conflicts have been in Africa where access to rural land underpins the livelihoods of many, and in 27 out of 30 interstate conflicts in Africa, land issues played a significant role.
- Civil strife caused a loss of 438 Kcal in average per capita daily food-energy intake in Somalia, about 20 percent of minimum daily food requirements.
- Areas where conflict and climate shocks interact to drive food crises have very high to high prevalence rates of acute malnutrition in children under five years of age – these include Darfur in the Sudan (28 percent), South Sudan (23 percent), the Lake Chad region (18 percent), Yemen (10–15 percent), the Diffa region of the Niger (11 percent), the Democratic Republic of the Congo (8–10 percent), and Afghanistan (9.5 percent).
- 56 percent of the population in countries affected by conflict live in rural areas.

SOURCE: FAO. 2016. PEACE AND FOOD SECURITY; FAO. 2018. FAO’S CONTRIBUTION TO SUSTAINING PEACE.
been compounded by consecutive years of drought. FAO has been strengthening the capacity of pastoral communities most vulnerable to drought by setting up Pastoralist Field Schools (PFS) not only as a way to help reduce and prevent inter-community conflicts, but also as a means to promote a learning environment where community members exchange information and best practices and learn about grass-roots ways of coping with drought risks and related challenges.

**Promoting sustainable land conflict resolution**

FAO contributes to reducing land-based disagreements through its role in Participatory Negotiated Territorial Development (PNTD) projects. PNTD is a confidence-building, facilitated dialogue approach that brings together the negotiating table different and often opposing stakeholders to discuss and seek solutions to issues around land tenure, customary land rights and the sustainable use of natural resources. In the Democratic Republic of the Congo, for example, land disputes represent 80 percent of all conflicts in the eastern part of the country. A joint UN Habitat-FAO-UNDP project using the PNTD has brought together the main contesting parties – for example, land administration and customary authorities, farmers, private actors and armed groups – to engage in a participatory territorial analysis to help identify the underlying causes of issues surrounding natural resource access. As a result of the PNTD, land disputes related to refugee return and Internally Displaced Persons (IDPs) have decreased.

**Strengthening resilience amid conflict**

FAO’s promotion of fuel-efficient mud stoves since the 1990s provides a sustainable, multifaceted solution for improving nutrition and reducing disease risk in conflict-affected and protracted crisis situations. Fuel-efficient stoves reduce fuel consumption per meal and cut smoke emissions from traditional fires. The materials used to make the stoves are available locally, supporting replicability and cost-efficiency. Local production and sales of fuel-efficient stoves become an income-generating activity for women. The use of fuel-efficient stoves confirms that they have numerous cross-sectoral benefits, including supporting resilient livelihoods, improving nutrition and health, contributing to forest conservation and environmental protection, and fighting climate change by reducing carbon emissions. From a human security perspective, this kind of approach decreases the risks of sexual and gender-based violence women face when collecting fuelwood, and helps reduce conflict over scarce natural resources between host communities and displaced people.
Yemen

FAO has remained in Yemen throughout the escalation of the current conflict – from 2015 onwards – which has precipitated the world’s largest food security crisis. In 2018, as part of its Emergency Livelihoods Response Plan (ELRP), FAO mobilized USD 52 million to provide agricultural livelihood inputs and services to more than 436,465 of the most vulnerable and food-insecure households (3.1 million people). In 2019, FAO’s ELRP requires USD 135 million to support 990,900 households (7 million people) over a 12-month period in the districts with high levels of food insecurity as classified by the IPC.

The overall objective of the 2019 ELRP is to accelerate livelihoods recovery for sustained food security and income opportunities for the most vulnerable households through improved availability and access to food, economic empowerment, agricultural infrastructure improvement, capacity development and effective coordination of interventions.

Uganda

In Uganda, FAO and its partners have implemented Junior Farmer Field and Life Schools (JFFLS) to address the immediate needs of vulnerable children living in rural communities affected by conflict. The project has targeted boys and girls aged 12 to 18, from the following households: those that have been displaced, or directly or indirectly affected by HIV/AIDS; those with severely disabled parents; those with children in and out of school; or those with children otherwise in distress. Planned around the local agricultural calendar, the programme has enabled children to develop agricultural, entrepreneurial and social skills through classroom-based studies and practical sessions in the field, complemented by life-skills sessions, local theatre, art, dance and music.

JFFLS have increased school enrolment, performance and attendance of vulnerable children in primary schools, and helped to improve the diet of children who usually could not grow or buy vegetables. They have also helped participating children become role models and develop self-confidence, knowledge and skills to take greater control of their lives.

Sudan and South Sudan – Abyei Administrative Area

An FAO intervention from July 2015 to June 2017 in the contested Abyei Administrative Area between the Sudan and South Sudan reduced the risk of natural resource-based conflicts and enhanced community resilience. Abyei Area is a grazing hub in which historically both the Dinka Ngok and the Misseriya tribal communities interact, sharing natural resources such as grazing land and water. However, in recent years, natural resource use has been an increasing source of confrontation, leading to frequent outbreaks of violence between the communities.

FAO identified a window of opportunity by providing community-based animal health veterinary services to both communities. This allowed wider natural resource use issues to be addressed. In June 2016, as a direct result of this work, a community-level peace agreement over natural resource use was signed between the Misseriya and Dinka Ngok.
North-eastern Nigeria

FAO and the World Food Programme (WFP) launched a joint effort in July 2018 to support conflict-affected people in north-eastern Nigeria to increase their food production and reduce dependence on food assistance. Using a ‘twin track’ approach, FAO focused on providing enough seed and fertilizer to produce up to eight months’ worth of food during the 2018 rainy season, with WFP covering the food needs of households until the crucial harvests in September.

“Families in north-eastern Nigeria have been affected by conflict for years, and many have gone through terrible times. We need to work harder and together to put people back on the track of self-reliance, to rebuild their livelihoods and to restore their dignity. This joint assistance by FAO and WFP is a step in that direction,” said WFP Representative in Nigeria, Myrta Kaulard.

“FAO is assisting both the growing number of farmers who have returned to their villages to resume production, as well as the many still forced to live in camps,” said FAO Representative in Nigeria, Suffyan Koroma. “In addition to distributing inputs like seed, we are expanding our farmer field schools and savings and loans programmes in the region to strengthen both farming skills and access to finance for agri-business development.”

One in four children grows up in an area affected by conflict or natural hazards. Each year, these conditions push children into agricultural work that is unsuitable for their age as they seek to provide for themselves and their families. Around the world, millions of children are trapped in exploitative and dangerous work that affects their physical and mental development and deprives them of the opportunity to learn.

FAO’s ‘Child labour in agriculture in protracted crises, fragile and humanitarian contexts’ guidance note provides technical and operational guidance to stakeholders in the agriculture, food security and nutrition sector intervening in protracted crises, and humanitarian contexts. The guidance aims to ensure that children are not engaged in activities that could negatively affect their health, development or education, and are not employed in hazardous working conditions. It makes the case that agriculture, food security and nutrition programming in the aftermath of a crisis can potentially have both positive and negative effects on children. It also provides recommendations and examples to address situations of child labour in agriculture in these contexts.

Source: FAO. 2017. Child labour in agriculture in protracted crises, fragile and humanitarian contexts. PILOT VERSION.
FAO AND THE NOBEL PEACE PRIZE LAUREATES ALLIANCE

The FAO-Nobel Peace Laureates Alliance for Food Security and Peace was established by the FAO Director-General in May 2016 to enhance the role of food security in peace-building efforts, while ensuring that peace-building reinforces food security. The Alliance is an advocacy group of Nobel Peace Laureates that aims to contribute to creating the necessary political will to eradicate hunger within our generation and to build sustainable peace. It gives visibility to the work of the Organization in post-conflict countries in the context of the 2030 Agenda for Sustainable Development.

The Alliance is supporting FAO’s initiatives for food security in situations such as in the Central African Republic and Colombia, garnering political commitment for previously opposing factions to join forces to improve nutrition, access to food, local food systems, land tenure security or other contextually relevant aspects. At the same time, these efforts contribute to reducing the potential for conflict and instability.

With the support of FAO Members, the Alliance is raising awareness and championing global and country-level activities promoting the links between food security, agriculture-based livelihoods, natural resource management and peace-building, as well as highlighting FAO’s technical leadership in agricultural and food security policies and actions that promote peace, rural development and food security.

FAO-Nobel Peace Laureates Alliance members include: Betty Williams (Ireland), Mairead Maguire (Ireland), Adolfo Pérez Esquivel (Argentina), Oscar Arias Sánchez (Costa Rica), Frederik Willem de Klerk (South Africa), Graça Machal (South Africa), José Ramos-Horta (Timor-Leste), Muhammad Yunus (Bangladesh), Tawakkol Karman (Yemen), Leymah Gbowee (Liberia) and Juan Manuel Santos (Colombia).

SOURCE: WWW.FAO.ORG/NOBEL-FOR-FOODSECURITY-PEACE/EN/
During the rainy season spanning June to September, FAO assisted 1 million people or more to become more food secure through farming. The Organization distributed disease and drought-tolerant varieties of crop seed and fertilizer using a kit system. In Kit 1, FAO distributed maize, millet or sorghum alongside cowpea seed and fertilizer. Kits 2 and 3 were solely for female-headed households and contained vegetable and cash crop seed, respectively. The vegetable kit featured okra and amaranth, a green leafy vegetable. Income-boosting groundnut and sesame, relished by women for their good market prices, rounded out Kit 3.

**Central African Republic**

FAO is implementing a project funded by the Government of Italy entitled “Support for the Establishment of a Pilot Centre for Training and Socio-economic Integration of Conflict-Affected Youth”. The project targets 1,500 people, 70 percent of whom are unemployed young people affected by the crisis and who come from the two main religious communities in the country. In the short term, the direct beneficiaries will be the young people who will participate in the first training cycles from 2017 to 2019.

The project was made possible thanks to the initiative of FAO’s Director-General, through the FAO Nobel Peace Laureates Alliance for Food Security and Peace. According to the FAO Representative in the Central African Republic, “only the resumption of development in all agricultural sectors will give hope for a better future and thus work constructively towards the stabilization of the country, better social cohesion and long-term peace”. With a total cost of USD 2 million, the project is being implemented by FAO in partnership with the Ministry of Agriculture and Livestock, the Italian Government, the Yunus Foundation, the Karman Foundation and the Holy See. It will support groups in organizing and implementing community savings and loan schemes as well as promoting social cohesion and inter-religious dialogue.

**Philippines**

Communities in Marawi City and outlying municipalities in the Provinces of Lanao del Sur and Maguindanao have started on the road to recovery following the destruction left by the Marawi crisis that lasted from May to October 2017. The conflict took a heavy toll on rural livelihoods and industries, as well as the food supply and agribusiness value chain on which smallholders depend for their daily subsistence.

FAO, with support from the Government of Belgium, delivered assistance to help returning and displaced farmers to re-establish their livelihoods and food security. With a USD 500,000 contribution from Belgium through the FAO-SFERA (Special Fund for Emergency and Rehabilitation Activities), FAO distributed rice, corn and vegetable seeds, fertilizer, farming tools and broiler chicken production packages to 4,949 farming families in Marawi, Lanao del Sur and Maguindanao.

FAO’s emergency and recovery response to the Marawi crisis focused on rehabilitating the agriculture and fisheries sector, restoring the food supply chain in affected communities, and helping farmers reclaim their lost livelihoods so that they can begin rebuilding their lives.

**Colombia**

By the end of the internal armed conflict in Colombia in 2016, some 4.9 million people were in need of humanitarian assistance in Colombia, of whom 2.3 million required food assistance. FAO designed a work strategy for Colombia to help support the implementation of the country’s momentous peace agreement, which is firmly rooted in agricultural development.

The three-year FAO Resilience Programme in Colombia, launched in 2017, is working to strengthen the technical capacities of institutions and communities to protect livelihoods; address the management of agro-climate and social crises; support vulnerable rural communities; generate strategies for the inclusion of small-scale vulnerable farmers in family agriculture markets; support historical memory by fostering traditional methods of production and consumption; and ensure the human right to food.

The programme is also helping to strengthen social cohesion by using training methods based on active participation by communities, as well as to create a space for humanitarian action in areas where illegal armed groups are still present. Direct beneficiaries include four government institutions, five departmental governments, 13 municipal councils, as well as 2,600 families participating in implementation of interventions on the ground.
FAO'S CHALLENGES IN THE TWENTY-FIRST CENTURY
Although progress has been made in reducing the number of the poor in the past decades, about 736 million people continue to live in extreme poverty, and inequalities are still pervasive between economic classes, rural and urban areas, regions, ethnic groups and between men and women. Most of the world’s extremely poor people, about 80 percent, live in rural areas and depend on agriculture for their livelihoods and food security. Yet, they are often constrained by limited access to resources, services, technologies, markets, social protection and economic opportunities, as well as lack of support to manage risks and shocks, which lower agricultural productivity and income in rural areas. In many low- and middle-income countries, poverty and its consequences – malnutrition and hunger – are aggravated by global challenges such as fast population growth, conflict and climate change, which exacerbate the vulnerability of poor people and hinder rural development.
Evidence shows that in low-income countries, investing in the agricultural sectors – especially in small-scale agriculture – has a greater impact on reducing poverty than investing in other sectors. But reducing rural poverty requires a multisectoral approach that addresses social, economic and political change. FAO works to achieve inclusive and sustainable growth to improve rural livelihoods with a coherent and comprehensive approach. As part of its mandate, and through its Strategic Programme 3 (“Reduce rural poverty”), FAO supports countries to achieve the goals of poverty reduction by making ongoing processes of structural and rural transformation more pro-poor and inclusive, ensuring that no one is left behind.

Characterizing the Rural Extreme Poor

Existing knowledge points to some distinctive features of the rural extreme poor, who are more dependent on agricultural income and on natural resources for their livelihood, and are more likely to live in forests and savannahs. While they are not always smallholders, the extreme poor often have very few assets and engage in low-quality and low-paid labour, often seasonal or temporary. Hunger and malnutrition are often critical, as the rural extreme poor are usually the most affected by food price shocks. They are also more likely to suffer from social exclusion based on ethnicity, gender and religion. Extreme rural poverty is specific, however, to the context in which people live, and it is influenced by different levels of urban linkages, population density and agro-ecological conditions, as well as by social and political exclusion dynamics at local level.

Extreme poverty and hunger often go hand in hand, reinforcing the intergenerational transmission of poverty

Extreme poverty is a key determinant of hunger and nutritional status, affecting the ability of individuals and households to access food through purchase or production. According to available studies, there is a correlation between living in ultra poverty (defined as those living on less than 50 cents a day) and living in ultra hunger (those consuming fewer than 1 600 kcal a day). Moreover, extreme poverty is linked to minimal or inadequate access to essential health services and basic infrastructure, which are fundamental for adequate food utilization.

Extreme poor people are often located in remote or isolated rural areas, which are poorly connected to surrounding rural areas

Half of the world’s population resides within or in proximity to small
cities and towns, with 35 percent living in or near larger cities and the remaining 15 percent residing in the rural hinterland, located more than three hours of travel time from any urban centre. The hinterland tends to be connected across a range of dimensions – including services, roads, Internet access or the availability of cellphones – with sparse populations. However, investments in infrastructure and basic services often do not reach the more isolated areas, which tend to be more disaster prone, thus lowering the poverty-reducing effect of income growth for more marginal areas.

**Not all rural extreme poor are smallholders**

Being a smallholder farmer is not necessarily associated with extreme poverty. The extent to which these two categories overlap varies according to the definition of smallholder and the poverty measure used. The FAO Smallholders Data Portrait defines smallholders as those households with less than the median-size landholding from national household survey data. Extreme poverty and moderate poverty are defined as the bottom 20 percent and 20–40 percent of the income distribution, respectively. The results also find that smallholders are not necessarily extreme or moderate poor.

**Forestry and fishing are important to livelihoods for the rural extreme poor**

Some 40 percent of the rural extreme poor – around 250 million people – live in forest and savannah areas. In absolute numbers, Africa represents the greatest amount, with 159 million people living in those areas. In relative terms, most of the rural extreme poor in Latin America live in forested areas. Fisheries is also an important source of livelihood for the rural extreme poor. In 2002, FAO estimated that the 5.8 million fishers living on under...
USD 1 a day represented 20 percent of the world’s fishers at the time (using 2001 poverty data, and 1990 fishers’ data). After adding the 17.3 million extreme poor people working in related upstream and downstream fishing activities (e.g. boat building, marketing and processing), the number of extreme poor fishers totalled 23 million, excluding their family dependants.

**Extremely poor people are often landless or have insecure tenure rights over land and other natural resources**

Given that “land dependency” affects the types of livelihoods and economic opportunities that rural people have, being landless, or having limited access to forested areas and pastures, can be a determining factor of poverty and inequality. Policies that secure tenure rights for the poor and vulnerable – including indigenous people, landless farmers, pastoralists, rural women and youth – could contribute to eradicating extreme poverty. The rural extreme poor lack supporting mechanisms, such as social protection and access to finance and insurance mechanisms, to cope with and manage risks

Extremely poor people are more vulnerable to climate shocks and weather events, yet they are the most unprotected and have the least access to coping mechanisms. In low-income and lower middle-income countries, where most of the extreme poor live, people tend to have limited access to social protection, insurance and other instruments – like labour programmes – which can help mitigate risks and build adaptive capacity. The lack of these mechanisms increases the probability that shocks will push households into extreme poverty, keep them in extreme poverty or contribute to the transmission of poverty across generations.

**The extreme poor often experience social marginalization**

The extreme poor are highly affected by social exclusion. The symptoms of social exclusion are most often manifested through unequal access to resources, unequal participation, and denial of opportunities. Differences along educational attainment, healthcare, nutrition, infrastructure and employment opportunities are symptomatic of many rural groups – indigenous people, rural women, youth, people with disabilities, and so on. These differences are often accompanied by a lack of voice in political participation and civic life.
A MULTISECTORAL APPROACH FOR POVERTY REDUCTION

In the context of the Sustainable Development Agenda, FAO promotes an approach that addresses the potential trade-offs that come when simultaneously facing the challenges of poverty reduction, sustainable food and agriculture (e.g. as a response to climate change), and migration. This recognizes not only the interlinkages between different development goals but also the lack of programmatic approaches and strategies across sectors.

FAO assists governments in the design of multisectoral policies and programmes that promote the economic inclusion of the rural poor – including the poorest – through agricultural and rural transformation. This is achieved by combining a minimum set of investments in both social and productive policies that reach the poor, while promoting the participation of local actors and strengthening the capacities of local governments and rural organizations for rural poverty reduction.

The Organization provides assistance to countries in developing and implementing broad-based multisectoral approaches that include options for the multiple pathways out of poverty: emphasizing the need for a theory of change related to poverty reduction; enhancing countries’ capacities to reach all vulnerable groups in rural areas, including the poorest, rural women, indigenous people and youth, in addition to small-scale producers; and considering the broader linkages between poverty reduction and sustainable development.

PROMOTING FAMILY FARMING

Most of the rural poor are smallholders and family farmers who depend on agriculture for their food and income. They produce about 80 percent of the world’s food value but, paradoxically, are often poor and food insecure themselves.

In spite of that, family farmers hold the potential toward playing a key role in the establishment of sustainable food systems. Due to its multidimensional nature, family farming plays a key role in contributing to food security and nutrition, managing natural resources, ensuring the cohesion of rural communities and preserving cultural heritage.

Family farmers provide healthy, diversified and culturally-appropriate diets. They are major investors in the agricultural sector and the foundation of business and economic structures in rural areas. They

FAMILY FARMERS ARE KEY TO REDUCING RURAL POVERTY

FAMILY FARMING IS VITAL TO LOCAL ECONOMIES

More than 90 percent of farms are run by an individual or a family and rely primarily on family labour. Family farms produce about 80 percent of the world’s food. Due to the variety of food they produce, family farmers also strongly contribute to food security.

WHY IS FAMILY FARMING IMPORTANT?

Family farming represents an opportunity to boost local economies. Especially when combined with specific policies aimed at social protection and the well-being of communities. Largest share of investment in agriculture comes from farmers.

FAMILY FARMING IS KEY TO SUSTAINABLE AGRICULTURAL PRODUCTION

Agriculture is responsible for 70 percent of global freshwater withdrawals worldwide. Agriculture conserves biodiversity. Agriculture produces valuable ecosystem services.

SOURCE: FAO. 2017. STRATEGIC WORK OF FAO TO REDUCE RURAL POVERTY.
In recent years, FAO has been working with governments and other relevant actors to put family farming at the center of the international debate on agriculture and food security. The International Year of Family Farming – IYFF 2014, led by FAO, repositioned family farming at the center of agricultural, environmental and social policies in national and international agendas. The IYFF fueled a robust process of political dialogue among the 197 Members of FAO, involving all relevant actors and resulting in national and regional policies, programs, activities and institutional arrangements in support of family farming.

Family farming was included in the follow-up to the Zero Hunger Challenge launched by the United Nations Secretary-General in 2012 and in the preparation for the United Nations Post-2015 Development Agenda. The Sustainable Development Goals (SDGs) recognize the central role played by family farming throughout many different goals and targets, constituting an integrated, indivisible set of global priorities that stresses their central importance as key actors in the 2030 Agenda, and calls for actions towards their reinforcement.

The Family Farming Knowledge Platform – FFKP, the world’s largest digital collection of material on family farming, represents one of the most important legacies of the IYFF 2014. The FFKP provides a single access point for information related to family farming to assist policymakers and other stakeholders by facilitating policy discussion, policy design and decision-making on family farming.

Considering the achievements of the Year and as result of the following IYFF+10 campaign, on 20 December 2017, the United Nations General Assembly, in its 72nd Session, proclaimed the UN Decade of Family Farming 2019–2028 (UNDFF) to serve as a framework for countries to develop public policies and investments to support family farming from a holistic perspective, including eradicating rural poverty in all its forms and dimensions, by unleashing their transformative potential to contribute to achieving the Sustainable Development Goals (SDGs).

FAO and IFAD have been called to jointly lead UNDFF implementation. The UNDFF contributes to healthy and sustainable food systems as it mobilizes global commitment and actions towards attaining sustainable development across its three dimensions – economic, social and environmental. It does this in a balanced and integrated manner and promotes integrated actions supported by coherent, cross-sectoral policies, which address the environmental, economic and social dimensions of rural development, while placing people and their livelihoods at the center.

The UNDFF focuses on enabling family farmers as a key driver to fully achieve the SDGs, specifically focusing on innovation, knowledge sharing, capacity building and technology access and transfer as the basis to formulate impactful actions and strategies to achieve the 2030 development Agenda.

The Global Action Plan of the UNDFF envisages collective and coherent actions to support family farmers, with a comprehensive approach designed around seven mutually reinforcing pillars of work: a series of context-specific, interconnected actions from the local to the global level which place family farmers at the center and be implemented through bottom-up, participatory and inclusive processes.

create on- and off-farm job opportunities, significantly contributing to the endogenous growth of the rural economy.

They enhance socio-economic inclusion, improve rural livelihoods, provide inclusive services and create innovative market solutions that link urban and rural areas. They are custodians of biodiversity for food and agriculture, guaranteeing the reproduction of natural resources while increasing synergies between crops, livestock and trees for sustainable, resilient and nutrition-sensitive agriculture and food systems.

They link past, present and future, transmitting local and traditional knowledge, identity, cultural heritage and social values, and promote social equity and community well-being. For the reasons above, supporting smallholders and family farmers is key to simultaneously contribute to the economic, environmental, social and cultural sustainability of agriculture and rural areas, boost local economies and accelerate progress towards a world free of poverty and hunger. However, to play a key role in the establishment of sustainable food systems, family farming needs an enabling policy environment that turns its whole potential into reality and tackles current challenges. This is why FAO acts through a multidimensional approach to address the challenges that poor family farmers face in their daily lives and increase their income-generating capacity with a view to reducing rural poverty and to reveal family farmers’ potential toward achieving the SDGs.

FAO works with governments and key ministries to shape pro-poor poverty reduction policies, strategies and programmes that target smallholders and family farmers, promoting their empowerment and increasing their access to resources, services, pro-poor technologies and markets. FAO also supports countries to tailor investment plans for agriculture and rural development that increase the yields and income of poor family farmers, while helping them adopt sustainable agricultural practices, reduce production costs and adapt to climate change. Finally, the Organization also works with family farmers to support their participation in policy dialogue and decision-making processes that affect their livelihoods, and supports capacity development to improve their access to resources, services, markets, technologies and economic opportunities through agricultural, organizational and entrepreneurial skills.

**EMPOWERING MARGINALIZED COMMUNITIES**

By banding together in formal groups, smallholders and family farmers, as well as self-help groups, can gain joint access to resources, set up small enterprises and work their way out of poverty. Producer organizations contribute to increasing food production through economies of scale. Getting poor rural people organized increases the
chances of long-lasting poverty reduction through collective action, cooperatives, producer organizations and networks. Poor rural people can improve their bargaining power, through access to markets and participation in decision-making processes and influencing the formulation of national policies.

FAO promotes farmer-to-farmer exchanges among small-scale producers and communities and promotes knowledge on sustainable agricultural practices – putting rural people in ‘the driver’s seat’. Investing in agriculture and related rural off-farm activities fosters inclusive economic growth, and cross-country evidence shows that growth in agricultural production has been between three and five times more effective in reducing poverty than growth in industrial and service sectors. Expanding access to markets can increase productivity and demand for products – thus boosting production and fostering economies of scale.

FAO encourages investments in agriculture and supports the design of pro-poor development strategies and programmes that address the structural constraints faced by poor households in rural areas. This includes access to, control over, and sustainable management of natural resources as well as access to rural advisory and extension services, markets, technologies and inclusive finance, particularly for rural women and youth.

Guatemala

As part of the FAO project “Strengthening the School Feeding Program in the framework of the Hunger-Free Latin America and the Caribbean Initiative 2025”, the food that students receive at this school near Los Vados is prepared by volunteer mothers who have been trained in various subjects, including nutrition, handling and preparation of food and good hygiene practices. ©PEP BONET/NOOR FOR FAO

Boosting Investments for Rural Employment Generation

Agriculture is central to structural transformation; however, in many developing countries the sector has been losing traction as an engine of growth and investments continue to be insufficient, particularly in those countries where a considerable part of the population works in agriculture. Over 38 percent of employment in low- and middle-income countries is in agriculture, making agricultural production and its related sectors a potential source of jobs, particularly for the poor.

FAO promotes a broader understanding of the agricultural sector, fostering the development of other sectors linked to the whole food system. As the rural poor and extreme poor also diversify into other non-agricultural activities, engaging in wage labour and self-employment activities, non-agricultural jobs allow them to better manage risks and overcome market failures.

In rural areas, high levels of unemployment (and underemployment) prevent poor households from diversifying their income and moving out of poverty in a sustainable manner. Rural areas lag behind urban areas in terms of
basic public investments in infrastructure and services, which are necessary for attracting private investments that can create employment and increase growth. In addition to limited access to credit, markets and productive resources, unemployment is often a consequence of limited access to education, entrepreneurial and work skills, all of which lower poor people’s ability to work and earn an income. These trends are worrying as an additional 1 billion young people will enter the job market in the next decade and 600 million new jobs will be needed over the next 15 years to maintain current employment rates. Higher population will give rise to more intense competition for increasingly scarce resources and employment opportunities. This is likely to weaken the already fragile capacity of rural people to move out of poverty, causing widespread social and political instability.

Extending inclusive investments to reach the rural poor and extreme poor, rural youth and women, particularly those living in remote areas, requires adaptive strategies that can overcome obstacles, including low skills, lack of assets and access to basic services, as well as other cultural and behavioural factors. In addition to a basic income through social protection schemes, pro-poor investments should build on people’s own assets and skills, strengthening their capacities and survival strategies, while creating new opportunities for income generation.

BUILDING ON SOCIAL PROTECTION TO ENABLE ECONOMIC INCLUSION

About 73 percent of the world’s population does not have access to adequate social protection. In low-income countries the figures are even worse – more than 80 percent are not covered by any social protection, insurance or other instruments (like labour programmes), and the majority of these people are informal workers, mainly in agriculture. Indeed, less than 20 percent of agricultural workers have access to basic social protection which improves the use and ownership of productive investments (such as modern inputs, livestock, etc.) at the household level, leading to increased production. Developing and expanding adequate social protection in rural areas plays a crucial role in helping households manage risks and shocks, fundamental for agricultural production and rural livelihoods more broadly. It also facilitates economic transition, providing a minimum income for the poorest and helping them to transition into jobs and income-generation opportunities by relaxing insurance and credit constraints – through, for example, cash and asset transfers or targeted subsidies.

FAO recognizes that all people, including the extreme poor, have an innate capacity and desire to escape poverty. Consequently, they require, in addition to social policies, economic opportunities to improve their lives. The poor are often excluded from economic investments, including in agriculture. A lack of policy coherence and coordination among ministries perpetuates the disconnection between agricultural, nutritional, environmental and social assistance interventions and broad economic development strategies. These gaps highlight the need to better articulate agricultural, food and environmental policies with social protection and work promotion strategies.

The approach promoted by FAO in Cash Plus programmes combines social assistance interventions, such as cash transfers, with productive assets, inputs or technical training and extension services to enhance livelihood capacities of extremely poor households in rural areas, as a key first step to a more medium-term strategy of economic inclusion. Productive interventions in isolation often disregard the fact that the extreme poor have low levels of education and face fundamental impediments for adopting new technologies and/or transitioning towards more productive or sustainable practices. Cash Plus programmes, integrated into broader economic inclusion strategies, can provide the support that is needed to break these barriers. FAO also supports investments for economic inclusion that emphasize the empowerment of the rural extreme poor and develops adequate approaches, particularly for supporting extremely poor women, youth, indigenous peoples, the disabled and migrants (including refugees and internally displaced persons). Strengthening the social and economic institutions,
organizations and communities of the rural extreme poor will be key for developing collective action around their rights to economic and social policies and access to programmes and markets.

MIGRATION AND RURAL DEVELOPMENT

A growing global reality
Migration is an expanding global reality, one that allows millions of people to seek new opportunities. In short, migration is the movement of people, either within a country or across international borders; it includes all kinds of movements, irrespective of the drivers, duration or nature (voluntary or involuntary). The word ‘migration’ covers economic migrants, distress migrants, internally displaced persons (IDPs), refugees and asylum seekers, returnees and people moving for other purposes – such as those seeking education or family reunification. The causes of migration are many but often include rural poverty and food insecurity, lack of employment and income-generating opportunities, social inequality (and limited access to social protection), climate change and depletion of natural resources due to environmental degradation, and poor governance and conflicts. The drivers and impacts of rural migration are closely linked to FAO’s goals of fighting hunger and achieving food security, reducing rural poverty and promoting the sustainable use of natural resources. Indeed, FAO has a unique role to play in reducing rural migration, in view of its experience in supporting the creation of better conditions and resilient livelihoods in pastoral areas. Together with its partners, the Organization has committed to further expand its work towards strengthening the contribution that migrants, refugees and IDPs bring to poverty reduction, food security and nutrition, as well as the resilience of rural households.

Migration and poverty reduction
Migration and poverty are closely interrelated. While migration is a key livelihood diversification strategy for poor households, it is not an alternative available to all. Migration can benefit poor households through remittances, and knowledge and skills transfers. It can also contribute to social mobility of disadvantaged groups, especially in the long term through capital accumulation and investments in education.
In the short term, remittances can contribute to diversifying risk, overcoming losses and better responding to shocks, as increasingly demonstrated in the context of environmental and climate change.

On the other hand, migration can increase inequality and the exclusion of the extreme poor. As the extreme poor are the least likely to migrate abroad, those who live in non-migrating households may become further marginalized. Even among migrating households there may be reinforcing effects of social exclusion as, due to pre-migration conditions, the positive impact of remittances on poor households may be limited compared to better-off households. Forced migrants may also face situations of social exclusion and disadvantage that can push them into poverty even though it was not a pre-migration condition. For example, migration to access low-paid, occasional jobs, reduces the potential for migration to move out of poverty or can even increase the risk of being further pushed into it.

Rural migration will continue to be an essential element of economic and social development, but designing clear and coherent policies is essential for a successful process of development that can benefit migrants, their areas of origin and their areas of destination. Investments can influence people's decisions about whether to migrate, and public policies can maximize the positive impacts of migration while minimizing the negative ones. The 2018 edition of FAO's annual *The State of Food and Agriculture* (SOFA) report focused on migration and its impact on agriculture and rural development. The report analysed migratory flows, both internal and international, and how they are linked to processes of economic development, demographic change and natural-resource pressure. The report examined how internal and international migratory flows link to economic development, demographic change, and natural-resource pressure; it provided an analysis of the factors in rural areas which contribute to migration decisions and recommended tailored policy and investment responses to make migration work for all.

**ALMOST 40 PERCENT OF INTERNATIONAL REMITTANCES ARE SENT TO RURAL AREAS,** SUGGESTING THAT A SIGNIFICANT SHARE OF INTERNATIONAL MIGRANTS COME FROM RURAL AREAS.

**EMPOWERING RURAL WOMEN AND YOUTH**

FAO's Pan-regional Initiatives such as ongoing support to rural women and youth positively impact food and agriculture systems worldwide. Rural women are key to ending hunger and extreme poverty across the world, especially the developing world. Women make up 43 percent of the agricultural labour force as farmers and farm workers, horticulturists and market sellers, entrepreneurs and community leaders, and play a big part in the management of natural resources such as land and water.

However, women still receive only a fraction of the land, credit, inputs (such as improved seeds and fertilizers), agricultural...
training and information than men. Despite improvements, the gender gap in food and agriculture remains wide. This gap is found for many assets, inputs and services, including land, livestock, labour, education, extension and financial services, and technology. Women also face additional constraints in terms of food security and agricultural livelihoods due to persistent discrimination, marginalization and social exclusion. For example, customary laws related to inheritance rights (including land, property and housing), and access to common natural resources (such as pastures, water and forests), can curtail or even strip women of their basic rights to these entitlements.

Rural women who become widowed or separated may also suffer social marginalization and loss of property rights and productive assets, thus pushing them and their children into poverty and destitution. Similarly, households headed by widowed women are more likely to live in extreme poverty, and face low labour capacity, high work burdens, time poverty, and limited mobility. In some societies, divorced and widowed women are subject to higher social discrimination and stigma, which prevent them from having economic opportunities or joining social networks. Discriminatory gender norms and customs, compounded by women’s limited voice and agency, and factors such as gender-based violence and forced marriage, can also be important drivers of extreme poverty.

Empowering and investing in rural women has been shown to significantly increase productivity, reduce hunger and malnutrition, and improve livelihoods for everyone. FAO, therefore, contributes to reducing gender inequalities through its work on norms and standards, data and information, policy dialogue, capacity development, knowledge and technologies, partnerships, and advocacy and communication.

Around 1.2 billion people aged 15–24 live in the world today and almost 88 percent of them come from developing countries. Although this figure is expected to grow, employment opportunities for rural youth remain limited and of poor quality, particularly for those living in rural areas of developing countries.

FAO addresses this issue by promoting employment opportunities for rural youth, focusing on the untapped potential for farm and non-farm employment in the agriculture sector and within food systems. Since 2017, FAO has supported around 50 countries across regions on youth employment aspects, for instance by developing agribusiness models and skills development approaches, such as the Junior Farmer and Field Life School (JFFLS) methodology that has been implemented in over a dozen countries.

Further, FAO helps design and implement strategies that more effectively target rural youth, also working closely with governments to integrate youth issues into national agricultural investment plans. In Nigeria, for example, the Organization supported the design of an investment plan for the National Youth Employment in Agriculture Programme (YEAP).

Finally, FAO has years of experience promoting the Integrated Country Approach (ICA), which is geared towards sustainable policy change and places emphasis on strengthening the capacities of national institutions responsible for agriculture and labour to promote decent rural employment. The ICA approach – which has been implemented in Guatemala, Malawi, Senegal, Tanzania (United Republic of) and Uganda – is based on an integrated set of tools developed by the Organization. It mobilizes several core functions, such as policy and normative support, technical advice and capacity development, partnership building, and piloting of integrated models for rural youth employment creation.

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Conflict and climate change are making poverty reduction more challenging and threatening to reverse progress made so far. Small-scale farmers, herders, fishers and forest-dependent communities generate more than half of the global agricultural production but remain at risk from conflicts or disasters that destroy or damage harvests, equipment, supplies, livestock, seeds, crops and stored food.

Today, around 59 percent of the extreme poor live in vulnerable and fragile contexts due to climate change and conflicts, or both, and about 56 percent of the population of fragile states live in rural areas. In addition, some 201 million people in 134 countries are in need of humanitarian assistance for their survival, with a fifth of them being located in only three countries: the Syrian Arab Republic, Turkey, and Yemen. According to UNHCR, in 2018 there were also 68.5 million displaced people globally, who have become part of the extreme poor as a result of losing their assets and sources of livelihood.

In this context, FAO supports countries to build resilient rural livelihoods and enhance the capacity of the poorest to predict, withstand, absorb or reduce, and counteract the impact of environmental and conflict-related shocks. The Organization helps
them identify potential and recurrent risks of the rural extreme poor and vulnerable populations to climate-related risks, natural disasters, conflict and food-chain crises, as well as build their resilience capacity at both household and community level. Areas of work include: integrating assessments of specific vulnerabilities of the rural extreme poor in Early Warming and Early Action systems and formulating adequate preparedness and response measures to enhance their resilience and response capacity; enhancing access by the extreme poor to risk-reducing technologies and practices; and using conflict-sensitive analysis to address root causes of social conflict, which tend to increase extreme poverty and inequality, and are often related to power imbalances over access to natural resources, such as land and water.

In the Near East and North Africa, for instance, FAO acts to reduce food insecurity, improve nutrition and strengthen agricultural livelihood resilience at all levels. Early warning information systems with a focus on preventing transboundary animal and plant pests and diseases are used to support crisis-affected countries, while nutrition education and risk-sensitive measures are integrated in food production decisions and investments.

**MYANMAR**

The ‘Promoting Nutrition and Food Security through Smallholder Dairy Development and Fostering linkages with Local Rural School Milk Programmes’ project sustainably increased dairy productivity in Bangladesh, Myanmar and Thailand. ©MIKLOS GASPAR

Climate change-related events, such as drought, flooding, and severe storms, also disproportionately affect rural communities living in extreme poverty, who rely to a greater extent on agricultural income and natural resources for their livelihoods. Between 2003 and 2013, 25 percent of damages and losses caused by climate-related disasters in developing countries affected the agriculture sector. More than 80 percent of the damages and losses caused by drought are to the agriculture sector, affecting livestock and crop production. Since 2012, on average 22.5 million people have been displaced from their homes each year by climate-related disasters, mostly floods and storms (the displacement figures equate to 62,000 people every day). According to the World Bank, if no action is taken, climate change could push an additional 100 million people into extreme poverty by 2030.

FAO supports actions to help the rural extreme poor understand the impact of climate change in their livelihoods, but also the impact of response to climate change. The work of FAO explicitly addresses the barriers of the rural extreme poor to adapt or diversify their livelihood practices to climate change, create alternative sources of employment for those who need to
stop using natural resources at risk, and support actions to achieve a balance between protecting the environment and ensuring that resources are used sustainably for income generation. FAO recognizes that poor and vulnerable communities are at both the receiving and delivering end of climate change adaptation.

Africa’s Dryland countries (those countries experiencing a scarcity of water), for example, need to better anticipate, mitigate and respond to shocks, threats and emergencies before, during and after disasters that threaten agricultural livelihoods. FAO helps build resilient communities and institutions that can prevent, absorb and recover quickly. In addition to strengthening institutional capacities for risk reduction and crisis management, the Organization supports early warning and risk information management systems, and the application of vulnerability reduction measures to increase resilience to future shocks.

In Latin America and the Caribbean, one-third of the population live in areas highly exposed to an increasing frequency of disasters and extreme climate events. FAO works with countries in the region to design agro-environmental policies that support the elaboration of risk management, strengthen monitoring of agricultural pests, diseases and climate risks and invests in vulnerability reduction measures for family farmers.

**COMBATING PESTS AND TRANSBOUNDARY ANIMAL DISEASES**

Transboundary animal diseases, such as peste des petits ruminants (goat and sheep plague), can cause production and economic losses estimated between USD 1.45 billion to USD 2.1 billion each year. Over the past decades, more than 70 percent of emerging diseases affecting humans originated in livestock and wildlife. Plant diseases such as wheat rust can cause yield losses of up to 80 percent, putting worldwide wheat production at risk. Locust plagues can destroy the crops of entire communities, as was the case in 2003–2005 when a major Desert Locust upsurge wiped out 30 to 100 percent of agropastoral resources in the Sahelian countries of West Africa, affecting more than 8 million people.

In Madagascar in 2012, a migratory locust plague developed and threatened to wipe out food crops and livestock grazing lands, compromising the food security and nutrition of about 13 million people. A three-year joint emergency programme launched by FAO and Madagascar’s Ministry of Agriculture enabled the Government to take over locust control management. Large-scale, mostly aerial
survey operations helped restrict infestations over more than 2.3 million hectares. As a result, damage to crops and pastures was limited, and the agricultural livelihoods and food security of vulnerable populations were protected.

In Somalia, sheep and goats are a lifeline for the country’s most vulnerable smallholders. Repeated outbreaks of peste des petits ruminants (PPR) created havoc for Somali herders throughout the early 2000s. FAO stepped in and prepared the groundwork for a mass vaccination campaign by training local partners in disease surveillance, preparedness and response to outbreaks. A total of 43 million sheep and goats were vaccinated between 2012 and 2015 – restoring confidence in the quality of the country’s livestock trade, enabling Somalia to increase exports to a record 5.3 million in 2015, 90 percent of which were sheep and goats. A joint programme for the global eradication of PPR by 2030 is now underway. Almost half a billion people live in over 20 countries and territories affected by protracted crises, mostly in Africa. Hunger rates in protracted crisis situations are almost three times higher than in other developing contexts. Today, 40 percent more ongoing food crises are protracted than in 1990. These protracted crises absorb 80 percent of all funds dedicated to humanitarian response by OECD member countries.

South Sudan, for example, is a country prone to shocks, from economic downturns and conflict-driven crises to natural hazards such as floods, drought and outbreaks of animal and plant diseases. These shocks exacerbate prevailing food insecurity and undermine agriculture-based rural livelihoods.

Since conflict eruption in 2013, FAO has responded with a multi-track approach – reaching an average of 2.7 million people each year with a combination of farming, fishing and livestock support.

In 2015, portable life-saving survival kits were developed as part of efforts to address the needs of internally displaced persons (IDPs). The kits contained life-saving supplies such as mosquito nets, water purification tablets and oral rehydration salts, as well as short maturity vegetable seeds and fishing supplies which were a lifeline for people cut off from other assistance. FAO also sought to protect livestock herds, widening the scope of vaccination and treatment programmes – reaching over 8 million in 2016. Furthermore, more than 27 000 fuel-efficient stoves were distributed to help reduce the need for firewood and charcoal, decreasing the pace of deforestation and soil erosion.

In addition to transboundary animal and plant diseases, FAO addresses emerging pandemic threats such as the deadly Ebola and the recalcitrant H5N1 Highly Pathogenic Avian Influenza. The Organization has been at the forefront of combating diseases using various health risk management strategies and policies that control diseases at their source and ensure that they are managed before becoming pandemics. For example, up until 2019, more than 30 countries in Africa, Asia and the Middle East were targeted to build their veterinary systems’ capacities to mitigate risk and reduce the vulnerability of communities to emerging and re-emerging pathogens.

FAO also plays a key role in supporting governments, producers, traders and other stakeholders to adopt measures for the judicious use of antimicrobials and to prevent the development of antimicrobial resistance (AMR).
Colombia

More than 50 years of conflict left Colombia struggling with internal violence, a lack of services and infrastructure and high levels of poverty and hunger. It forced millions of people to leave their land, hindering rural development. The Comprehensive Rural Reform (CRR) is a key component of Colombia’s 2016 Peace Agreement. With a line of sight right up until 2031, some 85.5 percent of the implementation budget is earmarked for implementation of the CRR, which aims to progressively transform Colombia’s rural areas through strengthening food security, boost income and job opportunities, and optimize social cohesion. Family farming is the cornerstone of the country’s food security, accounting for 70 percent of food sold in local markets. About 75 percent of Colombia’s family farmers are smallholders and they account for 57 percent of the entire agricultural labour force. FAO is part of a group of international organizations providing technical assistance to the Colombian Government in implementing the CRR, including through:

- Supporting sectoral reforms and their implementation and promotion, and facilitating the convergence of investments at territorial level;
- Supporting the design and implementation of programmes and projects that support small and medium-scale producers and their organizations, by strengthening public policy on family farming, increasing the organizational capacity of farmers and their access to financing and markets, establishing links to both national and export-oriented agro-industry, and fostering innovation and employment opportunities for young rural women;
- Promoting coordination and policy coherence between social policies and productive inclusion programmes, by strengthening existing or launching new initiatives and fostering policy dialogue, knowledge exchange and South–South Cooperation;
- Securing access to land through the gradual implementation of the Voluntary Guidelines for the Responsible Tenure of Land and other natural resources (VGGT).

LESOTHO

Students at Thabang High School, learning to build a wall of the “Keyhole Garden” on the school property.

@FAO/RODGER BOSCH

Lesotho

In Lesotho, FAO has provided more than 56,000 families with vegetable seeds and training on home gardening and food preservation to improve their home production. As a result, families can save on vegetable expenditure and use the extra money to purchase maize or other commodities, improving their food security and income. This activity is part of a programme started by FAO in 2013 to improve the food security and nutrition of poor and vulnerable households in Lesotho. The programme strives to boost the productive impact of cash transfers and thereby reduce poverty. FAO is supporting poor households and smallholder farmers by providing home gardening and nutrition-sensitive training, including guidelines for adopting healthier diets.

These agricultural interventions complement the Child Grant Programme, launched by Lesotho’s Ministry of Social Development. Poor rural households, which benefit from the national Child Grant Programme, receive cash transfers that bring several positive impacts: from increased school enrolment to reduced malnutrition and improved
Empowering women farmers in Nepal

In Nepal, women farmers face many barriers to improving their productivity and income. Barriers come in many forms and include cultural traditions that limit their access to resources, such as land and agricultural inputs. In fact, many women do not own any land themselves, and work on family farms owned and managed by their husbands or male relatives. Because of this, women reap few of the financial benefits of their labour. Through the United Nations Joint Programme on Accelerating Progress towards the Economic Empowerment of Rural Women, FAO has trained and coached smallholder women farmers in Nepal to improve their agricultural productivity, food security and income. Through a variety of skills training, the Joint Programme has helped Nepalese women join forces, improve their bargaining power and their access to market. One example of the beneficiaries of the programme is the Laliguras Women Farmers’ Group, which lies in the Sindhuli District of south-eastern Nepal. The Group regularly meets to discuss their concerns and find solutions to a wide range of problems. The Programme also helped women increase their yields by teaching them about crop diversification, access to credit for higher yields and to new markets. Now the women are able to produce enough food for their families and sell their surplus at the market.

Boosting development in Cambodia through access to credit, technology and markets

In 246 communes in southern Cambodia, FAO has supported some 49 200 poor rural people with financial literacy, together with entrepreneurial skills provided by the international non-governmental organization SNV, and with training on core agricultural technologies from the General Directorate of Agriculture. As a result, they have been able to invest more in income-generating activities, develop local businesses and increase agricultural productivity. These achievements are part of the Project for Agricultural Development and Economic Empowerment (PADEE), developed by IFAD and the Ministry of Agriculture, Forestry and Fisheries of Cambodia, in collaboration with FAO and other partners. Poor rural people in Cambodia lack access to capital for investing in technologies, entrepreneurial skills and financial services of formal credit. For these reasons, they are often unable to make a decent living from agriculture. Though the PADEE, FAO is working to improve the livelihoods, capacities and food security of poor rural households in the region by improving their financial literacy, thus increasing their access to credit. Beneficiaries, most of whom are women, have already improved their financial planning.

Together with UNICEF, FAO estimates that the Child Grant Programme has reached more than 30 000 households and over 65 000 children across the country. The programme has helped poor families improve their productivity and livelihoods and invest more in schooling and education for their children. Based on these results, Lesotho, with the support of FAO, has also developed a national Social Development Policy and a Social Protection Strategy.
abilities. They have also benefited from enhanced access to financial and banking services and are building on the habit of saving money through personal accounts in micro-finance institutions. FAO has also supported the development of an alternative financial system comprised of 984 community-based and group managed funds. The project also works to strengthen the participation of small producers and their organization in the formal economy by supporting innovative investments that improve the linkages between producers and markets.

Mozambique

In partnership with the Government of Brazil, FAO is promoting dialogue and experience sharing on public policies targeting Family Farming in Africa’s Community of Portuguese Speaking Countries (CPLP). CPLP governments have all started taking steps towards family farming characterization and are currently the subject of a study being conducted by CPLP’s Family Farming Working Group (FFWG), a multi-stakeholder grouping including member countries, academic experts, and representatives from civil society and the private sector. The study aims to collect information to enable governments to frame national agricultural policies that are more sensitive to the reality of vulnerable farmers unable to access agricultural inputs, extension services, credit and other resources.

Mozambique, in partnership with the Government of Brazil, has gone one step further in laying the groundwork for a national land registry system for family farmers. Through a national seminar on family farming, definition of the concept of family farming in Mozambique, and data collection on family farming and registry systems, the Government of Mozambique now has the necessary inputs to create the registry.

Lebanon

FAO is working with the Lebanese Government to strengthen the interconnections between agricultural and social policies to help rural communities and expand social protection coverage to farmers and fishers, through: supporting national dialogue on social protection to design and implement integrated and multisector social policies targeting rural areas to reduce poverty and improve living conditions; supporting coordination mechanisms between the Ministry of Agriculture and the Ministry of Social Affairs; creating a farmers’ registry and ensuring the inclusion of farmers and fishers in the social security system. The registry was designed and developed as open-source software and has already been piloted and tested in five villages (in Akkar, North Lebanon, and Bekaa, East Lebanon) before being scaled up across the whole country.
Women form about half of the agricultural workforce, while youth form 16 percent (UN, 2017) of the global population and 42 percent (World Bank, 2018) of the labour force. Both are critical agents of change in the fight against rural poverty, hunger and malnutrition.

In relation to agri-food systems, rural women and youth play important roles by increasing the efficiency of agri-food value chains, reducing food losses, boosting national and international trade, and enhancing the impact of agricultural investments.

Yet the gender and age gap in food and agriculture remains extensive. As consumers, women are more likely to be food insecure than men in every region of the world. As producers, rural women face greater constraints than their male counterparts in accessing essential productive resources and services, technology, market information and financial assets. Similarly, youth are three times as likely as adults to be unemployed and although bringing energy and innovation to any sector, including the agricultural
one, globally, the ratio of youth to adult unemployment rates has changed very little in recent years, serving to illustrate the particularly disadvantaged situation of young people in the labour market (ILO, 2017).

There is an urgent need to address the major barriers that women and youth face in rural labour markets, in addition to low status in the household and community, so that they are no longer trapped in informal, low-status, low-skilled and poorly paid jobs, without legal or social protection. By providing equal provision of rural services and infrastructure it is possible to facilitate women and youth access to education, vocational education, productive resources, and build on their knowledge, skills and abilities. More efforts are needed to increase the representation of women and youth in local institutions and governance mechanisms and include them in decision-making within their households and communities.

Increased attention is also required to overcome their work burden, recognizing their important contributions and ensuring fair pay and working conditions and benefits. This requires overcoming the marginalization of poor rural women and youth that stems from gender- and age-biased sociocultural norms and practices, and better addressing gender and age issues in policies, programmes and investments in agriculture and food systems.

It is time to overcome the common perceptions of rural women and girls as vulnerable victims of their circumstances. Ample evidence shows that if women had the same access as men to productive resources, they could increase yields on their farms significantly. Furthermore, with an ageing population of farmers, it’s clear that agriculture needs to attract more young people. The agricultural sector offers huge potential for job creation and communicating this to youth can radically change their perception of agriculture.
of agriculture. Working towards closing this gender and age gap represents an opportunity to accelerate progress towards food security and adequate nutrition for all and reaching the 2030 Agenda.

THE CHALLENGES AND OPPORTUNITIES FOR RURAL WOMEN AND YOUTH: FAO’S APPROACHES

The principle of “leaving no one behind” guides the 2030 Agenda for Sustainable Development and FAO’s Policy on Gender Equality and FAO’s work on youth inclusion and youth employment. The Gender Policy prioritizes the equal participation and decision-making of women and men in rural institutions and in shaping laws, policies and programmes; the equal access to and control over productive resources, services, income, markets and decent employment; and the reduction of women’s work burden. Furthermore, far from being mere beneficiaries of the 2030 Agenda, young people have been active architects in its development and continue to be engaged in the frameworks and processes that support its implementation, follow-up and review. The active engagement of youth in sustainable development efforts is central to achieving sustainable, inclusive and stable societies by 2030, and to averting the worst threats and challenges to sustainable development, including the impacts of climate change, unemployment, poverty, gender inequality, conflict, and migration.

FAO adopts integrated gender and age-transformative approaches at global, regional, national, community, and household levels. It mainstreams gender and age equality across all of its areas of work, but empowering rural women and youth is particularly relevant to achieving the Organization’s goal of eradicating rural poverty, as reflected in its Strategic Programme 3 (“Reduce rural poverty”). Major contributions towards achieving FAO’s gender and age equality goals require:

- Generating evidence for policy planning, through the analysis of sex- and age-disaggregated data. It is crucial that policies, programmes, legislation and investment plans for food security and nutrition (FSN) fully capture women and young people’s roles and contributions and respond to their specific needs and challenges;

- Around 820 million people are undernourished; if we are to end hunger by 2030, we must address the inequalities between women and men in agriculture.

- The gender gap imposes costs on the agriculture sector; the broader economy and society, as well as on women themselves.

- Women are critical agents of change in the fight against rural poverty, hunger and malnutrition; they comprise close to 50 percent of the agricultural workforce in developing countries.

- If women had the same access as men to productive resources, they could increase yields on their farms significantly, which could in turn reduce the number of hungry people in the world.

- Compelling evidence shows that improving women’s education and status within their households and communities has a direct impact on food security and nutrition, in particular child nutrition.

- Generation and analysis of sex-disaggregated data is essential for evidence-based policy development.

- National, global and sectoral policies, programmes, legislation and investment plans for food security and nutrition do not always capture women’s role and contribution, and therefore fail to respond to their specific needs and challenges.

- Rural women and men increasingly face the challenge of having to adapt their production systems in the context of climate change and natural resource depletion.

- Responsible governance and management of natural resources, such as land and water, need to reflect women’s perspectives and priorities, and be grounded in equitable and efficient local institutions.

- FAO promotes a multidimensional approach to reducing rural poverty, focused on increasing women’s access to productive resources, decent employment and business opportunities, strengthening the capacity of rural institutions and services, and supporting measures to increase social protection coverage and effectiveness.

- FAO’s work in gender equality and the empowerment of rural women and girls contributes to each of the 17 SDGs and is in line with the pledge that lies at the heart of the 2030 Agenda to “leave no one behind.”

SOURCE: FAO. 2018. EMPOWERING WOMEN, POWERING AGRICULTURE.
Enhancing national capacities to design and implement food and agriculture policies and programmes that fully take into account the capacities, needs and aspirations of rural women and youth;

Promoting responsible governance and management of productive and natural resources that reflect the perspectives and priorities of both men, women and youth, and are grounded in equitable and efficient local institutions. This could also lead to an increase in women and youth participation in local institutions as possible entry points for service delivery;

Ensuring equal access of female, male and youth farmers to productive resources and services, climate-smart and labour-saving technologies and practices, and investment in rural infrastructure;

Developing gender- and age-sensitive value chains to enhance the full productive potential of women and youth in agri-food systems, while increasing their access to higher-value, more remunerative markets and decent employment opportunities;

Supporting the formulation of gender- and age-responsive policies to prepare for and respond to shocks and crises such as risk-informed and shock-responsive social protection;

Ensuring diverse livelihoods and asset accumulation; and

Social protection for the most vulnerable men, women and youth.

There is compelling evidence of the fundamental role of women within the agricultural labour force in most developing countries, as much as there is awareness of their important contribution in ensuring food security and nutrition at household and community levels. Likewise, there is a vast body of literature assessing the ageing farmers population and the urgent need to attract and facilitate young people’s entry into the sector.

Without rural women’s careful management of family income and resources, child and family well-being and nutrition would be more insecure. Nonetheless, the full extent of women’s potential has not yet been unleashed due to persisting inequalities that continue to limit their access to natural and productive resources as well as their participation in decision-making processes.

In order to make agriculture more productive and sustainable, development interventions must put the voices, needs and potential of rural men, women and youth – including smallholders and family farmers – at the centre of balancing demands for increasingly efficient and intensified production. They should also address the need to protect the natural resource base and threatened ecosystem services.
More attention needs to be paid to facilitate equal participation for all stakeholders in responsible and effective governance mechanisms in order to foster an environment that is both conducive for production and has the potential for long-term sustainability. Despite their prominent role throughout the agriculture sector, women and youth still suffer from limited land ownership, excessive workloads, or in the case of youth, lack of jobs in the sector, and inadequate access to services and opportunities at large.

Recognizing that rural poverty is multidimensional, FAO uses an integrated approach to rural women’s economic empowerment that simultaneously addresses the multiple factors that underpin their disadvantaged position as agricultural producers, entrepreneurs, value chain actors, processors, traders, retailers, etc. The approach ensures that measures to advance rural women’s access to productive resources, services and market opportunities are complemented with interventions to advance their agency, self-confidence and voice in decision-making processes, as well as corresponding actions to create an enabling environment at the institutional and policy levels. Through policy assistance and awareness-raising, FAO seeks to develop a strong enabling environment in which young people can thrive and seize current and future decent rural employment opportunities in countries, while advocating and furthering rural youth needs at global level.

**GENDER**

**Strengthening women’s participation and leadership in rural organizations**

At the community level, FAO supports the implementation of the gender-responsive approach of the Dimitra Clubs. These clubs provide opportunities for groups of rural women, men and young people to meet regularly to discuss their needs, priorities and challenges, and take collective action to solve problems using their own ideas and resources. In order to facilitate the replication of good practices that come out of this process, the experiences of the Dimitra Clubs are shared through community radio stations, using devices such as mobile phones, and solar radio sets.

Moreover, Dimitra Clubs encourage informal self-help groups of rural men and women to improve their livelihood systems and be the driving force of their own development. These clubs efficiently promote the participation and influence of the most vulnerable women and youth in community life and local decision-making. They also have an outstanding impact in sustaining peace and tackling the root causes of gender-based discrimination and violence.

**FAO USES MULTIFACETED APPROACHES TO ACHIEVE ITS OBJECTIVE OF GENDER AND AGE EQUALITY ACROSS FOOD SYSTEMS AT ALL LEVELS.**

The FAO-hosted platform dedicated to Technologies and practices for small agricultural producers (TECA) currently includes over 100 labour-saving technologies and practices. These technologies can either directly reduce working time (different forms of agricultural mechanization) or indirectly reduce work burden (introduction of cover crops that reduce weeding), as in conservation agriculture. For example, kitchen gardens were introduced in several countries (including Bangladesh, Bhutan, Burundi, India, Indonesia, Lesotho, Pakistan, Niger, Somalia and Viet Nam). Between 2014 and 2015, 34,484 kitchen gardens were set up in Burundi alone. In a context of land shortage, these gardens give households, and women in particular, easy access to fresh vegetables and herbs. The fact that they can be set up close to the house reduces water fetching time, and the raised beds on which they are set are more beneficial for women’s posture.

**TECHNOLOGIES AND PRACTICES FOR SMALL AGRICULTURAL PRODUCERS (TECA)**

Findings indicate that, overall, women’s work burden is largely the result of a combination of time-consuming and unrecognized household-related tasks, as well as demanding productive and community support tasks, most of which are unpaid and unrecognized. Over the years, FAO has supported the introduction of many labour-saving technologies and practices that can reduce women’s work in all agriculture subsectors. These include improved crop management practices, fish drying and smoking ovens, woodlots to reduce fuelwood fetching time, fuel-efficient stoves, milk collection points, and roof water harvesting. Relevant labour-saving technologies and practices are documented on the TECA platform (see Box), a resource made available to rural stakeholders.

**Facilitating women’s access to labour-saving technologies to overcome production constraints**

On average, women in rural contexts face an excessive work burden, a state of affairs that is both harmful to their well-being and a major limitation to agricultural productivity. The situation is particularly dire in certain rapidly changing contexts, where environmental stresses linked to climate change, or social changes such as male migration, are adding to the burden of women in attaining food security for their households.

**Promoting gender-sensitive rural advisory services**

FAO’s Gender and Rural Advisory Services Assessment Tool (GRAST) supports providers of rural advisory services in their efforts to develop gender-sensitive programmes. By undertaking a gender assessment at policy, organizational and individual levels, the GRAST provides entry points for improving the gender-responsiveness of the design and delivery of advisory services in a truly transformative manner. FAO applied the GRAST in Bangladesh, Ethiopia, India and Peru. The good practices found in these countries are now being incorporated into capacity development materials, so that other service providers can adapt them to local contexts.

**Fostering gender-sensitive social protection**

FAO’s Toolkit Promoting Gender-Sensitive Social Protection Programmes to Combat Rural Poverty and Hunger is designed to enhance the technical capacity of social protection practitioners to integrate gender issues in the design, delivery, monitoring and evaluation of social protection programmes in rural areas.

**Boosting rural women’s access to decent employment**

FAO has developed tools to support the formulation of gender-sensitive rural employment interventions such as the e-learning Module on Women and Decent Work to improve stakeholders’ understanding of gender disparities in rural labour markets and strengthen their skills to enhance rural women’s access to decent jobs, as a pathway out of poverty.

**Strengthening farmers’ capacities for efficient and sustainable production**

Farmer Field Schools (FFS) aim to reinforce the technical and functional capacity of farmers, while simultaneously contributing to

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**SUPPORTING WOMEN IN LEBANON**

- **Improving the nutrition of Syrian refugees and host communities.** FAO supported 130 women in dairy processing units with equipment and training to improve safety, hygiene and economic return. Thirty-three households (170 women) benefited from micro garden kits and related training.

- **Relieving the suffering of Lebanese returnees and host communities.** FAO supported the recovery of smallholder agricultural production:
  - 100 people received food transformation kits (44% women)
  - 100 people received breadmaking kits (54% women) and 200 people received vegetable seed kits (11% women).

**Emergency assistance to vulnerable Lebanese farmers and displaced Syrians.**

- 550 beneficiaries received vegetable seeds and tools kits (45.6% women)
- 550 beneficiaries received fodder seeds (31% women)
- 450 beneficiaries received dairy kits (30.4% women).

**SOURCE:** FAO. 2016. *MEETING OUR GOALS.*
gender equality and rural women’s socio-economic empowerment. By addressing the needs and vulnerabilities of male and female farmers, and by building trust within the community, the FFS support positive changes in attitudes, behaviours and practices thereby transforming gender relations.

**Promoting inclusive governance of land and water resources**

FAO has formulated a set of gender-sensitive indicators related to water for agricultural uses under the UN World Water Assessment Programme. These serve to analyse the access of men and women to irrigation, paid and unpaid labour in agriculture and irrigation, as well as intra-household decision-making.

Gender-sensitive indicators have been systematically integrated in FAO’s global water database (AQUASTAT) in Algeria, Morocco and Tunisia, and it is advocating for equitable water governance in existing programmes and policy frameworks. Multidisciplinary assessments of groundwater governance have been carried out in Jordan, Morocco and Tunisia to analyse and address female farmers’ constraints in gaining access to and control over water resources.

**Supporting the development of sustainable, gender-sensitive value chains**

FAO has gained solid expertise in developing gender-sensitive agricultural value chains. Strong emphasis is put on reducing the heavy burden of unpaid work, enhancing women’s entrepreneurship, increasing value addition and strengthening market linkages by reinforcing women’s business skills and increasing access to agricultural support services, technology and producers’ organizations. FAO has articulated a conceptual framework and implementation guidelines aimed at supporting practitioners and policymakers in planning and implementing gender-sensitive value chain interventions.

**Addressing gender inequality to reduce food loss**

FAO has been raising attention on the issue of food loss by participating in the global Save Food Initiative in close partnership with the public and private sectors. To date, traditional food loss reduction strategies focus more on technical solutions while disregarding the relevant social dimensions that create disparities in access to productive resources services and technologies. Reducing existing gender inequalities will contribute significantly to improving the efficiency of the agri-food value chain and cutting food losses.

**Promoting gender-sensitive agricultural investment**

Sufficient investment is often the missing link between political commitments for empowering women in agri-food systems and their effective implementation. FAO has conducted case studies to expand evidence on gender implications of investments in agriculture in the Philippines, Lao People’s Democratic Republic,
Reducing risks and vulnerability
FAO works to address the root causes of vulnerabilities for men and women and their communities, build the capacities of local institutions to reduce impact of shocks and enable affected populations to become more resilient and recover faster. Special attention is given to protect men and women against gender-based violence and sexual exploitation and abuse, investing in rural infrastructure and analysing gender issues in prevention and mitigation mechanisms, and assessing implications on women’s work burden.

Promoting gender equality in emergency response
FAO focuses on monitoring and assessing gender impacts in conflicts and disaster risk management and early warning. This involves analysing gender dimensions in needs assessments and collecting sex-disaggregated data for resilience and vulnerability analysis.

In Dominica, following Hurricane Maria in 2017, FAO supported women in the reconstruction of agriculture through the provision of seeds and other agricultural material to support the regrowth of green plants and fruits that generate food and income for rural households.

FAO gathered sex-disaggregated information in 2015 after the Myanmar flood, Nepal earthquake and El Niño event in the Sudan which demonstrated that the livelihoods of women-headed households were the most affected.

A disaster risk reduction assessment of livelihood resilience in Jordan found that men and women had different perceptions of risks and priorities for resilience. Sex-disaggregated data collected showed that men identified inflation and unemployment, while women are more concerned with the increasing debt burdens and barriers to employment.

Providing safe access to fuel and energy (SAFE)
Crisis-affected populations often have severely constrained access to fuel and energy for cooking, heating, lighting and powering. Women and children usually bear the burden of collecting wood, increasing their workload and putting them at risk to gender-based violence.

Women spend on average 14 hours per week collecting wood in Cox’s Bazar camps (Bangladesh) and 21 hours in the south of Chad. The SAFE approach decreases women’s work burden, reduces household wood fuel consumption, and improves the local environment. In countries such as Bangladesh, Ethiopia, Kenya, Nigeria, Somalia, South Sudan, Sudan, Syrian Arab Republic, Uganda...
and Yemen, communities have benefited from the FAO SAFE Programme, reaching 368,792 households. This work is conducted in partnership with WFP, IOM, UNDP, and UNHCR.

In the Sudan, FAO trained women refugees on the production and use of fuel-efficient stoves, seedlings management, tree planting and agroforestry practices. In the Syrian Arab Republic, where communities are highly dependent on fuelwood, FAO supports the construction of household biogas digesters for cooking, while in Yemen, solar photovoltaic pumps are installed to ensure continuous water provision to rural households.

Protection from Gender-Based Violence (GBV)
GBV is a widespread and life-threatening problem exacerbated by poverty, natural hazards or conflicts. Through food security and agricultural interventions, FAO supports countries to protect vulnerable families and individuals from destitution. Furthermore, FAO supports governments to reform discriminatory legislation and practices and incorporate gender equality in projects and programmes. A 2018 guide addresses GBV in the food security and agriculture sector, asking “How can we protect men, women and children from gender-based violence?”

FACILITATING HIGH-LEVEL POLICY DIALOGUES FOR RURAL WOMEN’S ECONOMIC EMPOWERMENT

- The Step It Up Together With Rural Women to End Hunger and Poverty event (FAO headquarters, December 2016) provided a multi-stakeholder platform to examine the structural causes and consequences of gender inequality in rural areas, as well as to identify collaborative actions to unleash the economic potential of rural women. More than 400 participants attended the event, including representatives of FAO member countries, UN partners, international experts, and the media. See: www.fao.org/about/meetings/rural-women-end-hunger


- During the event “Leaving No One Behind: Empowering Rural Women for Zero Hunger and Shared Prosperity” at the margin of the UN General Assembly (New York, 2018), FAO and the AUC launched a publication to showcase ways in which multi-stakeholder collaboration can be mobilized and political attention galvanized for empowering women towards Zero Hunger and achievement of the Malabo commitments for improved rural livelihoods and shared prosperity. This publication built on 42 National Gender Profiles of agriculture and rural livelihood that FAO prepared in collaboration with regional economic communities to inform policies, programmes and investment plans. FAO and AUC will subsequently launch a joint publication “Regional Outlook on Gender and Agri-food Systems” in early 2019. It provides policy support to the AUC to strengthen gender into the biannual reporting process on the Malabo Declaration.

SOURCE: FAO. 2018. EMPOWERING WOMEN, POWERING AGRICULTURE.
FAO SEeks to develop a strong enabling environment in which young people can thrive and seize current and future decent rural employment opportunities.

FACTS & FIGURES ON YOUTH

- There are more than 1 billion young people aged 15–24 in the world today, of whom 85 percent live in developing countries. They are critical agents of change in the fight against poverty, hunger and malnutrition.
- By 2030, 25.6 million young workers aged 15–29 will enter the labour force and will need jobs in the developing countries of Africa and Asia and the Pacific.
- More than 70 million youth are unemployed worldwide. FAO seeks to develop a strong enabling environment in which young people can thrive and seize decent rural employment opportunities.
- Around 71 percent of child labour in the world is linked to agriculture.
- The Organization supports countries in integrating child labour in national policy legislation, programmes and strategies.
- The bulk of international migrant flows consists of young people – around 70 percent are younger than 30.
- The youth NEET rate is the proportion of youth “neither in employment nor in education or training”. The global estimate is 21.8 percent, 76.9 percent of which are female.
- The median age of population in fragile contexts is 20 years old.
- Over 92% of Sub Saharan Africa youth in employment are working poor and 70% subsist on less than USD 2 per day.

YOUTH

Addressing youth employment challenges in agriculture
FAO has developed innovative and field-tested approaches that address the constraints rural youth face in accessing decent work. For example, FAO’s private and public partnership model for youth employment in agriculture is designed to strengthen young people’s skills using FAO’s Junior Farmer Field and Life Schools methodology. The approach facilitates their access to land, credit and markets and enhances their ability to partake in policy debates relevant to their welfare. FAO has also developed an integrated approach for policy support on productive employment and decent work promotion in rural areas, the Integrated Country Approach (ICA). ICA has been implemented so far in Malawi, Senegal, the United Republic of Tanzania, Uganda and Guatemala and will expand to Rwanda and Kenya. The approach is geared towards sustainable policy change and places emphasis on strengthening the capacities of national institutions responsible for agriculture and labour, as well as producer and youth organizations.

Youth employment and migration
Young people account for the bulk of migration flows. One in eight migrant workers are aged 15–24 years and are moving mainly in search of better livelihoods. FAO works to provide alternative opportunities for prospective rural migrants, especially young women and men who are those most prone to migrate, by promoting decent work opportunities in agriculture and food systems in rural areas or their proximity. In Kenya, for example, FAO implemented a two-year “Rural youth migration, social protection and sustainable value chains project” aimed at tackling some of the adverse causes of rural out-migration of youth. The project created employment and entrepreneurship opportunities in agribusinesses along selected local value chains, while strengthening linkages with the existing social protection programmes. In Tunisia and Ethiopia, FAO, via its Rural Youth Migration project (RYM), promoted innovative mechanisms for the creation of productive employment opportunities and agricultural entrepreneurship for rural youth in Ethiopian migration-prone areas (i.e. establishment of 38 youth agribusiness groups, bringing together 454 individuals) through training, technical support and provision of in-kind grants and agricultural resources.

Youth and climate change
Difficulties in accessing green jobs is a major challenge to strengthening youth involvement in agriculture. Green jobs can lead
to more sustainable livelihoods in the long run and can be more labour intensive and ultimately have more value addition. To respond effectively to climate and environmental stresses, FAO designed a specific training manual for young farmers as part of its Junior Farmer Field and Life Schools methodology in order to develop their skills while increasing their adaptation to climate variability. FAO is also implementing a specific Green Jobs for Youth project in Sierra Leone, Timor-Leste and Zimbabwe, in order to provide a mix of rural and urban youth, opportunities for skills development across green agriculture, green energy, and green waste management sectors.

**Child labour and younger workers aged 15–17**

FAO supports the integration of child labour considerations into national policies and strategies for rural development. As part of its wider approach to eliminate child labour in agriculture, it also promotes efforts to boost the incomes of rural families so that they have the means to send their children to school rather than work. Further, as youth aged 15–17 are within legal working age in most countries, yet below the legal age of an adult, they encounter major barriers in access to resources, services, employment opportunities, and market. This age group is at a turning point, transitioning from school to work, preparing for a future outside or within agriculture, and repeating or breaking gender discriminating patterns. FAO implements programmes that take into account their specific needs and challenges.

**Youth in fragile contexts and situations**

Youth can be game changers in fragile contexts. Currently, over 600 million youth worldwide live in fragile and challenging contexts. Vulnerable youth in certain contexts are more likely to be susceptible to violence and to fall into radicalization or negative coping behaviours. FAO implements specific youth employment programmes in selected fragile contexts to prevent youth radicalization and negative coping actions, by increasing employment opportunities. For example, in Somalia, through vocational education, enterprise training, and the rehabilitation of infrastructure in high potential sectors of the economy, FAO
provides opportunities to youth to be part in the country’s economic growth. Alongside this initiative, FAO is also working with the Ministry of Fisheries at federal and state levels to implement the project called “No piracy: Alternatives for youth living in coastal communities,” in order to reach out to youth living along the coast to support them in building livelihoods in the fisheries sector and hence not fall into piracy.

**Empowering youth in responsible investments in agriculture**
Youth are often unable to carry out the investments needed to ensure that their own farming or processing activities can be successfully launched or expanded. Furthermore, they may be unable to benefit from opportunities in agricultural supply chains provided by larger-scale investors. Promoting investments in the agricultural sector by and with youth could have positive socio-economic impacts because of several inter-related factors. For instance, the contribution of agriculture to the GDP is very low compared to its share in total employment, which indicates that additional investments could yield significant benefits in terms of productivity increases. FAO supports specific assessments, to enhance understanding on the main challenges and opportunities to empower youth to carry out and benefit from responsible agricultural investment by giving voice to those most concerned – young farmers, agri-entrepreneurs and workers, and those who support them.

**FAO’S POLICY WORK**

FAO supports governments to develop the policy frameworks and enhance the capacities needed to sustainably promote gender equality and women’s empowerment as an integral part of their efforts to eradicate hunger, food insecurity and malnutrition. Also, the organization supports governments to promote youth-inclusive food systems, to harness the contribution of the agri-food sector to generate more and better jobs for the rural youth. The Organization advocates to integrate these issues in global standard-setting documents and high-level policy dialogues on food security and nutrition, and on agri-food system development.

Through the Committee on World Food Security (CFS), FAO collaborates with governments, development agencies, academia, civil society and the private sector to include gender equality and youth engagement considerations in agreed principles and international standards for food security and nutrition. The CFS Principles for Responsible Investment in Agriculture and Food Systems include dedicated principles on: fostering gender equality and women’s empowerment (Principle 3), and engaging and empowering the youth (Principle 4).

FAO mainstreams gender equality into climate-related planning processes, including National Adaptation Plans (NAPs) and in the implementation of their Nationally Determined Contributions (NDCs) under the Paris Agreement.
FAO combines its advocacy work with technical support to ensure the formulation of gender-equitable and youth-inclusive food security and nutrition policies, as well as agri-food and (rural) employment policies and strategies, backed by strong political commitment and sound regulatory frameworks. It also helps strengthening the national capacities of agriculture and rural development ministries.

FAO supports youth-inclusive and evidence-based agri-food policy dialogue and policy development at national level, while strengthening policy coherence among agri-food, (youth) employment, and migration policies.

FAO develops and supports the adoption of gender- and age-sensitive indicators and data collection systems related to FSN.

FAO sharpens the focus of FSN policies through high-level events to ensure they consider gender and women’s empowerment issues, as well as youth engagement and empowerment issues.

Through the FAO-EU Policy Facility on Food and Nutrition Security Impact, Resilience, Sustainability and Transformation (FIRST), FAO is promoting the integration of gender equality issues in FSN policies and strategies in 25 countries.

FAO played a key role in developing General Recommendation 34 on the Rights of Rural Women of the Committee on the Elimination of Discrimination against Women (CEDAW). The recommendation clarifies state obligations to recognize, protect and promote the rights of rural women in the field of food and agriculture.

FAO contributed to the development of the African Union gender strategy 2017–2027 which emphasizes a transformative approach to empower women economically, build their resilience, fostering an inclusive policy environment and reinforcing women’s voice, leadership, and visibility.

FAO supported the development and the implementation of the Gender Strategy of the Plan for Food Security, Nutrition and Hunger Eradication 2025 of the Community of Latin American and Caribbean States (CELAC).

FAO works with 15 countries to fulfil their political commitments to improve the status of rural women by facilitating reporting on CEDAW and the implementation of recommendations to integrate gender equality and women’s empowerment issues in national FSN policies, legislation and investment strategies.

Increasing the availability and use of sex-disaggregated data for more targeted policies

Sex-disaggregated data and gender statistics are fundamental to elaborate gender-sensitive rural poverty and hunger reduction policies, programmes and strategies. Data are also important to understand rural women’s role and contribution in agriculture. Yet information on women’s roles in agriculture often remains scarce or incomplete.

FAO’s Statistical Programme of Work 2018–19 includes more than 30 statistical activities related to sex-disaggregated data or gender statistics, including seven databases disseminated through websites, yearbooks and flagship publications.
**STORIES FROM THE FIELD**

**India: Women as agents of change toward sustainable agriculture, health and nutrition**

To improve agricultural productivity and water-use efficiency, FAO collaborates with the Uttar Pradesh Department of Agriculture to strengthen the institutional and policy framework for integrated water resources management. A Farmer Water School (FWS) organized training to enhance the capacity of farmers and improve farming practices related to water management, soil nutrients and pests, and make informed decisions at crucial stages of the crop production cycle. To change existing gender dynamics, women are involved in decision-making as equal partners in agricultural and post-production services, thereby increasing overall agricultural productivity and farmers’ incomes.

Special FW schools were also established for women to enable them to talk openly and discuss issues pertaining to sustainable agriculture and natural resource management. A total of 6,720 women were trained to take on leadership roles in future FWS for women.

**Promoting gender equality for improved food security and nutrition in Guatemala**

FAO, with other UN agencies, supported the Ministry of Agriculture, Livestock and Food of Guatemala to develop its first institutional policy on gender equality. The policy, ratified in 2015, guarantees that voices of women and men in rural development processes are heard and that they have equal access to agricultural technical assistance and productive resources. FAO supported a multi-stakeholder consultation process with the Government and civil society to develop the policy and support its implementation. A gender equality approach has been incorporated into the national Programme to Strengthen Family Farming (PAFFEC) which will enable collaboration and coordination with relevant decision-making units of the Ministry for further integration of gender equality in their work. To promote greater accountability for achieving gender equality, FAO supported the setting up of a gender-sensitive monitoring framework for PAFFEC and training of extension agents on gender-focused planning and monitoring. The policy and its implementation constitute a milestone in the national implementation of CEDAW.

**Kenya: an innovative approach: the Lessos gender-sensitive business service centre**

In Kenya, concrete results were achieved in promoting women’s entrepreneurship in the dairy value chain by providing innovative and gender-responsive business development services. More than 600 farmers (half of whom women) were trained in business-oriented farming and value addition, and 40 women-led start-ups
Middle East looking for work and a better life. The amount of job opportunities in the country has not matched its growth. 71 percent of Ethiopia’s population is under the age of 30 and many of them lack opportunities to make a decent living. Yimam decided to go to Saudi Arabia where his sister was living. His journey, to what was meant to be a better life, was not an easy one. Yimam finally made it to Saudi Arabia and worked as a shepherd. A few months later, he was arrested and deported back to Ethiopia. Back in his village, he had to rely on his parents to survive. When the FAO-supported Rural Youth Mobility project started in the region, he had another option to consider: working in agriculture in his homeland. As part of this project, Yimam was selected to be involved in horticulture initiatives. Together with other young people, they started growing cabbage, onions and mung beans on plots of land provided by the local administration. The Rural Youth Mobility project promoted innovative, rural development strategies to provide employment and entrepreneurial opportunities for the rural youth in order to address the causes of distress migration. Together with its partners, FAO has helped to make migration a choice in Ethiopia and Tunisia.

Rural youth migration in Tunisia and Ethiopia

Kalu, in the Amhara region of northern Ethiopia, is home to 28-year-old Yimam Ali. However, many young people from this region of Ethiopia move to the

ETHIOPIA

Yimam migrated to Saudi Arabia in search of work and a better life. When he was deported back to his country, FAO selected him for the horticulture initiative of the RYM project, through which he has received agricultural training.

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Safe work: reducing child labour in Lebanon

In South Lebanon, Fouad Wansa, head of the Agricultural Centre, an extension office of the Ministry of Agriculture in Marjeyoun, teaches 15–18-year-old students at the directorate’s Technical Agriculture School. He participated in an intensive two-day FAO training course on occupational safety and health in agriculture, with a special focus on child protection. “I have always known about harmful effects and protective measures in agricultural labour, but my knowledge only focused on adults until I started participating in FAO trainings,” Fouad says. He is among 180 professionals who attended this series of training courses across the country, targeting Ministry of Agriculture staff, child-protection workers and farmers.

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INNOVATION IS KEY TO ERADICATING RURAL POVERTY AND ENDING HUNGER

The world is facing unprecedented challenges that affect the sustainability of our food and agriculture systems. From an ever-increasing and urbanized world population to deteriorating natural resources and loss of biodiversity, to climate change impacts, these challenges combined threaten the livelihoods of millions of family farmers across the globe. To meet growing food demand from a projected population of close to 10 billion people in 2050, agricultural output will need to increase by about 40 percent compared to 2012. The bulk of this rise must come from family farmers who manage about 90 percent of the world’s farms, produce over 80 percent of the world’s food but, paradoxically, are often poor and malnourished themselves.

While efforts in the past centred on boosting agriculture to produce more food, today’s focus is to tackle the root causes of hunger and malnutrition through transformative changes to our food system. The way we produce, process, distribute and consume food must become wholly sustainable and contribute to healthy and affordable diets. As the driving force to transform food systems, innovation is central to lifting family farmers out of...
FAO CHALLENGES IN THE TWENTY-FIRST CENTURY

AGRICULTURAL INNOVATION IS THE PROCESS WHEREBY INDIVIDUALS OR ORGANIZATIONS BRING NEW OR EXISTING PRODUCTS, PROCESSES OR WAYS OF ORGANIZATION INTO USE FOR THE FIRST TIME IN A SPECIFIC CONTEXT IN ORDER TO INCREASE EFFECTIVENESS, COMPETITIVENESS, RESILIENCE TO SHOCKS OR ENVIRONMENTAL SUSTAINABILITY.

FACTS AND FIGURES

- In the last 15 years, Internet and digital usage has increased rapidly; more people now have mobile phones than sanitation or clean water.
- Today, there are nearly 4.3 billion mobile-broadband subscriptions in existence (ITU, 2017).
- Over 3.6 billion individuals use the Internet, and even among the poorest 20 percent of the population, 7 out of 10 households have a mobile phone (World Bank, 2016).
- Only 15 percent of households in Least Developed Countries (LDCs) have Internet access at home, and just over 20 percent have a mobile broadband subscription – four times less than in developed countries (ITU, 2017).
- Only 22 per 100 inhabitants use the Internet in Africa, compared with 48 per 100 globally (ITU, 2017).
- The gap in the proportion of women worldwide using the Internet compared with men was -12 percent in 2017 (ITU, 2017). This gap correlates with levels of economic development and is largest in LDCs, at -33 percent.

SOURCE: FAO. 2018. TACKLING POVERTY AND HUNGER THROUGH DIGITAL INNOVATION.

poverty, tackling unemployment for youth and rural women, and helping the world to achieve food security and the Sustainable Development Goals (SDGs).

Agricultural innovation is the process whereby individuals or organizations bring new or existing products, processes or ways of organization into use for the first time in a specific context in order to increase effectiveness, competitiveness, resilience to shocks or environmental sustainability and thereby contribute to food security and nutrition, economic development or sustainable natural resource management.

INNOVATION AND THE 2030 AGENDA

With the adoption of the 2030 Agenda for Sustainable Development, countries have committed to a universal set of transformative goals and targets. The SDGs recognize that ending poverty must go hand-in-hand with strategies that build inclusive economic growth and create job opportunities, address social needs including education and health, and protect the environment and the planet’s natural resources – all while responding to climate change. Actions should be committed to leaving no one behind.
The 2030 Agenda explicitly refers to innovation as a critical means of implementation, acknowledging its role in accelerating the achievement of the SDGs. The Agenda calls for enhanced cooperation and knowledge sharing to improve access to technology and innovation. It underlines the urgency for the development, transfer, dissemination and diffusion of environmentally sound technologies. And it points to the need for capacity-building mechanisms for least developed countries.

Many developing countries have yet to harness the full potential of agricultural innovation. Success hinges on understanding and deployment of innovation drivers and processes that are critical to unlocking transformative change.

Today, it is necessary to remove barriers and address constraints – including technological, social, institutional, organizational and policy restrictions – that stifle the capacity of family farmers, and others, to innovate. While much has been taken on board about innovation in recent years, policy options for strengthening inclusive agricultural innovation systems need to be developed. By analysing good practices and lessons learned from different parts of the world, more effective policies can be shaped and implemented.

**Family farmers are innovators.**
- Family farmers have been innovating since the dawn of agriculture. Fostering the capacity of the millions of family farmers to innovate is especially crucial today as they face unprecedented challenges that affect their livelihoods as well as the sustainability of the world’s food and agriculture systems.

**We need to increase the pace of innovation to overcome the challenges of the twenty-first century.**
- Accelerating and scaling up innovation in agriculture can trigger the transformation needed to respond to feeding a growing and increasingly urbanized population, climate change impacts and to achieve the Sustainable Development Goals. As the Decade of Family Farming kicks off, now is the time to bring stakeholders together to share knowledge, invest and unlock the policy, pathways and business models aimed at promoting innovation in agriculture.

**Innovation is more than technology.**
- Going beyond apps, drones or farm machinery, innovation in agriculture involves different social, organizational or institutional processes, ranging from access to markets, credit or extension services to marketing produce in a new way.

**Innovation is a complex process where multiple actors play different roles.**
- Governments and other key stakeholders, including civil society, farmer organizations, research bodies and the private sector, all have a role to play in creating an environment that enables innovation in agriculture to flourish and generate solutions. Success hinges on connecting the drivers that influence innovation uptake.

**MALI**

Members of Cooperatif Benkadd, an association of women of Finkolo village, after a lesson in the field.

©FAO/SWIATOSLAW WOJTKOWIAK

**FAO and the World Meteorological Organization (WMO) have recently strengthened their cooperation to help poor farmers adapt to climate change.** The two organizations are working on strengthening agro-meteorological services and making them more accessible to farmers and fishers through digital services, starting in Senegal and Rwanda. A key objective of this collaboration is to develop national capacities to provide meteorological and climate data for improved agricultural information to facilitate their integration into agriculture policies, plans and strategies.

**SOURCE:** FAO. 2018. TACKLING POVERTY AND HUNGER THROUGH DIGITAL INNOVATION.
Food security, climate change adaptation, poverty alleviation and sustainable management of natural resources rely on innovation processes in which small-scale producers are protagonists. Scaling up innovation requires stakeholders and decision makers to develop a better understanding of impact pathways, new partnerships and business models involving the public and private sectors, civil society and farmer organizations. They must create conditions that will enable innovation to flourish, linking these various actors, fostering the capacity of farmers and other stakeholders, and providing incentives for them to innovate. Research and extension play a central role in these innovation pathways. FAO advocates a shift from interventions focusing on single components of agricultural innovation towards a ‘system approach’ aimed at strengthening institutions and stakeholders, as well as networks that better respond to the needs of smallholder farmers.

**INFORMATION AND COMMUNICATIONS TECHNOLOGY (ICT)**

Information and Communications Technology (ICT) innovation is also revolutionizing the agriculture and food sectors. In developed economies, innovations such as artificial intelligence, the Internet of things, data analytics and block-chain are changing the way agriculture does business. Remote sensors collect data on soil moisture, temperature, crop growth and livestock feed levels, enabling farmers to achieve better yields by optimizing crop management and reducing the use of fertilizers, pesticides and water. ICT companies, multinationals and large machinery manufacturers, as well as small and medium farm input suppliers, provide services (including extension) to farmers and their organizations through digital means. Downstream, supermarkets and agricultural product buyers engage in the food value chain through ICT. New technologies are also used by farmers’ cooperatives, international organizations, civil society, and governments to provide information on many aspects of farming, including regulation.

However, the rapid global revolution in ICT stands in stark contrast to the continuing high numbers of extreme poor and hungry individuals in the world. The new digital technologies and innovative use of ICT creates enormous opportunities and poses daunting challenges to ending poverty and hunger. On one hand, there is potential to increase productivity and wealth, generate new activities, products and services, and improve livelihoods. On the other hand, such opportunities can lead to further alienation of marginalized communities and an exacerbation of existing socio-economic inequalities. In fact, not all communities benefit from emerging technology and ICT-driven innovation. Many continue to rely on traditional ICT or have limited access to ICT. To what extent can digital innovation better serve those farthest behind? Can ICT benefit the more vulnerable layers of our society living in rural areas? Can they help reduce risks in agriculture
and increase profit for small-scale producers? Can they provide alternative livelihoods to new generations of rural youth looking for a better future? How can digital innovation and new use of ICT in agriculture contribute to eliminating rural poverty and hunger, and provide alternatives to migration?

**FAO INNOVATION IN ACTION: TOOLS AND PLATFORMS**

Innovation in agriculture cuts across all dimensions of the production cycle along the entire value chain – from crop, livestock production, forestry or fishery to the management of inputs and resources, to organization and market access. The following examples illustrate some of FAO’s contributions and the role of the Organization in promoting agricultural innovation.

**Technologies and practices for small agricultural producers (TECA)**

TECA is FAO’s global, web-based platform for knowledge exchange, documenting and sharing practical information on agricultural technologies and practices to help smallholder farmers in the field. It combines this knowledge base with a forum of exchange groups for interactions, identification of needs and joint learning between various actors of the agricultural innovation systems. TECA aims to make demand-driven information available on the production and protection of plants and animals (including fish) and on the management of natural resources in the context of climate change adaptation and disaster risk reduction. It also gathers technologies relating to better nutrition from agriculture, to social organization and capacity, and to post-harvest issues to allow smallholders and other users to better access markets. Apart from small agricultural producers, users include professionals from rural extension and advisory services, producer organizations, NGOs, research organizations, universities, and the private sector.

**e-Agriculture**

The FAO-led global Community of Practice e-Agriculture is made up of over 12 000 members from 170 countries and territories. It serves as a platform where members exchange information, ideas and resources related to the use of ICT. It aims to improve decision-making on the vital role of ICT in empowering rural communities, improving rural livelihoods, and building sustainable agriculture and food security. The platform is all about knowledge exchange between UN agencies, governments, universities, research organizations, NGOs, farmers’ organizations, private sector, and the wider community. Recognizing that knowledge exchange relies on constructive dialogue, one of the most popular activities is the e-Agriculture Forum Discussions where topics are demand-driven and led by partner institutions specialized in different areas of e-agriculture.

**KEY ELEMENTS FOR SUSTAINABLE AGRICULTURAL INNOVATION**

- Innovation requires long-term commitment by different actors, particularly for the sustainability of family farmers and enabling achievement of the Sustainable Development Goals.
- Assessment of agricultural innovation systems is required to inform appropriate interventions to unlock the potential of agricultural innovation for family farmers.
- Innovative partnerships can accelerate transformation of agricultural innovation systems, recognizing that trust and equal recognition among partners/actors form the basis of successful partnerships.
- Innovation is context-specific. Therefore, it is necessary to recognize the diversity of family farmers (including peasants, indigenous peoples, traditional communities, fishers, mountain farmers, livestock keepers and pastoralists as well as farmers on marginal lands) and their different needs in different contexts for the scaling up of innovation.
- In order to achieve the Sustainable Development Goals, in particular Goal 2, scaling up innovations through partnerships and use of a diversity of context-specific approaches such as agroecology, agricultural biotechnologies and information and communication technologies, among others, is required.
- Demand-driven innovation processes are required, especially, to empower family farmers to innovate (e.g. capacity development in leadership, negotiation, advocacy, data analysis, collective action etc.).
- Inclusiveness is essential for effective innovation (e.g. gender, youth, indigenous groups etc.), particularly through appropriate policies that must ensure no one is left behind.
- Formal and informal mechanisms for networking, co-learning and co-creation, knowledge exchange and information sharing are necessary to accelerate innovation.
- Key elements for successful adoption and use of innovation must lead to efficiency, profitability and the sustainability of family farmers.
- Lessons from innovation experiences are an essential component for achieving the Sustainable Development Goals for family farmers and youth.

SOURCE: CHAIR’S SUMMARY: INNOVATION SYMPOSIUM FOR FAMILY FARMERS. 2018
FAO ADVOCATES A SHIFT FROM INTERVENTIONS FOCUSING ON SINGLE COMPONENTS OF AGRICULTURAL INNOVATION TOWARDS A ‘SYSTEM APPROACH’ AIMED AT STRENGTHENING INSTITUTIONS AND STAKEHOLDERS, AS WELL AS NETWORKS THAT BETTER RESPOND TO THE NEEDS OF SMALLHOLDER FARMERS.

**FAO’S CHALLENGES IN THE TWENTY-FIRST CENTURY**

**POTENTIAL OF DRONES FOR LOCUST EARLY WARNING AND PREVENTIVE CONTROL**

Vast areas of desert stretching from West Africa to India and including some of the world’s poorest countries are regularly monitored for Desert Locust by national ground teams in vehicles. These areas have no mobile or Internet coverage and may be several days’ drive from the national locust centre. To speed things up, research and development is now underway to provide a fixed-wing drone solution. The drone would be capable of flying some 100 km while collecting data on the location of green vegetation and processing this imagery on board as a map. In turn, the map would guide ground survey teams to specific areas. Significant infestations could be safely and effectively sprayed by a control drone before the locusts form swarms. All the drones would have to be lightweight, portable, solar-powered, durable and easy to use and maintain locally. The “dLocust family” would be integrated with eLocust3, the handheld tablet used by survey and control teams for recording observations and transmitting them in real-time by satellite. National locust centres would be responsible for managing and using dLocust.

**Digital Services in Africa**

Over 60 percent of Africa’s estimated 1.2 billion people are under the age of 25; yet with little job creation in the rural areas where the majority of the population resides, there is a growing uncertainty over the continent’s preparedness to tap into this resource. Digital innovation and the use of ICT will prove essential to unlock Africa’s agribusiness, to bridge the rural divide, to support smallholders and family farmers, fishers, pastoralists, and forest-dwellers. Innovative technologies and approaches can increase productivity and profitability, improve consumption of nutritious food, empower youth and women’s access to information, technology and markets and ensure that agriculture practices are environmentally sustainable for future generations.

FAO and partners work together to develop, promote and implement digital inclusion initiatives and the scaling up of innovative digital services. Bringing solutions closer to the needs of poor households in Africa and other regions is a direct contribution to poverty reduction and food security. The use of ICT helps maximize the impact of existing rural advisory services, financial services and social protection programmes; and facilitates access to markets, information and entrepreneurship opportunities. Digital inclusion initiatives address the barriers to mobile Internet adoption through infrastructure and policy, affordability, digital literacy and availability of local content.

**Tropical Agriculture Platform: Agricultural Innovation Systems**

Fostering the capacity of family farmers to innovate is essential.

To bring capacity development up to speed with the challenges facing agriculture in the twenty-first century, the partners of the Tropical Agriculture Platform (TAP) have adopted a new integrated approach, called the Common Framework on Capacity Development for Agricultural Innovation Systems. The TAP Common Framework builds on the agricultural innovation systems (AIS) perspective, which recognizes that agricultural innovation is a process involving many different actors and factors and that
it can only take off if it meets the demands of its principal users. The TAP proposes a practical approach to capacity development for agricultural innovation that aims at harmonizing the diversity of existing strategies. The Common Framework provides concepts, principles, methodologies and tools to better understand the architecture of AIS, to assess capacity development needs and to plan, implement, monitor and evaluate capacity development interventions. This should lead to more sustainable and efficient AIS. The Common Framework emphasizes the crucial role of functional capacities, facilitation, documentation and knowledge management issues as well as that of reflection and learning to enable agricultural innovation. The Common Framework is being validated in nine countries in Africa, Asia and Central America where capacities for innovation are developed at the level of innovation partnerships, networks of organizations and the enabling environment. This approach will support the development of an AIS that is capable of adapting and responding to new and emerging challenges.

Mechanization
Sustainable agricultural mechanization covers all levels of farming and processing technologies, from simple and basic hand tools to more sophisticated and motorized equipment. It takes 60 days to cultivate a hectare of land using a hand hoe, compared to about three days with draught animal power or less than a day if using a powered direct seeder. In many farming-based communities, women provide up to 80 percent of the total farm labour. Mechanization can ease and reduce hard labour and relieve labour shortages. In Zambia, for example, labour savings from the adoption of animal-powered equipment have been estimated to be from 25 percent to 35 percent. FAO aims to increase knowledge exchange on agricultural equipment and sustainable practices by fostering partnerships with public and private sector institutions that promote innovation and build on existing technology. FAO support governments to develop strategies that foster mechanization and works with small-scale enterprises, cooperatives and local organizations to ensure smallholder farmers have access to and use of mechanized services.

AgLab in China
FAO China has set up AgLab Cx, an innovation lab involving a variety of eclectic partners and expertise, including the Ministry of Agriculture of China, social innovators, academics and consumer groups to foster innovation in all areas of work. Providing a space for engaging the Government, young people, technologists, private sector and civil society in problem solving, the lab is dedicated to experimenting, prototyping, and developing innovative projects in the field of sustainable agricultural development and food security. Based on a people-centred approach, AgLab Cx brings together actors involved in food and agricultural systems who must solve a problem with those who have the technical and financial capacity to solve it, for interdisciplinary collaboration and co-creation.

System for earth observations, data access, processing and analysis for land monitoring (SEPAL)
SEPAL is a component of FAO’s Open Foris software suite that provides comprehensive image-processing capabilities and enables the detection of small-scale changes in forests, such as those associated with illegal or unsustainable timber harvesting. Users can query and process satellite data quickly and efficiently, tailor their products for local needs, and swiftly produce sophisticated and relevant geospatial analyses. Harnessing cloud-based supercomputers and modern geospatial data infrastructures (such as Google Earth Engine), SEPAL allows users to access and process critical historical satellite data as well as newer data from Landsat and Europe’s Copernicus programme. SEPAL helps countries pave the way for improved climate change mitigation plans and better informed land-use policies.
INNOVATION IS IMPORTANT TO REALIZE THE PRODUCTIVE POTENTIAL OF FAMILY FARMERS, ESPECIALLY IN SMALL- AND MEDIUM-SIZED FAMILY FARMS THAT OCCUPY A LARGE SHARE OF FARMLAND AND PRODUCE MUCH OF THE FOOD IN LOW- AND MIDDLE-INCOME COUNTRIES.

The FAO Desert Locust Information Service (DLIS)
The Desert Locust Information Service (DLIS) continuously monitors the locust situation. Satellites cannot detect the insects themselves but can accelerate identification of potential breeding areas and make ground interventions more effective. Remote sensing imagery is used to detect desert areas in which rain has fallen, where soil is sufficiently moist for egg-laying, and where vegetation is green to provide food and shelter for locusts. Google Earth Engine technology is used to deliver these products faster to affected countries and decision makers. In addition, national locust survey and control teams use rugged handheld tablets in the field to record their observations, and then transmit them in real time via satellite to their national locust control centres and to FAO DLIS.

Geo-referenced data in the field are collected and analysed on a daily basis. This analysis, carried out by the national control locust centres and FAO DLIS, relies on a range of computer-based software tools which were developed by FAO and several partners for early warning purposes, as well as specific hardware such as the handheld device called eLocust. These components constitute the oldest migratory pest monitoring and early warning system in the world. FAO is currently investigating the use of drones to support survey and control operations.

SRI LANKA
A GPS device is used by veterinarians to track and document locations of cattle herds tested for rinderpest. © FAO/ISHARA KADIKARA

Global Forum on Agricultural Research and Innovation (GFAR)
GFAR, hosted in FAO, is a multi-stakeholder global forum on agricultural research and innovation enabling stakeholders across the agricultural spectrum – from researchers and organizations to farmers – to participate in collaborative discussion and action around the current and future state of agriculture. GFAR facilitates collaboration, partnerships and sharing of objectives along the complex pathways from research through to development outcomes.

AGRICULTURAL INNOVATION: SELECTED APPROACHES AND INITIATIVES

Accelerating and scaling up innovation in agriculture can trigger the transformation needed to feed a growing and increasingly urbanized population, respond to climate change impacts and achieve the Sustainable Development Goals. Innovation in agriculture goes beyond apps, drones or farm machinery; it involves different social, organizational or institutional processes or approaches to tackle today’s challenges. The following examples represent selected agricultural approaches and practices led by FAO.
In guiding countries to transform their food and agricultural systems, to mainstream sustainable agriculture on a large scale, and to achieve Zero Hunger and multiple other SDGs, the following ten elements emanated from the FAO regional seminars on agroecology:

- Diversity
- Co-creation and sharing of knowledge
- Synergies
- Efficiency
- Recycling
- Resilience
- Human and social values
- Culture and food traditions
- Responsible governance
- Circular and solidarity economy

**THE 10 ELEMENTS OF AGROECOLOGY**

Agroecology is based on applying ecological concepts and principles to optimize interactions between plants, animals, humans and the environment, while taking into consideration the social aspects that need to be addressed for a sustainable and fair food system. By building synergies, agroecology can support food security through the production of healthy and nutritious foods while restoring ecosystems and biodiversity that are essential for sustainable agriculture. It is based on context-specific design and organization of crops and animals, farms and landscapes and works with solutions that conserve above and below ground biodiversity. Agroecology is the basis for evolving food systems that are equally strong in environmental, economic, social and agricultural dimensions, and plays an important role in building resilience and adapting to climate change.

Jointly with other United Nations partners, in 2018, FAO launched the Scaling Up Agroecology Initiative to be implemented over the next ten years, in collaboration with multi-stakeholder partners. At regional level, agroecology platforms were launched to promote farmer-led, bottom-up and local innovation systems, working closely with regional and government partners. At country level, agroecology is being scaled-up in countries all around the world, including Angola, Bahamas, Bolivia (Plurinational State of), China, Guinea, India, Jamaica, Lebanon, Nepal, Saint Lucia, Senegal, Sudan, Trinidad and Tobago, and Tunisia.

**Nepal**

**Diversity, prosperity and culture in the Himalayas**

The beans grown at an altitude of 2,300 metres in the Himalayan valley of Sinja in the Jumla District of Nepal have immense significance for the community. The pulses have good commercial and high nutritional value and are also tied to the local culture and religious festivals, like Janai Purne, marking the end of the rainy month and beginning of the cold season. The beans are cultivated manually by local farmers without the use of pesticides to ensure healthy soils and food. However, the production of beans faced competition, as higher-yielding crops were introduced. Through an initiative led by the Mountain Partnership, better marketing and distribution of high-quality Jumla beans has led to a doubling of production in the past three years. The market price has risen by 25 percent due to the added value of a Mountain Partnership product label. As well as supporting the livelihoods and traditional cultures of local people, the involvement of women has also grown by 13 percent in the same period.
BLUE FASHION FOR BLUE GROWTH

Blue Growth strategies advocate ways to balance economic growth, social development, food security and the sustainable use of marine and freshwater ecosystems. Sharing experiences and lessons learned is an important first step in promoting innovation and developing strong “blue” economies. FAO, through its Blue Growth Initiative, aims to promote greater collaboration and increased dialogue on successful practices that have spurred sustainable development, and to look at innovative industries and markets that can offer a competitive advantage. One interesting and creative example is using fish skin to create elegant fashion designs. The traditional fisheries and fish farming sectors generate enormous amounts of fish skin, too often perceived as a waste product. Seaweed cultivation is also on the rise across the North Atlantic. The innovative and increased use of aquatic resources in the fashion industry can increase the sustainability of both the fashion and fisheries sectors.

BIOTECHNOLOGIES

Biotechnology includes a broad range of technologies applied in crops, livestock, forestry, fisheries and aquaculture, and agro-industry. They are used for many different purposes, such as the genetic improvement of plants and animals to increase their yields or efficiency; characterization and conservation of genetic resources for food and agriculture; plant and animal disease diagnosis; vaccine development; and production of fermented foods.

FAO recognizes that when appropriately integrated with other technologies for the production of food, agricultural products and services, biotechnology can be of significant assistance in meeting the needs of an expanding and increasingly urbanized population.

In 2000, FAO launched the Biotechnology Forum to provide quality information on agricultural biotechnologies in developing countries and create a neutral platform available for people to exchange views and experiences on biotechnology. To date, it has hosted 19 moderated email conferences and published a series of documents. FAO also organized an International Technical Conference on Agricultural Biotechnologies in Developing Countries (ABDC-10), in Mexico in 2010; an International Symposium on The Role of Agricultural Biotechnologies in Sustainable Food Systems and Nutrition, in Rome in 2016; and two regional meetings on agricultural biotechnologies, in Asia-Pacific and sub-Saharan Africa, in 2017.

The year 2018 marked the 90th anniversary of mutation induction in plants. On this occasion, FAO and the International Atomic Energy Agency organized the International Symposium on Plant Mutation Breeding and Biotechnology. The symposium reviewed the successes achieved in the field of plant mutation breeding and presented innovations in mutation induction, including genome editing, as well as the latest advances in combining field-based selection with genomics-based, plant breeding technologies.

Due to the increasing concerns over the negative effects of climate change on food security, a mutation breeding approach was identified as a way to help enhance the adaptability of crops and to promote crop production diversification, in line with Climate-Smart Agriculture principles.

Plant biotechnologies are vital to the effective application of mutation breeding techniques and are increasingly considered for crop improvement to ensure crops are better adapted to climate change.
GLOBALLY IMPORTANT AGRICULTURAL HERITAGE SYSTEMS

“Globally Important Agricultural Heritage Systems” (GIAHS) are outstanding landscapes that combine agricultural biodiversity, resilient ecosystems and a valuable cultural heritage. Located in specific sites around the world, they sustainably provide multiple goods and services, food and livelihood security for many small-scale farmers. Through a remarkable process of co-evolution of humankind and nature, such sites have emerged over centuries of cultural and biological interactions and synergies, representing the accumulated experiences of rural people. Unfortunately, these agricultural systems are threatened by many factors including climate change and increased competition for natural resources. They are also dealing with migration due to low economic viability, which has resulted in traditional farming practices being abandoned and endemic species and breeds being lost.

In recognition of these global threats to family farming and traditional agricultural systems, in 2002 FAO launched the GIAHS Programme. Aiming to strike a balance between conservation, sustainable adaptation and socio-economic development, the GIAHS Programme helps identify ways to mitigate the threats faced by farmers as well as enhance the benefits derived by these systems. Through multi-stakeholder support, this approach aims to: provide technical assistance; boost understanding of the value of keeping alive sustainable agricultural knowledge; and promote agricultural products, agro-tourism and other incentive mechanisms and market opportunities.

As of 2018, there are 57 GIAHS-designated sites in 21 countries around the world, with potentially many more to follow. GIAHS sites are testimony to the inventiveness and ingenuity of people in their management of resources, biodiversity and ecosystem dynamics, and use of landscapes, codified in traditional but evolving knowledge, practices and technologies. These ancestral agricultural systems constitute the foundation for contemporary and future agricultural innovations and technologies. Their cultural, ecological and agricultural diversity is still evident in many parts of the world, maintained as unique systems of agriculture. The GIAHS programme requires stakeholders of designated sites to implement action plans for the dynamic conservation of the core elements of their sites and to adapt and develop the sites in line with the evolving social, economic and natural environment.

China
Hani rice terraces

Hani Rice Terraces are located in the Honghe Hani and Yi Autonomous Prefecture, which is in the southeast part of China’s Yunnan Province. People from various minorities – Hani being the main minority group – have built these spectacular agricultural and natural wonders and lived in this remarkable landscape for over 1,300 years. One of the best examples of farmers’ wisdom in China, the terraces are mainly distributed along the south part of the Honghe Ailao mountain and spread over four counties covering an area of about 70,000 hectares. The Hani villages are built on the mountainsides: above the villages are flourishing forests and just below are the terraces themselves. It is amazing that in the Hani Rice Terraces there are no reservoirs, yet water supply is abundant – this is due to the skilful management of aquatic resources derived from forests on the mountain tops above the terraces. The forest, village, terrace and river compose the typical ecological landscape of the Hani Rice Terraces. The Hani utilize and manage local water resources in a unique, simple,
economical and efficient manner that has provided a guarantee for the sustainable operation of the system. The Hani people, their indigenous agricultural technologies, their maintenance of many unique local rice varieties, their selection of the settlement site, and their traditional customs for environmental protection and conservation, all show a harmonious relationship between humans themselves and between humans and nature.

Kenya and Tanzania, (the United Republic of) [ABOVE] Oldonyonokie/ Olkeri and Engaresero Maasai pastoralist heritage area

In southern Kenya and in Tanzania (the United Republic of), Maasai have developed an agropastoral system over the centuries to adapt to scarce water supply and lack of grazing land availability. Maasai have succeeded in adapting the system to the surrounding environment and wildlife to satisfy both their own needs and the evolving needs of the cities nearby – instead of competing for resources they are functioning in synergy. Their agropastoral system simultaneously integrates animals such as buffaloes, goats and sheep with endemic species and food plants such as maize and beans. Further, as the Maasai community is highly organized, they split core tasks such as grazing land research, water management, livestock movements, etc. To manage the needs of the animals and the community requires an important knowledge and understanding of resources (grasses and water), nature and the climate in the region. In this fragile environment, Maasai have skilfully shaped and maintained the landscapes through the ages in a way that is sustainable and respectful to wildlife. Thus, their agropastoral system must be preserved both to maintain the magnificence of the landscape linked to their unique identity and to keep their incredible knowledge about nature.
Mexico, Chinampa agriculture

The chinampas agricultural system is an articulated set of floating artificial islands built in a traditional way based on the oral transmission of the chinampera culture prevailing since Aztec times. The system has seen farmers turn non-cultivable lands into highly productive arable lands for growing plants and breeding cattle. The knowledge and experience developed by the farmers through the centuries are at the heart of the agricultural productivity and ecological balance of the system. The chinampas are surrounded by canals, ditches and rows of “ahuejotes” (Salix Bonplandiana) – native willow species – that perform several functions, such as serving as fences for wind and insects, providing habitats for birds, and keeping the soil in the plots. The willow roots also protect the edges of the chinampas from erosion. Faced with climatic contingencies such as frost or variation in rainfall, chinampera agriculture offers an example where agroecological intensification can co-exist with urban development and the revitalization of heritage through linking social networks to develop technological strategies and promote solidarity and a sense of community. The chinampas are a symbol of Mexican identity and a source of pride for farmers who benefit from the system to supply agricultural products to the city.

GIAHS SELECTION CRITERIA

Five features determine the “Global Importance” of a site and are used as selection criteria when assessing the suitability for the designation of a GIAHS site.

- **Agricultural systems that contribute to food and livelihood security.** The farmers in GIAHS sites have gradually developed and established productive, efficient, resilient and sustainable production systems through skilful resource management, diversified crop production, and optimization of the mutual benefits of ecological functions of crops and animals to overcome disadvantageous conditions.

- **Rich and unique agrobiodiversity.** GIAHS sites often reflect rich and globally unique agricultural biodiversity displayed at field and landscape levels in the form of rotations, polycultures and/or agroforestry patterns.

- **Traditional knowledge and technologies.** Indigenous peoples and family farmers living in GIAHS sites often possess a broad knowledge base underlying the intricacies of local and complex ecological systems.

- **Strong cultural values and collective forms of social organizations and value systems for resource management and knowledge transmission.** As specific types of agricultural systems developed over time, so did the social organizations, value systems and cultural practices that became part of the resource management practices and food production technologies used in the agricultural systems.

- **Remarkable landscapes and seascapes stemming from ingenious systems and technologies of land and water management.** Many generations of farmers have worked on the natural environment to produce agricultural products.

The GIAHS initiative was promoted by FAO to develop and manage these extraordinary traditional agricultural systems. As of the beginning of July 2018 there are 57 GIAHS sites in 21 countries.

**ALGERIA**
- Ghout System (Oases of the Maghreb) 2011
- Dates production System in Siwa Oasis 2016

**BANGLADESH**
- Floating Garden Agricultural Practices 2015

**CHILE**
- Chiloé Agriculture 2011
- Wannian Traditional Rice Culture 2010
- Hani Rice Terraces 2010
- Dong’s Rice Fish Duck System 2011
- Pu’er Traditional Tea Agrosystem 2012
- Aohan Dryland Farming System 2012
- Kuajishan Ancient Chinese Torreya 2013
- Urban Agricultural Heritage – Xuanhua Grape Garden 2013
- Jiaxian Traditional Chinese Date Gardens 2014
- Xinghua Duotian Agrosystem 2014
- Fuzhou Jasmine and Tea Culture System 2014

**CHINA**
- Rice Fish Culture 2005
- Wannian Traditional Rice Culture 2010
- Hani Rice Terraces 2010
- Dong’s Rice Fish Duck System 2011
- Pu’er Traditional Tea Agrosystem 2012
- Aohan Dryland Farming System 2012
- Kuajishan Ancient Chinese Torreya 2013
- Urban Agricultural Heritage – Xuanhua Grape Garden 2013
- Jiaxian Traditional Chinese Date Gardens 2014
- Xinghua Duotian Agrosystem 2014
- Fuzhou Jasmine and Tea Culture System 2014

**EGYPT**
- Dates production System in Siwa Oasis 2016

**INDIA**
- Saffron Heritage of Kashmir 2011
- Koraput Traditional Agriculture 2012
- Kuttanad Below Sea Level Farming System 2013

**IRAN (Islamic Republic of)**
- Qanat Irrigated Agricultural Heritage Systems, Kashan 2014
- Qanat-based Saffron Farming System in Gonabad 2018
- Grape Production System in Jowzan Valley 2018

**ITALY**
- Olive groves of the slopes between Assisi and Spoleto 2018
- Soave Traditional Vineyards 2018

**JAPAN**
- Noto’s Satoyama and Satoumi 2011
- Sado’s Satoyama in Harmony with Japanese Crested Ibises 2011
- Managing Aso Grasslands for Sustainable Agriculture 2013
- Traditional Tea-grass Integrated System in Shizuoka 2013
- Kunisaki Peninsula USA Integrated Forestry 2013
- Agriculture and Fisheries System 2013
- Ayu of the Nagara River System 2015
- Minabe-Tanabe Ume System 2015
- Takachihogo-Shiibayama Mountainous Agriculture and Forestry System 2015
- Oyaki Kodo’s traditional water management system for sustainable paddy 2017
- Nishi-Awa Steep Slope Land Agriculture System 2018
- Traditional WASABI Cultivation in Shizuoka 2018
- Olonhonokorie/Olkerti Maasai Pastoralist Heritage 2011
- Chinampas Agricultural System in Mexico City 2017
- Oases System in Atlas Mountains (Oases of the Maghreb) 2011
- Argan-based agrosylvopastoral system within the area of Ait Souab, Ait Mansour 2018

**KENYA**
- Oldonyonokie/Olkerti Maasai Pastoralist Heritage 2011

**MEXICO**
- Chinampas Agricultural System in Mexico City 2017
- Oases System in Atlas Mountains (Oases of the Maghreb) 2011

**MOROCCO**
- Qanat Irrigated Agricultural Heritage Systems, Kashan 2014
- Qanat-based Saffron Farming System in Gonabad 2018
- Grape Production System in Jowzan Valley 2018

**PERU**
- Andean Agriculture 2011

**PHILIPPINES**
- Ifugao Rice Terraces 2011

**PORTUGAL**
- Barroso Agro-Sylvo-Pastoral System 2018
CHAPTER 2.10
INNOVATION: FAO SOWING THE SEEDS OF TRANSFORMATION

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of FAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers and boundaries. Dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

MAP: UN. February 2019.
Office of Information and Communications Technology, Geospatial Information Section.

REPUBLIC OF KOREA
- Traditional Gudeuljang Irrigated Rice Terraces in Cheongsando 2014
- Jeju Batdam Agricultural System 2014
- Traditional Hadong Tea Agrosystem in Hwagaemyeon 2017
- Geumsan Traditional Ginseng Agricultural System 2018

SPAIN
- Malaga Raisin Production System in Axarquia 2017
- Agricultural System of Valle Salado de Añana 2017
- The Agricultural System Ancient Olive Trees, Territorio Sénia 2018

SRI LANKA
- The Cascaded Tank-Village System in the Dry Zone of Sri Lanka 2017

TUNISIA
- Gafsa Oases (Oases of the Maghreb) 2011

UNITED ARAB EMIRATES
- Al Ain and Liwa Historical Date Palm Oases 2015

UNITED REPUBLIC OF TANZANIA
- Engaresero Maasai Pastoralist Heritage Area 2011
- Shimbue Juu Kihamba Agroforestry Heritage Site 2011
Building on Momentum

FAO has long been at the forefront of actions to make science, technology and innovation available to family farmers, applying latest knowledge to tools, practices and approaches in agriculture. In collaboration with partners, FAO organized the Youth Employment in Agriculture as a solid solution to ending Hunger and Poverty in Africa Conference in Kigali, Rwanda in 2018. Its aim was to foster an exchange among stakeholders on knowledge and best practices regarding the interfaces between agriculture, youth employment, entrepreneurship, ICT innovations, leading to prioritizing interventions going forward. This laid out a broad framework and course of action towards steering the course of future interventions.

The Committee on Agriculture – one of FAO’s Governing Bodies providing overall policy and regulatory guidance on issues relating to agriculture, livestock, food safety, nutrition, rural development and natural resource management – emphasized FAO’s role as a knowledge-based Organization, continuing to keep abreast of scientific, technological, policy and other innovations that have been the main drivers in the evolution of agricultural systems. As such, FAO is assisting countries in developing their Agriculture Innovation System strategies through comprehensive diagnosis and needs assessments.

Building on this, in November 2018 FAO convened the International Symposium on Agricultural Innovation for Family Farmers: unlocking the potential of agricultural innovation to achieve the Sustainable Development Goals as a direct and firm response to Members. This was part of a broader effort to promote agricultural innovation for family farmers in order to increase food security, sustainable development and promote rural development. Family farmers play an important role in feeding a growing global population. The UN General Assembly recently proclaimed 2019–2028 as the United Nations Decade of Family Farming, recognizing the success of its International Year, which raised the profile of the role of family farming, pastoralism and smallholder farming in contributing to the achievement of food security and improved nutrition. In its resolution, the UN General Assembly gave
particular attention to innovation, recognizing “the important role of science, technology, innovation and entrepreneurship in supporting smallholders, including pastoralists and family farmers, in particular women and youth in rural areas”. The International Symposium on Agricultural Innovation for Family Farmers recognized the central role of family farmers in agricultural innovation. It also recognized the unique role and potential of youth in agricultural innovation. As stated by the FAO Director-General in his closing remarks: “it is not possible to separate innovation from youth or youth from innovation”.

**WAY FORWARD**

Accelerating and scaling up innovation in agriculture calls for a holistic approach where all stakeholders are involved and committed to support and implement coordinated actions. FAO supports the scaling up of innovation in the following ways:

- **Awareness raising of the role innovation plays in unlocking the potential for achieving sustainable food and agriculture.** Agriculture must innovate to meet global demands, and innovation plays a critical role in making agriculture more competitive and sustainable. Innovation processes generally arise in response to different types of triggers and drivers. It is important to ensure the presence of favourable conditions, of an enabling environment, which fosters and unlocks the potential of innovation to drive socio-economic growth, ensure food and nutrition security, alleviate poverty, improve resilience to changing environments (e.g. climate change) and thereby achieve the SDGs.

- **Coordinating action among sectors and with partners to strengthen impact**
  FAO can create a platform for participatory dialogue among the diverse range of stakeholders and decision makers, to develop new partnerships and business models involving the public and private sectors, civil society, research, extension and farmer organizations. FAO can play a strong catalytic and supporting role to empower smallholders and family farmers through innovation, facilitating its adoption, and coordinating broader, collective actions.

- **Scaling up innovation through strategic partnerships, policies, investments**
  Scaling up innovation in agriculture requires significant commitment from all stakeholders and decision makers. This includes farmer capacity building, improved policy, a redirection of finances and investment, more inclusive and diversified food systems, a change in consumer behaviour, strengthened producer organizations, and new partnerships between small-scale producers and entrepreneurs and the larger scale private sector actors.

- **Engaging youth**
  Agriculture is an essential driver of economic development and can create jobs for young people by harnessing opportunities in agribusiness entrepreneurship and innovations, including in ICT innovations, along the entire value chain. This can contribute to improving the agriculture sector’s image by increasing productivity and returns on investment and providing new and different employment opportunities.

- **Fostering private sector commitment and South–South cooperation**
  Cooperation among countries and with the private sector have proven effective and offer a myriad of development solutions – knowledge, experiences, good practices, innovative policies, technologies and resources – that have proven cost-effective and have huge potential to be scaled up for the benefit of others. It provides complementary advantages and expertise to build more solutions and develop new tools and innovate. FAO recognizes that the private sector is a key stakeholder in the fight against food insecurity, malnutrition and rural poverty, and acknowledges the potential for better coordination and collaboration between the public and private sectors.
GREAT ACHIEVEMENTS IN THE HISTORY OF FAO
EST
VESTMENTS
HISTORY
In 2011, the world was declared free of rinderpest, a devastating disease known for centuries that limited cattle production, methods of transport, the tilling of fields and subsequent harvests, and in the process causing famines. The disease was eradicated thanks to a programme coordinated by FAO and key partners. Only once before had humans been able to eliminate a disease from the face of the earth, and that was when smallpox was eradicated in 1980. In northern Pakistan, tens of thousands of head of cattle died in 1994. Nobody knew why. There had been no trace of rinderpest in decades when suddenly the epidemic spread after some buffalo were brought to the area in order to meet the increasing demand for meat. The local population expressed their anger, due in a large part to feeling abandoned by the veterinary services which had forgotten about the disease. When Paul Rossiter and other FAO technicians arrived on the spot, they were jeered at and even pelted with stones, in spite of the fact that they were carrying vaccines to fight the disease.

“That’s the effect rinderpest has on people”, says Rossiter. As a result of the disease, people’s livelihoods were being threatened and the only option left to people was to migrate to the cities to find work in order to continue to support their families. In stark contrast, in Karachi where a vaccination campaign had been a success, farmers were highly appreciative and took Rossiter and his colleagues to dinner.

THE HISTORY OF A PLAGUE

Although not affecting human beings directly, rinderpest was characterized by high mortality rates. It killed millions of cows, buffalo...
and their wild relatives, leading to significant economic losses and famine in various parts of the world.

Introduced into Europe from Asia by invading armies, rinderpest made its appearance during the Roman Empire in the fourth century AD and repeatedly over the following centuries, creating political instability and crippling agricultural production. In the late nineteenth century it reached sub-Saharan Africa and its effects were devastating; it decimated cattle and many of the region’s wild animals. Famine spread. The disease left its mark on much of the world. The outbreaks extended from Mauritania to the Philippines, and from Sweden to southern Africa. Outbreaks were recorded in countries as far apart as Brazil and Australia in the 1920s. Faced with this situation, the international community took action, and in 1924 the World Organisation for Animal Health (OIE) was created. After the Second World War, the United Nations took the lead in coordinating major campaigns against the disease as countries could not stop its spread on their own. At this time, FAO made its first efforts to meet with animal health authorities all over the world to coordinate these programmes. This longstanding coordination was to prove essential to the final result.

FAO Animal Health Services Chief, Juan Lubroth, recognizes the important voice from the communities that were affected by rinderpest year after year, decade after decade.Livestock was important to the well-being of a community, part of the fibre of society in terms of culture, religion and customs, and certainly important in nutrition and crop agriculture. Once a vaccine was developed against rinderpest, stories go that vaccination campaigns carried out by the health authorities for children in the rural areas would only be successful if their animals were vaccinated against rinderpest. Having a
THE FINAL TRACE IN THE SOMALI ECOSYSTEM

If there was one place that scientists hypothesized could be the final source of rinderpest, it was the Somali pastoral ecosystem that spans Djibouti, Kenya, Somalia and Ethiopia. In September 2001, the presence of the virus was confirmed there for the last time on Earth, in buffalo in Meru National Park, Kenya.

“The challenge was also the existence of the virus in wild animals”, recalls Bouna Diop, regional manager of the FAO Emergency Centre for Transboundary Animal Diseases Operations for Eastern and the Horn of Africa. In these countries, where animals travel across borders unchecked, the virus moved through areas where veterinary systems were less concentrated. Following the last outbreak and in the final stages of eradication, it then had to be proven that the disease was no longer present. Diop explains that “it couldn’t be done from the office”. Veterinarians and other technical staff had to go out into the field to take blood samples from targeted animals and perform appropriate laboratory tests. It was a project at regional level that, he explains, required close coordination and communication between FAO and its other partners.

AN UNEXPECTED REAPPEARANCE

Scientific research, together with international interest in eradicating rinderpest, contributed to the vaccine reaching a large number of communities. In the 1960s, Walter Plowright, with colleagues in Kenya, developed a vaccine that was stable, inexpensive and easy to propagate. It was verified through a quality control system as part of his work at the Muguga laboratory, outside Nairobi. According to FAO expert, Juan Lubroth, the British – who controlled colonial Kenya at the time – had a strong interest in fighting the disease because it had afflicted that country and other dominions such as India and Egypt.

On the African continent, an ambitious vaccination campaign in the 1960s did not prevent a large number of countries from suffering the effects of the disease years later. Many governments had lowered their guard and called off the programmes. As rinderpest had not been fully eradicated, it returned with a vengeance: millions of animals died in the early 1980s in epidemics in Africa, the Near East and Asia. In Nigeria alone, losses were calculated at around USD 2 billion.

To recover lost ground, it was essential to rebuild strong national and international political and financial commitment, to understand the local epidemiology of the disease, to have better tools for diagnosis and vaccination, and to assess the risks to wild animals, transport and markets. Ultimately, a heat-stable vaccine was developed in the United States of America that was more resistant to the ambient temperatures of the tropics and the desert, and thus more effective in Africa, the Near East and Central Asia.

The network of laboratories and epidemiology units, as well as FAO Reference Centres and individual experts, joined the campaigns in the field in search of the virus. Immediate response plans for emergencies and national monitoring programmes were key.

Paul Rossiter remembers it as an adventure. On more than one occasion he had to travel to remote places and camp overnight on the roadside after rivers had flooded and his vehicle had become stuck in the mud. “Although we always hoped that we wouldn’t find animals with rinderpest, searching for them using the prescribed surveillance techniques required time in the field and was sometimes challenging. And when we found them we had to act quickly”, he says. He never knew what he and colleagues would find; for example in a remote village in Yemen he was asked to help people who were seriously ill with Rift Valley fever, even though he was actually there to look for rinderpest.

THE HUNT FOR THE VIRUS

In 1994, FAO launched the Global Rinderpest Eradication Programme (GREP) with the aim of wiping out the disease by 2010. With the support of the International Atomic Energy Agency (IAEA) and the OIE, GREP was envisaged as a mechanism for international coordination in order to promote and verify the elimination of the disease with technical support, and in a systematic and complete manner. The network of laboratories and epidemiology units, as well as FAO Reference Centres and individual experts, joined the campaigns in the field in search of the virus. Immediate response plans for emergencies and national monitoring programmes were key.

Convincing people that the priority was to eradicate rinderpest when its effects were no longer so visible, and to maintain these efforts, were difficult tasks at the time, particularly after 2001, when the final case was recorded in Kenya. Considerable efforts were thus made over the following decade, since it had to be shown that the disease had disappeared among animals, both domestic and wild. “It was very expensive”, says Lubroth, who
remembers how the energy, political commitment and funds had to be found, and countries had to be persuaded to keep up their efforts, which were on the cusp of achieving a historical landmark: the eradication of rinderpest.

Finally, on 28 June 2011, during the Thirty-seventh FAO Conference, the long-awaited announcement was made: the world was free of rinderpest. Only once before, in 1980, had human beings been able to eradicate a disease: smallpox. Rinderpest became the first animal disease to be eradicated, paving the way for others to be tackled. Lubroth believes that one of the causes of famine in the world was wiped from the face of the earth, and the lesson learned was that no country can fight such transboundary threats alone. “A sense of unity and trust with our neighbours is very important with these high-impact diseases”, he notes. During that entire period, countries worked alongside their neighbours, in the networks of laboratories and epidemiology units, and the vets and technicians were able to share information and meet regularly to help each other.

Now that the disease has been eradicated, the task of ensuring that it never returns involves reducing the number of laboratories that have the virus in storage, destroying it or keeping it under a high-security laboratory facility approved by the OIE and FAO, to eliminate any danger that it might escape. In 2019 there were nine laboratories in 20 countries that stored the virus, but this figure is likely to decrease further in the coming years.

**ONE HEALTH FOR ALL**

**MORE THAN 60 PERCENT OF THE EXISTING OR EMERGING PATHOGENS AFFECTING HUMANS ORIGINATE IN ANIMALS, and of those, 75 percent come from wildlife species.** The risk of contracting a disease has also multiplied due to factors such as urbanization, the growth in trade, the higher demand for meat and animal products, and the need to produce more food for a rising population.

The idea of “One Health” is about more than just the health of people. It is a global and local vision (“glocal”) that seeks to tackle the complex challenges that threaten human and animal health, food security and the environment through interdisciplinary approaches, with appreciation of the interconnectivity between risks and possible interventions. FAO is very much a One Health organization, which can be reflected in meeting the targets of the Sustainable Development Goals (SDGs) agreed by the international community for 2030.

In response to these complex situations, the fight against bird flu H5N1 is an example of how to combat an animal disease with the involvement of a large number of different disciplines. Biologists, veterinarians, doctors, economists, communication specialists and many other experts are needed in this struggle, with the support of greater international cooperation.

With this in mind, FAO has joined forces with the OIE and WHO on another front, seeking to halt the spread of antimicrobial drug-resistant infections. Together they have prepared a Global Action Plan on antimicrobial resistance (AMR). Bacteria, viruses, parasites and fungi develop resistance to medications that were previously effective, which is making it increasingly difficult to treat certain infections. Overuse, misuse, abuse or counterfeit products are principally responsible, so good governance across sectors and the professions is needed. Many countries are adopting comprehensive and coordinated strategies to address the causes of AMR in multiple sectors, particularly in human and animal health, as well as agriculture.
CHAPTER 3.2

THE TREATY ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE
Whose seed is it? Does it belong to the country where it was collected, the one that keeps it, or is it considered as world heritage? The International Treaty on Plant Genetic Resources regulates the preservation, the sustainable use, access and distribution of the benefits obtained from all components of plant biodiversity in food and agriculture.

Genetic diversity can be a lifesaver when it comes to reducing hunger. This was the case during the European famine in the first half of the nineteenth century, when almost two million people died in Ireland due to the destruction of potato plantations by a fungus. The genes that resisted the disease were found in Latin America, where the potato originated.

This natural fortress has been built over the course of 10 000 years of agriculture. However, many plant species have been lost along the way. According to former FAO expert, José Esquinas-Alcázar, who first pushed for the International Treaty on Plant Genetic Resources for Food and Agriculture, “thousands of varieties of heterogeneous crops have been replaced by a handful of uniform and homogeneous commercial varieties”. This is a real problem when farmers and scientists need to adapt crops to the effects of changes in climate or diseases, and they have nothing to select from.

In an attempt to tackle this problem, by the early 1970s important technical expertise had been acquired. All that remained to do, and what seemed the simplest thing but proved to be the most complex, was to apply this technical knowledge. In 1974, the International Board for Plant Genetic Resources (now Bioversity International) was established, a programme with additional funds from FAO Members that was responsible for the task of collecting varieties and boosting gene banks. These banks are places where the genetic diversity of one or more crops and their related wild species are preserved and where the seeds are kept at low temperatures.

SEEDS: WORLD HERITAGE OR A COMMODITY?
The way the seeds and all kinds of germplasm were collected began to create tensions, according to Esquinas, since they were being kept in places that not every country in the world could access. Esquinas recalls the intervention at the 1979 FAO Conference by Spain, which held the Chair that year and, for the first time, had demanded an international agreement and the establishment of a gene bank. The proposal, applauded by many countries including India, did not result in a draft resolution, impeded as it was by different political pressures.

The developing countries pointed accusatory fingers at the more developed nations. They considered it unfair that the multinationals should exploit the diversity of genetic resources, which were largely found in tropical and subtropical regions, while denying the benefits to those same developing countries.

During the 1981 FAO Conference, the developing countries expressed their unease with questions, such as: who does the material deposited in the banks legally belong to, the country where it was collected, the one that stores it, or is it simply world heritage?

The developing countries were dissatisfied with the ownership of the material falling to the countries that stored it, regardless of its origin. The reality was that this material, collected using international funds, was used and studied in the countries with greater technical and economic capabilities. The result was that other countries then had to pay intellectual property rights for the new varieties recorded.

Despite some opposition, in 1983 the International Undertaking on Plant Genetic Resources for Food and Agriculture was approved, a non-binding document about which eight countries initially expressed reservations. That year, the FAO conference saw heated debates taking place. The negotiators engaged in a dispute over the creation of a committee that would oversee the undertaking, which was approved in a surprise historic vote.

ENDLESS NEGOTIATIONS
The following years were marked by continued negotiations. The goal was for the eight countries with reservations to change their position. During that period many formal as well as informal meetings took place to give the representatives an opportunity to set aside their differences. The acceptance of plant breeders’ rights (a soft version of intellectual property for producers of commercial varieties) was compensated by the recognition of farmers’ rights (for being the custodians of biodiversity placed at the disposal of the breeders).

In addition to making the new interpretation of world heritage compatible with the sovereignty of states, the Global System for Plant Genetic Resources was created. A multilateral system was also established which, according to the text, had to be “efficient, effective, and transparent, both to facilitate access to plant genetic resources for food and agriculture, and to share, in a fair and equitable way, the benefits arising from the use of these resources, on a complementary and mutually reinforcing basis”. The process of developing a fair and equitable system
culminated in agreement on the Treaty some two decades later. Meanwhile, the issue of biodiversity was addressed in two fora outside FAO: the International Union for Conservation of Nature (IUCN) and the United Nations Environment Programme (UNEP). The same controversies reemerged, and not solely in relation to cultivated plants but also in relation to wild species.

Countries began to have concerns about the potential effects of including all biodiversity in a new agreement. “The same treatment was given to elephants and wheat. If it was adopted in this form, each country would have to negotiate bilateral agreements with any country from which varieties are obtained, which would have been a disaster for the farming industry,” Esquinas states. Thus, the formula chosen in the end was the Rio Convention on Biological Diversity adopted in 1992, along with three resolutions, the third of which recommended that FAO renegotiate the International Undertaking on Plant Genetic Resources for Food and Agriculture and turn it into a multilateral binding instrument harmonized with the Convention. After a long tug of war, the Treaty came into existence in 2001.

**A TREATY RATIFIED BY 145 COUNTRIES**

The Treaty, considered the first operational global mechanism to protect and share these seeds and other genetic material equitably, “has made possible a universal recognition of the huge value of agricultural biodiversity”, says Kent Nnadozie, Secretary of the Treaty. Ratified by 145 countries, the Treaty promotes the conservation, exploration, collection, characterization, evaluation and documentation of these resources within their habitat and elsewhere, as well as their sustainable use and the fair distribution of their benefits. The signatory States undertook to adopt the Treaty and cooperate at the international level. The multilateral system of access and benefit-sharing is applied to a list of 64 crops and species determined according to their importance for food security and the interdependence of countries. Countries no longer have to negotiate thousands of bilateral agreements in these cases. By simplifying procedures, seed sharing has also increased. Between 2007 and 2017, the Treaty had provided 68,000 transfers worldwide with over 4.6 million samples. Another advantage mentioned by Esquinas is the funding of projects in developing countries aiming to implement the Treaty.

From 2010 to 2017, the Treaty allocated over USD 26 million to help more than one million farmers in 65 developing countries, explains Nnadozie. Esquinas admits that there is still progress to be made to reach similar agreements that regulate other agricultural genetic resources such as farm animals. Although there is still a conflict of interest between those who prioritize intellectual property and those who defend the rights of farmers, Esquinas believes that the two standpoints are reconcilable. The Treaty currently in force reflects this.
THE BIGGEST SEED VAULT IN THE WORLD, IN THE ARCTIC OCEAN

A door in the middle of the snow. This is all you can see in this glacial landscape near the North Pole. On the Svalbard archipelago it seems unthinkable that under the ice lies hidden what could be considered the origin of all plants. But through the door, there is a huge bunker carved into the mountain. Welcome to the world's biggest seed bank. This space where the cold never leaves has existed since 2008. Established by the Norwegian Government, the site was selected for its geological and political stability, and for its good transport links. It has the capacity to house 4.5 million different crop varieties. In 2018, the seeds stored in the vault, coming from almost every country in the world, have surpassed the one million mark. From staple foods like maize and rice, to others like beans and lettuce, all of this genetic material is safe in this location regardless of how endangered it may be in its place of origin. “It's very important that we have a backup in a different location to safeguard the material for the future”, says former seed bank coordinator, Roland von Bothmer.

Before they arrive on Svalbard, the seeds must make a long journey. A country or seed bank must first sign an agreement with Norway to deposit its plant genetic resources. The Svalbard Global Seed Vault opens its doors to new seeds three times a year. The banks in other countries (there are a total of 1,750 in the world) indicate in advance what they are going to send. First the material arrives in Oslo and then it is transported to the islands. The boxes are scanned there to confirm their contents and once inside the chamber they are registered, labelled and stored. The accompanying information is added to a public-access database and from then – if the seeds from this backup depository for seed banks are ever needed – the seeds will only be sent back on the instructions of the depositing countries or seed banks.

For von Bothmer, one “heroic” contribution was that made by the employees of the Aleppo gene bank in the Syrian Arab Republic. Despite the war, they managed to extract around 90 percent of the material stored there and send it to Svalbard. “We’re ready to give it back as soon as they claim it”, he adds. In 2015 the gene bank had to retrieve its seeds from Svalbard, as no material was available in Syria, and it reestablished itself in neighbouring countries. In February 2017, the first newly recultivated seeds were returned back to the Svalbard Global Seed Vault, an exceptionally important event. With these seeds, food production in Syria may be reestablished much sooner, once military conflict ends, the Norwegian Minister for Agriculture and Food, Jon Georg Dale says.
After more than half a century in existence, the Codex Alimentarius has contributed to protecting consumer health and ensuring fair practices in the global food trade. This successful joint venture between FAO and the World Health Organization (WHO) has been working to remove barriers from world food trade while ensuring that food is safe.

Consumer protection has existed since ancient times. The Assyrians determined weights and measurements for cereals, the Egyptians used scrolls as labels for certain foods, the Greeks inspected beer and wine to ensure it was in good condition, and the Romans had a State system to prevent fraud and root out poor-quality products. Today we address other topics – ranging from food additives and pesticide residues, to preventing chemical and microbiological contamination and assessing the safety of modern, at times controversial, practices such as genetically modifying foods or using hormones in animal food production. However, the overall goals of protecting the health of consumers and ensuring fair practices in the food trade remain the same. This has been the primary mission of the Codex Alimentarius (the ‘Food code’) since 1963. The Codex Alimentarius Commission, jointly created by FAO and WHO, is the most important international body in the field of food standards. The Secretary of the Commission, Tom Heilandt, points out that “the idea of harmonizing standards is very old, but doing it globally began with the Codex Alimentarius”.

Following World War II, the international community became increasingly interested in the international food trade, but conflicting or missing standards were obstacles to trade. Food safety was difficult to ensure without international reference standards. These issues made it clear there was a need to develop internationally harmonized standards to address both food safety and fair-trade practices – needs met by the establishment of the Codex Alimentarius.
Science has played a fundamental role in this process, with new technology and discoveries. All Codex food safety work is based on the scientific advice provided by independent expert bodies under the auspices of FAO and WHO. In fact, the need to control additives, the use of which was growing in the 1950s’ food industry, provided the impetus for the Conference that led to the formation of the Joint FAO/WHO Expert Committee on Food Additives (JECFA), which has served as a model for other such expert bodies.

Today consumers can and should expect to be fully informed about the safety of their food supply. In many countries, consumers are well organized and put pressure on their governments. International non-governmental organizations also participate in the work of Codex.

A GLOBAL PUBLIC GOOD

The Codex Alimentarius is currently made up of over 350 texts, including general standards that apply to all foods and more specific standards that apply to individual foods, as well as thousands of numerical limits for additives, contaminants, pesticide and veterinary drugs residues.

Codex standards, guidelines and codes of practice regulate everything that can have an impact on the safety or quality of our food, whether it is a simple fruit or a complex processed food. Codex standards are global public goods and as such freely available for all on the Codex website together with information about how they are developed.

A Codex standard can be just one number or a complex book with hundreds of pages that takes years and the involvement of hundreds of experts to develop: e.g. in 2016 Codex completed ten years of work on the code of practice for fish and fishery products. The aim of the Code is to provide a user-friendly document as background information and guidance to ensure good management practices and good hygiene practices in the fish industry. The Code will assist all those who are engaged in the handling and production of fish products (including authorities, industry and stakeholders) in attaining safe and wholesome products that can be sold on all markets and meet the requirements of the Codex standards for specific fish products.

Codex standards, guidelines and codes of practice become recommendations when the Commission adopts them. Only when integrated into the legal system of a country do they become mandatory. “Some countries have limited food laws or resources to develop such laws; they adopt what we issue directly as law”, says Heilandt. Other regions and countries may incorporate Codex standards into legislation or align with
While risk assessment is purely scientific, when it comes to risk management, many other factors are taken into consideration, such as the availability and the cost of food. However, the Commission’s goal remains to strike a balance between protecting human health and facilitating trade. Risk communication to consumers should be taken very seriously, urges Heilandt, especially in cases where food safety hazards may have resulted in illness or death. The information provided should be open and correct; it should include what is known about the risk and what is not known, as well as what is being done to resolve it. Authorities may be tempted to conceal information or disclose it incorrectly in order to prevent panic among the population, but such an approach may backfire in today’s information society: “Sometimes it’s better to admit that you don’t know something, rather than to say something inaccurate and then have to correct it, and then try to regain the trust of consumers, which is difficult”, observes the Codex Secretary.

A RESPONSIBILITY SHARED BY ALL

The globalization of trade has put a wide variety of foods from all over the world on our plates. But whether imported or locally produced, foods must be in an appropriate condition for human consumption. According to Heilandt, the Codex Alimentarius has become a global reference for exchange between countries and has also in many cases led to improvements in domestic production. The Secretary of the Codex Alimentarius Commission believes that Codex standards are “very comprehensive in addressing the main food safety issues”. He cites as a particular success, the HACCP system (Hazard Analysis and Critical Control Points system), which serves to ensure hygiene at all stages of a food production process. This approach was originally developed by NASA to keep astronauts’ foods safe but was quickly adopted by governments and globally distributed through Codex. The Secretary stresses that food safety is very much the responsibility of all parties, from producer to consumer. He warns that even if the food arrives safely in the consumer’s kitchen one mistake could “destroy all the efforts that went before”, so he calls for better food safety education in schools. “Many crises arise not because of something that happened along the production chain, but in the hands of the final consumers who sometimes lack knowledge about what to do”, he explains. When it comes down to it, viruses and bacteria are always laying in wait, and they can cause anything from an uncomfortable bout of diarrhoea to death.
A CODEX UNDER CONSTANT REVIEW

Codex is trying to be proactive but often it is food safety incidents that lead to an extensive study of a whole area. In the 1990s, for instance, consumer concern due to bovine spongiform encephalopathy (BSE), also known as “mad cow disease”, led Codex to study the issue of the safety of feed for animals intended for food production.

Emerging challenges, in Heiland’s view, include the resistance of certain microbes to antibiotics in use in humans and animals alike. Bacteria are becoming increasingly resistant and certain infections no longer have an appropriate treatment. In recognition of this, the Codex Alimentarius Commission in 2016, agreed to establish an Ad Hoc Intergovernmental Task Force on Antimicrobial Resistance to revise existing texts and develop new Codex guidance in this area. Biotechnology continues to evolve, and so will discussions on the issue in Codex when necessary. Nanotechnology is already applied to foods and may give rise to challenges to be addressed by Codex.

Many of the issues that Codex deals with have been around for ages e.g. food fraud, however, long supply chains and global trade give more opportunity for fraudsters to interfere and if they do, a local problem quickly becomes a global crisis. Standards help to distinguish unavoidable low-level contamination from intentional adulteration. New additives, pesticides and veterinary drugs are appearing on the market continuously and previously unknown contaminants are being discovered. As methods of analysis improve, substances can be detected at ever lower levels. All of this requires ongoing work in reviewing Codex standards with a view to ensuring the best possible protection for consumers without unnecessarily restricting trade.

In the pesticide area Codex moves to establish group pesticide Maximum Residue Limits (MRLs), using research data from one crop for similar crops, so that one MRL can cover many commodities. Increasing the availability of these limits will have a positive impact on international trade especially for minor crops – those perhaps high in value but not widely grown.

Codex constantly scans the horizon for the impact of climate change on food safety and trade and recently requested scientific advice from FAO and WHO for risk management options to control ciguatoxin contamination. These toxins are causes of one of the most common types of marine food-borne poisoning worldwide. Climate change, the frequency of storms and hurricanes, and sea surface temperature increases, all impact on the distribution and proliferation of ciguatera-toxins making the occurrence of ciguatera fish poisoning less predictable. This work is particularly relevant for producers in the tropical and subtropical Pacific and Indian Ocean regions and the tropical Caribbean and for those importing fishery products from the affected areas.

Another area of activity is nutrition. Obesity and non-communicable diseases related to food are a global problem. Governments are taking measures to assist consumers in eating a healthy diet. To succeed, consumers...
must be informed about what their foods contain. Codex has developed extensive guidance for food labelling – and nutrition labels in particular.

Nutrient Reference Values – Requirements (NRVs-R) are used in the nutrition labelling of foods. They refer to the daily reference intakes for vitamins and minerals for an adult population. According to the Codex Guidelines on Nutrition Labelling the amounts of the vitamins and minerals present in the food should be declared on the label of prepackaged food. Completing this work in Codex provides important information to help consumers to choose those foods that suit their individual dietary needs and contribute to an overall healthful dietary intake.

One third of all food is lost or wasted each year. Date marking can contribute to food waste if the consumer misunderstands all date marking as a safety mark and throws away perfectly safe food products. In 2018 Codex revised its General Standard for the Labelling of Prepackaged Foods, to include clear guidance on the use of date marking in order make date markings on labels easier for consumers to understand so that food waste related to date markings can be reduced.

Harmonizing product characteristics through Codex quality standards can have a positive effect on international trade and avoid that consignments get rejected by the receiver and the food is wasted.

### ESWATINI

Women labelling boxes and jars for export. Eswatini Kitchen has grown from a small cottage industry to a thriving business, enhancing the lives of underprivileged communities by providing a fair and sustainable income for over 300 people in Eswatini. The initiative creates employment for disadvantaged women, and provides a market for small local farmers and rural families who harvest wild fruit.

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### A FORUM FOR OPEN DISCUSSION

Over 156 NGOs, 56 IGOs and 16 UN observers, for a total of 228 observers, are accredited to the Codex Alimentarius to give input in their areas of expertise. Codex also works with private sector organizations focused on improving food safety, such as the Global Food Safety Initiative. There are many examples of how this happens every day around the world. When the fishers of Lake Victoria in Uganda had to stop fishing the lake, the application of Codex standards helped them improve hygiene, allowed them to continue their trading safely and opened up new export markets. In India, small organic family farm businesses are adapting their procedures to align with Codex standards which in turn boosts their profits. They are all achieving safer production, while improving their market competitiveness. These are essential steps towards a better balance in the global food supply. Countries are not left to fend for themselves with the sometimes-complex standards: FAO and WHO have extensive capacity-building programmes assisting countries to improve their food safety systems.
FAO CHALLENGES AND OPPORTUNITIES IN A GLOBAL WORLD

GREATEST ACHIEVEMENTS IN THE HISTORY OF FAO
The political mobilization of Latin American countries to end undernutrition, recognizing the human right to be free from hunger has translated into model initiatives like the Zero Hunger project in Brazil, or the recently launched Plan for Food Security, Nutrition and Hunger Eradication of CELAC (the Community of Latin American and Caribbean States).

As the Brazilian intellectual Josué de Castro said, “war and hunger do not obey any natural law, they are human creations”. In recent times Latin America has set to work, showing a political will to fight against the “human creation” that is hunger. According to FAO, Latin America was the first developing region in the world to halve the number of people who were suffering from hunger in 1990, a target of the first of the UN Millennium Development Goals for 2015. According to data from the Regional Overview of Food Security and Nutrition in Latin America and the Caribbean 2018, the period 2015–2017 shows that the prevalence of undernourishment in the region has dropped to 6.1 percent, down from 11.4 percent in the period 2000–2002. It is also estimated that stunting in children under five years old has dropped from 19.7 percent in 1995 to 9.6 percent in 2017, which represents a total of 5.1 million children. The reduction in hunger mirrors the consolidation of the region’s social agenda with poverty and extreme poverty rates also showing significant reductions in the last decades. The prevalence of people affected by poverty has declined steadily, from 48.4 percent in 1990 to 28.1 percent in 2013. However, since 2014 the region has experienced an economic crisis that has resulted in an increase of undernourishment and poverty, the latter affecting 30.7 percent of the population in 2017.

**GOAL: TO ERADICATE HUNGER**

The countries of the region have set themselves the goal of eradicating hunger and reducing poverty. This more ambitious goal was agreed by all the countries of the region through the Hunger Free Latin America and the Caribbean Initiative in 2005 and during the third Summit of the Community of Latin American and Caribbean States (CELAC). Held in January 2015 in Costa Rica, all heads of state in the region reinforced this political commitment by giving their support to the organization’s 2025 intergovernmental Plan for Food Security, Nutrition and Hunger Eradication.

At the CELAC summit, FAO Director-General José Graziano da Silva stressed the need for political commitment, solidarity and tools that will enable specific actions and real results. Within this framework for action, he added that South–South Cooperation is the main instrument that should be used, ensuring “regional perspective and responsibility in efforts to overcome hunger”. The CELAC Plan was developed by FAO with the backing of the Latin American Integration Association (ALADI) and the United Nations Economic Commission for
Latin America and the Caribbean (ECLAC). It seeks to improve the quality of life throughout the region by eradicating poverty, especially extreme poverty, and guaranteeing food and nutrition security, with gender mainstreaming and a particular focus on the most vulnerable sectors of society.

The CELAC Plan for Food Security is based on four pillars aimed at ensuring food access, availability, use and stability. First of all, countries pledge to coordinate food security strategies through national and regional public policies. Against this background, they will strengthen their legal and institutional frameworks to facilitate trade and supply programmes, as well as avoid food loss and waste. Another pillar is to ensure timely and sustainable access to safe, adequate, sufficient and nutritious food for everyone. To do so, the plan supports family farming and income redistribution programmes on condition that children are, for example, kept in school. The third pillar promotes nutritional well-being for all vulnerable groups, with an emphasis on school feeding programmes, their connection to family farm producers through public procurement, and the promotion of healthy eating habits. Finally, the Plan aims to ensure stable production and a rapid response to social and natural disasters, the management of food stocks and of public supplies for emergencies. A political approach to the fight against hunger was used to establish the lines of action. This has been endorsed in several multilateral fora and has led to the promotion of a common agenda on food and nutrition security. The basis of this approach is that hunger can be eradicated by mobilizing the different national actors around a common objective and strengthening and coordinating policies that countries are already implementing, while recognising the special characteristics of each. It coincides with the ‘twin-track’ approach promoted by FAO, which consists firstly of implementing policies to address complex social situations immediately, and secondly long-term strategies that deal with the structural causes of hunger and extreme poverty.

**COSTA RICA**

José Graziano Da Silva, FAO Director-General, presenting the Plan for Food Security, Nutrition and Hunger Eradication 2025 during the CELAC summit. ©FAO
African Countries Commit to Ending Hunger

In July 2013, African Heads of State and Government gathered in Addis Ababa (Ethiopia) and signed a declaration to end hunger on the continent by 2025. Representatives from international organizations and civil society, the private sector, farmers, cooperatives, young people, academics and other partners also attended the event.

The declaration called for a set of policies to promote sustainable agricultural development, social protection and funding for the poor, and it underlined the importance of non-state stakeholders in the mission to ensure food security. It also reaffirmed the African countries’ resolve to push ahead with the implementation of the 2003 Maputo Declaration on Agriculture and Food Security in Africa, under the comprehensive Africa Agriculture Development programme.

At the gathering in Ethiopia, African leaders also strengthened their commitment to eradicating hunger in each of their countries through measures such as public investment in agriculture. The participants recognized Africa’s potential for agricultural development, the growth of its young population and the large supply of land, water and other natural resources. They pledged to follow a roadmap using primarily their own resources and technical support, while calling for stronger alliances between partners for development.

The CELAC Plan for Food Security is Based on Four Pillars Aiming at Guaranteeing Food Access, Availability, Use and Stability.

Working together in this way, CELAC and FAO have coordinated their agendas to move forward in the eradication of hunger. The UN Organization does not just participate in the formulation, implementation and monitoring of the country-led Plan. It also supports three priorities determined by the region’s countries: the Hunger-Free Latin America and the Caribbean initiative, the family farming and inclusive food systems for sustainable rural development initiative and the sustainable use of natural resources, adaptation to climate change and disaster risk management initiative. These three initiatives help countries advance towards the 17 Sustainable Development Goals set by the 2030 Agenda for Sustainable Development by addressing both the underlying causes of hunger, poverty and malnutrition and the large-scale challenges for the region’s food security, such as climate change and natural disasters.

Evolution of Undernutrition

Prevalence (%), 2000–2017 Annual Values

FAO estimates that 5 percent of the population in Latin America and the Caribbean was undernourished in 2017, which represents a reversal of the levels recorded in 2011. Undernourishment in Mesoamerica and the Caribbean continues its downward trend, with a respective 6.2 percent and 16.5 percent of its population suffering from undernutrition.

In recent decades, a number of principles, standards and instruments have been adopted at international level seeking to improve the conservation, management and development of fishing and aquaculture. The health of the oceans is at stake, and with it the livelihoods of hundreds of millions of people all over the world.

Sustainable development is an often-repeated term, but as the world’s population grows and the demand for food increases, safeguarding our natural resources becomes more critical than ever before. How can we supply adequate production today without compromising food supplies for the generations of tomorrow? Where will we find the means to feed the more than nine billion people projected to inhabit the planet by 2050?

Many fishers, and the fisheries and aquaculture industry itself, have been considering these questions. In particular, more than three billion people currently depend on fish as a vital source of animal protein, while 300 million make a living from marine fisheries, most of them with small-scale fishing. The high production levels in the fisheries sector and increasing concerns in the early 1990s about the risks of overfishing, shifted the debate from greater production to the sustainability of production in fisheries and aquaculture. In 1991, the FAO Committee on Fisheries (COFI) first called on the Organization to develop new concepts for responsible, sustained fisheries.

The International Conference on Responsible Fishing held in Cancún (Mexico) in 1992 followed-up on this process. The process was given
further stimulus by the Earth Summit later that year in Rio de Janeiro (Brazil). The UN conference positioned sustainable development high on the international agenda, paving the way for negotiations and adoption of the Code of Conduct for Responsible Fisheries. This instrument emerged in 1995 in response to the need to better integrate conservation and environmental considerations into fisheries management and to ensure food security for future generations. It was approved by 170 countries at the FAO Conference.

**MAXIMUM SUSTAINABLE YIELD**

The Code of Conduct, which is voluntary, provides the regulatory framework needed for the conservation, organization, and development of fisheries. The aim is to ensure the sustainable exploitation of living aquatic resources in harmony with the environment. The Code establishes that Member States and relevant organizations should adopt measures based on sound scientific criteria to maintain or restore fish populations to levels that produce year after year without endangering future regeneration capacity, taking into account environmental and economic factors, and the special needs of developing countries. The Code sets out good practices in a wide range of areas, including implementation and monitoring, requirements of developing countries, fisheries management, fishing operations, aquaculture development, coastal areas management, postharvest processes, trade, and fisheries research. The Code is robust and flexible enough to incorporate various issues that have gained importance in recent years, such as ‘decent work’ in the sector, food waste and loss, traceability, the strengthening of value chains and the implementation of ecosystem-based fisheries management.

Although there is still much work to be done to fully achieve the Code’s objectives worldwide, the process is well underway, and today there are greater levels of awareness, knowledge sharing, and international cooperation aimed at finding the right solutions.

**THE FIGHT AGAINST ILLEGAL FISHING**

In recent decades, a large number of specific instruments and guidelines have been created under the Code. A milestone was reached with the Port State Measures Agreement (PSMA), which entered into force in 2016 and encompasses some 55 countries, including the European Union and many small island developing states. This international treaty, supported by FAO, grants new powers to port authorities to verify that any foreign vessel complies with all the relevant fishing standards, from having appropriate permissions to adhering to quotas and not catching endangered species. If a boat is suspected of being involved in illegal fishing, the parties to the agreement are obliged to refuse it entry or use of their ports, preventing their catches from entering the markets. Developing countries will receive technical assistance in order to implement the agreement. The aim is to end the scourge of illegal, unreported and unregulated (IUU) fishing, which accounts for up to 26 million tons of fish each year, with a value of USD 23 billion. Strengthening port and onboard inspections, with greater cooperation between fishers and authorities, can also help in the fight against contraband, exploitation of labour and human trafficking.

Other standards have been agreed to complement these efforts, such as the Voluntary Guidelines for Flag State Performance, which seek to combat illegal fishing by improving flag states’ fulfilment of their international responsibilities in relation to registering and controlling fishing vessels. In 2017, FAO also established a Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels, a platform that provides essential and transparent information to those responsible for fisheries management, including registration information, names and previous owners of vessels, authorizations to fish, and so forth.
MORE PROGRESS TOWARDS SUSTAINABLE DEVELOPMENT

New demands have led to guidelines for eco-labelling and certification of harvested species. Said items and processes were requested by the seafood industry, which is currently adopting strategies to improve consumer information to better meet customer demands for ‘sea-to-plate’ traceability of seafood products. FAO is leading the work on Catch Documentation Schemes, which makes it possible to keep track of fish from production and throughout the value chain. They certify the point of capture and ensure that fish has been farmed in accordance with the established conservation and management standards – another way to combat IUU fishing and prevent its products from entering the market.

In 2011, FAO Members also adopted the first guidelines for certifying aquaculture products. More than half of the fish consumed by humans now comes from aquaculture, and expansion of the sector also contributes to preserving species, creating jobs and increasing supply. While fish caught in the wild generally account for a higher volume of fish production than those produced by farming, a significant proportion of this (almost 20 percent) is used as fish feed or to obtain oils from fish, and is not destined for human consumption.

In the debate on how to harmonize conservation and commercial interests, the need to secure the livelihoods of the people who depend on fishing is also important. In order to improve the conditions of small fishing communities and manage resources responsibly, in 2014 the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries were adopted. The Blue Growth Initiative, backed by FAO, also focuses on the sustainable development of coastal fishing communities in general.

In the current situation and in parallel with the legal architecture created globally, how, for example, can fishers catch fewer fish and at the same time create more value for themselves? There are significant business opportunities to improve the sustainability of the seafood value chain: increasing the quality of fish and increasing its value and reducing waste to maximize the benefits. Several industries have begun to adopt changes in technologies aimed at strengthening the value chain in both developed and developing countries. According to the experts, the outlook is shifting: and many countries’ producers and consumers agree that more sustainable fishing practices are needed to meet the future demand of a growing population.
These voluntary guidelines were negotiated with a large number of stakeholders, including civil society and the private sector. They provide a global benchmark, and are used by governments in the management of natural resources. Land ownership is an area that is blurred by vested interests. “People’s rights in relation to tenure are a highly emotive matter that is not easy to address”, says Paul Munro-Faure, former Deputy Director of the Climate, Energy and Tenure Division at FAO. In his view, the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT) adopted in 2012, provide a framework that has made “it easier to sit around a table and begin to negotiate”, something that would otherwise be inconceivable.

Although they are changes that take time, it was essential to try, particularly given the increasing focus in recent decades “on the pressure on land and other resources, and on the effects of climate change on the environment”, as Munro-Faure explains. Land grabbing (mass buying of land by governments and multinationals) is a reality in some regions, particularly in Africa, and many rural communities now feel more vulnerable.

In response to the need to address these issues in a coordinated way and to ensure that the population has equitable access to and control of resources, in 2009 FAO initiated a global consultation process.
Global consultations between representatives of civil society and the private sector as well as with UN agencies, governments and academics from over 130 countries provided opportunities to look at different perspectives and discuss regional priorities and concerns. Issues discussed included community ownership and tenure administration. Over a year later, a first draft was produced, setting out a broad outline of the consultation consensus from a multidisciplinary point of view. This first document was subject to wide consultation before the full negotiation process was commenced.

Government representatives endorsed the final version of the document between 2011 and 2012, and it was formally approved by the Committee on World Food Security on 11 May 2012. Throughout the process, Munro-Faure recalls that the most difficult issues were discussed in small groups, in conversations that sometimes went on into the night. Despite differences from a political, economic, cultural and religious perspective, he underlines the fact that “all parties believed in the need to have the voluntary guidelines”.

The document may not have covered every single demand but it served to reach an agreement. From those meetings, Munro-Faure notes “the great respect” that the various representatives had for each other and the interest shown by governments to listen to civil-society groups.

These efforts resulted in a document containing principles and practices to which governments may refer when they allocate rights relating to land, fisheries and forests. “The negotiations focused on and endorsed well-tried, accepted, best practices in governing and addressing tenure and its administration”, says Senior Land Tenure Officer David Palmer. He stresses the importance of governance in solving this kind of issue. “Without it there can be no effective technical solutions”, he said in reference to governance that pursues lasting economic, social and institutional development, and an appropriate balance between state, civil society and the free market. As a requisite of responsible governance, the Guidelines establish the recognition of legitimate rights of tenure and their holders, as well as the promotion and safeguarding of these rights from threats that might compromise them. They also seek to provide access to justice in cases where these rights have been violated, and to avoid disputes over tenure, violent conflict and opportunities for corruption.

The Guidelines are based on a series of principles: human dignity, non-discrimination, equity and justice, gender equality, the rule of law, transparency and accountability. They make it clear that the management of natural resources must be done in consultation with, and involving those who hold the legitimate rights of tenure. The text emphasizes that public and private investment should be conducted in a responsible way, protecting human rights, livelihoods, food security and the environment.
A QUESTION OF RIGHTS

The Guidelines address tenure administration, the transfer of rights and responsibilities and responses to climate change and emergency situations. Member States are also advised to establish frameworks and capacities for “transparent and efficient” market operations, and to consider restoring legitimate rights of tenure, or at least provide fair compensation, to people who have lost their land or have been forcibly evicted in the past. This aspect is especially relevant in the case of indigenous people and other communities who, due to their customs, hold legitimate tenure rights over natural resources. Recognizing and protecting their rights means consulting them “in good faith” on any projects that might affect them before activities begin.

Annalisa Mauro, Coordinator of the International Land Coalition, a global network of 160 organizations in over 70 countries, calls on communities to use these Guidelines, which she considers a “global reference source” in relation to women and indigenous people. “The territorial dimension is a way to resist as indigenous people. The concept of land is part of their existence”, she remarks. Mauro says that she is impressed by civic initiatives that have emerged in favour of land rights. In countries like Peru, Bolivia (Plurinational State of) and Venezuela (Bolivarian Republic of), land observatories have been set up, aimed at monitoring the territorial situation, land agreements and purchases, possible environmental conflicts and human rights’ violations.

To promote these rights, FAO has translated the Voluntary Guidelines into its six official languages and other local languages, prepared educational material and supported the workshops that are being held in various countries to support the implementation of the Guidelines. As for the extent to which the Guidelines have been adopted, there are notable differences between States, from those that have included them in their legislation to those that have used them as a basis to organize conferences, as Palmer explains. He agrees with Munro-Faure that it is one thing to address land tenure in an abstract way and at international level but it is a very different situation when considering specific cases. Both believe that the greatest challenge is at the state level, where legislation and a specific context already exist. At least the Guidelines start with one advantage: they have become a universal language in relation to rights to natural resources.

GUIDELINES FOR EVERYONE

SINCE THEIR ENDORSEMENT BY THE COMMITTEE ON WORLD FOOD SECURITY, FAO HAS BEEN FACILITATING THE IMPLEMENTATION OF THE VGGT. Most of the changes will be seen in the long term but some have already begun to occur. According to Javier Molina Cruz, FAO’s Land Tenure Unit Coordinator, readily available tools, such as revised procedures to improve tenure security, Technical Guides, learning programs and open-source software have been developed to support implementation of the VGGT guidelines. At the country level, FAO contributed to setting in motion processes to improve governance of tenure in over 50 countries.

A new model of land tenure governance has been introduced in over 20 countries through policy and legal reform processes and in 12 countries through enactment of new policies and laws (based on the VGGT). Sierra Leone, for instance, has a ministerial working group dedicated to these issues. And since 2014, Guatemala has had an agricultural policy that reflects the guidelines’ main concepts and seeks to facilitate access to land for the poor rural population. “This new model of governance” says Molina Cruz, “is based on a multi-stakeholder process which has allowed the participation of vulnerable and marginalized groups, previously excluded from the policy dialogue and policy making. It is more inclusive, participatory and transparent.”

Alliances fostered with partners such as academia, civil society organizations, indigenous people’s groups, international, regional and bilateral partners, parliamentarians and the private sector have also catalyzed impact to improve governance of tenure. Former FAO Senior Land Tenure Officer, David Palmer, explains that civil society organizations participating in the negotiation process are also using the guidelines in their own programmes, citing Oxfam and ActionAid as examples. In the private sector, meanwhile, large multinationals such as Coca-Cola, PepsiCo and Nestlé have expressed their interest in operating in accordance with these rules as part of their corporate responsibility strategies. “It’s hard because they have a very long value chain, with a large number of associated companies, but their goal is for their suppliers to work in line with the voluntary guidelines”, Palmer underlines. For all of these stakeholders, this means implementing a policy of zero tolerance towards land grabbing.

Other highlights from FAO’s work to support the implementation of the guidelines include: the participatory development of roadmaps for comprehensive tenure reform, new or strengthened VGGT platforms in countries, and improvements to the administration of land, fisheries and forests. Awareness raising, dialogue facilitation and capacity development of stakeholders have been fundamental to introduce the new model of land tenure governance and to ensure that it will fully develop over time in a sustainable manner, with context-specific solutions adapted to changing political environments.
CHAPTER 3.7

THE COMMITTEE ON WORLD FOOD SECURITY (CFS)
The Committee on World Food Security (CFS) is the UN system’s multi-stakeholder platform to address food security and nutrition policy issues. It represents a model of participation which can help countries to achieve greater progress in development.

It could be said that the Committee on World Food Security (CFS) was born twice – in 1974, as an intergovernmental initiative to review food security policies, and again in 2009, when far-reaching reforms gave it a new status as a multi-stakeholder and multisectoral platform. This is what makes it different from its previous incarnation: the Committee’s openness to the views of other stakeholders, beyond governments alone, including civil society and the private sector in the process of policymaking to ensure food security and nutrition. The rise in food prices in 2008 led to the recognition that changes needed to be made in how stakeholders were approaching food security and nutrition policymaking – including the reform of CFS – in an attempt to understand how to prevent similar food price crises occurring in future and to tackle both short- and long-term problems. It took a year for an agreement to be reached to reform CFS. The Committee currently comprises the UN Members, UN agencies with a specific mandate in the field of food security and nutrition,
GREATEST ACHIEVEMENTS IN THE HISTORY OF FAO

AN ENGAGED CIVIL SOCIETY AND PRIVATE SECTOR

With the Committee’s reform, civil society has a voice in a place where its voice is not usually heard: discussing the global food security and nutrition policies affecting small farmers, fisherfolk, indigenous peoples as well as many other groups. These groups can help implement the various policies of CFS. Under this model, countries remain the primary force, but the goal is also to create a more balanced sense of common responsibility and to include those most affected by food insecurity or malnutrition in defining solutions. The private sector has embraced the process and an increasing number of companies from across the food production chain are becoming ever more involved. Ultimately they all share an interest in food security and nutrition, which exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. CFS funding is provided by FAO, the International Fund for Agricultural Development (IFAD) and the World Food Programme (WFP), which each contribute a third of the regular budget and provide substantial technical input to the work. Donors make voluntary contributions to supplement the budget for particular themes and to support the HLPE and the CFS Civil Society Mechanism.

A MODEL TO REPRODUCE

CFS is the forum where issues such as the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security have been negotiated. Before their endorsement in 2012, the content of these Guidelines was negotiated among all of the different interest groups; they are now a global standard.

In October 2014, CFS approved the Principles for Responsible Investment in Agriculture and Food Systems, a framework that Members can adopt voluntarily to develop policies or corporate social responsibility programmes, for example. In October 2015, the Committee endorsed the Framework for Action for Food Security and Nutrition in Protracted Crises.
THE CFS MODEL IS A SOURCE OF INSPIRATION WHEN IT COMES TO ESTABLISHING A FRAMEWORK TO IMPLEMENT THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT.

Following the CFS endorsement of these key global policy products, FAO is playing an important role in working with countries and other stakeholders to implement them. This platform, which reports to the UN General Assembly through the Economic and Social Council each year, offers a unique opportunity to bring the body’s three food-related agencies closer together. And it is not just hunger and poverty that are addressed: debates also focus on other issues such as natural resources, social protection and gender equality. It is a way to create consensus between the various partners and achieve progress in a more sustainable way.

It is not always easy for partners who disagree on important issues, but the effort to enter into dialogue is progress in itself. The work was well received by the former UN Secretary-General, Ban Ki-moon, who is in favour of the CFS inclusive model and the cooperation between FAO, IFAD and WFP. CFS is a source of inspiration when it comes to establishing a model to implement the 2030 Agenda for Sustainable Development. While the UN agencies aim to help countries meet these objectives, CFS can be the platform where countries share the progress they have made, as well as experiences and lessons learned with other partners. In future, networks and advisory work can strengthen this model, which is driving the global development agenda.

THE HIGH LEVEL PANEL OF EXPERTS FOR FOOD SECURITY AND NUTRITION (HLPE) was created in October 2009 as the science–policy interface of CFS. The HLPE produces, at the request of the Committee, independent assessments which provide analysis, and recommendations on important policy issues. The HLPE aims to help CFS improve its understanding of the diversity of issues and the evidence behind them, including outlining the background and rationale of controversies, and identifying emerging issues. The reports are produced by combining expertise from a range of disciplines, backgrounds, and knowledge systems. HLPE Reports enable CFS to address difficult issues by establishing a starting point of shared knowledge in a single evidence-based document that brings all perspectives together. This model further reinforces the Committee’s commitment to inclusiveness by creating a level playing field of shared understanding among all participants in CFS discussions. Since 2011, the HLPE has produced 13 reports to inform the debates of CFS on issues ranging from price volatility, climate change, social protection, biofuels, food losses and waste, investments in smallholder agriculture, fish and aquaculture, to water. Most reports have been followed by the adoption of key policy recommendations by CFS.
FAO CHALLENGES AND OPPORTUNITIES IN A GLOBAL WORLD

GREATEST ACHIEVEMENTS IN THE HISTORY OF FAO
created in order to help prevent food price crises, the Agricultural Market Information System (AMIS) makes food commodity markets more transparent. The sudden rise in food prices between 2007 and 2008 had a devastating effect for the world’s poor. The price of basic food commodities such as rice and wheat skyrocketed, increasing the number of hungry people and leading to political unrest in several countries. Global food security was at stake. Markets shook again in 2010 after a drought in Russia saw the country ban cereal exports to ensure sufficient supplies for its population, demonstrating the vulnerability of international food markets to extreme price swings. In response to these shocks, the Group of 20 (G20) asked various international organizations to propose ways to reduce international food price volatility, one of them being the creation of the Agricultural Market Information System. AMIS was launched in September 2011 to enhance transparency in international food markets and facilitate policy coordination when food security is at risk. Bringing together the principal trading countries of agricultural commodities, AMIS assesses global food supplies and provides a platform to discuss the necessary measures to reduce market uncertainty. The AMIS Project Manager, Denis Drechsler, recalls the strong commitment among the G20 to effectively address extreme food price volatility. “The food price crisis created a lot of momentum to look for appropriate solutions, not only
GREATEST ACHIEVEMENTS IN THE HISTORY OF FAO

WHAT IF FOOD PRICES SOAR?

In 2012, a drought in the United States of America, the world’s leading maize producer, set off alarm bells. In July of that year, the price of maize shot up by 23 percent and the FAO Food Price Index rose by six percent. Such heavy market turbulence brought back memories of the 2007/08 crisis, thus expectations were high that AMIS would intervene, for example by calling an emergency session of the Rapid Response Forum. Following a thorough analysis of the situation and intensive information exchanges between the AMIS Secretariat and participating countries, experts concluded that the drought would not jeopardize global market stability, as good crops from other countries were expected to ensure sufficient supplies.

Through regular dialogue and timely market analysis AMIS was able to prevent countries from taking hasty policy actions that had frequently exacerbated crises in the past. In fact, the AMIS experts decided against organizing an emergency session of the Rapid Response Forum which many feared would have turned into a self-fulfilling prophesy by signalling to the world that a crisis was imminent. The markets eventually calmed down and conditions returned to normal. In this and other episodes, AMIS has established itself as a new tool to address food price volatility. The particular structure of AMIS allowed countries to consult each other early on, which prevented panic and a further deterioration of the market situation.

AN INFORMATION SYSTEM

In addition to the G20, which had called for the creation of AMIS, a further seven countries were invited to participate in the initiative given their importance in international food markets for wheat, maize, rice and soybeans – the basic food commodities monitored by AMIS. Together, AMIS countries represent between 80 percent and 90 percent of global exports in these crops: a share large enough to effectively influence global markets. “The seven countries were carefully selected before being invited to participate in the initiative”, says Drechsler. Viet Nam and Thailand are leading rice producers. The Philippines and Nigeria are major rice buyers, while Egypt is the biggest importer of wheat. The Ukraine and Kazakhstan are major producers of wheat and maize. The European Union, meanwhile, is a major player as it represents all of its Member States. For even greater relevance and outreach, AMIS also maintains close ties with partners in the private sector, such as commodity associations and institutional investors.

ALL ABOUT THE DATA

Detecting current and future trends in international food markets is essential for preventing potential crises. AMIS monitors several market drivers, such as energy prices, currency exchange rates and the commitment of traders in international futures markets. It also keeps a close eye on policy developments that may create uncertainties in the market, such as trade restrictions, biofuel mandates and domestic support policies.

Having access to the latest data and the most reliable forecasts on agricultural production, trade and utilization is vital in order to help governments and other stakeholders make well-informed and timely decisions. This is why AMIS collaborates closely with countries to improve their market information systems and harmonise their data for global analysis. Drechsler explains: “The less developed countries are not necessarily the most backward in terms of data generation; there are several industrialized countries that need to improve their information systems”. Through targeted capacity-building projects and training activities such as an exchange
programme for country focal points, AMIS has helped to promote good international practices and the adoption of common methodologies. Most importantly, countries have started helping each other. The Philippines and Thailand, for example, organized two joint workshops to improve rice statistics, while the United States of America and Indonesia have engaged in a mutual learning exchange to review the measurement of maize production. According to Drechsler, promoting this cooperation constitutes “the greatest possible achievement of AMIS”. “Countries have started to share their experiences, to offer each other help and to accept help when it is required. Trust is growing”, Drechsler adds.

AMIS organizes regular meetings to assemble all of the participating countries, such as the Global Food Market Information Group, which meets twice a year, or the Rapid Response Forum, which meets once a year or more often, in the event of a food crisis warning. These meetings bring together political representatives and technical specialists to share their experiences and explain their needs. The objective of AMIS is to generate the best information possible and to share it for the benefit of everyone.

**COOPERATION BETWEEN ORGANIZATIONS**

Cooperation does not only involve close exchanges with participating countries. AMIS is above all a platform to stimulate collaboration between different international organizations that work in the field of agricultural markets, and exploiting each organization’s comparative advantage. The AMIS Market Monitor is a prime example to illustrate successful inter-agency collaboration. Published ten times a year, the Monitor represents the collective assessment of the ten organizations that form the AMIS Secretariat concerning the international market situation and outlook. For the Monitor, FAO particularly benefits from inputs of the International Grains Council (IGC), the International Food Policy Research Institute (IFPRI), the Group on Earth Observations Global Agricultural Monitoring initiative (GEOGLAM), the Organization for Economic Cooperation and Development (OECD), and the World Trade Organization (WTO), which each provides a specific section of the report. The World Bank Group, the International Fund for Agricultural Development (IFAD), the United Nations Conference on Trade and Development (UNCTAD), and the World Food Programme (WFP) are the other partners in the AMIS Secretariat.
The right to food is recognized globally and in the legislation of many countries. The challenge is to ensure its fulfilment, to which end there are various initiatives and experiences that serve as an example of international cooperation.

“Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food…”

So begins Article 25 of the Universal Declaration of Human Rights. It was in 1948 that, after leaving behind the horrors of World War II, the United Nations General Assembly adopted this text which recognizes the right to food within the context of the right to an adequate life. Since the Universal Declaration did not have treaty status, two international conventions were created and entered into force in 1976; these were binding for all the countries that ratified them. The one on economic, social and cultural rights (ICESCR) includes the right to food, making it mandatory for states to adopt measures for its progressive realization. And therein lies the challenge: making it happen.

THE LEGAL PATHS TOWARDS REALIZATION

In the first instance, it is the responsibility of states to ensure that human rights obligations are met. States are obliged to adopt the necessary measures for the realization of these rights without discrimination, respecting them, protecting them and fulfilling them, if necessary by means of international cooperation and assistance. Ultimately it
DIFFERENCES BETWEEN FOOD SECURITY AND THE RIGHT TO FOOD

The right to be free from hunger is closely related to the right to life. It is considered a minimum standard that must be guaranteed for all people, regardless of a country’s level of development. It is a fundamental right envisaged in the International Covenant on Economic, Social and Cultural Rights. The right to adequate food is a much broader concept and relates to the need to establish the necessary economic, political and social conditions in which people can feed themselves.

The idea of food security emerged in the 1960s and 1970s, when it centred on the availability and price stability of basic foodstuffs. The Universal Declaration on the Eradication of Hunger and Malnutrition, adopted in 1974 by the World Food Conference, linked food security to human rights.

In time, attention turned from the supply of foodstuffs to the difficulties accessing them. The 1996 World Food Summit Plan of Action establishes four pillars of food security: availability, access, utilization and stability of food. While food security is a political concept that involves setting goals and organizing programmes, the right to food is a legal concept. It consists of an internationally recognized human right that enables people to have recourse to justice and be properly compensated in the event that their right is violated.

SOME COUNTRIES HAVE RECOGNIZED THE RIGHT TO FOOD IN THEIR CONSTITUTIONS LIKE A HUMAN RIGHT FOR ALL, GRANTING IT THE MOST EFFECTIVE FORM OF PROTECTION.

The countries that are parties to the ICESCR that determine for themselves the status they give to the right to food within their legal systems. Depending on the case, the treaty’s provisions may be incorporated into national legislation automatically or through a law. Sometimes certain national standards must be reviewed and adapted to make them compatible with the obligations of the treaty.

In recent years there has been a rise in the number of countries interested in promoting the realization of the right to food. Some, like Bolivia (Plurinational State of), Ecuador, Malawi, Nepal or South Africa, have included it directly in their constitutions as a universal human right, giving it the most effective legal protection in the event of conflict with other legislation, while countries such as Colombia recognize it as a fundamental right specific to children. Other countries, such as Nigeria and Sri Lanka, consider it a principle that must guide state policies. It can also be recognized explicitly or implicitly within the interpretation of other related human rights, such as the right to a decent life or the right to a minimum wage that supports adequate living conditions – social values that guide governments’ actions.

However, it is not enough to put pen on paper in order to guarantee rights. It depends on how they are drafted and recognized, on the awareness of them among the authorities, courts and citizens, and the way in which they are realized. They therefore require political measures in numerous areas and the regulation of spheres such as land, water, fishing, genetic resources for food and agriculture, agricultural trade, social security, work, nutrition, food safety and consumer protection.

THE EXAMPLE OF THE VOLUNTARY GUIDELINES

With the legal basis in place globally, in 1996 the World Food Summit reaffirmed the right to food and the fundamental right to be free from hunger. From there on, a consultative and participative process started to develop a guide that would support the implementation of such rights. In the context of the Committee on World Food Security, the Voluntary Guidelines to Support the Progressive Realization of the Right to Adequate Food in the context of National Food Security were debated and prepared. These guidelines were finally approved in 2004 by the FAO Council, a governing body that assists countries to address food security and nutrition from a human rights perspective. Since then, tools have been created, capabilities have been strengthened and dialogue between the parties involved worldwide has been facilitated.

The voluntary guidelines provide the cross-sectoral framework and the steps needed to achieve the food security and nutritional objectives. They help governments adopt the right to adequate food...
10 MILESTONES OF THE RIGHT TO FOOD

1948
Adoption of the Universal Declaration of Human Rights
Hailed as a common standard of achievement for all peoples and all nations, it recognizes that all human beings are born free and equal in dignity and rights. The Declaration establishes, for the first time, the human rights that need to be protected around the world.

1974
Adoption of the Universal Declaration on the Eradication of Hunger and Malnutrition
The Conference proclaims that “[e]very man, woman and child has the inalienable right to be free from hunger and malnutrition in order to develop fully and maintain their physical and mental faculties.”

1996
Rome Declaration on World Food Security and World Food Summit Plan of Action
It reaffirms the right of everyone to have access to safe and nutritious food, consistent with the right to adequate food and the fundamental right of everyone to be free from hunger.

1999
General Comment 12: The Right to Adequate Food
Establishes that “the right to adequate food is realized when every man, woman and child, alone or in community with others, has the physical and economic access at all times to adequate food or means for its procurement.”

2000
Establishment of a Special Rapporteur on the Right to Food
Entrusted with a mandate to promote the realization of the right to food and the adoption of measures at national, regional and international levels.

2004
Adoption of the FAO Voluntary Guidelines on the Right to Food
Its objective is to provide practical guidance to States in their implementation of the progressive realization of the right to adequate food in the context of national food security.

2007
World Food Day “RIGHT TO FOOD Make it happen”
Recognizes the important role of human rights in eradicating hunger and poverty, and hastening and deepening the sustainable development process.

2009
Adoption of the Declaration of the World Summit on Food Security
While the Declaration of the World Summit on Food Security reaffirms the right of everyone to adequate food and urges the adoption of steps to progressively realize the right to adequate food of all, the Rome Principles lay out five principles among which the third one calling for a twin track approach which includes the right to food and calls for the implementation of the Right to Food Guidelines.

2012
Adoption of the Global Strategic Framework for Food Security and Nutrition
A general framework and reference point for future policies, measure and strategies related to food security and nutrition.

2014
ICN2 Second International Conference on Nutrition
Representatives from more than 170 countries, together with around 150 from civil society and nearly 100 from the business community, reaffirmed “the right of everyone to have access to safe, sufficient, and nutritious food, consistent with the right to adequate food and the fundamental right of everyone to be free from hunger.”
as a cornerstone of their policies and to strengthen their capabilities in order to improve compliance and the adoption of evaluative and accountability mechanisms. Many governments and civil society organizations are using these instruments to ensure that people can feed themselves with dignity and have appropriate safety nets. Prioritizing the most vulnerable and promoting participation, responsibility, transparency, human dignity, non-discrimination, the rule of law and empowerment among the various stakeholders are key elements in this process. Experience has shown that the chances of success are greater when governments are fully committed to eradicating hunger and malnutrition, when sufficient resources are invested, when all of the stakeholders share information and participate in the policies and programmes in a coordinated way, and when the underlying causes of food insecurity and malnutrition are known. These are some of the conditions that are needed to break the vicious circle of hunger, as the voluntary guidelines make clear.

PRACTICAL STEPS WITH EVERYONE’S HELP

Progress has been made since 2004. At the regional level, Latin America and the Caribbean made a commitment in 2006 to eradicate hunger by 2025, a pledge that has resulted in the strengthening of policies, legal frameworks and governance mechanisms for Food Security and Nutrition at the national level, including the adoption in 2014 of the CELAC Regional Plan. That same year, members of the African Union also expressed their commitment, in the Malabo Declaration, to eradicate hunger by 2025. Likewise, the Caribbean Community (CARICOM) and the Community of Portuguese Language Speaking Countries (CPLP) respectively adopted in 2011 a Plan of Action and a Strategy for Food Security and Nutrition – both based on the right to food – that have in turn influenced the policies of their member countries.

The food crisis of 2007 and 2008 prompted an urgent call to action and revealed the importance of involving different governmental and non-governmental actors in the realization of the right to adequate food. Together with national governments, parliamentarians and local governments are taking more responsibility to ensure food security and nutrition through legal frameworks and adequate budget appropriations – which improve access to nutritious food, create employment opportunities, guarantee inclusive access to land, credit and education – as well as through stronger nutrition, education and social protection programmes and access to resources. Institutions with a clear mandate in favour of the right to food and the civil society also contribute to the cause, as they favour policy monitoring and adequate resource allocation to support capacity development and the realization of everyone’s rights, particularly those of most vulnerable groups. It is a sum of efforts to guarantee the right to adequate food for all.

Although many national constitutions recognize rights such as the freedom of expression, the right to political participation or the right to health care, few are the ones who have incorporated the right to food as a fundamental human right. It is, however, recognized in the Universal Declaration of Human Rights.

As shown in the map, only 30 of the nearly 200 States that are represented in the United Nations have explicitly recognized the right to food in their constitutions. It seems that the political authorities of many countries are reluctant to recognize a right that they would be obliged to guarantee.
The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of FAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers and boundaries. Dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

MAP: UN. February 2019:
Office of Information and Communications Technology, Geospatial Information Section.

From the moment that the right to food is recognized for all citizens, the state machinery has to start functioning in order to protect that right. This is a first step towards developing appropriate systems and adapting public policies to ensure that nobody suffers from hunger. Having a national law facilitates this, given that it identifies the actors responsible for feeding the population, and points out who needs to be accountable. However, a law in itself does not make the change.

If the institutional system does not allow citizens to hold the State accountable, or if the State itself does not have the appropriate resources to implement the law, it will only remain a piece of paper.

SOURCE: FAO. 2018. RIGHT TO FOOD.
**FAOSTAT**

**FAO STATISTICS**

FAOSTAT is the largest statistical database on food and agriculture and has covered more than 245 countries and territories since 1961. Every month, an average of some 160 000 users make free use of this FAO service for a range of queries on 75 different topics.

In the 1960s, FAO’s statistical services operated with several verification, classification and tabulation machines – aeons apart from today’s technology, with drones, smartphones, the Internet and many other tools making the task infinitely easier. One thing that has not changed in this time, however, is FAO’s basic mandate to “collect, analyse, interpret, and disseminate information relating to nutrition, food and agriculture”, as the first article of its 1946 Constitution states. It was in 1986 that the Organization, which already had one of the most sophisticated computer systems in the United Nations at the time, launched its comprehensive statistical database to cover agricultural information worldwide. This platform came to be known as FAOSTAT in the mid 1990s and it remains a leading source of information globally.

**IMPRESSIVE NUMBERS**
The amount of information that FAOSTAT handles illustrates its usefulness. It is a system that has provided 20 000 data sets from more than 245 countries and territories from 1961 to the latest...
What is the most produced crop in the world? These and many other questions can be answered with the available statistics. FAOSTAT’s time-series and cross-sectional data are available to all, along with graphs that enable the information to be interpreted visually. The system allows users to select whatever elements are of interest to the research being conducted, whether relating to specific countries, measures, types of agricultural product or years, or anything else of relevance.

The FAOSTAT website was revamped in November 2016. Its fourth edition includes technological improvements and innovations that make it more user friendly and mobile-responsive and provide more download options. Key indicators such as access to food or government agricultural budgets can also now be accessed quicker.

**THE VALUE OF STATISTICS**

All of the data provided are based on evidence and can be used as a basis for making decisions. Indeed, awareness is growing of the importance of formulating policies based on solid data. As FAO’s Chief Statistician, Pietro Gennari, explains, “statistics provide the basis for analysis, since they identify the problems that must be addressed when designing and guiding needed political interventions”. FAO aims to contribute in this area through the collection, analysis and dissemination of a wide range of statistics. The quality of its work is recognized because it is based on objectivity and international standards.

Gennari maintains that solid information is a “key aspect of the early warning systems and it helps national governments, the private sector and civil society to deal with and manage crisis situations, fostering resilience. “In practice, it means farmers can decide when to cultivate and how to avoid losses. And governments have the ability to formulate and oversee policies that address, for instance, poverty, food insecurity and climate change”.

One advantage of FAO’s work is that it presents data that can be compared across countries. After each State has produced its statistics using its own measurements, FAO validates and harmonizes them so that they can be compared with those of other countries following a detailed plan. The Organization is currently seeking to make each methodological step more transparent. It continues to work with its partners, seeking to increase interaction amid the complexity of the process. It has been doing this, for example,
to develop countries’ capabilities when it comes to preparing agricultural censuses, which are conducted in cycles of ten years. It also participates in international projects aimed at improving agricultural statistical systems in rural areas.

And FAO’s statistical role goes even further. It prepares food price indices and provides detailed, up-to-date data on the prospects of the world cereal market and on water, agriculture, fishing and aquaculture, as well as on gender issues and land rights. Warnings, bulletins and various reports are also available through the website.

**THE ROAD TO 2030**

Statistics are also used to monitor processes. The 2030 Agenda for Sustainable Development, agreed by the international community in 2015, comprises 17 goals, along with 169 targets and 230 indicators with which to measure the level of compliance. FAO is the custodian of 21 indicators and contributes to some others among those established to evaluate the Sustainable Development Goals (SDGs). The SDGs include a commitment to eradicating extreme poverty, hunger and malnutrition by 2030.

The Organization is responsible for collecting data from national sources and validating and harmonizing it, producing regional and global estimates, and making the data available for dissemination. It contributes to the reports on the progress of the SDGs and joins forces with other international agencies to monitor the indicators. Meanwhile, it is also helping countries to strengthen their capabilities for collecting data and evaluating the Sustainable Development Goals, while working on any new requirements for monitoring. Much of the information that FAO processes will be widely used, such as the data on access to food and land, food losses, forest cover and maintaining fish populations at sustainable levels. The indicators are disaggregated into age, gender, level of income, occupation and other aspects, since the principle of the 2030 Agenda is to “leave nobody behind”.

FAO’s statistics can also be used in the task of monitoring the activities that countries have pledged to undertake in order to adapt to and mitigate the effects of climate change, within the framework of another international accord reached in 2015: the Paris Agreement. Data on greenhouse gas emissions can therefore be used to analyse the impact of value chains more effectively, to develop more specific strategies for climate-smart agriculture or to improve access for developing countries to funding for projects like those supported by the Green Climate Fund.
How it all began
Taking stock and moving ahead
From maps to databases
Oil crisis, food crisis
New ways, old threats
Relaunching the fight
MDGs and SDGs
**ORIGINS**

The origins of the Food and Agriculture Organization of the United Nations (FAO) are indissolubly linked to one name: David Lubin, a successful entrepreneur who turned to farming in the 1880s. In the late nineteenth and early twentieth centuries, the importance of agriculture in the global economy was declining. The sector’s problems were wide-ranging. Farmers were poorly organized and innovation was lacking. To put it plainly, prestige and wealth were to be found elsewhere – in industry, trade and finance.

Lubin realized that trade played a major role in agricultural price-setting and that only an international organization could successfully defend farmers’ interests. He campaigned tirelessly in the United States of America to garner public support for agriculture. Finding no support at home, he set off for Europe. Rebuffed on his travels to London and Paris, it was in Italy that he finally found a willing ear in King Victor Emmanuel II.

In 1905, the Italian Government convened the first conference of the International Institute of Agriculture. The seed of what would later become FAO was sown. The number of Member States rose steadily from 46 at its first assembly to 74 in 1934.

The work of the Institute was essentially technical in nature. However, at that time, growing economic and political forces, culminating perhaps most dramatically in the Wall Street Crash, were compounding agriculture’s problems. The post-1929 world depression had a devastating effect on agriculture and left the farming community on its knees.

The financial crisis saw food-importing countries hastily erecting tariff barriers and increasing their domestic food production. From 1929 to 1933, wheat imports in industrialized Europe fell by 60 percent. Faced with falling demand, farmers in many countries had unsold surpluses on their hands. In June 1933, the League of Nations met in an attempt to find a solution to the problem but failed. States were not yet ready to harmonize their economic policies and to pool resources to overcome the crisis.

At the same time, research on poverty and nutrition was under way, inspired by John Boyd Orr, who was widely regarded for his work on nutrition. It was well known, for example, that one-third of the population of the United Kingdom of Great Britain and Northern Ireland was malnourished due to an inadequate intake of milk, fruit, vegetables and other foods vital for good health. The underlying cause was poverty. A paradox had emerged. Nutritionists were calling for increased consumption while economists were urging production cutbacks.

An Australian nutritionist, Frank McDougall, analysed the situation. He campaigned “to marry health and agriculture” and to integrate various disciplines in order to combat malnutrition. His proposals were widely accepted by governments and the public alike. The time seemed ripe for collective action; however, the outbreak of the Second World War halted all progress.

In 1942, McDougall, in Washington, DC, for discussions on an international
wheat agreement, found there was great interest in preparing for food problems in the post-war period. He therefore resumed his task and drafted a second memorandum on the subject of a United Nations programme to combat food shortages.

McDougall’s proposals eventually reached Eleanor Roosevelt, who arranged a meeting with her husband, the President of the United States of America. Over dinner at the White House, McDougall argued passionately for a United Nations programme to tackle food as its first global economic issue and for agriculture to be considered essential to raising the living standards of people throughout the world. President Roosevelt was non-committal, but the discussion must have struck a chord, as a year later he convened a conference on nutrition and agriculture.

INCEPTION
The United Nations Conference on Nutrition and Agriculture was held in 1943 at Hot Springs, Virginia, the United States of America, with the participation of more than 40 governments. It decided on the establishment of a permanent organization in the field of food and agriculture. That decision brought the work of the International Institute of Agriculture to an end and its functions were transferred to the new organization.

On 16 October 1945, 44 governments signed the constitution for a permanent organization in the field of food and agriculture at a historic meeting at Château Frontenac in Quebec. The Food and Agriculture Organization of the United Nations – FAO – was born, whereas the United Nations organization itself did not come into existence until 24 October, eight days later. The United Nations Charter had been signed the previous June in San Francisco, but did not come into force until ratification by the “Big Five” powers and by a majority of the other signatory States.

STARTING OUT
The creation of FAO could not have come at a better time. With Europe in ruins, hunger was a real threat to many. The meeting on 16 October 1945 also elected FAO’s first Director-General, John Boyd Orr (from the United Kingdom of Great Britain and Northern Ireland).

FAO still needed to prove to governments that poverty was the root cause of hunger and malnutrition. To this end, FAO convened the Special Meeting on Urgent Food Problems in May 1946. The meeting not only tackled the immediate food crisis but also prepared a set of proposals for dealing with age-old issues related to food production. Undertaking world censuses regularly, dealing with plant pest control and responding to emergencies with food relief were among the key matters discussed.

Another significant moment came in 1949, when John Boyd Orr was awarded the Nobel Peace Prize, a fitting tribute to a lifetime’s work.

### TIMELINE

**1943. An organization dedicated to food and agriculture**

Government representatives of 44 countries meet in Hot Springs (United States of America) and agree to create a permanent organization for food and agriculture.

**1945. FAO is created**

The first sessions of the newly created UN, held in Quebec City, Canada, establish FAO as the first specialized agency of the United Nations. FAO springs to life with 44 Members. The British nutritionist John Boyd Orr is appointed as its first Director-General. Washington, DC, is designated temporary headquarters of FAO.

**1946. First World Food Survey**

This survey provides a full picture of the world food situation, confirming that widespread hunger and malnutrition are pressing concerns. The survey covers 70 countries and is an innovative attempt to analyse the global food situation.

**1948. Election of American Norris Edward Dodd (United States of America) as second FAO Director-General.**
FAO IN SEVEN DECADES

THE 1950s

Taking stock and moving ahead

The Organization took a different approach in the fight against hunger: it was not only necessary to distribute food, but also to increase investments in agriculture.

THE POST-WAR SITUATION

After the Second World War, many countries needed to restore the fertility of their soils. Nations were keen to increase domestic crop production. Farmers wanted to maintain high productivity, particularly in the light of favourable prices for agricultural production. This resulted in growing demand for fertilizers worldwide. Governments were faced with rising demand for food and needed to understand where their farming industries stood if they were to improve their overall agricultural output.

This was why FAO coordinated the World Census of Agriculture in 1950, which proceeded to gather statistical information from 81 countries and provided a comprehensive picture of agricultural production and its structure at that time. It was a significantly more sophisticated endeavour than any pre-war census. Although by the late 1940s the post-war food crisis was ending, this did not mean any diminishing of interest by FAO, the United Nations and other organizations in dealing with food emergencies. In August 1951, the United Nations Economic and Social Council recommended that FAO should keep the global situation under continuous surveillance and report on any instances of “pending critical food shortages or famine.” This meant that FAO could perform on-the-spot investigations and convene meetings with governments “to devise the most practical lines of action.” It drove FAO to begin studying the viability of establishing a food reserve for use in cases of serious food shortages or famine caused by war, natural catastrophes or pest infestations such as the desert locust.

In this new decade, the possibility of solving two problems at the same time was emerging: using surpluses to ease the pressure on agricultural prices, and supplying more food to malnourished populations. While the risk of famine, catastrophes and pest infestations was still widespread, food surpluses were building up in developed countries. There was an urgent need to mobilize the surpluses for those countries in need while enabling farmers to benefit from mechanisms to ensure that the prices of their produce remained competitive. The FAO Committee on Commodity Problems devised the Principles of Surplus Disposal and Guiding Lines. Adopted by the FAO Council in 1954, these served as a code of international conduct, while safeguarding the interests of commercial exporters and local producers. They have been used ever since by food aid programmes as an effective code for monitoring food and agricultural commodity assistance initiatives.

NEW HOME AND EXPANDED MISSION

In 1951, FAO relocated its headquarters from Washington, DC, to its present home in Rome, Italy. Staff, their families and their belongings travelled by ship across the Atlantic Ocean and Mediterranean Sea.

In its first ten years of existence, FAO worked with governments to tackle urgent issues of worldwide hunger and malnutrition. During its second decade, the Organization started addressing long-term issues in the fight against hunger.

Reducing global hunger did not only imply bringing food to people, it also entailed an overall increase in investments in agriculture and in farmers’ know-how and access to technology. Farmers worldwide needed technical assistance, support and advice to improve their production. This is also why one of the most important developments in the Organization’s work was an increased emphasis on helping farmers with assistance and support. On 14 October 1958, the FAO Special Fund was created to widen the scope of the UN’s technical assistance in certain basic fields.

Many of the projects adopted by the Special Fund’s Governing Council were assigned to FAO as the implementing agency. This came as no surprise, and put FAO on the road to becoming a major world technical aid agency.

The FAO Special Fund was to concentrate on large projects, including assessing and developing human resources in various industries such as handicrafts and cottage agriculture, forestry, transport and communications, building and housing, health, education, statistics and public administration. Assistance, in the form of surveys, research and training, and demonstrations with pilot projects, was implemented by providing staff, experts, equipment, supplies and services, as well as by establishing institutes and funding other appropriate initiatives, such as scholarships.

CULTIVATING FERTILE LAND TO INCREASE CROP PRODUCTION

In this period, improving overall agricultural production, by advocating for high-quality seeds and fertilizers, and mapping the world’s soil landscape were both priority contributions to the overall hunger reduction strategy. In order to push for the use of high-quality seed of improved varieties, FAO launched a World Seed Campaign in 1957, which culminated in World Seed Year in 1961.

PROTECTING PLANTS FROM PESTS

People the world over have suffered the devastating effects of plant pests, including diseases and weeds, for thousands of years. In the modern era, with the increased international mobility of people, greater trade and more-open borders, plant pests have been able to spread more rapidly. However, only relatively recently have legal standards been drafted to prevent the spread of plant pests and to protect plant resources. In the 1950s, the international community first set about tackling the issue.

First, in 1951, FAO adopted the International Plant Protection Convention to address these changing circumstances and to keep abreast of the successful international interventions led by FAO with regard to plants and plant products.

LIVESTOCK – COMBATING RINDERPEST

To help developing countries increase their crop and livestock production,
FAO began to pay particular attention to ways to eradicate diseases that affected farm animals. Rinderpest was a highly contagious viral disease that affected cattle, buffaloes and other cloven-hoofed animals, with death rates during outbreaks approaching 100 percent. In 1947, the Organization’s first major disease eradication project was a campaign against rinderpest in China. Funded by the UN Relief and Rehabilitation Administration, the project proved successful and was later extended to other Asian countries. By the late 1950s, most countries in Asia had eradicated rinderpest. Finally, in 2011, in a historic victory for veterinary science, FAO and the World Organisation for Animal Health announced that, thanks to a decades-long international cooperative effort, rinderpest had successfully been eradicated in the wild.

**FOOD COMMODITIES STANDARDS**

Work on standards for food commodities also began in earnest in the early 1950s. At the first meeting of the Joint FAO/WHO Expert Committee on Nutrition, international trade and nutrition experts stated: “Food regulations in different countries are often conflicting and contradictory. Legislation governing preservation, nomenclature and acceptable food standards often varies widely from country to country. New legislation not based on scientific knowledge is often introduced, and little account may be taken of nutritional principles in formulating regulations.”

**ITALY, 1951**

A ceremony hosted by the Government of Italy welcomed the transfer of FAO headquarters to Rome. In spring of 1951, FAO staff and their families sailed to Italy, and office supplies were also shipped over. ©FAO
THE 1960s

From maps to databases

FAO and UNESCO joined forces to produce the Soil Map of the World. The decade was also marked by the birth of Codex.

LAUNCH OF THE FREEDOM FROM HUNGER CAMPAIGN

As years went by, food problems in the poorest and most populous parts of the planet showed little sign of being overcome. The conviction grew that in order to eliminate hunger successfully, governments, non-governmental organizations (NGOs) and private citizens would have to make an all-out effort.

On 16 March 1955, Eleanor Roosevelt and Frank McDougall travelled to FAO to mobilize the United Nations Programme into creating the Freedom from Hunger Campaign. After five years of negotiations, FAO officially launched the campaign in 1960. Its ambitious aim was to eradicate hunger from the world once and for all. Governments agreed that: “the persistence of hunger and malnutrition is unacceptable morally and socially, is incompatible with the dignity of human beings and the equality of opportunity to which they are entitled, and is a threat to social and international peace.” The campaign’s purpose was twofold: (i) heighten awareness worldwide of the problems of hunger and malnutrition then afflicting more than half of the world’s population; and (ii) promote a climate of opinion in which solutions could be organized on a national and international basis.

MAPPING THE WORLD’S SOIL RESOURCES

The use of high-quality seeds and fertilizers was only a part of the overall strategy for poverty reduction. A good knowledge of soils, their properties and distribution was also considered strategic for more accurate and useful predictions as to how soil would react to specific production initiatives. However, in the late 1950s, the state of the world’s soil cartography was chaotic at best and non-existent at worst.

In 1960, at its seventh congress, the International Union of Soil Science recommended publication of soil maps of continents and large regions. As a follow-up, in 1961, FAO and UNESCO embarked on preparing the Soil Map of the World (1:5 000 000 scale). The ambitious project took 17 years to complete and was the fruit of worldwide collaboration between innumerable soil scientists. The map’s purpose was to enable farmers to understand how soil would react to different farming techniques and give the best yields. Until recently, the map remained the only global overview of soil resources.

THE COMING OF CODEX

Noting that the conflicting nature of food regulations hampered trade and affected the distribution of nutritionally valuable food, the Joint FAO/WHO Expert Committee on Nutrition suggested that FAO and the World Health Organization (WHO) should study these problems more closely. Established in 1961, the FAO/WHO Codex Alimentarius Commission has become one of the best-known and most successful cooperative projects between two UN Agencies, and its work centres on international food standards.

CREATION OF THE WORLD FOOD PROGRAMME

Many studies on famine carried out by independent FAO experts in various parts of the world in the 1950s had shown that surpluses were continuing to build, as was food aid. At this stage, it was important to devise “a workable scheme ... for providing food aid through the UN system”, as President Eisenhower of the United States of America declared to the UN. What was needed was a clear definition of roles in the UN system. In December 1961, FAO and the UN General Assembly adopted parallel resolutions establishing the World Food Programme as the UN Agency to deliver emergency food relief to affected areas.

This initiative was planned as a three-year experimental programme and not due to enter into operation until January 1963. In reality, it was up and running several months early, as an earthquake struck Iran (Islamic Republic of), a hurricane swept through Thailand, and newly independent Algeria was overwhelmed by five million returning refugees. Food assistance was urgently needed, and the World Food Programme received the mandate to provide it.

BOOSTING AGRICULTURAL PRODUCTION

Attitudes toward mechanization changed considerably between the mid-1950s and the mid-1960s, largely due to the “green revolution” in Asia. In 1966, the UN/FAO World Conference on Land Reform emphasized the need for an integrated approach to agriculture. During the 1950s and the first half of the 1960s, global food production grew steadily, increasing by over 50 percent. However, in this period, political gridlock and economic crises meant that FAO faced the task of containing the resulting threat of famine while continuing its research work and implementing its strategy to increase food security and long-term food production.

In 1961, as agricultural performance of all crop inputs needed improvement, and as fertilizers delivered the most encouraging results, FAO launched the Fertilizer Programme to improve crop production through increased use of fertilizers. The programme soon expanded its scope to include all aspects of efficient crop production, such as improved varieties, land management and weed control, as well as more efficient plant protection. It is estimated that, overall, fertilizer usage increased by 14 percent annually during the 1960s.

By 1968, the Organization’s annual flagship publication, The State of Food and Agriculture, was looking at raising agricultural yields through “technological improvements” as a way to free-up land to feed people.

LIVESTOCK – COMBATING DISEASE

Following its success against rinderpest, FAO began to tackle other livestock diseases, among them foot-and-mouth disease, which had been kept at low levels. A number of European countries had been free from the disease for several years.
During this period, FAO also spearheaded the fight against African swine fever, which affected Spain and Portugal in the 1960s and the Western Hemisphere in general in the 1970s. This remains an ongoing battle.

**FAO’s Information Systems**

Constitution states that one of its functions is to “collect, analyse, interpret and disseminate information relating to nutrition, food and agriculture.”

However, in 1963, FAO had four punching machines, two verifying machines, one collating machine and a couple of tabulating machines. Since then, it has worked to create one of the UN’s most sophisticated information systems, one that governments can access to help them set their own national agendas in the field of agriculture. Also in 1963, FAO launched its comprehensive statistical database covering the world’s agricultural information. Advances in information technology have enabled FAO to create information systems, databases and data banks to respond to the various needs of its Members. Indeed, these systems lie at the heart of FAO’s work.

### Timeline

- **1960**
  - Launch of the Freedom from Hunger Campaign with the aim of mobilizing non-governmental support.

- **1961**
  - Soil Map of the World: FAO and UNESCO join forces to produce the Soil Map of the World. The map is based on information from 10,000 existing maps.

- **1963**
  - **Codex Alimentarius**: Created in 1963 by FAO and the World Health Organization, the Codex Alimentarius Commission comes into full operation to establish international food standards.
  - **The World Food Programme is established**: FAO and the United Nations General Assembly adopt parallel resolutions that establish the World Food Programme to deliver urgent food aid in real time to affected areas.

- **1964**
  - FAO/World Bank Cooperative Programme boosts investment in agriculture in the developing world.

- **1965**
  - A group of experts is appointed to assess possible methods to protect plant genetic resources.

- **1966**
  - World Land Reform Conference: The conference, held by FAO and the International Labour Organization, emphasizes the need for an integrated approach to land reform in order to boost economic and social progress. Ideas on land reform from all over the world are pooled at the conference, paving the way for a greater consensus on the action that would be taken in the coming years.

- **1967**
  - Election of Addeke Hendrik Boerma (the Netherlands) as fifth FAO Director-General.

- **1968**

- **1969**

- **1970**
THE 1970s

Oil crisis, food crisis

The economic crisis in this decade prompted FAO, governments and other organizations to work in partnership to eradicate hunger.

PROTECTION OF NATURAL RESOURCES

From the 1950s to the early 1970s, the existence of large cereal reserves in North America had been taken for granted throughout the world. In 1972, however, world production of grains fell for the first time in two decades. Demand for imports grew and surpluses disappeared almost overnight. Added to this equation, a series of environmental issues ranging from land, water and air pollution to the ongoing destruction of the world’s heritage of plant genetic resources threatened a world crisis.

In mid-1972, the UN Conference on the Human Environment in Stockholm reviewed the global state of affairs. FAO was asked to act to conserve the earth’s agricultural, forestry, fishery and other natural resources and to strengthen its ongoing work. One of the issues that emerged from the conference was the recognition that poverty alleviation helped protect the environment. Indira Gandhi, Prime Minister of India, mentioned this connection in her speech at the conference: “We do not wish to impoverish the environment any further and yet we cannot for a moment forget the grim poverty of large numbers of people. Are not poverty and need the greatest polluters?”

FAO immediately set to work after the Stockholm conference to establish a framework for its programme on Natural Resources and the Human Environment. This programme had two main components: first, assess the state of natural resources; and second, manage them.

OIL AND FOOD

In 1973, the world was in the middle of a food crisis. To make matters worse, soaring oil prices led to a drop in global factory and farm production. The oil crisis also sharply increased inflationary pressures, which governments were already struggling to control. This led the United Nations to convene the 1974 World Food Conference in Rome to address two urgent needs: how to respond to food emergencies while ensuring adequate supplies to narrow the gap between developed and developing countries.

Henry Kissinger, the Secretary of State of the United States of America, in his keynote speech advocating greater global investment, confirmed his country’s commitment to making sure that “no child will go to bed hungry within ten years.”

Governments examined the global problem of food production and consumption, and recommended the adoption of an International Undertaking on World Food Security, solemnly proclaiming that: “Every man, woman and child has the inalienable right to be free from hunger and malnutrition in order to develop fully and maintain their physical and mental faculties.”

One of the outcomes of the World Food Conference was the establishment of the FAO Committee on World Food Security. This committee would review and follow-up on global food security policies, food production, nutrition and access to food.

In the same period, in the light of the deteriorating situation worldwide, FAO introduced a five-point action plan. Together with the World Bank and the United Nations Development Programme, FAO formulated multilateral food-aid and production plans to strengthen food security and to ensure that individual States adopted national supply policies tailored to specific criteria. These measures could not have come at a better time for the areas that most needed them, such as the countries affected by the Sahel crisis.

Thirty years after the end of the Second World War, the planet had become a very different place politically. With FAO as focal point and facilitator, governments, NGOs and donor organizations had made huge strides in the field of cooperation and food security. However, it was becoming increasingly clear that concerted global action was essential in order to tackle the real threat of famine. Thus, after the Sahel crisis, the Office for Sahelian Relief Operations became the Office for Special Relief Operations, with a global reach that covered all forms of emergency aid in the agricultural industry.

RECOGNIZING THE IMPORTANCE OF LIVESTOCK AND FORESTS

In the 1960s, policymakers had focused primarily on crop production at the expense of livestock development. Ten years later, incomes were rising and the demand for animal products was increasing dramatically. The average intake of animal protein, including fish, rose by 20 percent in developing countries. FAO turned its attention to containing and preventing diseases, and to technologies that would increase production. This was achieved by improving livestock breeding and feeds.

In 1978, the Eighth World Forestry Congress, held in Jakarta, Indonesia, with the theme “Forests for people”, had a profound impact on attitudes
towards forestry development and FAO’s work in this sector.

UNITED IN THE FIGHT AGAINST HUNGER

In 1976, FAO established its Technical Cooperation Programme to afford greater flexibility in responding to urgent situations. Then, in 1977, FAO conducted its fourth World Food Survey on the state of hunger and malnutrition in the world. The overall picture was grim: 10–15 percent of the world’s inhabitants were undernourished and 50 percent were suffering from hunger, malnutrition or both. However, despite rising poverty, hunger and malnutrition, developing countries battled back with resilience and began to consider the idea of collective self-sufficiency.

Given that developing countries shared similar socio-economic conditions, the UN found that a similar approach to finding solutions to food-related problems could yield positive results in these countries. It was realized that promoting effective technical cooperation between countries could be vital to achieving common goals.

To promote and implement technical cooperation among developing countries, 138 States adopted the **Buenos Aires Plan of Action in 1978**. It represented a blueprint for major changes in approaches to development aid, and it has guided the Organization’s subsequent work in this field.

While countries of the South began to share their technical expertise and noted improvements in their communities, the UN realized that the region as a whole was far from food secure. FAO needed to continue to monitor the situation and provide timely and reliable information on those countries facing serious food emergencies; this so that governments and the international community could take appropriate action. One instrument set up in this period was the FAO Global Information and Early Warning System on Food and Agriculture, in 1977.

The setback in agriculture caused by the economic crisis of the 1970s meant that FAO, governments and donor agencies had to work even more closely together in different sectors to eradicate hunger and stimulate public support. The idea that the actions of governments, organizations, groups and individuals should be pooled to fight the injustice of hundreds of millions of people being denied the right to food was gathering support within the UN family. This drive culminated in the first World Food Day in 1981.

**TIME LINE**

1970. **Second World Food Congress**

Held in The Hague, the Netherlands, for the first time it draws the public’s attention to the issue of hunger and malnutrition around the world. The global situation is discussed and five areas for immediate action are identified in line with FAO’s strategy: promoting widespread use of high-yielding varieties of basic food crops, reducing waste, filling the ‘protein gap’, improving the quality of rural life, and increasing earnings and savings in foreign currency in developing countries.


Held in Stockholm, Sweden, and organized by the United Nations Environment Programme and FAO, it makes 108 recommendations, 36 of which FAO is asked to implement, in the areas of agricultural conservation activities in forestry and fisheries resources, as well as other natural resources.


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1973. **Fourth World Food Survey**

In the developing world, about 455 million people suffer undernutrition.

1974. **Committee on World Food Security**

Created at FAO Conference. FAO already has 136 Members.

1975. **Committee on World Food Security**

Created at FAO Conference. FAO already has 136 Members.

1976. **Edouard Saouma (Lebanon)** is elected sixth FAO Director-General.

1977. **The Global Information and Early Warning System is up and running.**

1978. **Fourth World Food Survey**

In the developing world, about 455 million people suffer undernutrition.

1979. **World Conference on Agrarian Reform and Rural Development**

The Conference, in Rome, adopts the “Peasants’ Charter” to enable people to have access to land.
THE 1980s

New ways, old threats

FAO started monitoring ocean resources, which were not regulated until then. New tools, such as FAOSTAT, were launched.

NEW TECHNIQUES AND MORE STATISTICS

From the outset, FAO had always been an active promoter of good agricultural practices, including irrigation methods, to support and provide relief to communities affected by crises or sudden disasters. The climate-related shocks that repeatedly struck the southern regions of Africa and the Indian Ocean had always had a negative effect on the fragile economies and livelihoods of local communities, undermining their ability to recover fully from these crises, and further increasing their vulnerability to future disasters.

For this reason, FAO now decided to give greater weight to the development of small-scale irrigation systems. Such systems provided an attractive way to re-establish production and income and significantly strengthen the resilience of local communities to subsequent emergencies.

By contrast, large irrigation systems required huge investments and involved extremely long gestation periods. They were also highly demanding in terms of management, maintenance and training of farmers. Although small-scale irrigation projects had a more limited impact, they could be implemented much faster and yield immediate results, such as increasing food production for farmers and their resilience to future threats while creating stable employment conditions.

In 1980, FAO concluded 56 agreements for the appointment of FAO Representatives in developing countries. In 1986, FAO launched the world's most comprehensive source of agricultural information and statistics. Originally called AGROSTAT, its name is now FAOSTAT.

USING MARINE RESOURCES TO ALLEVIATE HUNGER

When FAO was set up, the seas were regarded as available to all but the responsibility of no one under the principle of the “freedom of the high seas”. In the following years, FAO realized that the development of this underused resource could help to alleviate hunger in many communities in developing regions.

Thanks to technological developments, global fisheries production quadrupled from 1940 to 1970. But success came at a cost. Uncontrolled expansion, primarily by industrialized countries, gave rise to the overfishing of many species. By the mid-1970s, total global fisheries production had begun to level off.

Although some developed countries benefited from the freedom of the seas, many developing countries did not. Moreover, they had to compete with foreign fleets fishing close to their shores. This issue was raised at international fora. After much discussion, it was agreed that a coastal State’s jurisdiction over fish resources would extend to 200 nautical miles (370 km) out to sea. This was embodied in the 1982 United Nations Convention on the Law of the Sea, which made it possible to manage this valuable resource properly. The FAO World Conference on Fisheries Management and Development, held in Rome in 1984, provided the first major overview of the world’s new maritime laws, with a strategy known as the World Charter for Fisheries. In addition, as developing countries strove to gain a larger share of world fish production and trade in fisheries products, FAO began to provide information services on regional fish markets.
**UNDERNOURISHMENT AND NUCLEAR DISASTER**

The 1980s saw increasing awareness of the urgent need to free the world from hunger once and for all. The world also began to recognize the vital role of women in agriculture. However, it was also the decade of the first nuclear disaster to affect agriculture in two continents.

In 1985, FAO released the Fifth World Food Survey. Again, it provided a full picture of the global food and nutrition situation. The survey found that the proportion of undernourished people in developing countries had fallen. Even so, the number of people suffering from hunger was large enough to warrant action. As if the problem of undernourishment in the world was not enough, governments also had to contend with a major disaster created by human activity.

In 1986, the nuclear catastrophe known as the Chernobyl disaster saw the release of radioactive materials into the environment, with devastating effects on trade in agricultural and food commodities. The effects were felt not only near the nuclear power plant where the accident happened and in Ukraine, but the fallout from the radionuclides sent into the atmosphere affected a wide swathe of Europe and Asia.

**FOOD CRISIS IN THE HORN OF AFRICA**

In 1984 and 1985, no fewer than 30 African countries experienced famines that led to massive loss of human and livestock life. In East Africa as a whole, 42 percent of the population was undernourished, and the figures for Somalia, Eritrea and Ethiopia were among the highest in the world. The response of the international community reflected a remarkable wave of solidarity from the public in non-affected countries. Donors pledged almost 7 million tonnes of cereal aid to the countries hit by shortages. The crisis showed that famine was still an ever-present threat. Policy-makers realized that they needed to protect and cultivate their lands if they wanted famines to become a thing of the past. Much work was done to improve the monitoring of indicators that led to famine. One important instrument created during this period was the Africa Real-Time Environmental Monitoring Information System, installed at FAO in 1988.

In 2000, acting upon the request of the United Nations Secretary-General and building on its earlier experience, FAO developed a strategy for concerted government and UN Agency action to combat chronic hunger in the Horn of Africa.

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**TIMELINE**

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<tbody>
<tr>
<td><strong>1981. First World Food Day. Held on 16 October in over 150 countries.</strong></td>
<td><strong>1982. International Seed Information System</strong></td>
<td>Managed by a microcomputer, the system includes computer techniques and management practices both for commercial seed banks and forestry research programmes. Over 20,000 seed samples are received in its first year.</td>
<td><strong>1983. The forestry resources information system enters into service as a computerized data system on tropical forests.</strong></td>
<td><strong>1984. The World Conference on Fisheries Management and Development held in Rome is the first important step towards adopting new maritime laws.</strong></td>
<td><strong>1985. FAO has 158 Members.</strong></td>
<td><strong>1986. FAO has 158 Members.</strong></td>
<td><strong>1987. Measures against radioactive contamination in food</strong></td>
<td><strong>1988. AGROSTAT launches</strong></td>
<td><strong>1989. Environmental control system in Africa</strong></td>
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<td></td>
<td>In 1986 the release of radioactive particles from Chernobyl spread across Europe and Asia, causing serious problems for food production and trade. As measures taken by national authorities lack cohesion, FAO makes a series of recommendations to control the trade in foodstuffs at risk of accidental contamination with radionuclides or other contaminants.</td>
<td>The world’s most important source of agricultural information and statistics.</td>
<td>A real-time system using satellite images, ARTEMIS, processes the data received from satellites on rainfall and vegetation.</td>
</tr>
</tbody>
</table>
THE 1990s

Relaunching the fight

In 1996 a series of initiatives were put in place with one key objective: halving the number of hungry people in the world by 2015.

WOMEN IN AGRICULTURE

There were many reasons for paying special attention to the role of women in agricultural development, especially as women have traditionally constituted the principal labour force for both cash crop and food production.

In the 1980s and 1990s, there was a general issue of inequity – the place of the woman as the “unequal half” in a male-dominated society. This reason alone was enough to warrant efforts to secure the social advancement of women in rural areas. Second, there was a gender bias in institutions that prevented women from accessing credit and joining cooperatives. Worse still, under some systems of traditional law, women were unable to inherit land. To address such issues, FAO carried out substantial programmes to assess the impact of its actions on women, and it introduced measures to ensure that women obtained real benefits. More than USD 24 million received by FAO from the United Nations Development Programme has funded a wide range of special projects for women. The Special Programme for Food Security, which FAO launched in 1994, targeting low-income food-deficit countries, has touched and improved the lives of many female farmers.

INTERNATIONAL CONFERENCE ON NUTRITION

In 1992, FAO and the World Health Organization convened the first International Conference on Nutrition, devoted solely to addressing the world’s nutrition problems. The conference saw a wave of commitment by governments that pledged to eliminate starvation, widespread chronic hunger, malnutrition and undernutrition, especially among children, women and older people, before the end of the century.

Governments also pledged to address a number of food-related issues ranging from micronutrient deficiency to non-communicable diseases, inadequate sanitation and unsafe water. Lest anyone should forget the need for urgent action to eradicate starvation and chronic undernutrition, the world food situation was confirmed again in 1995 at the FAO Conference as it reviewed World Agriculture: Towards 2010. This report stated that, despite an increase in food production and food security, there were still 800 million undernourished people in the world.

WORLD FOOD SUMMIT

Despite the commitment at the 1974 FAO Conference by heads of state to eradicate hunger, the food situation showed little sign of improvement. Thus, in order to renew the global high-level commitment to eradicating hunger and malnutrition and achieving lasting food security for all, FAO convened the World Food Summit in November 1996. This was attended by heads of state and government and by other high officials from 186 countries. This was the first time in history that world leaders turned their attention to “food security” and the way in which their citizens could access the food they needed in order to live healthy lives.


TELEFOOD CAMPAIGN

To sustain the momentum generated by the 1996 World Food Summit, FAO increased public awareness about global hunger and advocating action by launching a fundraising campaign named TeleFood. During its first year, in 1997, TeleFood reached a global audience of 500 million. By 2001, the campaign had raised more than USD 28 million, which was used to fund over 1 000 projects in more than 100 countries. TeleFood sent the donations, with no administrative costs, to farmers to help them develop the capacity to produce more and better food for their families. These projects were grass-roots microprojects where farmers were able to buy tools to grow crops, raise livestock or fish, and to process food to sell it at a higher price. Over the years, the money has been invested in seeds and fertilizers, irrigation pumps, silos and even fish smoking ovens. The most successful marathon TeleFood event was the Spanish telethon “Gala FAO”, which raised more than USD 15 million.

THE CODE OF CONDUCT FOR RESPONSIBLE FISHERIES

In 1995, FAO celebrated its fiftieth anniversary. To mark the occasion, it returned to its birthplace, the city of Quebec, to hold an international symposium in the same ballroom in Château Frontenac where FAO had been created decades before. The theme of the symposium was “People at the heart of development: food security through know-how”, and it aimed to reflect intergovernmental, governmental, academic and private-sector concerns. In its first 50 years, the membership of FAO had grown from 44 Members in 1945 to 179 in 1995.

Following the symposium, a special ministerial meeting on food security was held. This resulted in the Code of Conduct for Responsible Fisheries, known as the Code. The
Code provided a framework for national and international efforts to ensure sustainable use of living aquatic resources, and to do so in harmony with the environment. However, for any code to be effective, it must be adhered to, and a monitoring system needs to be put in place. In 1999, FAO’s Committee on Fisheries adopted plans of action on fishing capacity, sharks and seabirds. In the same year, FAO built the Fisheries Agreement Register, an easy-to-search computer database on bilateral and multilateral agreements related to fisheries. It provided up to 34 descriptor fields for each record and contained information on 1,927 agreements dating back to the year 1351.

**CONTINUING THE FIGHT AGAINST PESTS**

In 1991, the International Plant Protection Convention was ratified with 92 signatories. That same year the FAO Conference on Agriculture and the Environment was convened in the Netherlands to discuss requirements for sustainable agriculture and rural development. The Conference acted as a precursor to the United Nations Conference on Environment and Development. In 1994, FAO launched the Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases, which strengthened the Organization’s contribution to preventing, controlling and, where possible, eradicating diseases and pests.

**CONTROLLING TRADE IN PESTICIDES**

At the same time as combatting pests, it was also necessary to control the use of pesticides. Pesticides and industrial chemical products that were banned or heavily restricted for health or environmental reasons in developed countries were finding their way, through trade, to developing countries.

In order to limit the severely hazardous pesticide formulations that presented a health risk to farmers, FAO brokered a legally binding convention to control the trade in pesticides and other hazardous chemicals. The Rotterdam Convention on the Prior Informed Consent Procedure was adopted on 10 September 1998 and entered into force on 24 February 2004. The objectives of the Rotterdam Convention are twofold. First, it seeks to promote shared responsibility and cooperative efforts by traders of certain hazardous chemicals in order to protect human health and the environment from potential harm. Second, it aims to contribute to the environmentally sound use of those hazardous chemical products by facilitating information exchange about their properties, by providing for a national process for decision-making on importing and exporting these chemical products, and by disseminating these decisions to the stakeholders.

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**TIMELINE**

1990. FAO Regional Conference for Africa adopts the International Plan for the preservation and reuse of lands in Africa.

1991. Special Programme for Food Security

Its goal is to support low-income food-deficit countries in their efforts to improve food security, reduce the variability of agricultural production year on year, and improve people’s access to food.


1994. Special Programme for Food Security

1995. FAO celebrates 50th anniversary

An international symposium is held in Quebec City, Canada, followed by a Special Ministerial Meeting on Food Security. FAO has 171 Members.

1996. World Food Summit

The World Food Summit convened at FAO headquarters in Rome, involved meetings at the highest level with representatives from 185 countries and the European Union (Member Organization). The Summit saw 10,000 participants and provided a forum for debate on one of the most important issues facing world leaders in the new millennium – the imperative of eradicating hunger.

1997. FAO launches the TeleFood campaign.

1999. FAO Goodwill Ambassadors

The purpose of the programme is to raise public and media awareness of the unacceptable situation of a billion people suffering hunger and malnutrition. Nobel laureate Rita Levi, actor Gong Li and footballers Roberto Baggio and Raúl take part, among others.
2000s & 2010s

MDGs and SDGs

The establishment of development goals, to be achieved in a particular time frame, produced a paradigm shift in agricultural development and the hunger fight.

SUSTAINABLE FARMING THROUGH PLANT PROTECTION

In the late twentieth century, several key crops – a product of natural evolution, selection by farmers and selective breeding – were in grave danger. Serious threats included pollution, resource degradation, the destruction of habitats and alterations to ecosystems. After seven years of negotiations, the 2001 FAO Conference adopted the legally binding International Treaty on Plant Genetic Resources for Food and Agriculture, which supported the work of breeders and farmers everywhere. This treaty encourages sustainable agriculture through the equitable sharing of genetic material and its benefits among plant breeders, farmers and public and private research institutions. The treaty, which came into force in 2004, is considered vital to permit the continued availability of plant genetic resources that countries need to feed their people and future generations.

Despite natural emergencies and other disasters occurring in the first decade of the new millennium, the setting of development goals against a tight time frame did see a paradigm shift in food security and agricultural development. Finally, some measurable progress was being made towards radically reducing the number of people suffering from chronic malnutrition worldwide.

COUNTERING FLOOD, FAMINE AND DISEASE

Since the turn of the century, Asia and Africa have experienced major natural emergencies. In 2010, Pakistan was struck by the worst floods in its history. Seed stores were destroyed and millions of head of livestock were lost. FAO responded by distributing wheat seed to half a million farming families in time for the planting season. An additional 235 000 families received feed, medicine and shelter for their animals.

In Africa, two regions of Somalia suffered famine due to the worst drought in 30 years. More than 260,000 people lost their lives and millions more were put at serious risk. FAO and the international community responded with USD 120 million for drought-stricken areas in the Horn of Africa.

Over the decades, FAO has accumulated considerable experience on bird flu (avian influenza) epidemics and other animal health or food safety emergencies. Based on this, FAO works to provide assistance in real-time around the world. In 2006, the Organization unveiled its high-tech Crisis Management Centre to monitor disease outbreaks and dispatch experts to any hot spot in the world within 48 hours.

VOLUNTARY GUIDELINES ON RESPONSIBLE GOVERNANCE

In addition to responding to emergencies, FAO continues its work to promote and ensure the sustainability of agricultural development in a world whose natural resources are being depleted and becoming increasingly scarce. Supporting sustainable development and protecting the environment are in fact among the major goals of the FAO Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests. Endorsed by the Committee on World Food Security in 2012, the guidelines call for a commitment from both the public and private sectors, and they include recommendations on how to safeguard the rights of local populations in the event of large-scale land acquisitions and how to ward off land grabbing.

FAO launched a major fundraising and advocacy campaign to secure USD 20 million to implement the guidelines that aimed at helping governments safeguard the rights of people to own or access land, forests and fisheries. Two softdrinks giants, PepsiCo and Coca-Cola, joined the campaign and gave their official support. In addition to their commitment to fair and legitimate negotiations on land transferrals and acquisitions in developing countries, the companies vowed to increase their participation in the Committee on World Food Security, and pledged to carry out social and environmental assessments across their global supply chains. For PepsiCo, the work began in Brazil, its top sugar-sourcing country, while Coca-Cola worked alongside Oxfam in several major sugar-sourcing countries. In 2014, in the Committee on World Food Security approved the Principles for Responsible Investment in Agriculture and
Food Systems, which are based on the voluntary guidelines.

**LAND PROTECTION**
In the past decade, FAO has renewed its commitment to improving the health of the world’s limited soil resources and stopping land degradation. In fact, 33 percent of the world’s soils are still moderately to highly degraded due to erosion, nutrient depletion, acidification, salinization, compaction or chemical contamination. Recognizing that urgent action was required to improve the situation, the Global Soil Partnership adopted a series of action plans in 2014 to safeguard the soil resources that support the world’s agricultural production. To raise public awareness, the UN declared 5 December World Soil Day and made 2015 the International Year of Soils.

**WIDENING THE CIRCLE OF ALLIANCES**
FAO has also strengthened its network of partners to improve food security and the resilience of vulnerable communities all over the world. In 2013, for example, FAO signed a new partnership agreement with the International Federation of Red Cross and the International Treaty on Plant Genetic Resources for Food and Agriculture.

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**TIME LINE**

2000. FAO develops a strategy to fight chronic hunger in the Horn of Africa.

2001. **International Treaty on Plant Genetic Resources for Food and Agriculture**
The treaty enters into force in 2004 as a legally binding agreement that promotes sustainable farming by ensuring equitable access to plant genetic resources and by sharing their benefits among plant breeders, farmers and public and private institutions.

2002. **World Food Summit: five years later**
Attended by delegations from 179 countries, it reafirms the international community’s commitment to halving the number of people suffering from hunger by 2015.

2007. **Committee on Fisheries: a legally binding global agreement**
119 countries approve a proposal to develop a legally binding measure to address the illegal, unreported and unregulated fishing practices responsible for serious economic, social, biological and environmental damage.

2009. **World Summit on Food Security**
The purpose of this summit is to add urgency to the fight against hunger. 60 heads of state and government and 192 ministers unanimously adopt a declaration renewing their commitment to eradicating hunger from the world as soon as possible.

2008. **Conference on Climate Change**
FAO organizes a conference involving 43 heads of state and 100 government ministers on the impact of climate change and the rise of bioenergy on food security and food prices. A resolution is approved to increase support and investment to develop world agriculture.
and Red Crescent Societies, the largest humanitarian network in the world. Under this agreement, FAO will provide technical guidance to this network of 13 million volunteers to reach some 150 million people – and help poor households cope with the threats and disasters that affect agriculture, food security and nutrition.

In 2014, to guide the new Global Nutrition Agenda, FAO partnered with the World Health Organization to organize the first important world event on nutrition in 20 years. The Second International Conference on Nutrition was held at FAO headquarters in Rome in November 2014. The event ended with the 172 governments adopting, to universal acclaim, a general political commitment – the Rome Declaration on Nutrition – and a supportive framework for concrete action. The Declaration enshrines the right of everyone to have access to safe, sufficient and nutritious food, and commits governments to preventing malnutrition in all its forms. The related Framework of Action recognizes that governments have the primary role and responsibility for addressing nutrition issues and challenges.

**FAO RECOGNIZES OUTSTANDING ACHIEVEMENT**

The Millennium Summit of the United Nations in 2000 set a series of time-bound targets with a deadline of 2015, known as the Millennium Development Goals, or MDGs. Since then, real progress has been made in reducing the number of chronically undernourished people in the world’s poorest regions. In 2013, FAO recognized 38 countries for reducing by half the proportion of people who suffer from hunger. Eighteen of these countries were recognized both for this goal and for the more stringent objective set by the 1996 World Food Summit, which was to halve the absolute number of undernourished people. A year later, in 2014, FAO honoured the achievements of 13 countries for their outstanding progress in the fight against hunger, an achievement that included reaching the MDGs before the 2015 deadline. On 7 June 2015, FAO recognized another 14 countries for achieving the target of halving the percentage of people suffering hunger by 2015. At the start of 2015, encouraged by the success of other countries, Viet Nam launched the Zero Hunger Challenge to eradicate hunger in Viet Nam by 2025.
THE SUSTAINABLE DEVELOPMENT GOALS

The founders of FAO imagined “a world free from want”. However ambitious or achievable this goal may be, it is clear that much remains to be done. Food production needs to grow and food wastage must be cut in order to feed a projected population of 9.7 billion in 2050. In the words of José Graziano da Silva, the current FAO Director-General: “Political commitment at the highest level is fundamental to advancing towards food security. We have the opportunity to end hunger within our lifetimes. This is the greatest legacy we can leave to future generations.” On 25 September 2015, the UN adopted the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs), a set of 17 aspirational objectives with 169 targets expected to guide actions of governments, international agencies, civil society and other institutions over the next 15 years (2016–2030). The SDGs set out specific objectives for developed and developing countries to meet within a given time frame, with achievements monitored periodically to measure progress and ensure that no one is left behind.

ITALY, 2015

Award ceremony recognizing the advances in the fight against hunger. Most of the countries evaluated by FAO – 72 out of 129 – had achieved the goal of the Millennium Development Goals of halving the proportion of people suffering from hunger in 2015. Another 29 achieved the most ambitious goal of the World Food Summit: that of halving the total number of hungry.

TIME LINE

2011. Eradication of rinderpest

In a historic victory for veterinary science, FAO and the World Organisation for Animal Health announce that, after decades of joint efforts at international level, rinderpest – a deadly cattle disease – has been successfully eradicated from the natural environment.

2013. Fiftieth anniversary of the Codex Alimentarius.

2014. The Blue Growth Initiative is a new approach to marine resources that is necessary to protect world food security and sustainable development.

2015. Approval of 2030 Agenda for Sustainable Development. FAO is custodian to 21 of the 230 indicators.

2016. Agreement on Port State Measures (PSMA) against illegal, unreported and unregulated fishing entered into force.

2017. Svalbard, the biggest seed vault in the world, turns ten years old.


2019
FAO's first Director-General, Sir John Boyd Orr, addresses the need for "an official FAO seal, to use on documents, printed on FAO publications etc." in 1946, one year after the foundation of the Organization. He suggests adopting the design created for the second session of the FAO Conference, held in Copenhagen (Denmark), 2–13 September 1946: a small black and silver button with an FAO logo. This button was designed by Harald Nielsen, a silversmith who worked for Georg Jensen Silversmiths in Denmark. Nielsen's design was inspired by the Art Nouveau movement and characterized by strong clear lines. Central to the logo is an ear of wheat: a continuation of the three ears of wheat that formed the logo of FAO's predecessor, the International Institute of Agriculture.

The Latin motto Ut educas panem de terra ("That he may bring forth food out of the earth" which refers to all the interests of FAO, from nutrition to agriculture to forestry to fisheries) was the preferred motto to accompany the logo, but it was rejected eventually, because it was too long.

At that point, Sir John Boyd Orr proposes the Latin motto Fiat panis, meaning "Let there be bread" or more freely translated "Let there be food", which becomes the official FAO motto still in use today. "The motto signifies the primary purpose of FAO that of raising the levels of food production and of nutrition the world over."

Mid-1947, a first official version of the FAO logo begins appearing in an irregular way on some FAO documents. It is the same logo we find on the cover of the FAO publication legumes in Agriculture from 1953. At the end of the 1950s, a discussion takes place on changing some aspects of the logo. Mr. Engeler, chief Printing and Offset section, takes up the task of "reshaping the emblem to greater effect". He describes his view on the purpose of a logo as follows:

"An emblem has to announce an idea and epitomize a pledge. Symbolic representation is the most important means of concentrated expression. It must be a characteristic combination of the elements of the design in abstract form, and it must have an aesthetic as well as a graphic effect. The design must be a creation of our times capable of being understood in times to come."

We do not have a drawing of Engeler's proposal, but according to his own words, he changed, among others, the circle into a triangle, since "this is an ancient symbol expressing organization".

Engeler’s proposal is rejected, but the discussion continues. Among others, Mr. Cyprien, chief of Visual Media, proposes to get rid of "the unattractive square O" and Mr. Cassola, chief of Graphics, proposes to eliminate the peculiar "sawn-off" appearance of the base of the wheat ear. Both proposals are accepted and the changes are used for the first time in the FAO logo developed for the Freedom-From-Hunger-Campaign (launched in 1959). In this particular case the space outside the logo has also been used to create a specific campaign-related logo.

Still in 1959, Mr. Engeler comes up with another proposal which this time around is accepted: the tips and the stem of the wheat ear are extended to divide the circle of the logo in three (triangle) sections.

It is this FAO logo which is approved by Director-General B.R. Sen and is registered on 1 July 1964 with the United International Bureaux for the Protection of Intellectual Property, and it is this logo we still use today.
1 JOHN BOYD ORR 1945–1948

2 NORRIS E. DODD 1948–1953
USA (1879–1968). Before his appointment he held various roles in agricultural associations and agencies in his country. Under his leadership FAO moved from Washington DC to Rome.

3 PHILIP V. CARDON 1954–1956
USA (1889–1965). Received an MSc in agricultural economics from the University of California. Before joining FAO, he was Director of the US Department of Agriculture.

4 BINAY RANJAN SEN 1956–1967
India (1898–1993). He was Secretary of the Ministry of Agriculture and Ambassador. First Director-General from a developing country he launched the Freedom from Hunger Campaign in 1960.

5 ADDEKE HENDRIK BOERMA 1967–1975
Netherlands (1912–1992). He was Director-General for Food in his country in 1945. First Executive Director of the World Food Programme in 1962 before taking on the role of FAO Director-General.

6 EDOUARD SAOUMA 1976–1993
Lebanon (1926–2012). He was FAO Director of Land and Water Development until 1975. As Director-General he set up the Technical Cooperation Programme for the provision of urgent assistance.

7 JACQUES DIOUF 1994–2011

8 JOSÉ GRAZIANO DA SILVA 2012–2019
Brazil (1949). Graduate in Agronomy, University of São Paulo. He led the Zero Hunger programme in Brazil as Extraordinary Minister for Food Security and the Fight against Hunger. In 2015 he was re-elected to office.
The Food and Agriculture Organization of the United Nations (FAO) was born on the afternoon of 16 October 1945 when its constitution was signed by 34 countries. By the end of the sessions, FAO had 42 Members.
CHOOSING THE LOCATION FOR FAO HEADQUARTERS

FAO’s beginnings were quite nomadic: originating in 1943 in Hot Springs, Virginia, founded in 1945 in Quebec City, Canada, and temporarily located in Washington, D.C. while the FAO Conference deliberated over where to permanently establish the headquarters. There were five candidate countries (the United Nations was considered, for the purposes of the vote, a separate country): 1. Denmark – Copenhagen. 2. Italy – Rome. 3. Switzerland – Geneva, Lausanne, Vevey or Montreux. 4. United States of America – four sites in or near Washington, including the University of Maryland. 5. United Nations – part of the permanent headquarters in New York City.

As the home of the International Institute of Agriculture (IIA) for the first half of the twentieth century, Rome was the most logical choice. Nevertheless, by 1945 a decision had still not been taken. In the meantime, on 1 August 1946 FAO officially assumed the responsibility for the IIA, to ensure “that the goodwill built up in member countries by the Institute over forty years of pioneering work will be maintained”.

The transition was carried out by the FAO Regional Office for Europe, which was also temporarily located in Rome. Finally in 1949, delegates voted at the Fifth session of the Conference in Washington, D.C., but not without first expressing their divergent views on the five candidates. Delegates from Denmark, Finland, France, Haiti, Iraq, Italy, the Netherlands, Norway, Pakistan, the United Kingdom, and Yugoslavia stressed “the probability of monetary savings by moving to a soft-currency area”. Doubt regarding this position was expressed by the Delegates of Chile, Cuba, the Philippine Republic, and the United States of America, who felt “that the move would be expensive, that trade unbalances and inconvertibility of currencies are temporary, and that the temporary monetary advantage would later be lost”.

Delegates of Brazil and Chile emphasized “the savings that could be effected by moving Headquarters to the United Nations site, where centralized services could be obtained at low cost”. Delegates of the People’s Republic of China, Haiti, Liberia, Mexico and others stressed “the importance of selecting a site free from segregation or discrimination because of race or religion”. In this connection, the Commission, also took notice of a communication received from the (U.S.) National Association for the Advancement of Colored People, which opposed the University of Maryland site. All speakers agreed that the new site should “afford favorable cultural, intellectual, and social circumstances for the work of the Organization, for staff and families, and for visits to Headquarters”.

The voting process was finally launched, and after five ballots FAO learned that its permanent location was to be Rome, Italy. The Italian Government offered the former seat of the Ministry of Italian Africa, located at Viale Terme di Caracalla in Rome, as the new headquarters for FAO.

RESULTS OF THE BALLOTS CAST ON THE HEADQUARTERS SITE

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<th>Proposed Sites</th>
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An agile network: FAO’s Decentralized Offices

Partnerships for a world free from hunger

Communication at FAO
FAO is present in 152 countries, operating through different office and representation arrangements. This global network of decentralized offices is continuously evolving to meet countries’ emerging needs and development priorities, and to heighten the Organization’s impact in the field – at country, subregional and regional levels.

The world has evolved politically, economically and technologically, both since the founding of FAO in 1945 – when most of today’s Members were not independent – and since the establishment of the first decentralized offices. While the majority of the world’s poor and chronically undernourished are now living in middle-income countries, the number and scale of severe crises is rising, and the impact of climate-related natural disasters is expected to accelerate. Low-income food-deficit countries and, in view of climate change, Small Island Developing States (SIDS), call for special attention. At the same time, innovative approaches and partnerships are required to leverage support for vulnerable populations, including in middle-income countries.

The coverage and nature of FAO’s field presence is necessarily adaptable to changing country contexts, the emergence of crisis situations, levels of resilience, and other considerations such as where the Organization’s partners are based.
GLOBAL GOALS, LOCALIZED ACTION

Regional Offices
FAO’s five Regional Offices lead FAO’s multidisciplinary response to major food security, agricultural and rural development priorities in their geographic areas. They play a fundamental role in shaping FAO’s policy agenda through management of FAO’s Regional Conferences – an integral part of the Organization’s governance process. Regional Offices represent and advocate for FAO with regional entities, including intergovernmental organizations and economic integration organizations. They also promote partnerships with fellow UN agencies and other development stakeholders.

Subregional Offices
FAO has ten Subregional Offices, which provide cutting-edge expertise in response to requests from governments. They are the first port of call for technical support, assisting with policy advice, capacity building and specific projects in their geographic area. Subregional Offices assist with country programming and resource mobilization as well as advocacy and partnerships, representing FAO in relations with subregional institutions.

Country Offices
FAO’s Country Offices – or representations – are at the forefront of action to fight all forms of hunger and to build people’s resilience to the adverse effects of climate change and other global challenges. It is here that FAO reaches its maximum potential by providing strategic policy advice and making targeted technical expertise available where it is most needed: in the field.

FAO’s close country-level cooperation with host governments and other national partners is an indispensable asset for achieving member countries’ global goals, and likewise for working towards the Sustainable Development Goals (SDGs), particularly those involving agricultural development and food and nutrition security. FAO’s role in UN Country Teams and its proximity to other development partners in the field brings greater opportunities for national capacity building and the use of local expertise.

Liaison and Information Offices
FAO’s decentralized network also comprises six Liaison Offices (based in Brussels, Geneva, Moscow, Tokyo, New York and Washington) and two Information Offices, located in Spain and Portugal. The role of the Lisbon-based office includes strengthening FAO’s partnership with the Community of Portuguese-speaking Countries.

“STRENGTHENED CAPACITY OF FAO’S DECENTRALIZED OFFICES IS BEING PROGRESSIVELY ASSURED TO ADDRESS THE NEEDS OF THE MOST VULNERABLE COUNTRIES AND POPULATIONS, TAKING FULL ADVANTAGE OF THE KNOWLEDGE AND RESOURCES THAT EACH COUNTRY HAS TO OFFER.”

JOSÉ GRAZIANO DA SILVA
FAO DIRECTOR-GENERAL

The importance of FAO’s decentralized offices is evident by the fact that 40 percent of staff members are located in decentralized offices, to which about 30 percent of the regular budget is allocated.

TOTAL STAFF (under Regular Programme budget only)

40% DECENTRALIZED OFFICES

60% HEADQUARTERS

FAO CHALLENGES AND OPPORTUNITIES IN A GLOBAL WORLD
CHAPTER 5.1
AN AGILE NETWORK: FAO’S DECENTRALIZED OFFICES

40 YEARS OF COUNTRY REPRESENTATIONS

Seventy percent of FAO country representations were opened between 1977 and 1979. Since 2017, therefore, FAO and host governments have been marking the advances made to date. After four decades of fruitful collaboration, FAO today is a renowned knowledge organization with its feet firmly on the ground and its work aligned with government priorities.

A rolling three-year anniversary initiative has highlighted the importance of FAO’s cooperation with Member States in meeting the SDGs through localized action, resulting in a renewed commitment to concerted action under Agenda 2030 – both at the country level and beyond.

See below for the countries that have marked their 40th anniversary between 2017 and 2019.

Africa: Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Congo, the Democratic Republic of the Congo, the Gambia, Guinea, Kenya, Liberia, Mali, Mozambique, Niger, Nigeria, Senegal, Sierra Leone, Uganda, United Republic of Tanzania and Zambia.

Near East and North Africa: Egypt, Iraq, Jordan, Lebanon, Mauritania, the Sudan, the Syrian Arab Republic and Yemen.

Latin America and the Caribbean: Barbados, Bolivia (Plurinational State of), Brazil, Chile, Colombia, Cuba, Dominican Republic, Ecuador, El Salvador, Guyana, Haiti, Honduras, Jamaica, Mexico and Uruguay.

Asia: Bangladesh, India, Indonesia, Iran (Islamic Republic of), Lao People’s Democratic Republic, Myanmar, Nepal, Pakistan, Philippines, Sri Lanka and Viet Nam.

Europe and Central Asia: While the permanent presence of FAO through country representations in Europe and Central Asia is more recent than for the other regions, the Organization’s first projects in the region were implemented over 40 years ago, starting from 1977.

NIGER
FAO Director-General José Graziano da Silva delivering his remarks during the inauguration of the FAO cistern project in the village of Dargue, Maradi region.
@FAO/IFAD/WFP/LUIS TATO

FAO AND THE UN DEVELOPMENT SYSTEM REFORM

In 2018, a new UN Resolution paved the way for what the UN Secretary-General termed: “the most ambitious and comprehensive transformation of the UN development system in decades”. The fundamental purpose of this concerted action to reposition the UN development system – particularly at country level – is to ensure delivery on the 2030 Agenda for Sustainable Development. FAO has welcomed the reform, particularly its country-driven approach, which is already a prevailing practice as part of the Organization’s decentralization strategy. Close coordination and collaboration among UN Country Team members is also a key element of the reform.
FAO is present in 152 countries through different office and representation arrangements.

**LATIN AMERICA AND THE CARIBBEAN**
- **Regional Office** Santiago, Chile
- **Subregional Offices**
  - **Caribbean**: Bridgetown, Barbados
  - **Mesoamerica**: Panama City, Panama

**NEAR EAST AND NORTH AFRICA**
- **Regional Office** Cairo, Egypt
  - **Subregional Offices**
    - **North Africa**: Tunis, Tunisia
    - **Gulf Cooperation Council States and Yemen**: Abu Dhabi, UAE

**AFRICA**
- **Regional Office** Accra, Ghana
  - **Subregional Offices**
    - **Western Africa**: Dakar, Senegal
    - **Central Africa**: Libreville, Gabon
    - **Eastern Africa**: Addis Ababa, Ethiopia
    - **Southern Africa**: Harare, Zimbabwe

**NORTH AMERICA**
- **Liaison Office**
  - **For North America**: Washington, USA
  - **Liaison Office**
    - **With the United Nations**: New York, USA

**EUROPE AND CENTRAL ASIA**
- **Regional Office** Budapest, Hungary
  - **Subregional Offices**
    - **Central Asia**: Ankara, Turkey

**LATIN AMERICA AND THE CARIBBEAN**
- **Regional Office** Santiago, Chile
- **Liaison Office**
  - **With the European Union and Belgium**: Brussels, Belgium
  - **With the United Nations**: Geneva, Switzerland
  - **With the Russian Federation**: Moscow, Russian Federation
- **Information Office**: Madrid, Spain
- **Information Office**: Lisbon, Portugal
The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of FAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers and boundaries. Dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Strategic partnerships, including close collaboration with other UN agencies working in the field, are integral to FAO’s decentralization strategy and essential for supporting African countries’ achievement of the SDGs and Malabo commitments. Together with the Rome-based UN Agencies, FAO has engaged in high-level policy dialogues with governments and other stakeholders on topical global issues such as resilience, preparedness and response to the El Niño and La Niña phenomena.

Recognizing the problem of food safety as a hindrance to effective interregional trade and improved food security and nutrition in Africa, the first FAO/World Health Organization (WHO)/African Union (AU) International Conference on Food Safety was organized in Ethiopia in February 2019. Ministers and representatives of national governments, senior policy makers and non-governmental groups gathered to identify key actions and strategies to address challenges to food safety globally and to strengthen political commitment to scaling up food security and nutrition and food safety in the 2030 Agenda for Sustainable Development. FAO was represented at the Conference through the Subregional Office for Eastern Africa and the country representation.

In fighting hunger, malnutrition and poverty, among the chief challenges faced by Africa are low levels of productivity, weak agricultural value chains and a high degree of vulnerability to climate-induced and conflict-related crises. Together with partners in Africa, FAO is working towards a more competitive, productive and diversified agriculture sector across the continent. The emphasis is on employment generation, particularly for young people, women’s empowerment, and practical support for smallholders who need tools and other inputs as well as access to timely information.

In close collaboration with the African Union and the Regional Economic Communities, FAO is supporting countries’ drive towards “Ending Hunger and Malnutrition” by 2025. In addition to supporting policy development and investment planning, FAO is focusing on improved food security and nutrition monitoring systems, gender equality and social protection. Regional, subregional and country efforts are dedicated to the sustainable intensification of production and associated post-production issues, including better handling, processing and distribution of agricultural products, improved food quality and safety, as well as access to markets. Improved resilience and response to disasters and crises at regional, national and community levels is a top priority.

Senegal

Senegal and FAO have enjoyed a dynamic partnership since the opening of the FAO representation in Dakar in 1977. With FAO’s support, Senegal has succeeded in leveraging the necessary means to modernize and intensify its agriculture sector, build food security and
improve diets. Through its Dakar-based Subregional Resilience Team for West Africa and the Sahel (REOWA), FAO works to develop resilient and sustainable livelihoods throughout the subregion. Promoting an innovative social protection approach involving productive transfers (CASH+), adaptation to climate change and pro-nutrition strategies, REOWA supports 17 countries affected by disasters and crises.

In January 2018, the Government of Senegal and FAO signed an agreement establishing the FAO Subregional Office for West Africa in Dakar. Building on an already solid relationship, this move assures a greater role for the country in supporting subregional policy dialogue and strategies for food, agriculture and rural development priorities, particularly with respect to the Sustainable Development Goals.

Kenya

Close cooperation between FAO and Kenya predates the establishment of FAO’s country representation, which was set up in 1977. Today there is a network of suboffices in Kenya, and the representation hosts the regional component of FAO’s Emergency Centre for Transboundary Animal Diseases, the Resilience Team for East Africa, a regional Information Technology (IT) team and colleagues from FAO’s Investment Centre.

Over the decades, FAO has worked with the Government to advance Kenya’s agriculture sector, consolidating key agricultural institutions, strengthening drought response and improving nutrition and food safety. In the 1960s and 1970s, FAO built Kenya’s unique Dairy Training and Dairy Research Institutes, which continue to serve as a regional resource, attracting students from other countries in Africa. They have contributed to the growth of the dairy industry, making it the largest and most sophisticated in sub-Saharan Africa. The dairy subsector today accounts for about 8 percent of Kenya’s GDP.

With the Government and other partners, FAO contributed to the eradication of rinderpest, estimated to have cost the economy USD 430 million. This historic achievement was officially declared in 2011. Today, FAO remains active in Kenya’s livestock sector; since 2015, it has arranged the vaccination of more than 7 million head of livestock, thereby preventing premature mortality of herds and building livelihood resilience among pastoral communities.

Another recent priority has been the training of 200 000 farmers to increase production and productivity, form producer groups and assure linkages to a market worth over USD 50 million.
In line with its "Vision 2030", Kenya is committed to full implementation of the Malabo Declaration and the “Zero Hunger by 2025” Initiative. With a major and growing country programme portfolio, FAO is at the forefront of the necessary development and emergency assistance to agriculture-related sectors.

**AWARD FOR ZERO HUNGER ACTION**

During the National Leadership Forum in September 2018, the FAO representation in Kenya won an award for its work in the country, with special mention of its contribution to the achievement of SDG 2: Zero Hunger. The event was hosted by the Bill and Melinda Gates Foundation at the University of Nairobi.

**NIGER**

A farmer hands over her goats to be taken care of by local herdsman, near Gafati. Gafati is one of the communities that the African Solidarity Trust Fund (ASTF) has supported in implementing the 3N "Nigeriens nourishing Nigeriens" initiative.

**Niger**

Since the opening of the Niger representation in 1978, FAO and the Government have worked together to improve livelihoods, particularly in rural areas of the country. Early interventions focused on food security, rural development and sustainable agriculture. FAO has been at the forefront of many national processes related to the formulation of policy documents, agricultural development strategies and regulations, including the national “Zero Hunger” strategy, or the “Nigeriens nourishing Nigeriens” initiative. Several good practices – such as the warrantage inventory credit system, Dimitra community listening clubs, and agro-pastoral fields schools – have been developed or implemented by FAO and have now been adopted by other partners.

The Niger is among the West African countries to have benefited from FAO’s support to the early detection of the Highly Pathogenic Avian Influenza using nuclear-derived techniques. FAO is also involved in the VETLAB project to strengthen veterinary diagnostics laboratories for rapid and specific diagnosis of transboundary animal diseases in Africa. The Niger’s designated national veterinary lab is part of FAO-supported VETLAB Network linking veterinary facilities from 44 countries in Africa (and 19 in Asia). As one of the ten member countries of the FAO Commission for Controlling the Desert Locust in...
the Western Region (CLCPRO), the Niger plays a key role in the implementation of the preventive control strategy in the region.

**Madagascar**

Madagascar has been a Member of FAO since 1961. Technical cooperation started in 1981 following the opening of the FAO representation in Antananarivo. Since then, nearly 60 percent of activities have focused on improving agricultural production, and 25 percent on humanitarian and household resilience-building interventions.

**Combating the Malagasy Migratory Locust:** A three-year emergency programme was jointly formulated and implemented by FAO and the Madagascar’s Ministry of Agriculture between 2012 and 2016 to cope with a locust upsurge. The timely response helped save the livelihoods of the Malagasy population, avoiding the further deterioration of food insecurity. In all, FAO and national partners have implemented three successive campaigns to control locust populations. The first (2013/14) successfully halted the plague, the second (2014/15) reduced the plague, while protecting crops and pastures, and the last (2015/16) almost achieved remission. Thanks to the multi-funded three-year programme, a locust preventive control strategy and annual locust campaigns have now resulted in the Government of Madagascar National Anti-Locust Centre, a pesticide warehouse and well-trained staff.

**Resilience Building Takes a Lead Role**

**FAO’s work in the Niger** has recently returned to focus on emergency assistance and resilience building for vulnerable communities, in coordination with the World Food Programme and the International Fund for Agricultural Development. Hundreds of thousands of farmers, agro-pastoralists, fishers and artisans have gradually emerged from extreme poverty and become organized to increase food and agricultural production, even in the face of a challenging environment, exacerbated by climate change and security concerns.

To support national authorities in addressing the recurrent food crises affecting the Niger, in 2005 the FAO country office set up an emergency and rehabilitation programme, under which agricultural, livestock and nutrition interventions are designed to strengthen households’ capacities for disaster risk management. Though this successful programme, between 2005 and 2016 hundreds of projects were implemented for a total value of USD 90 million, sourced from different donors. Assistance reached more than 4 million people, half of whom were women.

**Country Team Awarded for Excellence in Fieldwork**

The Madagascar country team of Rome-based UN agencies (RBAs), comprising FAO, the International Fund for Agricultural Development and the World Food Programme, was awarded for excellence in fieldwork in 2015–2016. The three country representatives received the award in March 2017 in recognition of their strong and effective collaboration.

The team had been working to support vulnerable populations living in areas exposed to recurrent cyclones, floods and droughts and insecurity in the southern part of the country. This challenging situation had been aggravated by a five-year period of political instability, which had shaken the country’s economy. The team’s approach was catalytic in strengthening the capacities of households and communities to improve their own food security and nutrition, for example by increasing agricultural production and processing, improving postharvest techniques; creating access to markets and diversifying sources of agricultural income – mainly through the EU-funded project Actions Intégrées en Nutrition et Alimentation (Integrated Actions in Nutrition and Food).
Over the past decades, Asia and the Pacific has undergone significant transformation. Today, it is a dynamic, expanding and interconnected region. Many countries that were once dependent on food aid are now economically strong, and instances of South–South cooperation, whereby countries share relevant knowledge and expertise with partner countries (either within or beyond the region), have become well established. FAO representations have played an important part in such developments. While recording higher economic growth rates than any other region in the recent past, Asia and the Pacific continues to be home to nearly 60 percent of the world’s undernourished population. In many ways, the Asia and the Pacific region differs from other regions – from its size to its dynamism. Shifting demographics, a changing socio-economic climate and modified diets are influencing the emerging issues affecting the region’s food security and sustainable development. These include the growing challenges of obesity and Non-communicable Diseases (NCDs), water scarcity and the degradation of natural resources, and the increasing frequency and severity of natural disasters.

FAO’s Asia and Pacific office is working with an “under one roof” modality to find common ground on the importance of food and agriculture for sustainable development across sectors and stakeholders. Its technical assistance increasingly applies cross-sectoral and whole system approaches and its normative work and policy advocacy helps to centre nutrition in national food security and agricultural strategies, and to keep agriculture, fisheries and forestry prominent in national plans for sustainability, disaster risk reduction and resilience. In the Pacific, government priorities are to build resilience to the impacts of climate change and to strengthen food security and nutrition to address NCDs. FAO seeks to make food systems nutrition-sensitive and climate-resilient through policy changes, sustainable agriculture, fisheries and forestry production and value chains that provide safe, nutritious and affordable food.

India

India’s record of progress in agriculture has been impressive. With more than a five-fold increase in food grains from 50 million tonnes in the early 1950s to more than 270 million tonnes by 2017, India has moved from food aid dependence to becoming a net food exporter. With a country representation established in 1977, cooperation between India and FAO has evolved over time in response to the complexities of Indian and global agricultural systems and the country’s priorities.

Operation Flood (1970–1996), which led to the so called “White Revolution,” marked a turning point for the country’s dairy sector. It brought a three-fold increase in milk production and decreased India’s reliance on food aid. Today, the dairy sector is a lead employer of rural people, especially women. FAO has also worked closely to support India’s fisheries industry,
which now employs more than 15 million people and is a major exporter. Through the regional Pesticide Risk Reduction programme, FAO has promoted effective Integrated Pest Management (IPM) in India, including strengthened governance of the importation and use of pesticides (including IPM education for farmers). In the region, IPM adoption has more than halved pesticide use, eliminated WHO Class I pesticides and improved handling and disposal practices.

Today, India is an important agricultural knowledge partner, sharing technical expertise with other countries. Through FAO’s South–South Cooperation Programme, India is sharing experiences from a programme promoting social inclusion in agriculture: DeenDayal Antyodaya Yojna (DAY) – National Rural Livelihoods Mission (NRLM). India has also supported Ethiopia and Ghana in developing an integrated approach to rural poverty reduction, including establishment of a good practices learning centre.

**Indonesia**

The FAO representation in Indonesia opened in 1978, leading to long-term collaboration with the Indonesian Government, national agencies and many other partners across the food and agriculture sectors. More than 650 projects and programmes have been implemented by FAO throughout the country, with the assistance of more than 1,600 national and international experts. Over the years, FAO has played a significant role in supporting Indonesia’s natural disaster recovery efforts. In December 2004, the Indian Ocean earthquake and tsunami swept away the lives of more than 200,000 people and destroyed the livelihoods of about 1.4 million survivors. The Indonesian provinces most affected were Aceh and Northern Sumatra, where agricultural systems were completely obliterated. Damage to crops, livestock, fishponds, boats and fishing gear disrupted food production, causing extreme food insecurity. FAO was quick to support the Government’s response by implementing a large emergency and recovery programme, providing expertise to restore coastal communities, agricultural and fisheries-based livelihoods and promoting the wise use of natural resources (unsustainable practices such as pre-tsunami overfishing in Aceh were stopped).

In 2005, Indonesia became a global epicentre for the human H5N1 highly pathogenic avian influenza (HPAI), recording more human cases and fatalities than any other country by 2014 as well as millions of poultry deaths. The persistent HPAI threat to animal and human health in Indonesia brought about the arrival of FAO’s Emergency Centre for Transboundary Animal Diseases (ECTAD) in 2006. With funding from USAID, AusAID and the Japan Trust Fund, FAO-ECTAD has been working closely with the Indonesian Government to enhance capacities for controlling HPAI. Around 3,000 animal health officers have been trained and the Avian Influenza Control Programme has been rolled out at village level and along the poultry market chain.

From 2013 to 2018, FAO assisted the Ministry of Agriculture and provincial authorities in helping over 16,000 smallholders in Eastern Indonesia in the use of conservation agriculture techniques to adapt to the drought caused by the El Niño Southern Oscillation. With funding from USAID, 800 farmer groups promoted improvements that enabled farmers to cope with drought while increasing production and improving soil.

**INDONESIA**

Fishermen building new fishing boats. FAO has partnered with the American NGO Austin International Rescue Operation in the rebuilding of fishing boat fleets by providing leadership for the entire boat-rebuilding initiative and keeping track of the type of boats that should be introduced to avoid overfishing.

©FAO/ADEK BERRY

"WE NEED TO DO MORE THAN JUST FEED PEOPLE. WE NEED TO NOURISH THEM. THIS IS EVIDENTLY A BIG CHALLENGE. WITH TIME RACING IN THE COUNTDOWN TO 2030, OUR OVERARCHING OBJECTIVE IS TO HELP OUR MEMBER COUNTRIES – INDEED TO HELP ALL STAKEHOLDERS – MEET THOSE GOALS."

KUNDHAVI KADIRESAN
ASSISTANT DIRECTOR-GENERAL AND FAO REGIONAL REPRESENTATIVE FOR ASIA AND THE PACIFIC
Pacific Island Countries
Covering 14 countries, FAO’s Subregional Office for the Pacific Islands is hosted in Samoa, where FAO assistance has included a focus on building the evidence base and capacities for policy-making, strengthening animal and plant protection and boosting agricultural productivity and marketing in the face of climate change.

FAO’s Multi-Country Programming Framework for the Pacific Islands (2018–2022) sets out one common priority area to guide FAO’s partnership and support to the Governments of Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Palau, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu and Vanuatu. The national development strategies and plans of these Pacific Island Countries recognize the vital importance of sustainable development of natural resources and the role of agriculture, forestry and fisheries for food security and nutrition, livelihoods and economic development. In many countries, these sector policies and plans specifically aim to reduce dependency on imported food and to increase consumption of local nutritious food. Linked to the context of geographical isolation, economic transition, and increasing climate change in the Pacific, NCDs are the single leading cause of death in the subregion. FAO is providing support to governments in the formulation of policies that create enabling conditions for influencing business practices and personal behavioural changes to reduce obesity and micronutrient deficiencies. FAO is also strengthening national Codex Committees and the capacity of food laboratories to facilitate the production, export, import and consumption of safe, nutritious food. Additionally, the Organization is enhancing the capacities of government extension services to promote climate-smart and nutrition-sensitive agriculture across the subregion.

Tonga
Supporting agribusiness and rural development.
©FAO/ANTON GLAESER

The Europe and Central Asia region covers more than 50 countries. With a wide variety of topographies, climates and growing conditions, the region’s different agricultural and food systems face important challenges. Beyond structural issues such as farm size and efficiency, there is a need to increase sustainability in order to maintain the potential of agriculture and increase resilience in the face of natural hazards aggravated by climate change.

Despite progress being made in the level of food security in the region, different forms of malnutrition persist, including stunting, micronutrient deficiencies and a growing prevalence of obesity. Additional regional challenges are rural-urban and gender differences in poverty, income, educational and professional opportunities; migration and the effects of climate change. To support Members in achieving the SDGs, FAO is spearheading coordinated efforts to empower smallholders and family farms by helping to improve agri-food trade and market integration, sustainable natural resource management in the face of a changing climate in relation to food security and nutrition.

Policy support in the Western Balkans: FAO’s policy support to this diverse group of countries includes the provision of training on impact assessment and policy monitoring to examine the effects of budget support on farm income and competitiveness and on the well-being of
rural residents. Similarly, in order to support smallholders, promote food exports and explore new trade opportunities, FAO studies best practices regarding organic agriculture and products linked to their geographic origin – including fresh fruit and vegetables, medicinal plants, meat, dairy, fish products and handicrafts.

Georgia

Together with the Government and other partners, FAO has provided technical assistance to develop Georgia’s agriculture sector with the aim of improving rural livelihoods, increasing productivity and contributing to sustainable economic growth. Support is being provided for the development of efficient systems for food safety, animal health and plant protection, and compliance with EU regulations and standards. FAO’s first Global Environment Facility (GEF) project in Georgia is currently being formulated, with a focus on reversing land degradation.

To facilitate assistance in an agile manner, FAO opened a “multiple accreditation” office in Georgia in 2004. The FAO Representative, based in FAO’s Regional Office in Hungary, visits Georgia regularly to maintain a strategic dialogue with the Government and to oversee FAO’s country programme. Under this arrangement, notable results have been achieved in terms of project delivery, and long-term financial support has been mobilized from resource partners. The country office benefits from a close connection with the multidisciplinary team of experts based in the Regional Office. This facilitates dialogue on challenges facing the country as well as action on new activities requested at short notice. Key results include successful policy support and capacity development delivered to the Ministry of Environment Protection and Agriculture which has contributed to the formulation of national agricultural and rural development strategies. Notably, FAO supported the Government in the SDG nationalization process, including an Action Plan for SDG implementation and monitoring. Further FAO achievements include the strengthening of capacities for ensuring Georgian agricultural products access international markets; improving animal disease control; establishing a national agency for agricultural cooperatives, a seed law accompanied by a state-of-the-art certification scheme and a “pilot farm registry.” To help conflict-affected populations, FAO has co-invested more than USD 3 million (with EU support) in agricultural livelihoods for internally displaced people.

Azerbaijan

The partnership between Azerbaijan and FAO has grown over the past 20 years, resulting in the establishment of a Partnership and Liaison Office in Baku in 2015. Assistance has been delivered through a range of interventions focused on increasing agricultural productivity and the successful implementation of Azerbaijan’s agrarian reforms. Recent cooperation has included technical and policy support across the food and agriculture sector, with a focus on rural youth and women’s empowerment as well as assistance for transboundary plant diseases.

“FAO’S COUNTRY OFFICES PROVIDE THE NECESSARY CONNECTION BETWEEN MEMBERS’ PRACTICAL NEEDS AND FAO’S KNOWLEDGE. THIS CONNECTION NOT ONLY GIVES US THE NECESSARY FEEDBACK BUT ALSO ALLOWS US TO REACT IMMEDIATELY TO THE REQUESTS OF GOVERNMENTS AND FARMERS.”

VLADIMIR RAKHMANIN
ASSISTANT DIRECTOR-GENERAL AND FAO REGIONAL REPRESENTATIVE FOR EUROPE AND CENTRAL ASIA
In light of Azerbaijan’s significant economic growth, a recent FAO–Azerbaijan Partnership Programme marked a move away from predominantly development-based cooperation towards a knowledge-intensive partnership, based on the country’s increased capacities and synergies with the national planning process. The Government and FAO’s country team will collaborate with national stakeholders committed to promoting sustainable agriculture and rural development, building on key national plans and strategies such as the “Strategic Road Map on Agriculture”. The vision of this road map extends to 2020, 2025 and beyond in view of the Government’s endeavour to diversify the economy to non-oil sectors. The Azerbaijani Government is now also taking on the role of resource partner, aiming to fund FAO projects through regional and global interventions in addition to national initiatives.

Turkey
The partnership between FAO and Turkey has grown since the creation of the Country Office in 1982 and the Subregional Office for Central Asia in 2007 – co-located in Ankara. The advent of the Subregional Office – set up with support from the Government of Turkey, has enhanced FAO’s ability to respond to national needs as well as regional priorities of other countries in the subregion.

Most countries in Central Asia are moving from planned to market economies and are reforming their institutions. The countries have high potential for developing their agriculture sectors and achieving their food security objectives and FAO’s assistance covers institutional capacity building and the development of knowledge as well as the exchange of experience among countries transitioning from planned to market economies. Turkey is also an active resource partner, providing indispensable technical and financial support to FAO’s activities, particularly within the subregion. The multidisciplinary technical expertise of the Subregional Office covers animal production and health, plant production and protection, fisheries, forestry, land and water management, rural investment, and food security and agricultural policy.

A dynamic partnership programme: The FAO–Turkey Partnership Programme, currently in its second phase (2016–2020), provides a comprehensive framework for cooperation. It focuses on food security, agricultural and rural development, natural resource management (including forestry and fisheries), agricultural policies, food safety, and animal and plant genetic resources for countries in the subregion – Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkey, Turkmenistan and Uzbekistan – and other countries of mutual interest for FAO and Turkey.

Sustainable forestry: The FAO–Turkey Forestry Partnership Programme is focusing on sustainable management of forests and trees, land and natural resource management and land degradation neutrality as well as institutional reform through training and enhancement of national capacities. Programme assistance focuses on the subregion but also extends to countries further afield. Through sustainable forest and tree management, the aim of the Partnership Programme is to contribute to conserving nature and improving rural livelihoods and poverty reduction, in line with the SDGs and FAO’s strategic objectives.
“THE NEW PARTNERSHIP AND LIAISON OFFICE WILL ENABLE US TO MAKE A CONCRETE CONTRIBUTION TO SDGs AND WORK TOGETHER TO CHANGE THE FUTURE OF MIGRATION IN MESOAMERICA AND THE CARIBBEAN.”

JULIO BERDEGUÉ
ASSISTANT DIRECTOR-GENERAL
REGIONAL REPRESENTATIVE FOR LATIN AMERICA AND THE CARIBBEAN

LATIN AMERICA AND THE CARIBBEAN
Regional Office: Santiago, Chile (est. 1952)

Subregional Offices:
Caribbean – Bridgetown, Barbados (est. 1996)
Mesoamerica – Panama City, Panama (est. 2007)

FAO Regional Initiatives
► Hunger-Free Latin America and Caribbean Initiative
► Family Farming and Inclusive Food Systems for Sustainable Rural Development
► Sustainable Use of Natural Resources, Adaption to Climate Change and Disaster Risk Management

MEXICO
Women from the Huaves ethnic group carrying maize cobs in baskets on their heads and material for weaving baskets under their arms. ©FAO/R. GRISOLIA

Through the 2025 Hunger-Free Latin America and the Caribbean Initiative, the region was the first to commit to the complete eradication of hunger. This political commitment is based on the conviction that Zero Hunger is an achievable target, as three of the region’s countries have already eradicated hunger, 15 have achieved the first Millennium Development Goal of halving the proportion of people suffering from hunger, and 11 have achieved the World Food Summit target of reducing the total number as well as the proportion of undernourished people. The region’s food security policies and programmes, and its role as a leading food producer, place Latin America and the Caribbean at the forefront of the global fight against hunger. Many of its flagship initiatives are being adapted and applied to other regions.

The FAO Regional Office supports countries by monitoring food security levels, assisting with hunger-eradication strategies and laws, promoting family farming, agricultural and rural development and climate-change adaptation policies. Throughout the region, there is an emphasis on support to women and to indigenous peoples. Through its Subregional Offices in Barbados and Panama, FAO supports Mesoamerican and Caribbean countries working towards Zero Hunger, reducing obesity, developing food value chains, enhancing disaster risk management and addressing climate change.

Mexico
The 40th anniversary of FAO’s country office in Mexico coincided with its transformation in October 2017 to a Partnership and Liaison Office – the first in the region. This development shows recognition for the longstanding and fruitful partnership between Mexico and FAO as well as for Mexico’s contribution to regional and global
sustainable development. FAO has a varied history of presence in Mexico: prior to hosting a country office, as early as 1951 the country was home to the Regional Office for Mexico, Central America and the Caribbean, which then became the Subregional office for North Latin America between 1956 and 1969. During this period, several technical cooperation projects were implemented, two of which stand out for having initiated FAO's country-level activities in Mexico: The National Forest Inventory (1952–1960); and the creation of a postgraduate course for the National Veterinary Medical School at Mexico's National Autonomous University (1967–1972).

Eradication of the Mediterranean fruit fly in 1982 was a significant result of country-level cooperation with Mexico. It was the first time the pest had been eradicated in a continental area using the Sterile Insect Technique. The eradication programme was set up in 1977 by the governments of Mexico, Guatemala and the United States of America, with support from FAO and other partners. With the International Year of Family Farming in 2014, FAO supported the creation of a Mexican Network for Family, Indigenous and Peasant Farming, which today comprises more than 120 organizations. For the past 20 years, FAO has provided training and methodological assistance to government offices, resulting in strong capabilities for the evaluation of rural development programmes. Regarding the SDGs, FAO is currently assisting the Government in developing indicators and methodologies for monitoring progress. Monitoring support is also provided for forest resources through FAO's technical assistance to the Mesoamerican Virtual Centre of Excellence in Forest Monitoring. This has produced a reference for the ten countries belonging to the Mesoamerican Strategy for Environmental Sustainability (EMSA) and such engagement is an example of Mexico's role in supporting South–South cooperation.

**El Salvador**

While FAO began operations in El Salvador in 1956, the country representation opened in 1977. Since then, FAO and El Salvador have combined efforts to improve rural communities’ livelihoods and increase management of natural resources, including risk and disaster management. Over the years, a significant focus has been on sustainable agricultural and rural development, adaptation to climate change and public policies to guarantee food and nutrition security.

The El Salvador Country Office is currently running more than 40 projects, all aligned with the SDGs and national development priorities, and with actions aimed at improving the resilience of Dry Corridor agricultural systems to climate change. Central to this strategy is the USD 127.7 million RECLIMA programme, recently approved by the Green Climate Fund.

Earlier FAO interventions – such as agricultural recovery after tropical storm Stan and the Ilamatepec (Santa Ana) volcano eruption in 2005 – helped lay the basis for longer-term rural development, as they were underpinned by strategies to organize civil society and local communities. FAO’s support has helped to diversify smallholder production and improve agricultural practices, also paving the way for formulation and adoption of the National Family Farming Plan in 2011.

FAO works hard to ensure social inclusion, including the participation of women and indigenous peoples in the development of public policies and programmes to improve the food and nutrition security of vulnerable population groups.

Food and nutrition education are a priority for FAO in El Salvador, and an example of the Organization’s holistic approach to food systems. School feeding programmes, for example, began as a means of food distribution and grew into a “Sustainable School Model” involving school gardens with an educational focus, fresh food from family farming, and young people who have become responsible consumers as well as promoters of healthy food and nutrition.

**Jamaica**

In 1978, FAO established a representation in Jamaica, which now also covers the Bahamas and Belize. Currently, FAO takes an integrated multisectoral approach to reducing hunger, eliminating poverty and promoting the sustainable management and use of the
country’s natural resources. High-priority areas are food security and nutrition and value chain development. Through inter-ministerial collaboration, FAO has implemented a mechanism to increase the procurement of local produce from community agricultural producers for local school feeding programmes. This supports the national Food and Nutrition Security Policy and Action Plan and CELAC’s Plan for Food Security, Nutrition and Hunger Eradication 2025.

Through South–South Cooperation between Chilean institutions and the Jamaican Government, FAO has facilitated the strengthening of technical and institutional capacities in nutrition surveillance. Efforts to improve a Nutrition Surveillance System will continue. This will produce more efficient and accurate data on Jamaica’s dietary practices and consumption patterns to promote better food and nutrition practices within the first 1 000 days of human life.

FAO has supported the Government with strategic planning, including an upgraded Value Chain Strategy and Action Plan for Ginger Production, a Small Ruminant Development Strategy, a Food Losses and Waste Reduction Strategy, and a Sea Cucumber Management Strategy. These sectors can help significantly to boost the economy, support sustainable resource use and improve livelihoods.

In March 2018, Jamaica hosted and chaired the 35th FAO Regional Conference for Latin America and the Caribbean to agree on regional priorities for 2018–2019. The event coincided with the FAO country representation’s 40th anniversary celebration.

NEAR EAST AND NORTH AFRICA
Regional Office: Cairo, Egypt (est. 1952)

Subregional Offices:
North Africa – Tunis, Tunisia (est. 1996)
GCC States and Yemen, Abu Dhabi, UAE (est. 2008)

FAO Regional Initiatives
- Near East and North Africa’s Water Scarcity Initiative
- Building Resilience for Food Security and Nutrition
- Small-scale Family Farming

The Near East and North Africa region encompasses countries that are vastly different in terms of wealth, population and natural capital endowment, but which face common challenges with respect to sustainable agricultural development and food security. Among these are water scarcity, high food import dependency, population growth, rural–urban migration in the context of agriculture and youth employment and the impact of climate change.

FAO is committed to long-term sustainable development in the region. Through country and regional programmes, it has worked with host countries to implement interventions, activities and projects, all supporting the development priorities of member countries, including improved living and nutrition standards and sustainable natural resource management. It is supporting the development of strategies and policies that contribute to eradicating food insecurity, hunger and malnutrition, and building resilience to shocks and crises as a means to achieve regional stability and peace – of pivotal importance for achieving Zero Hunger by 2030.

Strategic partnerships are being built and strengthened with various stakeholders in the Arab region, including other UN agencies, regional organizations, non-governmental entities and civil society.
Egypt

Co-located with the Regional Office in Cairo, since its establishment in 1978, FAO’s country representation in Egypt has been a key player in several agricultural and rural development activities. In the 1980s, FAO supported the Egyptian Government in introducing agricultural policy changes, while in the 1990s, the focus was on building specialized systems for improved crop management.

In the 2000s, in addition to a focus on empowering Nile Basin countries, FAO has been engaged in a range of priority activities. It promoted conservation, fostered growth through investment, acted to improve nutrition and food security, address water scarcity and climate change, natural resources management and transboundary animal diseases, developing fisheries, promoting good agricultural practices, reducing food loss and waste, and supporting the South-South Cooperation with Nile Basin countries.

In addition to supporting the development of Egypt’s Sustainable Agricultural Development Strategy (SADS 2030), FAO has backed policies for sustainable re-use of wastewater in agriculture and established the country’s Food Security Policy Advisory Board to boost technical and institutional capacities for food security and nutrition policymaking. Several information management systems have been developed and technical expertise has been provided for enabling poor families to grow fresh fruit and vegetables on rooftops, terraces and patios.

FAO looks forward to continuing its work with Egypt through the jointly developed Country Programming Framework, focusing on agricultural productivity, food security, strategic commodities, and sustainable use of natural agricultural resources.

Lebanon

FAO started to implement projects in Lebanon in 1960 and cooperation was further strengthened in 1977 with the opening of the Country Office in Beirut. Over the years, FAO has implemented more than 200 projects in Lebanon, addressing the needs of farmers, rural dwellers and urban poor. Through these projects, FAO has helped strengthen the Ministry of Agriculture and other Lebanese institutions. These projects covered a wide range of activities, from agriculture and rural development to environment and natural resources management.

Abdelsalam Ould Ahmed
Assistant Director-General and Regional Representative for the Near East and North Africa

"FAO REPRESENTATIONS IN THE REGION SOLIDIFY OUR PARTNERSHIP WITH MEMBER COUNTRIES TOWARDS ACHIEVING THE 2030 SUSTAINABLE DEVELOPMENT GOALS."

"AN OPEN FAO"

©FAO

FAO CHALLENGES AND OPPORTUNITIES IN A GLOBAL WORLD
range of interventions covering crop and animal production and protection, fisheries, reforestation, land and water conservation, agri-processing and marketing, food safety and standards, and agricultural statistics, among others.

In the context of the Syria crisis, with the Lebanese Ministry of Agriculture and the World Food Programme, FAO is currently co-leading the coordination and planning mechanism for food security within the Lebanon Crisis Response Plan. FAO has also been at the forefront of win-win interventions, advocating for the temporary employment of Syrian workers to rehabilitate and upgrade rural infrastructure and thereby contributing to the longer-term sustainable development of Lebanon’s agriculture sector.

FAO’s programme in Lebanon supports the inclusion of women and youth in agricultural and rural development, sustainable natural resource management and resilience. Activities include support to agricultural production systems to overcome production constraints, boosting investment in agriculture and assisting small-scale and vulnerable farmers in their efforts to reduce production costs, increase quality and overcome post-harvest barriers. Strengthening agricultural cooperatives and farmer associations is another key component.

Enhancing the resilience of communities hosting Syrian refugees is yet another important area of work, where investment in rural infrastructure and agri-food value chains is being promoted with a view to generating employment and other livelihood opportunities.

To strengthen sustainable management of natural resources and adaptation to climate change, FAO is supporting the application of climate-smart agricultural techniques, including efficient irrigation techniques; soil and water conservation; good agricultural practices and long-term reforestation and forest management efforts.

**Syrian Arab Republic**

Since the opening of the FAO representation in the Syrian Arab Republic in 1978, cooperation with FAO has produced notable results in the country’s agriculture sector. Examples include improved fisheries and aquaculture management in the 1980s, policies to boost irrigation efficiency in the 1990s, and the founding of Syria’s National Agricultural Policy Centre in 2000. In 2009, after a prolonged drought, FAO supported the Government’s drought response plan to restore food production and safeguard agricultural livelihoods. With the current humanitarian crisis and high numbers of food-insecure people, there has been a shift in focus from technical and policy assistance to resilience building for food and nutrition security. FAO’s work in this area will continue to concentrate on strengthening the capacity of rural and peri-urban populations to adapt to and recover from the impacts of conflict. Since the beginning of the crisis, FAO has supported livestock vaccination campaigns and helped more than 1.4 million livestock owners to increase their assets and improve meat and dairy production for their own consumption. More recently, FAO has been conducting emergency marketing mapping and supporting the creation of a national agriculture coordination mechanism. At the community level, it has been supporting training in nutrition-sensitive agriculture in schools.
In 2013, FAO adopted an open-door policy in order to strengthen ties with civil society, the private sector, academic organizations, research bodies, the media and cooperatives. By joining forces, FAO and its more than 150 partners can more effectively contribute to eradicating chronic hunger and poverty and improving access to food.

Marcela Villarreal, Director of FAO’s Partnerships Division, explains it very concisely: “FAO has understood that to eradicate hunger and all forms of malnutrition, including obesity, another step forward is needed; it must open up to the world and begin to join forces with everyone who is involved in our struggle.” For this, the Organization is promoting appropriate investment in agriculture and rural areas, and it has established mechanisms to determine the potential opportunities of partnering with non-government entities.

In line with the 2030 Agenda’s call to leave no one behind, FAO is leading the contribution of innovation throughout the entire food system, taking into account the expertise of the different stakeholders, including the private sector, non-governmental organizations, farmers, universities and parliamentarians.
FAO’s Six Areas of Collaboration

Political commitment and major alliances with key stakeholders are crucial to meet the Zero Hunger Challenge. Partnerships with NGOs, producer organizations, cooperatives, parliaments and the private sector are at the heart of FAO’s mission to help build consensus for a world without hunger. Below are FAO’s six areas of collaboration.

1. UNIVERSITIES & RESEARCH INSTITUTIONS

FAO cooperates with more than 60 accredited institutions from around the world to develop joint projects, prepare technical manuals and teach FAO-inspired courses. Examples include: Agrinatura, Texas A&M University, RUFORUM, Roma Tre University, and Wageningen University.

2. FARMER ORGANIZATIONS & NGOs

Civil society organizations play a critical role in the fight against hunger given their technical expertise, their representation of the hungry and poor, and their increasing presence in the field. FAO has established partnerships with 32 CSOs and 7 cooperatives, including La Vía Campesina, Consumers International, SEWA and Slow Food.

3. PRIVATE SECTOR

The Organization has established strategic partnerships with more than 50 enterprises, companies and businesses in the fight against hunger to increase investments in agriculture, foster entrepreneurship and improve knowledge dissemination. Partners include Rabobab Foundation, ENI and Telefónica.

4. PARLIAMENTARY ALLIANCES

FAO works with 40 regional, subregional and national Parliamentary Alliances worldwide to guarantee the right to food for all, particularly through enacting laws, directing political discussion, approving budgets and ensuring adequate processes for accountability.

5. RESOURCE PARTNERS

FAO works with resource partners from national governments, UN agencies, Institutional Resource Partners, International Financing Institutions, the private sector and foundations, including the Global Environment Facility, the World Bank and the Central Emergency Response Fund.

6. SOUTH–SOUTH COOPERATION

For more than 20 years, FAO has worked with close to 100 partners to support the mutual sharing and exchange of knowledge, good practices, policies and technology between and among countries in the global South.

Universities and Research Institutions

Universities and research institutions foster critical thinking and generate knowledge and innovations, which are essential in the fight against hunger and food insecurity. Through alliances with more than 60 academic institutions, FAO seeks to close the gap between research, innovation and implementation. Knowledge and ideas generated from these partnerships can be applied to issues such as sustainable agricultural production, food security and nutrition, food losses and waste, and rural poverty reduction.

Agrinatura

FAO and Agrinatura – a consortium of 31 European universities and research centres – have partnered to accelerate agricultural innovation and boost cooperation between universities and research centres throughout Europe and in developing countries. Through a European Commission funded project, the partnership seeks to promote agricultural innovation among small farmers in countries in Asia (Bangladesh and Laos), Africa (Angola, Burkina Faso, Ethiopia and Rwanda), and Latin America (Guatemala and Honduras).

Texas A&M University

In the Horn of Africa, droughts can wreak havoc on national sustainable livestock production systems, affecting both nutrition and livelihood resources. Those most at risk are small-scale herders in arid and semi-arid lands, where livestock rearing can account for as much as 90 percent of employment and family income. To support people in meeting the challenges of climate shocks, FAO works in partnership to provide better tools to monitor and assess both short and long-term trends that affect food security in Africa.

In 2017, FAO and Texas A&M University piloted a web-based support tool, the Forage Condition Index, as part of the Predictive Livestock Early Warning System. Using a statistical forecasting methodology combined with near real-time and historical climate data, the system is able to generate forecast forage conditions for up to six months in advance by simulating livestock species preference for forage in a competitive environment.

RUFORUM: Regional Universities Forum for Capacity Building in Agriculture

Since 2017, FAO has partnered with RUFORUM, a consortium of 106 universities across 36 countries in Africa, to develop capacities which will
improve food security, support sustainable agriculture and help to achieve the Sustainable Development Goals (SDGs) in the region. With FAO’s support, RUFORUM has implemented a Community-Based Field Attachment Award (CFAPA) program to promote youth support for the SDGs, in particular SDG 2: end hunger, achieve food security and improved nutrition and promote sustainable agriculture.

The CFAPA program is designed as graduate student placement in a rural community, giving students a chance to apply, scale-out and disseminate the findings of their research in a way that contributes to increased sustainability and resilience of small-scale agriculture, improved livelihoods and reduced rural poverty. The program aims to provide an opportunity for students to link academic work with the experience of rural community, engage in knowledge exchanges with local farmers, and develop practical skills to apply research findings in development-related field projects.

**Roma Tre University**

FAO signed a partnership agreement with Roma Tre University in 2016, with the overall goal of enhancing graduate programmes and raising awareness around issues related to food security and agriculture. During the past few years, FAO delivered a series of lectures to students in the Human Development and Food Security Master’s programme to share knowledge and expertise on food security, nutrition, gender and SDGs and enhance awareness of FAO’s work in these areas. Both partners have collaborated on research and development of methodologies and good practices concerning cooperatives and producer organizations in particular, with an aim to explore their role and contributions to rural poverty reduction. In 2018, FAO and Roma Tre University documented successful strategies on the inclusion of poor farmers in cooperatives and producer organizations (POs).

**Wageningen University & Research**

FAO and Wageningen University & Research have collaborated for decades in the fight against hunger. However, recognizing that formal collaborations could provide a concrete framework for more effective delivery, FAO and Wageningen entered into partnership in 2008 with a vision to foster innovations and new approaches to boost food security and sustainable food systems.

**AFRICA**

RUFORUM participants in Benin (above) and Uganda (below).

©FAO/MARIUS AFFORENTE (BENIN) AND FAO/RUTHIE MUTYABA (UGANDA)
Through coordinated and complementary actions, the partnership facilitates cross-cutting approaches to address food insecurity and is constantly evolving to address today’s challenges, including climate change, diminished natural resources, forced migration, urbanization, obesity and undernourishment.

**FARMER AND NON-GOVERNMENTAL ORGANIZATIONS**

Civil society organizations (CSO) play a crucial role in food security and poverty reduction. In recent years, they have managed to create a space for dialogue with Member States and other stakeholders at regional and global levels, contributing to the creation of policies as well as relevant regulatory debates. Through partnerships with Civil Society Organizations, FAO aims to strengthen ties with social movements, member-based organizations and NGOs that share the goal of eradicating hunger, malnutrition and food insecurity. Such partnerships allow for CSOs to share skills and traditional knowledge in various areas, while helping to raise awareness on the importance of the fight against hunger by promoting and disseminating FAO’s technical knowledge through their broad networks.

Cooperatives are autonomous, member-driven organizations which represent a unique business model with a social conscience. They adopt principles of nondiscrimination, help empower their members, and offer a range of services, including market opportunities. Cooperatives are also important vehicles for reducing poverty and creating jobs as they contribute to socio-economic development, and ultimately to food security.

**La Via Campesina**

La Via Campesina is one of the largest international social movements. It brings together more than 200 million small-scale farmers and producers, landless farmers, women, youth, indigenous people, migrants and agricultural workers from 164 organizations in 79 countries worldwide. The network, an autonomous and independent movement, defends small-scale sustainable agriculture as a way of promoting social justice and dignity and building societies free of hunger and malnutrition.

In 2013, FAO and La Via Campesina formalized an institutional framework for a partnership between the two organizations and defined proposals of collaboration in areas of common interest. The agreement marked a milestone in the partnership between FAO and civil society organizations. FAO supports the effective participation of La Via Campesina in political processes at different levels and promotes dialogue for designing sustainable local initiatives, projects and emergency interventions. The partnership is based on knowledge sharing, dialogue, policy development and cooperation in normative activities. It also addresses various issues of mutual interest, including those related to land, seeds and agro-ecological practices of small-scale farmers.

“NO ONE ORGANIZATION CAN ERADICATE HUNGER AND REDUCE POVERTY ALONE; ONLY IN PARTNERSHIPS WITH A BROAD RANGE OF STAKEHOLDERS CAN WE ACHIEVE THIS.”

JOSÉ GRAZIANO DA SILVA
FAO DIRECTOR-GENERAL
International Planning Committee for Food Sovereignty
In 2014, FAO and the International Planning Committee for Food Sovereignty (IPC) agreed on closer cooperation, helping millions of food producers, including women, to have a greater voice in debates on issues related to food security and nutrition. IPC is a global platform for small-scale food producers, rural workers’ associations, grass-roots and community-based organizations and social movements that brings together over 800 organizations and 300 million small-scale food producers.

Among the priority work areas identified in the agreement are the promotion of the implementation of FAO’s Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security at national and grass-roots levels; the execution of FAO’s Policy on Indigenous and Tribal Peoples; and securing the approval and implementation of Guidelines for Securing Sustainable Small-Scale Fisheries, which are being developed by FAO’s Committee on Fisheries (COFI).

Self Employed Women’s Association (SEWA)
In 2016, FAO and India’s Self Employed Women’s Association (SEWA) agreed on intensifying joint efforts to empower rural people – particularly women, who are key to eradicating poverty and hunger and promoting nutritious and healthy food systems. The partnership is underpinned by the common objectives of reducing rural poverty and ensuring food security, recognizing that high poverty levels, especially in rural areas, stem from many factors, including limited income-generating opportunities, inadequate livelihood options and a lack of participation in decision-making processes. Both FAO and SEWA believe that generating evidence, experience and knowledge around the inclusion of women and young people in the rural economy serves as a crucial means to ensure sustainable food security and nutrition and to inform policy dialogue.

Consumers International
In 2017, FAO partnered with Consumers International (CI), which works to ensure that consumer voices, needs and perspectives are recognized in policy debates. CI was founded in 1960 and represents more than 240 consumer rights groups in 120 countries. Both partners recognize that consumers around the world can be a powerful force for change towards more sustainable and equitable food systems.

The partnership aims to enhance Consumer International’s access to FAO’s wealth of knowledge and information, while giving FAO the opportunity to work more closely with the network of CI’s member organizations who communicate with and advocate for consumers. It will help strengthen consumer protection from food hazards, by promoting awareness among consumers on safe food handling, standards for food processing along the value chain, healthy nutritional habits and sustainable diets. FAO and CI are already collaborating successfully in Latin America and the Caribbean, advocating for and supporting the development of public policies to improve access to healthy food and optimizing nutrition information.

Coldiretti
In 2018, FAO joined forces with Italy’s main farmer organization, Confederazione Nazionale Coltivatori Diretti (Coldiretti), with the goal of achieving Zero Hunger and promoting healthier diets...
for all. Founded in 1944, Coldiretti has more than 1.6 million members, and is a member of the World Farmers’ Organisation, with which FAO works closely.

Under the agreement, FAO and Coldiretti will promote exchanges of knowledge and good practices on sustainable agriculture, use of natural resources, food value chain organization, innovation for a sustainable agri-food sector, and inclusion of smallholder and family farmers in policy-making processes that affect them. The partnership paves the way for joint actions to promote sustainable agriculture, including organic and biodynamic farming, geographical indications, biodiversity, food loss reduction, and climate change adaptation and mitigation.

**Slow Food**

In the context of the International Years of Quinoa, in 2013, and of Family Farming, in 2014, FAO and Slow Food joined forces to raise global awareness of the important role of quinoa and family farming in sustainable food production and poverty eradication. The collaboration between the parties aims to improve the livelihood of populations living in rural areas and ensure more inclusive food and agriculture systems at local, national and international levels.

The two organizations have an ongoing collaboration in several countries. In Bolivia (Plurinational State of), in cooperation with Fundación Pasos, Slow Food helped a farmers’ association to develop a participatory certification process and improve training on black amaranth production (cultivation, management, transformation and storage), product development, and marketing. In Cuba, products with potential to be included in the Mountain Partnership Products initiative in the Escambray Mountains were mapped and analysed. In Georgia, FAO and Slow Food are carrying out an inventory of traditional products and Geographical Indication potentialities in the country, in collaboration with local partner OriGIn-Georgia, and assessing the gaps to be addressed in the production and market system of Tenili cheese.

**Civil Society Mechanism**

The Civil Society Mechanism (CSM) for relations with the United Nations Committee on World Food Security (CFS) is the largest international space of civil society organizations working to eradicate food insecurity and malnutrition. Founded in 2010, it facilitates civil society participation and articulation into the policy processes of the CFS.

Participating organizations represent smallholder farmers, pastoralists, fisherfolks, indigenous peoples, agricultural and food
workers, landless, women, youth, consumers, urban food insecure and NGOs. In total, there are more than 300 million affiliated members from all continents.

Each year the CSM holds its Annual Forum prior to the CFS Plenary Session, and it is open to all interested civil society participants of the CSM. This two-day forum is a fundamental moment and space for the CSM. At the Forum, CSOs are able to debate, consolidate, articulate and finalize their positions, which are then shared and brought to the CFS Plenary Session.

PARLIAMENTARY ALLIANCES AGAINST HUNGER

Parliamentarians are key stakeholders for the implementation of political commitments in the area of food security and nutrition considering their legislative, budgetary and oversight responsibilities. FAO supports parliamentarians as they seek to promote or enact legislation relating to food security and nutrition, helping them raise awareness on these issues and connecting them with other parliamentary bodies around the world to enable dialogue and discussion around these topics. In recent years, FAO has facilitated the establishment of 40 national parliamentary alliances covering the regions of Africa, Latin America and the Caribbean, Asia and Europe. Drawing on its knowledge and expertise, FAO facilitates the sharing of good practices on legal frameworks and public policies, and provides relevant technical information and capacity building to parliamentary bodies on key issues related to food security.

Global Parliamentary Summit against Hunger and Malnutrition

In October 2018, FAO co-organized the first Global Parliamentary Summit against Hunger and Malnutrition in Madrid, in collaboration with the Spanish Senate, the Spanish Agency for International Development Cooperation (AECID), the Latin America and the Caribbean Parliamentary Front against Hunger, and with the support of the European Commission, IFAD and APF. The summit sought to advance political will to achieve the Sustainable Development Goals. Around two hundred parliamentarians from different countries all over the world joined the Summit and affirmed their political commitments related to achieving Zero Hunger. FAO continues to follow up on commitments to ensure concrete actions at a national level.

Parliamentary Front against Hunger in Latin America and the Caribbean

Established in 2009, the Parliamentary Front against Hunger in Latin America and the Caribbean (PFH LAC) is a multi-partisan platform that brings together legislators from parliaments in the region, principally aimed at strengthening the legislative frameworks in the region’s parliaments to facilitate the realization of the right to adequate food. FAO, together with the Spanish Agency for International Development Cooperation, supports the work of the PFH LAC through training, planning, and organization of important events such as regional fora. Since the establishment of the PFH LAC, four framework laws have been produced as guides for countries in the region and more than 20 laws relating to food and nutrition security have been enacted nationally.

European Parliamentary Alliance Against Hunger

In 2016, Members of the European Parliament (MEPs) from different parliamentary committees, political groups and various Member States launched the European Parliamentary Alliance on the Fight
Against Hunger, an informal working group made up of MEPs which will address issues related to food security, nutrition and sustainable agriculture.

MEP Paolo de Castro, who was endorsed and appointed by Members as the Coordinator for the Alliance, underlined the importance of the fight against hunger and the need for parliamentarians to push European institutions and stakeholders to keep the issue of food and nutrition security high on the political agenda.

Parliamentary Network for Food Security in Africa and the Arab World
At the start of 2019, around 50 parliamentary representatives from Africa and Arab World countries launched the Parliamentary Network for Food Security in Africa and the Arab World. The Network is an initiative of the Association of Senate, Shoora and Equivalent Councils in Africa and Arab World (ASSECCA), supported by FAO through its Regional Initiative on Building Resilience for Food Security and Nutrition in the Near East and North Africa.

The launch of the Parliamentary Network for Food Security in Africa and the Arab World is a landmark achievement and a huge step towards fighting food insecurity and hunger in the region. FAO’s most recent estimates indicate that food security and nutrition levels in the Near East and North Africa have sharply deteriorated over the last five years, undermining the steady improvements achieved before 2010.

PRIVATE SECTOR
The private sector plays a fundamental role in reaching Zero Hunger as part of the 2030 Agenda in the fight against food insecurity, malnutrition and rural poverty. According to Marcela Villarreal, “It is a mistake to see the private sector only as a source of funding. Companies can make contributions in kind such as agricultural inputs and logistical support; they offer services and support for workers and for the communities where they are based; they create capability in rural communities and share knowledge and expertise. The private sector is a valuable source of information and know-how, which can help FAO improve its operations in the food production industry and reduce hunger around the world”.
Rabobank Foundation

Founded in 1973 and based in the Netherlands, Rabobank Foundation is a corporate foundation funded by the Rabobank Group, which donates a percentage of its annual profits to the foundation’s activities. Its main activity is to support cooperatives and member-based organizations through microfinance mechanisms. The Foundation assists small farmers and their cooperatives in rural areas of 24 Latin American, African and Asian countries.

Small farmers’ access to credit in Africa is improving through a combination of Rabobank’s financial expertise and FAO’s technical know-how within its local networks. In 2013, FAO and Rabobank Foundation began a partnership focused on boosting food security through rural agricultural development. Projects in the United Republic of Tanzania, Ethiopia and Kenya helped improve smallholder farmers’ incomes, access to financial tools and ability to invest in more efficient production of food crops.

In 2018, FAO expanded cooperation with Rabobank to new thematic areas and countries, with the aim of building the capacities of financial professionals and legislators to develop rural and agricultural financial markets and to expand large-scale field partnership through a programme of longer-term interventions.

ENI

In Northeast Nigeria and the Federal Capital Territory of Nigeria, FAO and Eni (the Italian multinational oil and gas company) are working together to provide local communities and internally displaced persons with safe and clean water by drilling boreholes powered with photovoltaic systems. The project aims to contribute to the humanitarian interventions for internally displaced persons (IDPs) and host communities affected by the North East Lake Chad crisis, which has led to unprecedented levels of population displacements and prolonged disruption of agricultural, livestock and fishing activities. The Access to Water project is the first initiative promoted in the FAO/Eni collaboration.

Teledónica

In 2017, FAO and Spain’s Telefonica, one of the world’s largest telecommunications companies, agreed to work together to leverage the use of cutting-edge digital technologies for agricultural development, food security and nutrition, and specifically, prepare and strengthen farmers in the face of extreme weather events related to climate change. The partnership foresees joint initiatives targeting innovation, digitalization, data analysis and systems so that farmers can access vital information to improve their livelihoods and strengthen their resilience to climate change.

Kuehne Foundation

In 2013, FAO and the Kuehne Foundation joined forces to support rural livelihoods through improved logistics. The collaboration involved the design and delivery of on-the-spot training on humanitarian and agro-industrial logistics to FAO field staff and local partners. The Kuehne Foundation, a Swiss-based foundation focusing on training, education and research in the field of transport and logistics, will provide capacity building and knowledge exchange in logistics for agriculture, both in emergencies and for the development of efficient food and agricultural systems. The partnership outlines a broad framework of programmes to alleviate suffering of populations affected by the growing number of crises that impact food security and, second, to help actors of food supply chains
deliver quality and safe food to consumers. The FAO and the Kuehne Foundation have currently developed a Food Logistics module for towns aimed at urban planners and municipalities. These tools are available to the Organization and its members for technical capacity building.

**Google**

Google Maps and FAO agreed to work in close partnership to ensure that geospatial surveillance and mapping tools are more accessible, helping countries to tackle climate change with the latest technology and building the capacity of experts working in the field of forestry policies and land use.

The partnership between Google Maps and FAO is designed to foster innovation and expertise and sharply broaden access to easy-to-use digital tools. Google Maps provided 1 200 trusted tester credentials on Google Earth Engine to FAO staff and partners, as well as training. FAO trained its own staff and technical experts in Member States, upon their request, to use free and open source software tools developed within its Open Foris Initiative and using Google technology, such as Earth Engine. In 2016, a working team was set up within the Organization headquarters made up of Google and FAO experts in the use of high-resolution satellite information as a tool for daily use in natural resource management in order to support the various projects.

**Fertitecnica Colfiorito**

In 2017, FAO partnered with Fertitecnica Colfiorito Srl, an Italian market leader in pulses, to support smallholder farmers’ access to market. The initiative helps facilitate the access of agricultural cooperatives in the southern hemisphere to the European pulses markets, using Fertitecnica’s distribution network. The partnerships will bring sustainably cultivated beans, chickpeas and lentils from agricultural cooperatives in developing countries to the shelves of Italian and European supermarkets, providing important economic support to smallholder farmers while helping to promote healthy nutrition in Europe. Other initiatives foreseen by the agreement include publications, an app that helps children and adults learn...
about the benefits of legumes in a fun and interactive way, and support to universities and research centres to develop studies on new ways of cultivating and consuming pulses.

**MARS**

In October 2015, FAO and Mars Incorporated signed a Memorandum of Understanding (MoU) to work together to achieve better food safety and quality along the food chains, especially in developing countries. The agreement aims at promoting international standards for food safety and quality, improving food safety management, based on scientific principles to reduce food-borne illness, and facilitating global access to information.

Under the agreement, Mars supports FAO’s food safety program by providing access to food safety data and by providing experts in key areas such as traceability. The FAO-Mars collaboration also focuses on reducing food safety risks related to mycotoxin contamination. The data and knowledge related to mycotoxin contamination developed by Mars Inc. is considered to be of great benefit in expanding the functionalities of the FAO mycotoxin sampling tool, which has already drawn the interest of a number of Member States as well as other UN agencies.

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**Promoting principles of responsible agricultural investment**

In 2014, the Committee on World Food Security (CFS) adopted the Principles for Responsible Investments in Agriculture and Food Systems (CFS-RAI) in order to provide guidance to all types of agricultural investment including fisheries, forests and livestock. In this context, FAO promotes inclusive business models (IBMs) as one of the approaches that encourage the responsible integration of small-scale producers into markets, with the underlying principle that they offer mutual benefits for farmers and the private sector.

In 2018, FAO, in partnership with the Sam Moyo African Institute for Agrarian Studies (SMAIAS) and the International Institute for Sustainable Development (IISD), organized the “International Symposium on Contract Farming and Other Inclusive Business Models” in Harare, Zimbabwe. The multi-stakeholder symposium was attended by 120 participants and brought together institutions that represent buyers (private sector companies) and farmers (cooperatives/associations), in order to enhance discussions on how to improve agricultural contracts using the CFS-RAI and the OECD-FAO Guidance for Responsible Agricultural Supply Chains.
South-South Cooperation (SSC) is an integral part of international cooperation for development. Grounded on its unique principles and flexible approaches, SSC, as a complement to North-South cooperation, provides developing countries a broader framework to engage in mutually-beneficial cooperation in pursuit of their individual and collective development goals. In recent years, South-South and Triangular Cooperation (SSTC) has gained momentum and emphasis in the global development discourse being recognized as an effective mechanism in the implementation of the 2030 Agenda for Sustainable Development. In this context, particular emphasis has been placed on SSTC in the areas of science, technology, innovation and capacity development.

SSTC became formalized and institutionalized at FAO with the launch of the Special Programme for Food Security (SPFS) in 1994. The programme was implemented mainly for the support of low-income food-deficit countries (LIFDCs) to improve their national food security through increased productivity and sustainable food production. As an important scheme within the SPFS, SSC enabled countries to benefit from the experience and expertise of other developing countries, largely through the deployment of experts from provider countries to work directly with farmers in rural communities of

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**SENÉGAL**

Through the FAO South-South Cooperation Programme, a Vietnamese expert teaches Senegalese farmers about methods of cultivating improved rice varieties.

©FAO/J. KOELEN
South-South and Triangular Cooperation (SSTC) is increasingly recognized as an effective mechanism in the implementation of the 2030 Agenda for Sustainable Development.

Recipient countries. SSC was a key factor for success of the SPFS. Projects implemented under the programme demonstrated the intensified use of diverse technologies to increase the yield of major staple crops sustainably.

In 2012, FAO established an SSC Unit as part of its reform agenda and efforts to ensure stronger institutional support for SSTC. To bolster FAO’s institutional support to SSTC and to enhance visibility of its work in this area, the SSC Unit became a full-fledged Office of South-South and Triangular Cooperation in 2019. Convinced that all countries have innovative solutions to offer, and observing that in recent years, developing countries, in particular emerging economies, are increasingly cooperating and exchanging development solutions with other developing countries, FAO is fully committed to facilitating these connections.

Three features of FAO’s recent approaches to SSTC include: 1) upstream policy engagements and the facilitation of policy dialogues and policy exchanges related to agriculture, food security and nutrition; 2) active engagement in SSTC with non-state actors including parliamentarians, local governments, private sector, academia, NGOs, cooperatives, and farmer associations; and 3) a decentralized approach to involve local actors, municipalities and cities in SSTC.

A Few Examples of FAO’s SSTC Initiatives

- **Parliamentarian-to-Parliamentarian exchanges.** The Parliamentary Front against Hunger (PFH), established in 2009 within the framework of the Hunger Free Latin America and the Caribbean initiative, has played a key role in the fight against hunger and malnutrition in the region including through supporting the creation of legal frameworks and institutional arrangements to ensure access to adequate food and nutrition as fundamental human right.

- **Producer Organizations and Parliamentarians.** FAO utilizes an innovative and flexible approach to bring together parliamentarians and producer organizations under the SSTC umbrella with the aim of replicating good practices in the fight against hunger and malnutrition. FAO brings these two actors together because of their complementary roles: producers have technical skills while parliamentarians enact legislation and are key to institutionalizing government policies that support producer organizations.

- **City-to-City collaboration.** The City-to-City Initiative promotes the potential of mutual support between local governments to make their cities and interconnected regions more food secure. The initiative is built on the understanding that cities in developing countries face similar socio-economic challenges and through collaboration and sharing of good practices, they can support each other in their endeavors to achieve urban food security and transition towards more sustainable food systems.

- **Farmer-to-Farmer exchanges.** Farmer-to-farmer exchanges are another decentralized approach to SSTC through which FAO facilitates knowledge exchanges and experience sharing among farmers and producer organizations at the local and grass-roots level. While the approach has gained more traction in recent years, it was already applied by FAO as part of the Farmer Field Schools (FFS) as early as the 1990s, before SSTC institutionalized in FAO. By focusing exchanges at the grass-roots level, the approach has been effective in meeting the capacity needs of local actors, marginalized and vulnerable groups including rural women, indigenous groups and the youth.
Communication is at the heart of FAO’s mission to help build consensus for a world without hunger. The effectiveness and credibility of the Organization as a policy-making forum and unique multilingual centre of excellence, knowledge and technical expertise depends to a considerable degree on its ability to communicate its work to harness efforts to eradicate hunger.

For this task FAO has a team of professionals whose role it is to get the Organization’s message out to a vast global audience, comprising Member governments and their agricultural experts, the scientific community, the media and the general public. To communicate FAO’s message to so many different audiences, a complex set of communication tools is utilised: keeping the website up-to-date; preparing press releases; producing and distributing audio and video content, photographs and infographics; keeping the social media up-to-date (FAO is active on Facebook, Twitter, Google+, LinkedIn, Instagram, Pinterest, Slideshare, Youtube and Flickr); producing technical and educational publications; and coordinating interviews with FAO technical experts and others, are just some examples.
Communication not only showcases the positive contribution of FAO’s work across myriad sectors, it also acts as a catalyst in supporting the elimination of hunger from the world.

When Director-General José Graziano da Silva took office in January 2012, FAO built a new transformational communication strategy on this premise to ensure coherence in corporate messaging, outreach and consistency in the overall FAO brand.

The new communication strategy saw the formation of a dedicated Office for Corporate Communication (OCC) and a streamlining of key functional responsibilities relating to media relations; Internet and social media; internal communication; outreach and special initiatives; and publishing, library and archival services.

The primary objectives of this communication strategy remain: to support FAO as the lead United Nations organization in the fight against hunger and malnutrition; to help fulfil the Organization’s mandate; and to support the mobilization of resources for the Organization. Further aims include boosting FAO’s presence in the global media, ensuring a uniform public voice for the Organization in matters relating to the fight against hunger, providing a coherent visual identity across all media, and professionalizing and harmonizing communication management at global, regional and national levels. These efforts are underpinned by FAO’s commitment to ensure that countries at all levels of development – particularly the poorest – have access to the knowledge, public goods and services within all areas of FAO’s mandate to achieve the 2030 Agenda for Sustainable Development, the guiding framework for both FAO and the broader UN family over the next decade.

The current approach has provided several key advantages. First, oversight for all communication activities has been integrated into one office to ensure coherence and consistency of corporate messaging and communications outputs. This has improved cost-effectiveness and resource efficiency. Second, the conceptualization of publications and other communication products is better connected to FAO’s internal communication processes and management structures. This has helped to strengthen internal coordination, improve planning and benchmarking, and ensure timely, accurate, and consistent messaging on FAO’s strategic direction. And third, FAO Members and the general public increasingly perceive the Organization as speaking with one voice across a range of communication channels. Combined, these improvements ensure tailored communication products are readily available to global media and other key audiences via FAO’s diverse communication platforms.

Looking Ahead

As a dynamic player in a shifting communication landscape, FAO recognizes that sustained innovation will be required to increase the visibility and reinforce the position of the Organization as the lead UN agency in the fight to eradicate hunger and malnutrition. In the coming years, FAO will continue to enhance the quality of communication services

FAO Communication efforts will always seek to be competitive, innovative, proactive, targeted and appropriately equipped to engage with today’s fast-changing global media, communication and political environment.
it provides to expand its reach with its target audiences, and to support – in the most effective way possible – the strategic framework of the Organization and its work towards achieving the 2030 Agenda. FAO communication efforts will always seek to be competitive, innovative, proactive, targeted and appropriately equipped to engage with today’s fast-changing global media, communication and political environment. This chapter outlines in more detail the key developments, successes and innovations across all FAO communication areas since 2012, and lays out a path for communication developments in the years to come.

ITALY
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DIGITAL COMMUNICATION AND INNOVATION

Digital-first content: storytelling and Zero Hunger

FAO's digital team is driving its presence on rapidly-growing Internet-based platforms. It is using adaptive, agile and novel approaches to make the Zero Hunger message accessible and engaging to millions of people in direct, meaningful, measurable and authentic ways and reviving a respect for food and all those who help bring it to the table.

In recent years, as the Internet revolutionized the media sector, FAO has emerged as a prominent digital actor on the international development stage. A strategic effort, based on heightened engagement, innovative storytelling and disciplined focus on core yet cross-cutting issues has given FAO a lead role in the #Zero Hunger narrative that is the down-to-earth meaning of the global pledge to eradicate hunger by 2030. Measured by “Share of Voice” (SoV), a key indicator used by brands to gauge the efficacy of their communications efforts, shows that in 2018 FAO owned 80 percent of the #ZeroHunger conversation on digital channels.

The new digital-first approach is focused both on producing and tailoring content in ways that make it more engaging and compelling and available in formats that audiences expect and appreciate. That means adapting to mobile technologies – two-thirds of the world’s population now have a mobile phone, and more often than not it’s a “smartphone” connecting them to the Internet. The rapid rise of mobile devices over desktop stations for Internet access is particularly marked in Africa and Asia.

By harnessing the power of imagery and video in a storytelling paradigm, FAO has made its content more accessible and also made its brand more visible, especially for younger audiences. This dynamic and interactive approach has tangibly boosted public engagement with FAO in ways that materially support the Organization’s work. FAO also benefits as digital analytics can flag unexpected and viral interest in subjects such as soil health that might have been assumed to be the sole domain of technical experts. The Office for Corporate Communication (OCC) has updated its approach to media uses and bolstered a focus on producing high-quality photos, videos and stories designed for different channels.

One important change has been to ramp up the use of storytelling that can feature first-person narratives and give our audiences down-to-earth insights into people’s lives and challenges. This genre also assures that we acknowledge people not as beneficiaries but as partners in change while also revealing the impact that collaboration with FAO has made in their lives.
The new FAO.org: innovating our corporate platforms

In 2017, FAO.org was revamped with an eye to the latest design principles, optimized for mobile use, and structured as a compelling portal for a wide variety of external users. The new home page offers nine slots, rotated daily, allowing for the presentation of a wide variety of public information services, ranging from stories, news releases and announcements of events to highlighting thematic resources and publications and showcasing multimedia content. The flexibility allows for timely responses to breaking news and trends and for serving the variegated audiences – including learners, connectors, achievers and sharers – with information they can use for research, advocacy and personal interest.

FAO has broadened its language coverage across all areas of the domain and all digital channels, in order to reach geographically- and culturally-diverse audiences. All corporate pages on FAO.org are available in the six official languages of the United Nations. Benchmark publications, such as the annual *The State of Food and Agriculture* report, have since 2017 been endowed with digital landing pages – interactive, responsive, fully audience-centred digital reports with strong data visualization components – that offer the world’s increasingly educated public a middle “scrolllytelling” path between overly-abbreviated summaries and reading hundreds of pages, offering a deep dive into authoritative material repackaged to stoke interest and informed debate.

These changes have enhanced both user experience and overall utility, and tangibly contribute to making FAO’s brand and mission more visible and accessible. Overall website traffic, measured in page views, rose to 70 million in 2018 from 14 million in 2013.

FAO COMMS IN NUMBERS

- **FAO website traffic has grown from 14 million views in 2013 to 70 million views in 2018** (around 20% per year).
- **In 2018 alone**, FAO campaign videos reached 20 million views.
- **In 2018**, FAO has published **over 70 multilingual stories**, promoting various thematic issues and success stories on FAO’s work in the field.
- On Facebook, FAO is among the **TOP FIVE UN organizations in terms of followers** and engagement.
- In 2018 alone, FAO’s social media following has grown by **750 000 new followers**. On average, over 35% growth rate per year.
- The “Share of Voice” indicator shows that, in 2018, FAO owned **80% of the #ZeroHunger conversation** on digital channels.
- In 2018, FAO published **829 books** and **1187 brochures**.
- **By the end of 2018**, the FAO Document Repository, the official online publications archive, contained **85 000 documents and publications**.

SOURCE: FAO. 2019. COMMUNICATION AT FAO.
THE NEW FAO.ORG

STORIES
The 'Stories' section presents first-hand accounts of real-life experiences. With more than 70 multilingual stories from around the world published in 2018, this section touches on key themes for FAO and highlights the Organization’s work in the field. Read about Purity Karemi’s path towards becoming a young farmer in Kenya and many other success stories here.

PODCAST
Reaching an ever-larger audience, podcasts such as Target: Zero Hunger, which unveils the many facets of global food security, or Stories from the Field, a compilation of FAO on-the-ground success stories, can be broadcast or downloaded at the listener’s convenience. The complete collection can be found here.

DIGITAL REPORTS ARCHIVE
Interactive, responsive, and audience-centred digital reports offer a new way of consulting major publications. From The State of Food and Agriculture report, which broke the ground in 2017 with its own digital landing pages, to the recently released The State of the World’s Biodiversity for Food and Agriculture, here you can deep dive into authoritative material repackaged to trigger informed debate.
E-LEARNING CENTRE
FAO’s courses cover a wealth of topics, including food and nutrition security, gender, and food safety. Carefully designed to easily identify learning objectives and engage learners, the courses are user-friendly and available in different formats to match different technical settings, including CD-ROM, online and downloadable modules.
https://elearning.fao.org/

STATISTICS AT FAO
Eight databases cover a broad spectrum of topics related to food security and agriculture: these include FAOSTAT, FAO’s corporate database. Data are available from 245 countries and 35 regional areas from 1961 to today. FAO also develops methods and standards for food and agriculture statistics, providing technical assistance services and disseminating data for global monitoring.

PUBLICATIONS
Free access to a wide range of FAO publications, as well as updates on latest releases, official distributors’ details, and a whole section devoted to The State of the World series. Besides the 829 publications produced in 2018, you can browse through the complete FAO Document Repository, FAO’s official online publications archive.
www.fao.org/publications

VIDEO
Whether looking for FAO’s latest video contribution to biodiversity, or one or more of the nearly 100 video messages from the Director-General recorded in 2018, here is the place to browse. FAO produces and distributes video content in a variety of formats and on different platforms.
Corporate social media channels

FAO's communications team operates across major social media channels, using each in ways that best fit their communities and the Organization's interests. FAO operates multiple Twitter accounts with combined followers exceeding 1.4 million. This medium is particularly used by communities of practice, including scientists and journalists, so accounts are curated to serve specialized audiences interested in subjects such as climate change, forestry, emergency operations and statistics as well as Permanent Representatives of the Organization's member countries.

Facebook caters to the general public, and OCC uses the platform to post visually-enticing material and videos, as well as to offer “live” dialogues with FAO experts in relation to events with global footprints such as the COP climate summits or FAO-hosted high-level events such as international symposia on agroecology, nutrition and biodiversity.

FAO is also present on LinkedIn, a site geared to professionals, where it showcases work done by OCC and the Organization at large to its nearly 300 000 followers – and even more when the items are shared. Accelerated by a new editorial approach that capitalizes on surging global interest in food in all its dimensions – cuisine and nutrition as well as food security – FAO’s Instagram followers also rose by 95 percent in 2018 to nearly 200 000.

The guiding idea is to promote FAO as a centre of excellence that is open to all, easy to access and interactive, thus contributing to its transparency as a knowledge hub for some of the world’s greatest challenges. The approach has rapidly put FAO among the top five United Nations organizations in terms of followers and engagement.

All told, FAO’s social media following has grown at an annual rate of more than 35 percent in recent years. FAO has formed partnerships with digital outlets such as the World Economic Forum and Now, as well as with companies such as Facebook, Twitter and GIPHY, and collaboration is expected to propel the Organization towards even greater digital reach. That said, technology is a tool and not a goal, and OCC’s vision of service to the Organization is driven by the conviction that the digital era only bolsters the rule that content is king.
FAO’S TOP DIGITAL CAMPAIGNS

WE SHARE ONE FUTURE. IF WE DON’T SHAPE IT, WHO WILL?

► FAO #ZeroHunger campaign feat. Lambert Wilson

The strategic decision to use Lambert Wilson, the famous actor, for the Zero Hunger campaign meant tapping into an audience that would be willing to emulate him or his actions. Influencers are more valuable to brands and organizations now more than ever before, due to their ability to dramatically increase reach and engagement.

3.9 MILLION video views

IMAGINE LOSING EVERYTHING IN A MOMENT AND MIGRATION WAS YOUR ONLY CHOICE...

► FAO campaign for the eradication of Peste des Petits Ruminants (PPR)

The campaign portrayed an issue that used to seem too technical and distant to FAO’s digital audience: PPR. The video, which was the lead piece of the campaign, made the issue of losing livelihoods so much more relatable. In fact, the campaign shows what it means to lose one’s home and income and live in fear of having nowhere safe to go as a consequence of goat and sheep plague.

2.7 MILLION video views

NO MATTER HOW YOU LOOK AT IT: THIS IS OUR ONLY HOME

► FAO campaign for the UN Climate Change Conference 2017 (COP23) feat. Thomas Pesquet

Who can have a better view of the planet than a famous astronaut like Thomas Pesquet? He comes with his own large following and authentic personal experience of seeing Earth from above. He was able to convey a strong message that “every action counts” to millions of followers.

2.6 MILLION video views

IMAGINE A WORLD WITHOUT BEES

► FAO campaign for World Bee Day 2018

The campaign helped to deepen the understanding of the impact of the decline of bees on the future of food. One of the key success factors was the look and feel of the content and the fact that the campaign was linked to the first International Bee Day.

2.2 MILLION video views
FAO AND THE MEDIA

FAO’s media team works to enable the world’s news channels to provide active and accurate news about and insights into FAO’s multiple areas of work, and to emphasize how they are practically geared to eradicating hunger and putting food systems on a sustainable and healthy footing. The world’s Sustainable Development Goals will require contributions from everyone, which means it is absolutely critical that people know what they are and how progress is being pursued and achieved. Global and local media are the most effective channel for spreading information about the essential data FAO produces and its important programmes targeting Zero Hunger.

FAO claims authority in delivering benchmark facts to a world that needs them – on food prices, forest cover, fish stocks and more – and mainstream media tend to take their own initiatives to convey them to the broader public. OCC’s Media Relations Group (OCCM) focuses primarily on outreach to existing media such as newspapers, television broadcasters and radio networks. There is ample evidence that this linkage is the first step towards much broader constituencies including governments, researchers, private-sector actors and civil society associations.

The media team’s ultimate target is increasing the visibility of FAO’s work to the rest of the world, whose support is crucial not only in terms of budget dynamics but increasingly also in terms of effective governance and successful implementation of programmes and initiatives. In 2018, FAO’s headquarters produced more than 195 news releases and web stories, 26 opinion pieces signed by the Director-General, and earned some 300 000 citations or direct publications in print and online media outlets in major languages around the world – a sevenfold increase from a decade earlier. The monthly pace of media clippings, at well above 20 000, was almost 50 percent higher than the target of 14 000 set in the biennial plan.

News releases
FAO’s press releases and web stories are usually adapted to and distributed in all six UN languages, and FAO is well ahead of the curve on this UN agenda item. FAO has established partnerships with influential media organizations identified as having the budgetary and technical capacity to amplify the Organization’s message and work in a large-scale way. Targeted relationships with China’s Xinhua news agency – now one of the most capillary news-gathering organizations in the world – and with Mexico’s Notimex, Russia’s TASS and Spain’s EFE agencies, all of which serve multiple countries, have helped boost global reach. A link with the United Arab Emirates’ WAM, a partnership with Thomson Reuters Foundation, a philanthropic wing of the media group dedicated to covering often under-reported news, is proving highly successful. The same is true of the tie-up with the publisher of EL PAÍS, Spain’s largest newspaper, which has a strong presence in Latin America and whose articles are often syndicated in that region, where interest in FAO’s themes is growing quickly. A new partnership with France Médias Monde, which includes France24 and Radio France International, and Jeune Afrique will encourage opportunities for FAO’s voice to be heard more in the Francophone world.

The Guardian, which boasts one of the largest digital audiences of any news organization in the world, and National Geographic, a historic magazine with an influential subscriber base, have also been key partners able to contribute significant resources through actions such as map-making and spreading the word.

COMPELLING VIDEOS, FEATURING THE VOICES OF FAO EXPERTS, FAO BENEFICIARIES AND FAO’S PARTNERS IN THE FIELD, HAVE BECOME A VERY IMPORTANT ELEMENT IN MEDIA REPORTING AND SOCIAL MEDIA OUTREACH.
Video

Video products are essential to visualize success stories and complex technical issues. Compelling videos, featuring the voices of FAO experts, FAO beneficiaries and FAO’s partners in the field, have become a very important element in media reporting and social media outreach. Through its cooperation with the European Broadcasting Union and UNifeed, FAO is constantly making its video products available to international broadcasters, and a wider audience through YouTube.

In 2018, FAO’s well-established distribution network with major TV channels and news agencies (including Reuters TV, APTN, AFP), the EBU, and UNifeed has contributed to

**PARTNERSHIPS IN THE GLOBAL COMMUNICATION ENVIRONMENT**

**One of the things we know with certainty** – along with the fact that the only tolerable number for the number of hungry in the world is zero – is that partnerships are essential to turn the Sustainable Development Agenda into reality. A number of critical media partnerships have been established in recent years, aimed at increasing the visibility of FAO and its overarching goal of eradicating hunger. The Organization has selected to form alliances with top-tier news organizations in Arabic, Chinese, English, French, Russian and Spanish, generally with partners that allow for their materials to be used by other news organizations. These tie-ups aim to bolster FAO’s ability to deliver on fundamental communications functions: to inform, explain, engage, show proposals for change, facilitate participation, and last but not least, to mobilize resources to foster a global transition to sustainable food and agriculture systems that leave no one behind.
strong media coverage. Some 30 in-house events were covered and over 55 videos were produced, distributed and picked up by top-tier broadcasters such as BBC, Al Jazeera, France24, France’s TV5, China’s CCTV and Italy’s RAI, among others. FAO is now experimenting with emerging technology that allows for its videos to be tracked in real time when used on more than 2 200 channels in 76 countries.

FAO’s video team also organizes and supports in-house needs, arranging more than 70 field missions in 2018, recording nearly 100 video messages from the Director-General – for use at conferences or for public distribution – and covering around 90 bilateral meetings with visiting dignitaries. An innovative new genre, short video interviews for use on social media, is also proving popular.

Video is an increasingly popular news medium, especially among youth. It is also particularly well suited for telling certain stories with a strong “see it to believe it” component. Such was the case with the Blue Fashion Showcase that FAO and partners organized in Nairobi in late 2018 as a side event to a conference on how sustainable management of marine resources can contribute to development. The catwalk featured a lot of fish skin, which with great innovation can be turned into a fascinating and valuable textile for haute couture and beyond. Cow leather carries a high carbon footprint, while synthetic fibers carry environmental downsides. Fish skin, meanwhile, is often discarded as a byproduct. Yet it can be turned into a soft, flexible and durable fabric with unique aesthetic characteristics.

To convey the possibilities, FAO produced a video featuring, along of course with the fashion models and their marvelous purses, dresses and shoes, the entrepreneurial efforts of a fish-processing company near Kenya’s Lake Turkana, where local perch can grow as large as two meters long – “a lot of intact fish skin to work on,” says the family that has turned an astute guess into a company that now exports around the world. The event was a big hit in Nairobi, and the video footage was aired 146 times by 28 broadcasters in 16 countries.

A FISHY FASHION SHOW

SOURCE: FAO. 2019. COMMUNICATION AT FAO.
Photography
Photography is the original multimedia format and remains a priority at FAO. A team of photographers cover events in headquarters and occasional field missions, delivering content rapidly for media communications efforts and to valued stakeholders. FAO’s Photo Unit also commissioned more than 25 professional assignments to document the Organization’s field projects and events around the world in 2018, which led to more than 11,000 photos being added to the FAO mediabase, an online corporate photo archive.

Media outlets around the world, many of them top-tier, as well as the UN News service, frequently request and use FAO photos. There are now more than 4,000 registered users of the FAO mediabase, while another 9,000 requests were handled through the FAO Photo Library to external and internal users. A strategic partnership with the NOOR photo agency for World Food Day in 2018 produced high-quality content that was pitched to 1,418 editors of major publishing platforms plus syndicated partners, offering a welcome boost to FAO’s visibility. The content also generated around half a million engagements on NOOR’s own social media platforms, thus bringing new audiences into FAO’s sphere of interest.

Audio and beyond
FAO continues to ride the wave of the global podcast revolution, a source of news and entertainment that is particularly popular among the world’s increasingly educated youth. OCCM’s podcast

ITALY

[ABOVE RIGHT] FAO Photo Library staff cataloguing photographs on the FAO mediabase online corporate photo archive.

©FAO/ALESSANDRA BENEDETTI

HOW TO GET FAO VIDEOS & PHOTOS

FAO produces quality footage related to its activities through different channels. The FAO channel on YouTube features packaged stories as well as events and projects ready to watch video content. If you wish to download video products, the Video Catalogue is the right place to browse. Designed for professional content users to download high-quality video news packages and feature stories about the Organisation’s work, the Media Vault features high-definition clean footage, available for immediate download, subject to credit and copyright conditions. If you are looking for archival videos, the FAO video library has recordings of events and field missions from 1994 to the present. Direct requests: video@fao.org.

You can get FAO photos in several ways. The first is through FAO’s mediabase, the online photo archive, that offers over 100,000 thematic images, as well as some of the Organisation’s historical analogue collection. You need to create an account to search, view, and place orders for high-resolution photographs. Social media channels offer another useful way to access FAO photos: FAO Flickr accounts feature images of FAO events and work in the field. Professionally shot, and available for immediate download, all the pictures are subject to credit and copyright conditions. Should you wish, you can also send direct requests for photo coverage and photographs to photo-library@fao.org.
Target: Zero Hunger – which can be broadcast and also downloaded to smartphones – began in the past few years and has been steadily increasing to reach larger audiences. A new series – Stories from the Field – focuses on FAO success stories in the field and the communities benefiting from these projects.

The Organization’s professional radio studio enables international broadcasters to conduct high-quality interviews with FAO experts. A radio pitching strategy launched in 2018 led to more than 100 radio interviews airing on major networks such as BBC, Germany’s Deutsche Welle and Radio France International. In-house audio interviews are also conducted and distributed, often in multiple languages to international broadcasters, as well as through UN Radio’s network.

TOP TEN FAO PODCASTS

1. Tackling food loss & waste in Egypt

2. How can we achieve Zero Hunger?

3. El estado de la seguridad alimentaria y la nutrición en el mundo 2018
   soundcloud.com/unfao/el-estado-de-la-seguridad-alimentaria-y-la-nutricion-en-el-mundo-2018

4. What role can the livestock sector play?

5. Why are so many people hungry?

6. A digital future for Africa’s rural youth

7. Can agriculture help tackle climate change?

8. Antimicrobial Resistance: Why it matters

9. How can we transform our food systems?

10. Senegal’s smart phone farmers
    fao.org/news/podcast/phone-appsseNEGAL/en/Stories from the field

SOURCE: FAO. 2019. COMMUNICATION AT FAO.

FAO PUBLICATIONS

Producing world-leading publications goes to the very core of FAO’s primary function – to collect, analyse, interpret and disseminate information relating to nutrition, food and agriculture. In fact, FAO plays a unique role as a neutral forum, providing unbiased, high-quality information across all areas relating to food, agriculture and sustainable natural resources management. Its more than 2,000 publications a year range from authoritative analyses for policymakers and expert guidance for farmers to nutritional advice for families and general knowledge for young people. As a lead global publisher producing hundreds of publications every year, FAO brings together multidisciplinary knowledge in statistical yearbooks and analyses, global assessments, reviews and outlooks, guidelines, manuals and specialized studies. FAO’s Office for Corporate Communication – Publications (OCCP) provides publishing support to all FAO units, at headquarters and in the decentralized offices to facilitate the technical divisions in planning, producing and broadly disseminating FAO publications.
Editorial production
The OCCP team has the all-important task of coordinating the production of FAO’s flagships and corporate brochures as well as a range of other editorial projects catering to both technical and non-technical audiences. A team of editors and designers provide project management, editing, copy-editing and proofreading in all six official languages. They also coordinate the translation of publications into the six official FAO languages – Arabic, Chinese, English, French, Spanish and Russian. Below are FAO’s main categories of publications:

- Flagships: A core set of titles that focus on the “state of” a key area of global interest.

- High profile: They represent the cutting edge in their field, usually aimed towards decision makers and experts in the public and private sectors alike.

- Technical publications: Cater to a specialized, technical audience, across the range of FAO’s fields of expertise – they represent the bulk of FAO’s publishing output.

- Standard setting: This group includes much of FAO’s normative information, notably standards, best practices, guidelines as well as more formal treaties, conventions and plans of action.

- Studies: Much of FAO’s work consists in studies of specific technical and socio-economic issues related to animals, fish, livestock or countries, sectors, regions or other national and international studies.

- Training: As a result of knowledge gained, experience and best practices, FAO produces a range of different training materials both for those who work directly in development as well as for the broader public.
FAO’s *The State of World* publications provide a comprehensive overview of the most pressing global issues and challenges affecting the world today. They are put together by leading experts, on an annual basis, often in partnership with sister agencies and represent a global reference of technical knowledge, statistics and emerging issues. These global reports primarily target policymakers and decision makers, but are also highly relevant to experts, academia, students, the media and the general public. Below are FAO’s five flagships.

**THE STATE OF FOOD SECURITY AND NUTRITION IN THE WORLD (SOFI)**

SOFI is an annual flagship report jointly prepared by FAO, IFAD, UNICEF, WFP and WHO. It informs on progress towards ending hunger, achieving food security and improving nutrition and provides in-depth analysis on key challenges for achieving this goal in the context of the 2030 Agenda for Sustainable Development.

**THE STATE OF FOOD AND AGRICULTURE 2018 (SOFA)**

SOFA is FAO’s original flagship publication and has been published annually since 1947. It aims at bringing to a wider audience a balanced, science-based assessment of important issues in the field of food and agriculture.

**THE STATE OF WORLD FISHERIES AND AQUACULTURE (SOFA)**

This premier advocacy document is published every two years to provide policymakers, civil society and those whose livelihoods depend on the fisheries and aquaculture sector, a comprehensive, objective and global view of capture fisheries and aquaculture, including associated policy issues.

**THE STATE OF THE WORLD’S FORESTS (SOFO)**

SOFO reports every two years on the status of forests, recent major policy and institutional developments and key issues concerning the forest sector. It makes current, reliable and policy-relevant information widely available to facilitate informed discussion and decision-making with regard to the world’s forests.

**THE STATE OF AGRICULTURAL COMMODITY MARKETS (SOCO)**

It presents commodity market issues in an objective and accessible way to policymakers, commodity market observers and stakeholders interested in agricultural commodity market developments and their impacts on countries at different levels of economic development.
GENERAL AUDIENCE PUBLICATIONS

**FAO’s commitment to Zero Hunger** also means constantly tailoring its message to reach the broadest range of people possible. It is important to state that everybody, not just policymakers and technical experts, needs to know about the steps we can all take to end hunger and create a more sustainable future. As part of its broader strategy, FAO actively engages in partnerships with the private sector, with civil society and with researchers in the academic sector to disseminate its core messages.

The State of the Planet series was presented at FAO headquarters on 20 April 2018. ©FAO/A. BENEDETTI

**FAO-EL PAÍS: The State of the Planet series**

The series addresses the challenges that humankind will have to face over the coming decades, including climate change, nutrition and the conservation of our oceans and forests, all of which directly impact the planet we live on. The series of books draw on the most up-to-date information available from leading experts at FAO and other United Nations agencies, raising visibility on the often highly complex issues that affect us all. The books are aimed at a broad audience, both young and old, because it is only by working together across generations that we can decide how we want to live in the future and shape the kind of planet we wish to leave for the generations to come. The series (11 books) were made available with the Sunday edition of EL PAÍS on a weekly basis.

**Towards Zero Hunger**

This book showcases a unique collection of FAO images documenting the Organization’s activities from its pioneering early years through to today. Older images in black and white later give way to colour, reflecting FAO’s various fields of activity spanning the globe such as agriculture, fisheries, forestry, and nutrition.

VIDEO
[www.youtube.com/watch?v=eJ9ws-GzkuQ](http://www.youtube.com/watch?v=eJ9ws-GzkuQ)
Publications dissemination and marketing
FAO is increasing its scope and range of publications marketing and sales activities. The OCCP team handles the tailored dissemination, marketing and sale of FAO’s electronic and print publications including FAO’s flagships, high-profile and general interest publications, as well as of some technical publications. This work includes decisions on dissemination channels and liaison with a global network of sales agents. In 2018, a dissemination agreement was signed with the UN. FAO proactively works in partnership with others as a cost-effective way to increase reach and impact. Increasingly, FAO publishes in collaboration with partners – as a result of joint technical and knowledge-sharing initiatives – as well as with scientific, technical, academic and trade publishers to improve the visibility and discoverability of its information products.

In November 2018, the FAO Shop opened and a display niche was also installed near the main FAO entrance. The shop stocks publications and a range of FAO merchandise such as bags, food containers, mugs and t-shirts. Six illustrators from six regions of the world participated in a campaign for a new line of FAO merchandise.

SIX ILLUSTRATORS FOR #ZEROHUNGER

In conjunction with the opening of the new FAO Shop, FAO invited six illustrators (Diana Ejaita, Del Hambre, Zoulika Bouabdellah, Ying Hui Tan, Nik Neves and Gary Taxali) to translate an important message into a striking image in order to raise awareness through a new line of products. Each of the illustrators was chosen as representative of a continent as well as a cross-cultural view of the world, creating their work in spaces that defy simple definitions of place or identity even though deeply rooted in a culture of origin. The objective of this campaign was to: raise awareness about FAO’s mission and areas of work; encourage people to engage with FAO by purchasing products; and communicate specific messages linked to the overarching themes of: A #ZeroHunger world by 2030 is possible, and Working for Zero Hunger.
Digital and electronic platforms

A dedicated team supports the production, publishing process and online access of all FAO publications. There are currently over 85,000 documents and publications online in the FAO Document Repository, representing the institutional memory of the Organization.

As a dynamic Organization adapting to the demands of modern readers, FAO has also made huge strides in recent years to make publications freely available in a variety of formats and media, demonstrating its commitment to broad and unrestricted access to information. FAO launched an Open Access Policy in June 2018 to provide unrestricted and free online access to FAO products worldwide.

With an eye to the future, the Organization scans the digital landscape for tools and platforms to enhance circulation. E-books are disseminated via leading online book discovery platforms like Amazon, Apple Books, Google Books (838 titles were uploaded in 2018), Barnes & Noble, and others. QR codes are now the norm during events so that participants and guests can download material easily.

Library and Archives

The FAO Library provides professional research and information services to FAO staff, delegates, researchers, and the general public through thousands of print and digital resources, including books, journals and databases covering all core disciplines related to FAO output. Upon cessation of activities in 1945, the International Institute of Agriculture donated its library collection to FAO. This collection is a valuable source of historical agricultural resources dating back to the 15th century and includes a rare book and incunabula collection.

The David Lubin Memorial Library houses over 1.5 million volumes and is considered one of the world’s finest collections in food, agriculture, food and nutrition, natural resources, economic and social development, forestry, fishery as well as other related fields. The Archives are in the basement of the entrance building and extend over 3,800 linear metres which can be consulted by FAO staff members and researchers from FAO Members.
Global Campaigns: World Food Day

FAO’s outreach team regularly carries out global campaigns to raise awareness about hunger and food security issues, promote healthy diets and garner support for the global Zero Hunger goal. The main event on that front is World Food Day (WFD), which every year commemorates the founding of the Organization on 16 October 1945 and constitutes FAO’s major annual mass initiative to galvanize civil society behind its mission. It is also one of the most celebrated international days of the UN calendar, with events organized in more than 150 countries and high-level endorsement and participation. These events are an excellent vehicle for FAO to convey to the public the real nature and scale of hunger as well as the need to ensure nutritious diets for everyone. The aim is to mobilize their support to achieve Zero Hunger. Since 2015, FAO’s approach to World Food Day has been linked to the Sustainable Development Goals, especially SDG 2: Zero Hunger, as part of the corporate communication strategy that aims to position the
Organization as a leading UN agency in forwarding this goal and the whole 2030 Agenda.

FAO now coordinates over 300 events each year and assists with the translation of an engaging content package in over 30 languages. Communications handbooks and toolkits are produced for various target audiences including schools, governments, the private sector and FAO’s network of local offices, to improve, enhance and align their capacity to join the global campaign and increase the impact of what is after all FAO’s birthday through the use of a unique visual identity, theme and set of communication products. Famous personalities and global leaders in the fight against hunger have attended the global World Food Day ceremonies in past years including former UN Secretary-General Ban Ki-moon; Pope Francis; President of the Italian Republic Sergio Mattarella; Princess Lalla Hasnaa of Morocco; FAO Special Ambassadors such as Queen Letizia of Spain and King Letsie III of Lesotho, and the Agriculture Ministers of the Group of Seven (G7).

In 2018, FAO coined the slogan “Our Actions are our Future” for the event in an explicit attempt to recruit individuals to the cause with suggestions about what each of us can do. Outreach partnerships, done on a pro bono basis with minimal costs for FAO, were leveraged to include approximately 300 events in almost 150 countries. Highlights included reaching a potential 66 million households in the Near East and North Africa region through Cartoon Network’s TV broadcast of the WFD promotional video; 4.7 million people in cinemas across Mexico; 4.5 million views a day over 40 days through advertising on transport networks in Jakarta; reaching 1.5 million pedestrians and drivers in Juba; as many as 12 million subway, commuter train and bus passengers across Italy, and many more via similar initiatives in cities such as Madrid, Berlin, Barcelona and Montevideo. OCCO has also leveraged one of the cardinal legacies of the Milan Expo of 2015, by continued engagement of mayors around the world in improving urban food systems.

**FAO Awards**

Awards are an effective communication tool for FAO to bring momentum to the drive to achieve Zero Hunger by showcasing efforts and best practices in increasing food security by individuals,
journalists, institutions or countries whose work, through innovation, quality and commitment, decisively contributes to this cause. At the same time, the awards can increase the Organization’s own visibility and reputation among external audiences, including donors, all Members, research communities, reporters and civic society at large.

In existence for almost 40 years now, FAO’s biennial A.H. Boerma Award for media professionals is a prestigious and at times career-catalyzing prize for journalists who have successfully steered public attention towards food security topics. Other regular awards include the Jacques Diouf Award – often given to institutions or non-profit organizations – which recognizes contributions to food security achieved through work done identifying and analyzing problems, mobilizing resources and working to implement solutions to issues related to food insecurity. The B.R. Sen Award is granted in recognition of outstanding performance by FAO field officers during their assignments. Other awards include the Saouma Award for institutions that effectively implement projects conceived by FAO, and the Margarita Lizárraga Award for outstanding implementation of the Code of Conduct for Responsible Fisheries.

That awards are an effective outreach mechanism is demonstrated by their growing popularity. Member countries are increasingly making requests to jointly establish new awards. The most recent addition is the Innovation Award for Sustainable Food and Agriculture, launched by FAO and the Government of Switzerland in November 2018 to raise the profile and prospects for success of promising work done in the areas of digitalization and rural youth empowerment.

FAO also grants awards to member countries that meet the targets set by the international development agenda. In 2015, 72 countries received a prize for meeting the food security goal set by Millennium Development Goal 1 (MDG1) – to reduce at least by half the proportion of people in the country suffering from undernourishment.

Corporate events
FAO uses corporate events as a platform to effectively engage with various target audiences and promote itself as an action-oriented and results-driven Organization. Integrated marketing communication strategies for events streamline efforts across several elements such as brand identity, communications products and related outreach activities, and ensure that the Organization responds to current trends through cutting edge events and related activities.

FAO recently restructured the podium in its major conference space, the Plenary Hall, where world leaders regularly unite to discuss food and agriculture issues. This has enabled new “Davos Style” or “Ted-talk” event formats and the possibility to create more dynamic events with clear branding, maximising their impact in the media. Exhibits linked with corporate events at FAO headquarters enhance the events and increase interaction.
with target audiences. The creation of a new strategy and guidelines for exhibits and public spaces resulted in a 40 percent increase in the number of exhibits held at FAO in 2018, compared to 2017. It also resulted in more innovative and high-quality exhibits, meaning a more effective and salient engagement of key target audiences during high-level corporate events.

**International events and exhibits**

Events of international relevance such as UN International Years, world expositions or global conferences organized or hosted by FAO are a key tool to foster dialogue with the public and engage public support for the fight against hunger, and FAO’s mission to achieve nutritious diets for all.

FAO, in collaboration with the UN Rome-based Agencies, led the participation of 20 United Nations entities in the Universal Exposition Expo Milan 2015, which attracted more than 20 million visitors over six months. For the first time in the history of World Expositions, the UN had an itinerary instead of a pavilion, with content on the UN theme “The Zero Hunger Challenge. United for a Sustainable World” spread across thematic areas of the Expo site.

The itinerary started at Pavilion Zero, based at the main entrance to the Expo, with UN content featured in 10 of the 12 rooms and continued into the UN Garden. 18 UN installations throughout the Expo, easily recognizable by their giant blue spoons, displayed UN multimedia content demonstrating how the UN system contributes to the fight against hunger and promotes healthy diets on a daily basis, and inviting the public to join the Challenge. Three UN Days were celebrated at Expo Milano including World Food Day, where leading figures in the global fight against hunger, including former UN Secretary-General Ban Ki-moon, gathered for one of the World Expo’s biggest events. UN entities also participated in an additional 200 events over 6 months.
FAO loudly champions the Zero Hunger goal and often notes that the timeline falls within the current generation, meaning that today’s youth will be the last to live in a world where people are deprived of adequate food. FAO not only designs field programmes and policy frameworks meant to boost livelihood opportunities for rural youth, but recognizes that young people will be – and so in a sense already are – primary agents of change and the decision makers of the future. The FAO series of Activity Books is an essential outreach tool to engage young people, their families and educators in FAO’s work and the global effort to achieve Zero Hunger.

The Activity Books present important global issues such as hunger and malnutrition, migration, climate change, and rural development in a language that is fun and engaging for school-age children. Through these products, FAO aims to inspire young people to join in the global advocacy and grow up to exclude any alternative to a Zero Hunger world. The books are available on FAO’s Educators’ Portal, “Building the Zero Hunger Generation”, a gateway for educators to download material that can support the preparation of classes on important topics at the core of FAO’s work.

Other outreach initiatives directed to youth include the hosting of model UNs and other simulations where youth are trained and encouraged to hold interesting debates on important issues related to FAO’s mandate. One of the highlights of this activity is the threefold increase over the past three years of school visits to FAO.

ITALY

FAO welcomed children from the ‘Focolari Movement’ during a youth outreach event at FAO’s Plenary Hall, as part of World Food Day 2018 celebrations. FAO’s Youth Programme aims at engaging young people to join in the global advocacy and grow up to exclude any alternative to a Zero Hunger world.

©FAO/Alessandra Benedetti
Celebrities and FAO Ambassadors

Numerous well-known figures, hailing from the world of entertainment, sports, food, politics, media and royal families, have collaborated with FAO for various programmes and events in recent decades, lending their renown to raise awareness among the general public of the need to work together to achieve Zero Hunger. FAO's Special Goodwill Ambassadors for Zero Hunger play a crucial role in galvanizing global efforts through all available media and channels to achieve Zero Hunger. Their role helps the Zero Hunger generation grow, reaches a broad number of people from all over the world and contributes to making their voices heard.

Goodwill Ambassadors increase access to information, identify opportunities to generate dialogue, engage the public and motivate relevant stakeholders. For example, Carlo Petrini, President of Slow Food, is FAO Special Ambassador for Zero Hunger for Europe. His role connects FAO and its mission to the Slow Food network, which has more than 100 000 members in over 150 countries – encompassing both the producer and consumer sides of food systems – and engages millions in its work to ensure everyone has access to “good, clean and fair food” as well as spreading interest in topics such as biodiversity and heritage.

Her Royal Highness, Princess Maha Chakri Sirindhorn of Thailand, is FAO Special Ambassador for Zero Hunger for the Asia and the Pacific region. She opens the door to a large audience in the world’s most populous region and spreads her longstanding advocacy of initiatives such as school lunches and gardens.

Darine El Khatib is FAO Special Ambassador for Zero Hunger for the Region of Near East region and creator of very popular food-based television programmes with a strong focus on engaging children and young people. She has provided access to important communication networks such as Cartoon Network’s TV, reaching a potential 66 million households in her native region, as well as proving a major draw at local fairs and events.

Likewise, former congresswoman Guadalupe Valdés and former President of IFAD Kanayo F. Nwanze have untiringly promoted FAO’s vision of a world free of hunger and malnutrition in their respective regions of Latin America and sub-Saharan Africa. Queen Letizia of Spain and King Letsie III of Lesotho are also major FAO advocates able to mobilize public interest through their roles as Special Goodwill Ambassadors for Nutrition. FAO has also worked with leading figures for special initiatives such as the International Year of Pulses in 2016 and has a set of ambassadorial ties with spirited chefs and food influencers around the world, including Chef Oropeza in Mexico, Heinz Beck from Germany, Bela Gil from Brazil, Bertrand Simon in France; Katsuhiko Nakamura, who also acts as FAO national Goodwill Ambassador in Japan; Elijah Amoo Addo in West Africa and Anahita Dhondy in South Asia.

FAO also calls on other change makers from Nobel Peace Laureates to thematic champions and influencers to maximize outreach. Influencers working with FAO to advocate for Zero Hunger have been recognized informally as Zero Hunger Champions.
FAO’s mission?

The Food and Agriculture Organization of the United Nations (FAO) is a specialized agency of the United Nations that leads international efforts to defeat hunger. Our vision is a world free of hunger and malnutrition, in which food and agriculture contribute to improving the livelihoods of all people, in particular the poorest, in an economically, socially and environmentally sustainable way.

As an intergovernmental organization, FAO has 194 Members, two associate members and one member organization, the European Union. Its employees come from various cultural backgrounds and are experts in the multiple fields of activity FAO engages in.

FAO’s staff capacity allows it to support improved governance inter alia, generate, develop and adapt existing tools and guidelines and provide targeted governance support as a resource to country and regional level FAO offices. Headquartered in Rome, Italy, FAO is present in 152 countries.

How is FAO’s Director-General elected?

Representatives of Members meet at the biennial FAO Conference to review global governance policy issues and international frameworks, as well as to evaluate work carried out and to approve the budget for the next biennium.

The Conference elects Council Members to serve three-year rotating terms to carry out executive oversight of programme and budgetary activities. The Conference also elects a Director-General to a four-year term of office, renewable once. The current Director-General, José Graziano da Silva, assumed his functions on 1 January 2012 and was re-elected for a term which expires on 31 July 2019.

THE FAO MOTTO*

“Fiat panis” is the FAO motto. A Latin expression meaning “let there be bread”. It appears on the FAO emblem alongside the Organization’s initials and an ear of wheat.

MORE INFORMATION IN PART 4.
FAO IN SEVEN DECADES
FAO offices around the world

FAO is present in 152 countries, operating through different office and representation arrangements. The Organization has five Regional Offices, ten Subregional Offices, Representation Offices in 133 countries, six Liaison Offices and two Information Offices.

5 REGIONAL OFFICES
FAO’s five Regional Offices lead FAO’s multidisciplinary response to major food security and agricultural and rural development priorities in their geographic areas.

10 SUBREGIONAL OFFICES
FAO has ten Subregional Offices, which provide cutting-edge expertise in response to requests from governments.

COUNTRY OFFICES
FAO’s Country Offices – or representations – are at the forefront of action to fight all forms of hunger and to build people’s resilience to the adverse effects of climate change and other global challenges. It is here that FAO reaches its maximum potential by providing strategic policy advice and making targeted technical expertise available where it is most needed: in the field.

6 LIAISON OFFICES
Based in Brussels, Geneva, Moscow, Tokyo, New York and Washington and 2 Information Offices, located in Spain and Portugal.

How many people work at FAO?

As of February 2019, FAO employed 11,561 people. Thirty-two percent are based at headquarters in Rome, while the remainder work in offices worldwide. Eighty-six percent of the 194 Member States are equitably represented. Since 2012, the proportion of women in the professional staff category increased from 36% to 43%.

DISTRIBUTION OF FAO EMPLOYEES
(all types of contracts)

32%
HEADQUARTERS

68%
OFFICES WORLDWIDE

MESSAGE IN PART 5,
CHAPTER 5.1. AN AGILE NETWORK: FAO’S DECENTRALIZED OFFICES
How is FAO funded?

FAO is funded through assessed and voluntary contributions.

**MEMBERS’ ASSESSED CONTRIBUTIONS** comprise the regular budget, set at the biennial FAO Conference. The FAO regular budget for the 2018–19 biennium is just over USD 1 billion.

**THE VOLUNTARY CONTRIBUTIONS** provided by Members and other partners support technical and emergency (including rehabilitation) assistance to governments for clearly defined purposes linked to the results framework, as well as direct support to FAO’s core work. The voluntary contributions are expected to reach approximately USD 1.6 billion in 2018–19 and represent 61 percent of all available resources – an important and growing part of the Organization’s funding.

**FAO'S BUDGET**

The total FAO budget planned for 2018–19 is USD 2.6 billion. Of this amount, 39 percent comes from assessed contributions paid by Members, while 61 percent will be mobilized through voluntary contributions from Members and other partners.
WHO ARE FAO’S VOLUNTARY CONTRIBUTORS?

1. OECD DEVELOPMENT ASSISTANCE COMMITTEE (OECD–DAC)

Historically, FAO’s voluntary resources depended mainly on contributions from the members of the OECD Development Assistance Committee (OECD–DAC).

Created in 1960, the OECD–DAC is a forum of 30 members to discuss issues surrounding aid, development and poverty reduction. It monitors and evaluates Member Countries’ development policies, analyses their aid programmes and provides recommendations on aid efforts, their conditions and financial modalities. The OECD–DAC describes itself as being the “venue and voice” of the world’s major donor countries.

Considering the average contributions over the period 2014–18, the OECD–DAC members provided around 57 percent of all voluntary contributions through directly financing bilateral trust funds of FAO. An additional 9 percent of all voluntary contributions were provided, mainly by OECD–DAC members, through multilateral, pooled funding to FAO (“MUL” in chart to the right).

The members of the OECD–DAC are as follows: Australia, Austria, Belgium, Canada, Czechia, Denmark, European Union (acting as a full member), Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, United Kingdom of Great Britain and Northern Ireland, and United States of America. The ADB, AfDB, IADB, IMF, UNDP and the World Bank participate as observers of the Committee.

2. UNITED NATIONS DEVELOPMENT SYSTEM

The second largest contributor to FAO’s programmes, with 12 percent of all voluntary contributions during the period 2014–18, was the United Nations Development System with its various UN agencies, funds, programmes, departments and offices, most of which are members of the United Nations Development Group.

3. OTHER RESOURCE PARTNERS

Third, FAO worked hard on the expansion of its resource partner base during recent years, which is mirrored in the growing engagement with non-OECD–DAC countries, which represented some 11 percent over the indicated period. This happened either through the implementation of bilateral trust funds or through unilateral trust funds (“UTF” in graph).

4. VERTICAL FUNDS

The fourth cluster of 7 percent of all voluntary contributions over this period was provided by a number of vertical funds that were created in response to specific development issues. Particularly in the last years, FAO significantly increased its partnerships with those funds and supported countries to secure thematic development funding from them. These include in particular the Global Environment Facility (GEF), the Global Agriculture and Food Security Programme (GAFSP) and the Green Climate Fund (GCF).

5. OTHERS

Last but not least, FAO also partners with private entities, including civil society organizations, private sector institutions and foundations, and with International Financial Institutions (IFIs), with which long-term partnerships have led to increased contributions over the last years.

This chart shows who made the voluntary contributions and in what proportion in the 2014–2018 period:
### FAO IN NUMBERS

#### TOP CONTRIBUTORS TO FAO

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>Total Contributions</th>
<th>Voluntary</th>
<th>Assessed</th>
<th>Figures in US dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>United States of America</td>
<td>2,330,647,282</td>
<td>46%</td>
<td>54%</td>
<td>54%</td>
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<td>2</td>
<td>European Union</td>
<td>2,049,459,443</td>
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<td>0%</td>
<td>100%</td>
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<tr>
<td>3</td>
<td>Japan</td>
<td>1,023,133,331</td>
<td>29%</td>
<td>71%</td>
<td>71%</td>
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<tr>
<td>4</td>
<td>United Kingdom</td>
<td>783,132,732</td>
<td>58%</td>
<td>42%</td>
<td>42%</td>
</tr>
<tr>
<td>5</td>
<td>Germany</td>
<td>626,168,801</td>
<td>32%</td>
<td>68%</td>
<td>68%</td>
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<tr>
<td>6</td>
<td>Italy</td>
<td>499,580,571</td>
<td>48%</td>
<td>52%</td>
<td>52%</td>
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<tr>
<td>7</td>
<td>Spain</td>
<td>483,490,284</td>
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<td>34%</td>
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<td>France</td>
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<td>Canada</td>
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<td>Sweden</td>
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<td>13</td>
<td>Brazil</td>
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<td>14</td>
<td>Netherlands</td>
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<td>Belgium</td>
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<td>16</td>
<td>Mexico</td>
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<td>Afghanistan</td>
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<td>25</td>
<td>Finland</td>
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<td>47%</td>
<td>47%</td>
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<td>26</td>
<td>Turkey</td>
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<td>78%</td>
<td>78%</td>
</tr>
<tr>
<td>27</td>
<td>Denmark</td>
<td>58,963,393</td>
<td>34%</td>
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<td>66%</td>
</tr>
<tr>
<td>28</td>
<td>Pakistan</td>
<td>47,565,050</td>
<td>91%</td>
<td>9%</td>
<td>9%</td>
</tr>
<tr>
<td>29</td>
<td>Venezuela (Bolivarian Rep)</td>
<td>44,806,152</td>
<td>49%</td>
<td>51%</td>
<td>51%</td>
</tr>
<tr>
<td>30</td>
<td>Poland</td>
<td>41,323,675</td>
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<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>31</td>
<td>Greece</td>
<td>40,328,261</td>
<td>16%</td>
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<tr>
<td>32</td>
<td>Ireland</td>
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<tr>
<td>33</td>
<td>Bangladesh</td>
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<tr>
<td>34</td>
<td>Argentina</td>
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<tr>
<td>35</td>
<td>India</td>
<td>35,874,587</td>
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<tr>
<td>36</td>
<td>Angola</td>
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<tr>
<td>37</td>
<td>United Arab Emirates</td>
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<td>38</td>
<td>South Africa</td>
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<tr>
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<tr>
<td>40</td>
<td>New Zealand</td>
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<td>54%</td>
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<tr>
<td>41</td>
<td>Luxembourg</td>
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<tr>
<td>42</td>
<td>Israel</td>
<td>22,331,608</td>
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<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>43</td>
<td>Chad</td>
<td>20,582,354</td>
<td>99%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>44</td>
<td>Kuwait</td>
<td>20,084,090</td>
<td>34%</td>
<td>66%</td>
<td>66%</td>
</tr>
<tr>
<td>45</td>
<td>Czech Republic</td>
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<td>7%</td>
<td>93%</td>
<td>93%</td>
</tr>
<tr>
<td>46</td>
<td>Iran (Islamic Republic of)</td>
<td>19,372,290</td>
<td>20%</td>
<td>80%</td>
<td>80%</td>
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<tr>
<td>47</td>
<td>Libya</td>
<td>18,844,209</td>
<td>68%</td>
<td>32%</td>
<td>32%</td>
</tr>
<tr>
<td>48</td>
<td>Democratic Republic of the Congo</td>
<td>16,914,170</td>
<td>7%</td>
<td>93%</td>
<td>93%</td>
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<tr>
<td>49</td>
<td>Hungary</td>
<td>16,829,460</td>
<td>17%</td>
<td>83%</td>
<td>83%</td>
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<tr>
<td>50</td>
<td>Chile</td>
<td>15,902,461</td>
<td>10%</td>
<td>90%</td>
<td>90%</td>
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</tbody>
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**Top 50 CONTRIBUTORS**

Total assessed and voluntary contributions to FAO in the period 2008–2018.
### Top 25 Members
Total voluntary contributions to FAO in the period 2008–2018

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>Amount (in Euros)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>European Union</td>
<td>2,049,459,443</td>
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<tr>
<td>2</td>
<td>United States of America</td>
<td>1,080,494,072</td>
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<tr>
<td>3</td>
<td>United Kingdom</td>
<td>457,993,054</td>
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<td>4</td>
<td>Spain</td>
<td>320,236,675</td>
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<tr>
<td>5</td>
<td>Japan</td>
<td>301,037,090</td>
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<td>6</td>
<td>Norway</td>
<td>250,582,286</td>
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<td>7</td>
<td>Sweden</td>
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<td>8</td>
<td>Italy</td>
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<td>9</td>
<td>Germany</td>
<td>199,166,964</td>
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<td>10</td>
<td>Belgium</td>
<td>187,795,200</td>
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<td>11</td>
<td>Canada</td>
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<td>13</td>
<td>Brazil</td>
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<td>14</td>
<td>Switzerland</td>
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<td>Saudi Arabia</td>
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<td>Colombia</td>
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<td>Australia</td>
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<td>21</td>
<td>France</td>
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<td>22</td>
<td>Pakistan</td>
<td>43,377,057</td>
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<td>23</td>
<td>Bangladesh</td>
<td>35,732,289</td>
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<td>24</td>
<td>Korea, Republic of</td>
<td>34,767,428</td>
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<tr>
<td>25</td>
<td>Angola</td>
<td>34,166,116</td>
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### Top 15 Institutions
Total voluntary contributions to FAO in the period 2008–2018

<table>
<thead>
<tr>
<th>Institution</th>
<th>Amount (in Euros)</th>
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<tbody>
<tr>
<td>Global Environment Facility</td>
<td>576,632,517</td>
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<tr>
<td>Central Emergency Response Fund (CERF)</td>
<td>475,713,333</td>
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<tr>
<td>UN Donor Joint Trust Fund</td>
<td>356,776,434</td>
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<tr>
<td>World Bank</td>
<td>144,323,167</td>
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<tr>
<td>Common Fund for Humanitarian Action in Sudan</td>
<td>97,261,540</td>
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<tr>
<td>Bill and Melinda Gates Foundation</td>
<td>52,969,281</td>
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<tr>
<td>UNDP</td>
<td>48,593,572</td>
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<tr>
<td>World Food Programme</td>
<td>42,403,070</td>
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<tr>
<td>The International Fund for Agricultural Development</td>
<td>35,864,984</td>
</tr>
<tr>
<td>Peace Building Fund</td>
<td>33,017,282</td>
</tr>
<tr>
<td>United Nations International Children’s Emergency Fund</td>
<td>29,199,983</td>
</tr>
<tr>
<td>United Nations Development Group</td>
<td>27,584,183</td>
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<tr>
<td>United Nations Trust Fund for Human Security</td>
<td>17,813,196</td>
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<tr>
<td>Common Humanitarian Fund for Somalia</td>
<td>16,055,904</td>
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<tr>
<td>Guyana Redd Investment Fund</td>
<td>14,792,277</td>
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FAO
CHALLENGES AND OPPORTUNITIES IN A GLOBAL WORLD