



# **FAO** at **75**

Grow, nourish, sustain. Together





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#### #FA075

# **FAO** at **75**

Grow, nourish, sustain. Together

FOOD AND AGRICULTURE ORGANIZATION
OF THE UNITED NATIONS
ROME, 2020



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#### FOREWORD

Dear friends,

It is a long way from the rice fields of Hunan, where I was born, to the fields of the Circus Maximus in Rome, where FAO is headquartered. No day passes that I don't feel honoured and humbled to be leading this Organization – still, after all these years, the foremost global authority on two fundamental aspects of human civilization: food and agriculture.

These pages chronicle FAO's record to date – and celebrate it too, though the perspective is never less than lucid. They offer a succinct overview of the ideals and principles which have inspired our work. But they also measure the road still to cover.

In the year or so I have been at the helm of the Organization, much has changed in our everyday lives. Even before the COVID-19 crisis, I liked to say that problems could be a source of progress – that adversity can catalyse a pragmatic creativity that eludes us in less testing times.

The current pandemic is possibly the greatest social cataclysm many of us have seen. Still, we must recognize that it has also accelerated a societal reset – including in the way we operate as international organizations. An institution like FAO, with its venerable culture of expertise–sharing and institutional procedure, has proved capable, at short notice, of embracing an innovative attitude and largely shifting online. But if innovation means going digital – and this publication contains examples of our aggressive push in that direction – it also means transforming a whole business model, starting with mindsets.

We are already streamlining FAO's management structure, moving from silos to team leadership. Transparency repays itself: open up to the world, and the world will open up to you. Cutting bureaucracy and expanding autonomous decision–making are not only more likely to unleash talent: they are prerequisites for turning FAO into a beacon of excellence.

We must be dreamers and doers, think-tank and action-tank rolled into one. Our value lies, after all, in the solutions we provide for our Members to achieve food security and better livelihoods for all. This is why we are now in a position, for example, to advise governments on precisely which policies would dramatically shrink the cost of healthy diets, improving the lives of three billion people and offsetting trillions of dollars a year in health and environmental costs; or to pinpoint – through our Hand-in-Hand initiative – which two of any countries could pair up to deliver palpable food security outcomes, aligned to the Sustainable Development Goals.

We have much more in store; the full range of our re-invention will become apparent in the years to come. In the meantime, I hope you enjoy reading this historical excursion: it helps explain how we got here and where we are headed.

With my full gratitude for your commitment to a world free of poverty and hunger,

Qu Dongyu

FAO Director-General

# Introduction

Hope out of horror. Vision out of waste. And out of ruins, a vast rolling-up of sleeves.

The year is 1945. The end of the war is spurring renewal across the breadth of thought and human endeavour: in economics and governance; in science and social studies; in industry and engineering; in the humanities and the arts. But also, and not least, in the realm of values and aspirations.

A commitment to peace is the new proclaimed creed. So is a sense of the possible. Despite the emergence of new divisions in the form of the Cold War, and despite simmering colonial tensions, a new internationalism takes root. With it comes a determination to end, once and for all, the ills that have plagued humankind since its inception.

Chief among these are poverty and hunger.



#### **PLANET OF** THE FAMISHED

Less well-known than the wilful mass killing associated with World War II is just how much loss of life was linked to food deprivation. Of the 60 million deaths chalked up to the conflict, at least a third are estimated to have been caused by malnutrition and associated diseases. In 1943 in Bengal, some three million perished by famine. In (then Soviet) Ukraine, hunger had slain millions even before the war started. Millions more died in China. In Western Europe, in what had been fairly rich countries, the social and economic fallout of war was unsparingly grim: over the winter of 1944-45 in the Netherlands, people were reduced to eating tulip bulbs; in early post-war Belgium, rickets affected 80 percent of children.

Agriculture was, by and large, ravaged. Across swathes of the globe, food production had shrunk - by up to a third in Europe, in the countries which formed the Soviet Union and in North Africa, and by a tenth in East Asia. The world population had meanwhile swollen by a tenth. This made for an overall drop in per capita farm output of 15 percent from pre-war years. Demographers offered little succour: projections suggested a further, imminent surge in the number of mouths to feed. By 1955, the population of Latin America was forecast to be almost half as large again.

With the end of World War II comes a determination to end, once and for all, the ancestral ills of poverty and hunger.





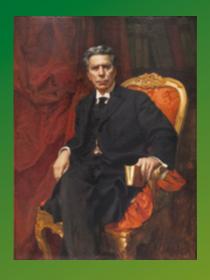


#### **AMERICAN ROOTS FOR A ROMAN REBIRTH**

Even as much of the world struggled to feed itself, bold new words were sketching out new horizons. Already in 1941, in a speech that would inspire the foundational principles of the United Nations (UN), the President of the United States, Franklin D. Roosevelt, had listed freedom from want among his Four Freedoms. He defined it as "economic understandings which will secure to every nation a healthy peacetime life for its inhabitants, everywhere in the world."

In a landscape of desolation, North America stood out. The mainland of the United States of America had been spared direct conflict: agricultural production there had continued to rise, recovering from the crisis of 1929 and the early 1930s. The intellectual drive which led to the creation of the Food and Agriculture Organization originated there.

The end of World War II provided the impetus. Yet the concept of what would become the Food and Agriculture Organization of the United Nations (FAO) - the idea of a congress with a mission to spread agricultural expertise and improve farmers' lot across nations - pre-dated the war. The institutional seed had been planted as early as 1905 by one visionary American, David Lubin. His initiative, spurned in his homeland, proved persuasive with the Italian royal court.



#### DAVID LUBIN (1849 - 1919)

A Polish-born Californian agronomist, Lubin was a tireless campaigner and organizer for agriculture and its practitioners. Over a lifetime spent as an entrepreneur, thinker and activist, he became convinced that only an international body could

successfully defend the interests of farmers battered by price fluctuations, saddled with low social prestige, and deprived of political bargaining power.

Rebuffed in the United States of America, then in France and Britain, Lubin eventually found favour with King government convened the first conference of the in Rome. The Institute's mission was to help farmers share and take control of their produce in trade. At the first meeting, 46 countries were represented. The IIA ceased

#### October 1945 sees the foundation of FAO, to further agricultural knowledge and nutritional wellbeing.

On 16 October 1945, meeting at the emblematic Château Frontenac in Quebec City, 34 governments signed the Constitution for a permanent organization in the field of food and agriculture. By the end of the first FAO conference, two weeks later, membership had grown to 42. Somewhat paradoxically, FAO's creation pre-dates that of the United Nations itself, which would not formally come into being for another eight days. (The UN Charter had been signed the previous June in San Francisco, but had yet to meet the threshold for ratification.) The Organization's Constitution established it as a collaborative body, with a wide mandate to further agricultural knowledge and nutritional wellbeing. Its first Director-General, John Boyd Orr, hailed from Scotland.

#### PREAMBLE TO FAO'S CONSTITUTION

(EXCERPT)

THE NATIONS ACCEPTING THIS CONSTITUTION, BEING DETERMINED TO PROMOTE THE COMMON WELFARE BY FURTHERING SEPARATE AND COLLECTIVE ACTION ON THEIR PART FOR THE PURPOSE OF:

- RAISING LEVELS OF NUTRITION AND STANDARDS OF LIVING OF THE PEOPLES UNDER THEIR RESPECTIVE JURISDICTIONS;
- · SECURING IMPROVEMENTS IN THE EFFICIENCY OF THE PRODUCTION AND DISTRIBUTION OF ALL FOOD AND AGRICULTURAL PRODUCTS;
- · BETTERING THE CONDITION OF RURAL POPULATIONS:
- · AND THUS CONTRIBUTING TOWARDS AN EXPANDING WORLD ECONOMY AND ENSURING HUMANITY'S FREEDOM FROM HUNGER;

HEREBY ESTABLISH THE FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS [...] THROUGH WHICH THE MEMBERS WILL REPORT TO ONE ANOTHER ON THE MEASURES TAKEN AND THE PROGRESS ACHIEVED IN THE FIELD OF ACTION SET FORTH ABOVE.



#### 1951, ITALY

Construction work on the headquarters of the Food and Agriculture Organization of the United Nations in Rome, Italy, is almost completed. ©FAO

Initially located in Washington DC, FAO's headquarters was then transferred to Rome, home of the IIA, in recognition of Italy's record of pioneering food-related international co-operation. In 1951, the Organization took up residency in a building repurposed from its initial destination as the colonial-era Ministry of Italian Africa.

Bridging the space between two ancient sites, the Baths of Caracalla and the Circus Maximus, the *Palazzo FAO*, designed along rationalist principles and extended with elements of post–war international style, today houses about 3000 people. Among UN agency headquarters, FAO's is one of the most architecturally significant.



# GROW

The first quarter-century 1945-1970

FAO's inaugural period is marked by a primary focus on stepping up food production and agricultural productivity - and on eliminating the factors that hindered growth: the hunger crisis experienced by a fast-expanding world population demanded no less. Programmes developed in earlier years are thus largely concerned with maximizing farm output. Boosted by the greater measure of international consultation and co-operation facilitated by FAO, and availing themselves of the Organization's advice, large numbers of countries established agricultural development plans.



#### **FAO** milestones

[1945 - 1970]

FAO convenes a Special Meeting on Urgent
Food Problems. As well as tackling the
immediate food crisis, the event results in a set of
proposals aimed at dealing with age-old issues
related to food production. The proposals cover
holding regular world censuses, improving soil
fertility, controlling plant pests and responding

World Food Survey. Carried out in
70 countries, it confirms widespread perceptions
that hunger and malnutrition are rampant around
the world. The Survey, while imprecise by today's
standards, is the first of its kind ever undertaken.

to emergencies with food relief.

The **State of Food and Agriculture**, FAO's first annual flagship publication, sees the day. Its science-based assessments of major aspects of food and agriculture are aimed at a wide readership. This is followed, in **1948**, by the first FAO **Global Forest Resources Assessment**, which continues to appear every five years.

950 World Census of Agriculture. The Census gathers statistical information in 81 countries, providing a snapshot of farming as it stood just five years after World War II. A significantly more sophisticated exercise than any similar pre-war endeavours, it lays a new emphasis on methodology and data compatibility.



Private capital was short for the necessary expansion in agriculture. Access to technology remained limited. This required extensive public financing schemes, particularly in less developed countries. Although by far the greater share of investment came from domestic resources, international and foreign funding was crucial in some areas of acute need, such as the purchase of imported equipment.

Credit expanded dramatically – even if in parts of the world, excessive interest rates put it beyond the reach of many small farmers. (A decade after the end of the war, some 90 percent of agricultural credit in India was still being supplied by

#### 1951, INDONESIA

Local workers constructing a 70 km canal, Indonesia. The Government undertook a project to irrigate 6 000 ha of land with the support of FAO specialists.

©FAO/E. Schwab



moneylenders, generally at high mark-ups.) By the 1950s, in South and East Asia in particular, a slew of legislative reforms was dismantling institutional barriers to the efficient use of land by transferring ownership to cultivators and encouraging the consolidation of fragmented holdings. There was broad progress towards the formal registration of titles. Various countries also rationalized their agricultural taxation systems.

Parts of what would come to be known as the developing world improved their use and control of water, with progress most notable in Mexico, Thailand, and newly independent

India and Pakistan. Many other countries undertook the first systematic surveys of their water resources. Irrigation schemes took off.

The Soviet Union and China, which had collectivized agriculture or were busy doing so, were also reporting progress on administering water resources and other aspects of farming. By the 1950s, however, the Korean War and Cold War had corroded much of the spirit of co-operation of the very early post-war era. In the process, the flow of information between rival powers had dwindled. Poorer nations, meanwhile, lacked comprehensive reporting capacities.

The United Nations Economic and Social **Council (ECOSOC)** recommends that FAO keep the global hunger situation under continuous surveillance and report on any instances of "pending critical food shortages or famine". This gives the Organization a mandate to perform on-the-spot investigations and convene meetings with governments "to devise the most practical lines of action". It also spurs FAO to study the viability of establishing a food reserve for use in cases of serious food shortages or famine caused by war, natural disasters or pest

1952

infestations.

1951

A landmark in pest control, the **Desert Locust Programme** is launched following a request from an international conference convened by India. A decade later, the Programme is strengthened thanks to co-operation with UNDP. Over the decades, FAO's locust strategy has evolved from minimizing damage in the wake of swarms to attacking the insects before swarms have had a chance to form. Broadly considered a success, the fight against locusts nonetheless remains crucial to this day: in mid-2020, FAO was again helping combat a highly destructive locust outbreak in East Africa.

1955 🔾

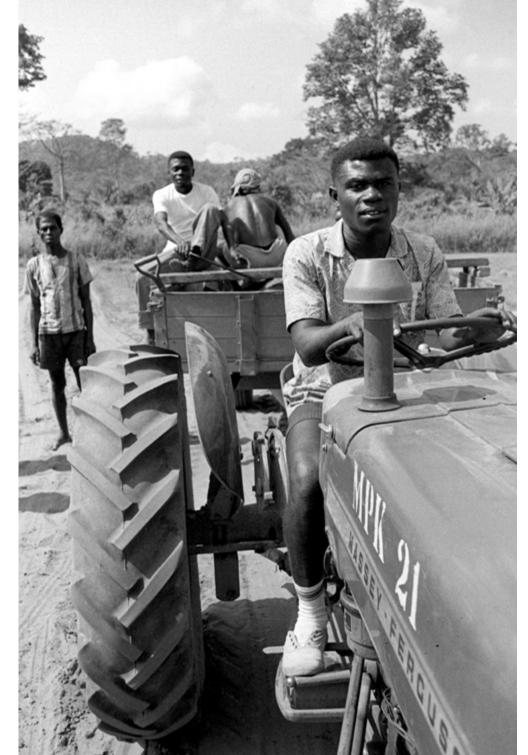
First Lady of the United States of America **Eleanor Roosevelt** travels to FAO to generate support for a Freedom from Hunger **Campaign**. The campaign sees the day in 1960, following years of negotiations.

FAO's early programmes seek to feed a growing world population by maximizing agricultural production.

#### 1969, GHANA

Workmen engaged in road construction between two new resettlement villages, after the construction of the Volta River dam at Akesombo, Ghana. ©WFP/FAO/Peyton Johnson

Gaps in the data notwithstanding, there was evidence of significant agricultural advancement across much of the globe. By the mid-1950s, there had been a conspicuous leap in the prevalence of agricultural machinery. The number of registered tractors went up threefold, releasing for cultivation vast expanses of land previously used to grow feed for traction animals.



Plant breeding too underwent considerable development. In parts of Europe, hybrid maize was greatly boosting yields. Developing nations saw the productivity of basic crops soar thanks to new synthetic pesticides and selective weed-killers. By the 1960s, improved, high-yielding varieties of rice, as well as new strains, had spread across Asia. The continent is seen as having reaped the biggest rewards from the Green Revolution: over 30 years or so, high-yielding varieties of rice came to comprise two-thirds of all plantings, while nearly 90 percent of wheat fields were planted with modern varieties.



1957 FAO launches a World Seed Campaign involving 79 countries. It establishes a reporting mechanism, in an effort to increase the take-up of high-quality seeds for higher productivity.

1958 A **Special Fund** is set up to widen the scope of the UN's technical assistance programme. The Fund is to concentrate on large projects, e.g. assessing and developing labour resources in various industries such as handicrafts and cottage agriculture, forestry, transport and communications, building and housing, health, education, statistics and public administration. Many of the Fund's projects are assigned to FAO as the implementing body, cementing the Organization's status as a major international technical aid agency.

1961 FAO and the United Nations Educational, Scientific and Cultural Organization (UNESCO), join forces to produce a Soil Map of the World. The fruit of monumental research, a decade and a half in the making, the Soil Map collates information from 10 000 separate maps. The introduction to the project spells out the magnitude of the challenge and scope of the work: "Quantitative and qualitative appraisals of soil resources on a global basis have engaged the minds of soil scientists from the beginning of the century. Estimates of land reserves have been made in terms of major soil groups, but the figures compiled from different sources varied widely." Discrepancies in nomenclature and classification compounded the difficulty. (FAO and UNESCO would join forces again and again over the decades, whether to promote sustainable gastronomy or to provide livelihoods education for pastoralists in South Sudan.)

### Foreword to FAO's 1955 State of Food and Agriculture (SOFA) report

(excerpt)



The same years [1945-1955] have seen more rapid and widespread advances in the technical methods of agriculture, forestry and fisheries than in any previous decade. They have seen also remarkable changes in the social and economic approach to agriculture. Largescale schemes

of land reform have been carried through. A beginning has been made in many countries towards the coordinated planning and programming of agricultural development and of forest policy. Extensive attempts have been made to limit the fluctuations of farm prices and to give the cultivator a measure of economic security he has never before enjoyed. The findings of nutrition science have been more widely applied, particularly to secure minimum levels of nutrition for children and mothers. International schemes of investment and technical assistance have been put in hand, aimed primarily in the agricultural field at tackling the deepseated problems of low productivity, undernourishment and rural poverty in the less developed countries of the world. These are only a few of the striking developments of the past decade.

From the 1950s onwards, livestock and animal husbandry benefit from the more systematic registration of herds and the spread of artificial insemination. Poorer nations establish state veterinary services. Europe, North America and Oceania witness big jumps in yields per hectare per animal.

Overall, within a decade of FAO's creation, food production was a quarter greater than at the end of the war, and higher also in per capita terms.

The Green Revolution sees vast new areas planted with improved varieties. The use of machinery triples. In the early 1960s, modern humanitarian responses take shape in the face of food crises.



Even so, progress was far from even, sufficient or irreversible. On the whole, agricultural expansion, solid as it was, was dwarfed by the scale of growth in the industrial sector, the main engine of postwar prosperity in Western nations. Sub-Saharan Africa, on the other hand, had failed

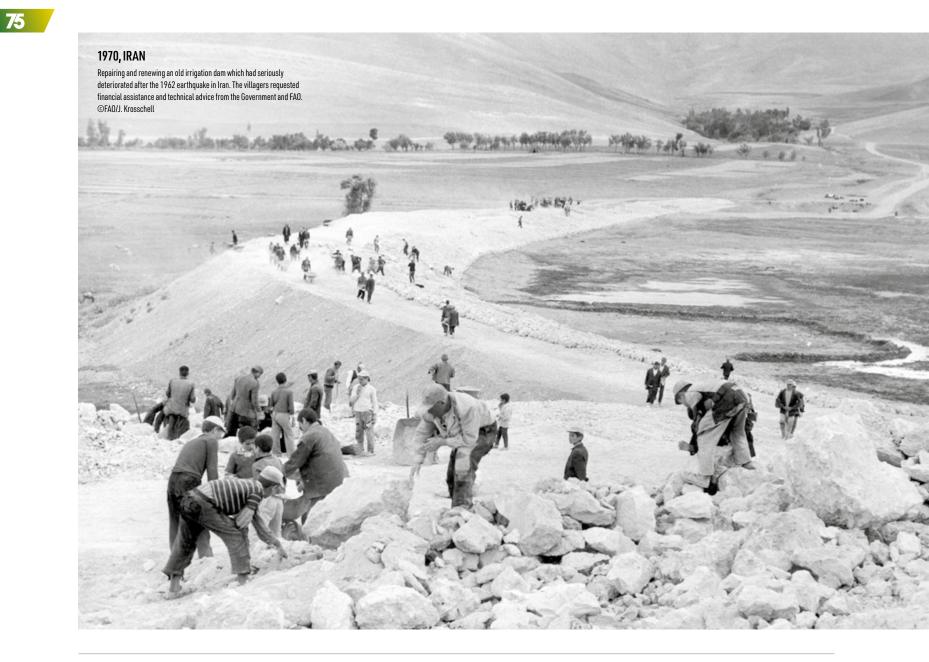
to make the most of the Green Revolution: capital in the region was scarce; land ownership largely informal; agricultural inputs basic; and access to credit and technology limited. For decades to come, the region would remain the focus of international development efforts.

1961 Fertilizer Programme. The FAO Fertilizer Programme is set up under the Freedom from Hunger Campaign with the aim of improving crop production and farmers' incomes through the efficient use of fertilizers. The Programme soon expands its scope to include all aspects of efficient crop production, such as improved varieties, better soil management and weed control, as well as more efficient plant protection. Overall, the use of fertilizers increased by 14 percent annually during the 1960s.

1961 The World Food Programme (WFP) is set up on an experimental basis as FAO's and the UN's food assistance subsidiary, before being given full permanent status two years later. Months into existence, the Programme responds to a devastating earthquake in Iran - the first of a sustained pattern of emergency interventions.

1963 Establishment of the Codex Alimentarius.

> The Codex, created in conjunction with the Word Health Organization (WHO) is a dynamic collection of international food standards, guidelines and codes of practice, presented in a uniform manner. Its role is to protect consumer health, covering items such as veterinary drugs, pesticides, food additives and contaminants; and to remove barriers to trade, functioning as a reference for the resolution of disputes in the USD 2 trillion food industry.



Despite huge growth, hunger persists as the first quarter-century of FAO history draws to a close.

Throughout FAO's first quarter-century of existence, the fragility of agricultural supply chains and the persistent difficulty in securing universal access to food (even in nations that had largely benefited from the Green Revolution) was sharply illustrated by sudden-onset crises, both human-caused and natural.

The earthquake that strikes Iran's northern area of Buin Zahra on 1 September 1962 kills more than 12 000 people. Cataclysmic in human terms, the tremor is also a trial by fire for the new humanitarian organization, the World Food Programme (WFP). The body, founded as a joint UN-FAO undertaking less than a year earlier, quickly mobilizes to deliver 1 500 tonnes of wheat, 270 tonnes of sugar and 27 tonnes

of tea. In the decades since, WFP has shaped up as the world's largest humanitarian structure, providing food assistance in half of all nations.

Between 1945 and 1970, agricultural production grows uninterruptedly. Yet the world also learns that while more food is essential to prevent starvation, even enough food is not, on its own, enough to end hunger. Throughout the period, in fact, ending hunger is within dreaming distance but never within reach: President Roosevelt's fourth freedom lies in an evershifting "beyond the hills" along a path that is never straight, rarely open to all, and frequently blocked by the debris of conflict, the legacy of injustice and the weight of neglect.

1966 World Land Reform Conference.

The conference, held by FAO and the International Labour Organization (ILO), is a first major attempt to address the structural causes of hunger and malnutrition. In doing so, it prefigures the more integrated approaches of later decades, beyond the pursuit of higher agricultural yields and aggregate food production increases. The conference brings together land reform initiatives from around the world, with a broad view to boosting economic and social progress.

**1969** FAO's **Forestry Department** is founded.

The second **World Food Congress** is held in The Hague, calling attention to hunger and malnutrition around the world. 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.



# NOURISH

The second quarter-century 1970-1995

In quantitative terms, the second big chapter in FAO's existence opens on a relatively high note. The 1970 edition of The State of Food and Agriculture (SOFA) report documents an increase of 70 percent in overall food production since 1948, which works out to a respectable 2.7 percent annual uptick. In the fisheries sector, the pace had been faster – an impressive 4.4 percent. Broadly speaking, the amount of food produced had kept pace with population growth.

Yet this ostensibly benign state of affairs came with major caveats. For one thing, hunger continued to claim a vicious toll. In sub-Saharan Africa, the average annual increase in food production had been a meagre 0.6 percent. And the gains, such as they were, would not last.



# **FAO** milestones [ 1 9 7 0 - 1 9 9 5 ]

Sahel crisis. FAO and WFP are alerted to an emergency situation caused by drought. Harvests are compromised, livestock is being lost. Relief is mobilized. Early the following year, an FAO mission to Mali, Niger and Upper Volta (now Burkina Faso) reports back on further needs.

Over 1.5 million tonnes of grain, 70 000 tonnes of protective foods and various quantities of seeds, insecticides and aid supplies are sent to

1975, the crisis has subsided.

the region, together with cash assistance. By

A United Nations Conference on the Human
Environment, co-organized by FAO, takes place
in Stockholm. The Conference makes more than
100 recommendations, of which FAO is asked to
implement a quarter: they concern agricultural
conservation, and fisheries and other natural
resources.



### **SOFA report - 1970** (excerpt)

The current review chapters of this report offer further evidence that at long last something of a turning point may have been reached in the difficult struggle of the developing countries to achieve a sufficiently rapid increase in their food production [...] One of the main results of the introduction of the high-yielding varieties of cereals has been a return to greater self-sufficiency in food in a number of developing countries. Some of them already have or may have in the near future a surplus capacity.

In 1972, grain production slumps for the first time since the war. Any surpluses are wiped out. Around the same time, the oil crisis bludgeons Western economies, bringing to a crashing end nearly three decades of unbroken expansion.

Alongside the economic shock, the early 1970s in industrial countries crystallized social tensions that had been accumulating since the final stages of the 1960s. Optimism was scarce, amid a sense that a blessed cycle had closed. In parts of the developing world, the postwar and post-decolonization years had yet to deliver drastically better livelihoods; economic empowerment was lagging behind the political sort. By the end of the decade, at a World Conference on agrarian reform, the Tanzanian leader, Julius Nyerere, would speak of people continuing to suffer "unbelievable misery and squalor".



1974 Establishment of the Committee on World **Food Security (CFS)**, on the recommendation of the World Food Conference the same year. The CFS is designed as a coordinating body for efforts to end hunger and improve nutrition. Its early years are still dominated by a focus on increased grain production and price stability. In later years, the CFS is restructured and made more participatory; it is also reshaped to respond to crises and structural challenges.

**1976** FAO's **Technical Cooperation Programme** is launched to support development efforts in member states. It provides assistance in all areas under the Organization's mandate.

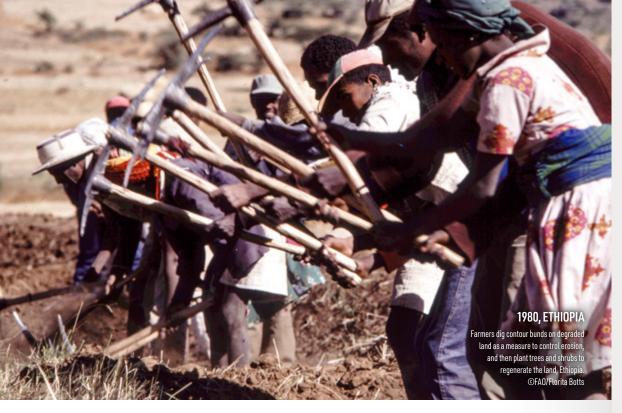
In response to food crises in sub-Saharan Africa, FAO's Global Information and Early Warning System (GIEWS) on food and agriculture steps up monitoring, providing monthly reports. To this day, the GIEWS continues to monitor food supply and demand and issue early warnings of impending crises.

# RACHEL CARSON, Silent Spring (excerpt)

No responsible person contends that insect-borne disease should be ignored. The question that has now urgently presented itself is whether it is either wise or responsible to attack the problem by methods that are rapidly making it worse. The world has heard much of the triumphant war against disease through the control of insect vectors of infection, but it has heard little of the other side of the story the defeats, the short-lived triumphs that now strongly support the alarming view that the insect enemy has been made actually stronger by our efforts. Even worse, we may have destroyed our very means of fighting.

As economies stumble and growth halts, environmental concerns come to the fore.

As expectations of linear progress crumble, established production and consumption models are being questioned. In the West, certainly rich but economically battered, an environmental consciousness is awakening. Greener sensitivities are gaining a voice – in society and culture at first, then in politics. In 1962 already, Rachel Carson's *Silent Spring* had detailed the damages wrought on the environment and human health by the rampant use of pesticides. A rallying cry for the nascent environmental movement, the book laid the premises for the American ban on dichlorodiphenyltrichloroethane (DDT) in 1972; it would go on to influence opinion and public policy in the United States of America for years to come.



"We do not wish to impoverish the environment any further," India's Prime Minister, Indira Gandhi, conceded at a conference in Stockholm in 1972, articulating what was shaping up ideologically as a dilemma and policy-wise as a trade-off. "And yet," she continued, "we cannot for a moment forget the grim poverty of large numbers of people. Are not poverty and need the greatest polluters?"

Over the following decades, conservation concerns would transform humanity's understanding of its relationship to nature. Between the 1970s and the 1990s, societies and policymakers acquire a sharper sense of the finite character of the planet's resources. The search is on for less exploitative ways to deliver socially desirable objectives – among them, an end to hunger.

A World Conference on Agrarian Reform and
Rural Development, held in Rome, adopts a

Peasants' Charter to promote access to land –
a further move to address the structural causes
of food insecurity.

One-hundred-and-fifty countries mark the first **World Food Day**, coinciding with the anniversary of FAO's foundation on 16 October.

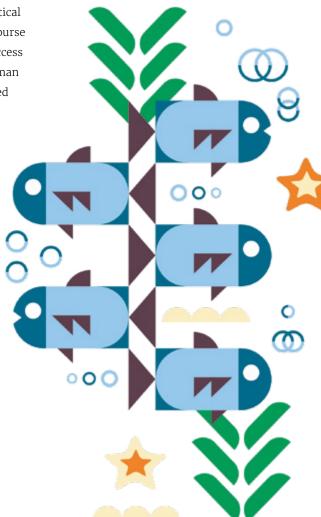
1982 International Seed Information System.
Run by a microcomputer, the system includes techniques and management practices both for commercial seed banks and forestry research

programmes.

Much attention switches to the oceans and the seas: they are a source of vital nourishment for hundreds of millions. For many others, they equal livelihoods. They also sustain vast fishing industries, and entire coastal and island economies. Around the mid-1970s, fish production begins to level off as disputes flare over exclusive fishing areas and disquiet rumbles over stocks. Addressing an FAO event on the subject in 1984, King Juan Carlos of Spain speaks of the necessity to ensure that "the riches of the sea should not be exhausted in a predatory, short-sighted and selfish endeavour". In 1995, a comprehensive Code of Conduct for Responsible Fisheries sees the day. Aquaculture receives a boost.

In most respects, that said, the second quarter-century of FAO's existence is an era of quick-shifting perceptions but slower-shifting practices. The pursuit of volumes and yields continues to drive mainstream approaches to agricultural development. All the same, the race to end hunger no longer proceeds in a contextual void: it accrues layers of environmental and social nuance.

The cyclical, systemic nature of hunger is underscored by desertification and droughts, food crises and famines. Securing access to food – and not just its theoretical availability - starts to inform the discourse of FAO and sister organizations. For access to food to improve, a host of other human and social needs must also be addressed - education, health, a clean and safe environment, and arguably peace. Nor are these just needs: they begin to be forcefully articulated as rights. In seeking to end hunger, inequality is perceived as both a moral scandal and a policy impediment.





A World Conference on Fisheries

Management and Development held in Rome agrees long-term goals for fishery management. It also discusses access to fishing grounds and registers progress towards adopting new maritime laws. (A previous agreement on expanding national coastal jurisdictions had failed to address territorial distribution systems, including usage rights.)

1984

The fifth World Food Survey promotes food subsidies and nutritional education as it documents rising numbers of people suffering from hunger. The year before, the Ethiopian famine had triggered unprecedented levels of public mobilization among wealthy nations, largely by the Band Aid charity supergroup.

Launch of **FAOSTAT** (then known as AGROSTAT), the electronic edition of the FAO yearbooks and the world's largest unified source of agricultural information and statistics. It offers free access to the statistical data of over 200 countries and regions, back to 1961.

The logic of more shades off into the logic of better; the spirit of grow, into that of nourish.

Along the way, FAO partly transitions from technical co-operation body to international development agency. The evolution stems from an understanding that narrowly defined, quantitative-minded interpretations of the Organization's mandate no longer suffice. The logic of more shades off into the logic of better; the spirit of grow, into that of *nourish*. Technical support to centralized irrigation schemes, for example, loses favour to local, community-centred programmes: these are seen as less wasteful, quicker to set up, more immediately useful and likelier to build resilience.





The new concept of *food security*, which integrates the principles of availability and access, receives formal recognition in the mid-1970s with the foundation of the Committee on World Food Security (CFS). A UN body whose secretariat is hosted by FAO, the CFS is designed as an inclusive forum: it remains the key platform for officials, experts, civil society and industry to debate solutions to global hunger and ways to improve nutrition.

As the 1980s end, the spirit of co-operation released by the fall of the Berlin Wall

The European Single Market is born, then the World Trade Organization. A wave of liberalization sweeps the world. Many commercial barriers are dismantled. But increasingly globalized exchanges translate into increasingly globalized food safety concerns. An outbreak of bovine spongiform encephalopathy (or "mad cow" disease) in British herds is linked to the incidence among consumers of Creutzfeldt-Jakob, a degenerative neurological condition. The episode shines a disturbing light on the continuum between human and animal health. Drawing on FAO's expertise in combating livestock diseases, the Codex Alimentarius tackles the fraught question of animal feed – a further layer of complexity in the effort to secure safe, sufficient and nutritious food for all.

1987 Measures against radioactive

contamination in food. A year after radioactive
particles from the Chernobyl nuclear disaster
spread across Europe and Asia, causing panic
among consumers and disrupting the circulation
of food, FAO issues recommendations for

controlling the trade in foodstuffs at risk of accidental contamination with radionuclides.

The Africa Real Time Environmental

Monitoring Information System (ARTEMIS)
is installed at FAO headquarters to collect data
on rainfall and vegetation from satellite images.

The International Plant Protection

Convention, originally adopted by the FAO

Conference in 1951, is strengthened with fresh
amendments. (It is destined to be strengthened
again in 1997, when the Convention formally
becomes an organization setting plant health
standards.)



The mid-1990s find FAO an unquestionably more sophisticated outfit in terms of its breadth of knowledge and statistical prowess. But they also find it a stately normative agency in a fast-deregulating era. Its institutional culture is government-oriented, even as agricultural initiative and standard-setting power have largely passed to the private sector. Governments themselves, particularly in countries in transition, are increasingly looking to thinktanks and independent foundations for policy advice; and as crisis follows crisis, the capacity for quick public

and political mobilization is ever more the domain of global non-governmental organizations (NGOs).

As the new millennium approached, what FAO had contributed to post-war agriculture and communities far and wide - growth and nourishment – could also be said to apply to the Organization itself: rapid expansion followed by complex fine-tuning. The next quarter-century, dominated by the challenges of a changing climate, protracted conflict and a V-shaped evolution in hunger rates, would require much strategic vision and adaptability.

As barriers fall and trade expands, food security for a globalized world demands new approaches.



More than 1 300 participants from 159 countries and the European Community attend the first international conference dedicated exclusively to nutrition, jointly convened by FAO and WHO in Rome. A World Declaration and Plan of Action on Nutrition are adopted. They call for the elimination of malnutrition, especially among children, women and the elderly; of micronutrient deficiencies; of inadequate sanitation; and of poor hygiene and unsafe water.

FAO sets up an Emergency Prevention

System for Transboundary Animal and
Plant Pests and Diseases (EMPRES). The
FAO EMPRES-Livestock programme continues
to play a central role in the fight against the
persistence and spread of highly contagious
diseases with the potential to spread across
borders.

FAO's **Special Programme for Food Security** sees the day, designed to support low-income, food-deficit countries in reducing the variability of agricultural production year-on-year, and in improving their citizens' access to food.



# SUSTAIN

The third quarter-century 1995-2020

The most recent broad swathe of FAO history coincides with the coming of age of the sustainability concept. A comprehensive guiding principle, sustainability grows to dominate thinking (though not necessarily practices) in the field of human development and the management of life on earth. This includes approaches to food and agriculture.

Productivism is de-emphasized; multiple strands of environmental, human rights and global health discourse converge. To this emerging paradigm, FAO and other partners contribute a muscular food security component. From the turn of the century onwards, the new vision is strengthened by the adoption of the Millennium – then Sustainable – Development Goals.



### **FAO** milestones

[1995-2020]

1996 A World Food Summit takes place at FAO headquarters in Rome, featuring an address by the Pope. Ten thousand delegates, including high-level representatives of 185 countries, commit to eliminating hunger and ensuring

sustainable food security for all.

FAO launches its **Telefood** fundraising campaign. Radio programmes, concerts and a variety of events are held to mobilize resources.

A gift of USD 40 could buy a hive, producing 15 kg of honey a year; with USD 125, a farmer could buy a pump to irrigate 2 500 m² of land; for USD 300, 60 farmers could purchase enough seed to plant 20 hectares of vegetable. More than

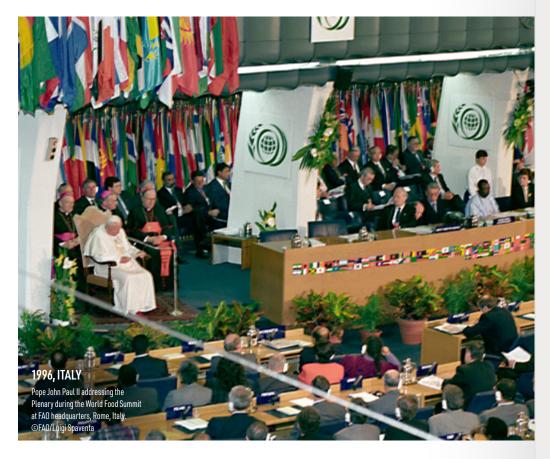
1 000 such projects are funded.

Adoption of the Rotterdam Convention
on the Prior Informed Consent Procedure for
Certain Hazardous Chemicals and Pesticides
in International Trade. The Convention, born of
a collaboration between FAO and the United
Nations Environment Programme (UNEP) aims
to regulate the export of pesticides banned or
restricted in their countries of origin. It functions
as an early-warning system and helps countries
manage dangerous chemicals throughout their
life cycle.



By the 1990s, the model of industrial agriculture in much of North America and Europe had generated quantities of food unimaginable at the time of FAO's foundation. Agribusiness consolidation and mountains of surpluses; animals fed and bred for ever greater yields; the spread of monocultures; the rise of ultra-processed foods - all testified to production modes and supply chains that filled supermarket carts but paid less heed to resource conservation, environmental concerns or nutritional balance. In much of the developing world, soils were eroding. Deserts expanded, forests receded. Wild habitats shrank. Agriculture remained cash-starved, essential needs unmet. Hunger and malnutrition still maimed lives in their hundreds of millions.

The search is on for less industrialized, greener agricultural development models.



In 1996, Pope John Paul II told a World Food Summit convened by FAO that the persistent contrast between indigence and opulence was "unbearable to humanity". A year later, FAO launched its TeleFood fund-raising campaign, putting millions of US dollars into farmers' hands and financing projects in over 100 countries.

1999

FAO initiates a **Goodwill Ambassadors** programme, trading on the appeal of prominent personalities to spread its anti-hunger messages. Nobel laureate Rita Levi, Princess Maha Chakri Sirindhorn and the footballer Roberto Baggio take part. The programme marks FAO's transition to a more communication-savvy, advocacy-oriented organization.

2000

The Millennium Development Goals (MDGs) are adopted. MDG1 combines action on extreme poverty and hunger. By the due date in 2015, the prevalence of extreme poverty has been more than halved, and the prevalence of hunger nearly halved.

2000

FAO adopts a long-term Strategy to end hunger in the Horn of Africa. In line with emerging approaches that emphasize the interconnectedness of development agendas and the role of representative institutions, it speaks of protecting rural people from external shocks by broadening their livelihoods and enhancing their resilience; strengthening their environment conditions, their health, education and access to markets; and improving government performance, particularly with regard to the rule of law.



Such initiatives drew on long-established wisdom: poverty and hunger feed off each other and should be tackled in tandem. But as an understanding grew of the broad arc of human aspirations, new, more explicitly political considerations came into the mix. The years that followed the end of the Cold War saw the role of good governance extolled by consensus.

## Rome Declaration on Food Security - 1996

(excerpt)

We reaffirm that a peaceful, stable and enabling political, social and economic environment is the essential foundation which will enable States to give adequate priority to food security and poverty eradication. Democracy, promotion and protection of all human rights and fundamental freedoms, including the right to development, and the full and equal participation of men and women are essential for achieving for all.

The fight against hunger becomes part of a broader discourse, incorporating the right to food and a focus on governance.

In the mid- to late 1990s. as the pursuit of food security became closely bound with the protection of the environment and human health, FAO stepped up work on controlling hazardous pesticides. Potentially fraught intersections were meanwhile opening up between the world of farming and that of intellectual property law. In 2001, years of negotiations gave birth to the International Treaty on Plant Genetic Resources in Agriculture. Brokered by FAO, the document provided for the equitable sharing of genetic material among plant breeders, farmers, and public and private research institutions.



2001 Intense dipl

Intense diplomatic work by FAO results in the adoption of the **Treaty on Plant Genetic Resources for Food and Agriculture**.

The Treaty makes the genetic material of 64 crops – representing four-fifths of all plant-derived food consumed in the world – free to share between signatories. It aims to stem the loss of crop diversity, and contains provisions that protect smallholder farmers and safeguard traditional agricultural knowledge. The benefit-sharing fund set up under the Treaty has helped more than a million people to date.

2002

FAO launches the **Globally Important Agricultural Heritages Sites (GIAHS)**programme. A type of agricultural certification coupled with technical assistance, it aims to strike a balance between conservation, sustainable adaptation and socio-economic development

(for example, by promoting local products and

agro-tourism).

On the Right to Adequate Food, helping operationalize a right recognized in the Universal Declaration of Human Rights. It is the first time the substance of human rights comes up for discussion at FAO. The Organization has since been supporting countries in seven areas relative to the Right to Food: formulation and implementation of policies and programmes; legal processes; budget analysis; governance; assessment; monitoring; and capacity development. In recent years, various nations have incorporated the Right to Food in their Constitutions

or made it "justiciable", that is, enforceable in court.

As one millennium shaded into another, further dimensions and liabilities were coming to the fore. Among them - a legacy of gender inequality, amid evidence that food insecurity hits women and girls harder; the loss of biodiversity, which jeopardizes the food sources of impoverished communities; the plight of indigenous people, often marginalized, their unique agricultural knowledge at risk; and the extent to which strong institutions help keep hunger at bay.

Developing nations chasing GDP growth as a fast track to progress found that food insecurity came at a price. Studies showed African countries forfeiting up to 16 percent of annual output as child malnutrition curbed educational attainment, reduced workplace longevity, dented productivity and drained public health systems.

In short, as a new century dawned, the international community concluded that to cure one ill, you had to tackle many. The job of human development could be divided into tasks, but it succeeded or failed as a whole; all levers must be pressed at once.



#### Corporate strategy components, FAO 2000-2015 Strategic Framework

(excerpt)

- improving the opportunities available to the rural poor to strengthen, diversify and sustain their livelihoods by taking advantage of the potential synergies between farming, fishing, forestry and animal husbandry (...);
- supporting efforts to strengthen local institutions and to enact policies and legislation that will provide for more equitable access by both women and men to natural resources and related economic and social resources;
- improving the efficiency and effectiveness by which the public and private sectors respond to the multiple and differing needs of disadvantaged rural populations (...);
- promoting gender-sensitive, participatory and sustainable strategies and approaches, based on selfhelp, capacity building and empowerment, to improve the skills of the rural poor and local, civil society and rural people's organizations.



**2012, SWEDEN** 

FAO's Nordic office co-organizes United Nations Day, Sweden. Young girl with MDG "tattoo". ©FAO/Linn Liviin Wexell

In 2000, the United Nations adopted eight Millennium Development Goals (MDGs), a detailed to-do list for humanity. The same year, the language in FAO's Strategic Framework displays much the same spirit – far-reaching but precise, ambitious yet mindful of specifics. More directions of action are envisaged, more stakeholders acknowledged. The roles of the private sector and civil society are explicitly recognized.

Centre - Animal Health - a rapid response mechanism in case of animal disease outbreaks. It supports governments in addressing bird flu, African swine fever, foot-and-mouth disease, rinderpest, porcine reproductive and respiratory syndrome (also known as blue ear disease) and Rift Valley fever - all conditions with a rapid potential to devastate supply chains and farmers' livelihoods. In 2011, FAO and the World Organization for Animal Health (OIE) declare rinderpest eradicated.

PAO organizes a Conference on Climate
Change involving 43 heads of state and
100 government ministers. The event considers
the effect of the rise of bioenergy on food
security and food prices.

The FAO Conference approves the Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated (IUU) Fishing. It is the first global, legally binding instrument designed to deter IUU and promote sustainability of stocks – as opposed to the historic rationale of fisheries agreements, which was to allocate fishing quotas. (The Agreement enters into force in 2016, following ratification.)



FAO's lens is now more sharply trained on smallholder farmers, community-level concerns and nature-based solutions; more responsive to expectations of inclusiveness and accountability; angled less towards abstract aggregates and more towards vulnerable demographics. Conservation and sustainability enter a lexicon once dominated by intensification and productivity.

Overall, there is much advancement.

Extreme poverty is halved. Hunger
diminishes. A host of other measures of
wellbeing improve. In 2015, a galvanized
international community steps up the pace
with the Sustainable Development Goals
(SDGs), also known collectively as the
2030 Agenda. The world is now reaching
for exhaustivity: there are 16 goals, plus a
methodological one, mapping every avenue
of social and environmental progress, from
health to gender equality to life below
water. A further 169 targets mark out areas
of action, complete with over 200 indicators.

Zero Hunger is enshrined in the Sustainable Development Goals, with FAO designated custodian for several indicators.

Prominent among the SDGs, just behind the paramount priority of ending poverty, is Zero Hunger. FAO provides technical input as the Goals are formulated and ends up the UN-designated custodian agency for a variety of indicators. Among these are hunger itself; agricultural sustainability; women's ownership of land; water stress; fish stocks sustainability; and sustainable forest management.

As FAO's responsibilities expand, so does its toolbox. With so much measuring to do, the Organization flexes its statistical firepower and number-crunching capacity. It develops applications that connect smallholders to markets, help manage livestock and control the spread of crop-destroying pests. Drones take to the skies to assess the risk of natural disasters. Educational programmes set out to mentor young farmers and rejuvenate the agricultural labour force. Training is provided for people to start urban and indoor farms, tunnel gardens and hydroponic orchards.

2012

A FAO-led global consultation results in the adoption by the Committee on World Food Security (CFS) of the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests. The Guidelines set out principles and internationally accepted standards in the field, with an emphasis on conservation and protecting the interests of vulnerable and marginalized peoples.

2013

FAO launches the **Food Insecurity Experience Scale (FIES)**, a more nuanced indicator than the headline "hunger" measurement, the Prevalence of Undernourishment (PoU). Where the PoU is a projection, FIES relies on self-reporting surveys to determine individuals' inability to access food that is sufficient, safe and nutritious at any time over the length of a year. By the end of the decade, under FIES criteria, as many as two billion people will be shown to be experiencing some degree of food insecurity.

2014 (

The 2015 edition of the FAO-led annual report, the State of Food Insecurity in the World (now the State of Food Security and Nutrition in the World) reveals 2014 to have been the swing year when **hunger began rising again**, reversing the trend of the previous decade. This is still the case at the time of writing.



#### 2012. BOLIVIA (PLURINATIONAL STATE OF)

Cultivating guinoa as part of the "Semillas Andinas" project, Bolivia (Plurinational State of). ©FAO/Claudio Guzmán

Much emphasis falls on strengthening what comes to be known as food value chains: these offer small cultivators outlets for their produce and ensure quality control; they provide decent jobs and help indigenous communities meet demand for niche and premium foodstuffs. Logistical solutions are thought up, and intense advocacy is deployed, to reduce loss and waste. (Loss alone is estimated to wipe out one-seventh of all food grown.) Above all, FAO begins to rethink food systems in their entirety and campaign for their transformation, aiming for a virtuous policy circle that combats poverty, fights hunger and malnutrition, and protects fragile ecosystems.

Yet all of this takes place against the doubly hostile clock of resurgent conflict and extreme climate variability. Some of the least developed countries suffer most. In southern Africa, crippling droughts and murderous floods alternate, triggering cyclical hunger emergencies. Small island developing states, low on resources and socially vulnerable, bear the brunt of cyclones and hurricanes. In wealthy countries from North America to Oceania, devastating fires occur with increasing frequency. In parts of the world, traditional and time-tested farming practices die out; elsewhere, homogenized diets, rich in calories but poor in nutrients, stoke a wave of overweight and obesity.

Many nations cumulate both phenomena. In some cases, violence and instability act as accelerators of structural food insecurity.

In the second decade of the new millennium. protracted armed conflicts acquire a tragic normality. In Syria, South Sudan, Yemen

and northeast Nigeria, hostilities rage or simmer for years, claiming thousands of lives and leaving millions on the edge of famine. Hunger is being used as a weapon of war. In 2018, the dispiriting kinship between food insecurity and conflict is explicitly recognized by the UN Security Council.



2015

The UN General Assembly adopts 17 Sustainable Development Goals (SDGs), successors to the MDGs, with technical input from FAO among many contributing entities. The Organization is made custodian of 21 indicators spanning several Goals, in recognition of the centrality of its mandate to the wider 2030 Agenda.

2016

The FAO-Nobel Peace Laureates Alliance for Food Security and Peace is set up, in an effort to inject moral authority and prestige into the joint fight against hunger and conflict. Two years later, the UN Security Council passes Resolution 2417, which for the first time recognizes the explicit link between the two.

2019

FAO launches its Framework for the Urban Food Agenda. It follows evidence that with most of the world's population now living in cities, rural areas are no longer the exclusive - or even, in some cases, the primary - sites of food production.

On the initiative of FAO and the Republic of Slovenia, the UN designates 20 May as World Bee Day to draw attention to the threats faced by pollinators, on which many crops depend.

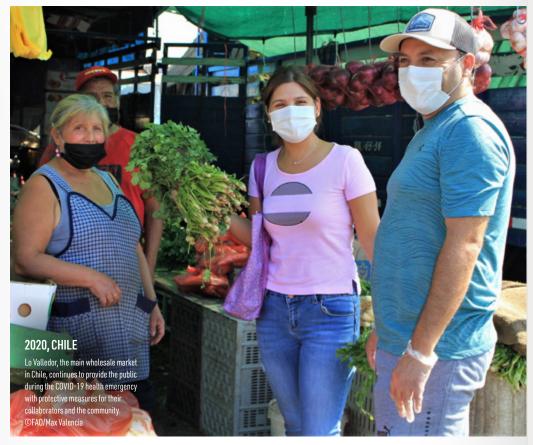
As peace declines, harmful gases pile up and biodiversity recedes, hunger numbers, which had been shrinking for a decade until the mid-2010s, start creeping up again. The 2020 report on *The State of Food Security and Nutrition in the World* – an authoritative, FAO-led piece of research – shows nearly 700 million people still undernourished, with a full two billion experiencing some broader form of food insecurity. With just ten years to go until SDG2-Zero Hunger comes due, the odds of delivering it are lengthening.

#### UN Security Council Resolution 2417 (2018)

(excerpt):

Recalls the link between armed conflict and violence and conflict-induced food insecurity and the threat of famine, and calls on all parties to armed conflict to comply with their obligations under international humanitarian law regarding respecting and protecting civilians and taking constant care to spare civilian objects, including objects necessary for food production and distribution such as farms, markets, water systems, mills, food processing and storage sites, and hubs and means for food transportation, and refraining from attacking, destroying, removing or rendering useless objects that are indispensable to the survival of the civilian population, such as foodstuffs, crops, livestock, agricultural assets, drinking water installations and supplies, and irrigation works, and respecting and protecting humanitarian personnel and consignments used for humanitarian relief operations.





At the time of writing, the COVID-19 pandemic, beyond its quantifiable toll in human lives and GDP points, threatened to deepen fragilities in humankind's relationship with food - an impromptu litmus test for the precariousness of

rural employment, for the brittleness of supply chains, for the thin line which in many countries divides livelihoods from destitution. From FAO's perspective, part of the response lies in all-out partnerships and systematic innovation.

The first **International Tea Day** is marked 2020 🔾 on 21 May. After water, tea is the most widely drunk beverage in the world. The sector employs 13 million people in some 50 countries, most of them smallholder farmers.

2020 With the COVID-19 pandemic leading to lockdowns across the world, FAO advocates for food supply chains to be kept alive and for borders to remain open to the food trade. The Organization develops a **COVID-19 Response** and Recovery Programme, aiming to help the world's most vulnerable; prevent further crises; increase resilience to shocks; and accelerate the rebuilding and sustainable transformation of food systems.

2020 The latest edition of The State of Food **Security and Nutrition** report shows 690 million people suffering from undernourishment, with some 750 million experiencing severe food insecurity on the Food Insecurity Experience Scale (FIES). Most undernourished people live in Asia, but in Africa the numbers are rising fastest. The report calls for a wholesale transformation of food systems for SDG2 to remain achievable.



# TOGETHER

The next quarter-century 2020-2045

Agriculture has been with us for millennia – a perfectible, yet otherwise rock-solid feature of sedentary societies. It is intrinsic, in our collective imagination, to the notion of food and sustenance, and thus *sine qua non* to our continued existence as a species. FAO's very name posits agriculture as a given, as everlasting an area of human experience as the very act of consuming the fruits of the soil.



Our historic relationship to farming is being questioned as the COVID-19 pandemic reveals the fragility of food supply chains.

Yet as we watch hydroponic farms flourish in deserts; as we witness the rise of vertical farms; as we see our cities sprout vegetal skyscrapers, we may legitimately wonder if we still *need* the soil at all. In an era of climate emergency, of fading historical certainties, of trail-blazing biotechnological research, can we be sure that agriculture itself, with its time-worn footprint in human culture, is here to stay?

If it is, will we still recognize it a decade or two down the line? Is farming still the default pathway to achieving food security for all?

Over the three-quarters of a century since FAO's foundation, the simple equation of the institution's beginnings – grow more to feed more – has become immensely more complex, if not outright obsolete.





The world is growing more - more than ever before. It has also, unquestionably, fed more. But no longer. As FAO turns 75, with just ten years separating us from the global deadline to end hunger and malnutrition, dozens of countries remain off track. Undernourishment is rising again. Nearly 200 million under-fives are still stunted or wasted. A staggering

three billion individuals cannot afford the most basic healthy diet. Obesity and diet-related non-communicable diseases are spreading in both adults and children, amid suggestions that an abundance of ultra-processed foods may have durably altered the human microbiota the myriad microbial cells that populate our gut.

The lockdowns associated with the COVID-19 pandemic have certainly brought home the enduring centrality to our lives of well-functioning food supply chains. The crisis has also lifted the veil on the world's reliance on agricultural and abattoir workers – frequently migrants, often exploited, unjustly relegated to the bottom of the social heap. Farming, in the broadest sense, is still a matter of vital import.

Yet in other respects – and certainly for the urban consumers who now make up most of the world's population – the link between ground-based agriculture and food has become less palpable. In rich countries, the sector now only accounts for a small percentage of GDP. Utilized agricultural areas are declining; their contribution to wealth creation is limited. Across nations rich and poor, farming's share of economic activity has shrunk. Over the last few decades, the centre of gravity of the agri-food economy has shifted away from the ownership of land (where it had been located for thousands of years) to the ownership of inputs, to the provision of services and processing power, and finally to the retail sector.

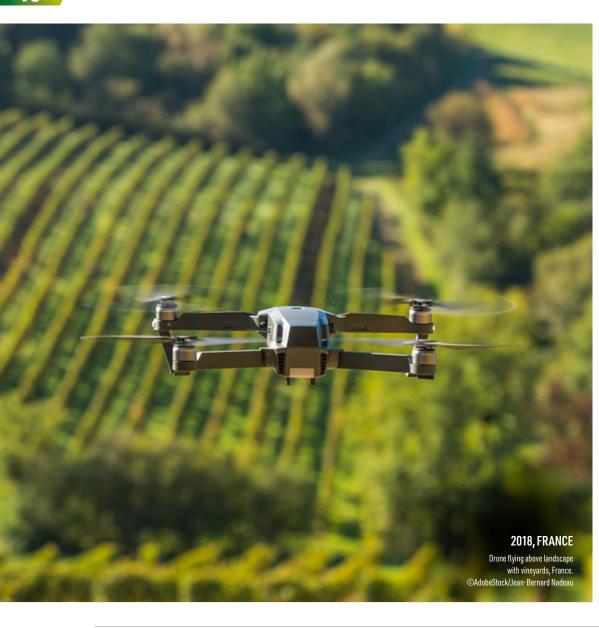
Where agriculture has long supplied us with non-food products - timber has sheltered us: cotton has clothed us - this process is accelerating. From advanced therapies to engineering and transportation, farming – for much of its history churning out essential but low added-value goods while leaving many unfed - has spun off into a spectrum of tertiary applications.



potential, yet the bacteria they harbour is much more likely to trigger pharmaceutical breakthroughs than to spur a new generation of horizontally managed crops. Conversely, the nutritious potential of non-agricultural, non-land-based biomass products such as insects or algae has yet to be fully explored and harnessed at scale. To this extent, rather than a rhapsodized fulcrum of human continuity, agriculture may soon come to be seen as a sub-branch of the bioeconomy sector.

**Bioeconomy applications** are redefining the meaning of agriculture in urban digital settings.





In retrospect, all of FAO's approaches to date — state-driven productivism; development-led programme design; smallholder-centric sustainability initiatives - have reflected an immemorial perception of the intimate pairing between food and agriculture. All these approaches will retain a presence within FAO's operational memory and policy portfolio. None of them, though, was devised for an era such as ours - an era of daily discovery, of blistering innovation, of root-and-branch re-imaginings. And no historical approach, for all its merits, has sufficed to put the world on an irreversible course to end hunger and malnutrition.

The context in which FAO, under new management, embarks on the next phase of its story is thus open, restless, multidirectional. Food may not have fully decoupled from agriculture, but short circuits have developed; their relationship has become less exclusive, more asymmetrical. FAO's future will almost certainly be a different proposition.





Already active in the development of apps and financial products for farmers – including in plant disease diagnosis, stress analysis and crop insurance – the Organization is setting its sights on big data for food security objectives. Monitoring biomass water productivity through remote sensors; interactive platforms for post–harvest systems management; agricultural insurance over blockchain, with smart contracts connected to satellite–generated weather data and linked to mobile wallets – all are in the research phase or in the early stages of implementation.

With scientific findings and innovation reaching a multitude of users near–instantaneously, FAO can no longer nurse a traditional role as a disseminator of knowledge. Its next avatar must be as a real–time knowledge *co–generator*. This can only be achieved though intensive, proactive collaboration with those fora where the bulk of knowledge takes shape – academic institutions and the private sector.

At national level, meanwhile, governments are adopting frameworks to channel innovation: in mid-2019, at least 49 countries had bio-economy strategies in place. In the year since, the European Union has unveiled its Farm to Fork strategy, laying down the objective of a fair, healthy, environmentally-friendly regional food system. Such multiplying policy initiatives put the onus on FAO to foster enabling environments for implementation, in the form of analytical input, applied knowledge and regulatory systems. In 2019, for example, member states tasked FAO to devise a mechanism that harmonizes policies and standards in the digitalization of food production. Much of this will be technical; some will be about governance, from data protection to reducing the risk of bias to addressing the digital divide.

In African refugee camps, FAO's sister organization, the World Food Programme, is already deploying chat bots to assess food and nutritional needs. With artificial intelligence (AI) set to gain increasing prominence in applications involving food security, nutrition and health, FAO has joined forces with the Vatican and global tech giants to underwrite a *Rome Call for AI Ethics* – a document melding moral vision, scientific foresight and regulatory effort.

#### Rome Call for Al Ethics - Principles

- 1. **Transparency:** in principle, Al systems must be explainable;
- 2. Inclusion: the needs of all human beings must be taken into consideration so that everyone can benefit and all individuals can be offered the best possible conditions to express themselves and develop;
- Responsibility: those who design and deploy the use of AI must proceed with responsibility and transparency;
- 4. Impartiality: do not create or act according to bias, thus safeguarding fairness and human dignity;
- Reliability: Al systems must be able to work reliably;
- Security and privacy: All systems must work securely and respect the privacy of users.

#### Launch of the Hand-in-Hand geospatial platform – July 2020 [Hand-in-Hand] boasts over one million geospatial layers and thousands of statistics series with over 4 000 metadata records, bringing together geographic information and statistical data on over ten domains linked to food and agriculture - from food security, crops, soil, land, water, climate, fisheries, livestock to forestry. It also includes information on COVID-19's impact on food and agriculture. The data has been sourced from FAO and other leading public data providers across the UN and NGOs, academia, private sector and space agencies. It also incorporates FAOSTAT data on food and agriculture for FAO's 194 member countries plus 51 territories, from 1961 to the most recent year available.

The near future will be about action coalitions, seeking humanity-enhancing outcomes.

Until recently, linkups between a major UN agency, a world faith authority and Silicon Valley might have seemed improbable. Yet evolving patterns of social engagement and global governance point to extensive overlap and cumulative reach: between them, the signatories to the Rome Call, with its appeal for "algor-ethics," touch the lives of billions of people. To a large degree, the near future will be about action coalitions, mobilizing diversely influential entities and masses of followers

around transversal challenges - a form of digitally-enabled togetherness seeking humanity-enhancing outcomes. At the more targeted end of its collaborative drive, FAO's Hand-in-Hand initiative has set out to "matchmake" countries along the wealth spectrum, donors and recipients, to serve defined food-security goals. The platform is overlaid with digital resources, a public good destined to accrue value through the capillary growth of bilateral partnerships.

#### 2020, TANZANIA

FAO's Hand-in-Hand geospatial platform shows land cover for the Rombo district area in Moshi, Tanzania (top)
©FAO
Geospatial information complements and is validated by information gathered on the ground. In 2012 the same district was monitored by forest rangers (bottom).
©FAO/Simon Maina



Analogue, brick-and-mortar projects such as irrigation schemes will not end tomorrow. Nor will traditional capacity building or empowerment programmes. But the next stage in the Organization's development will see its technical assistance and advocacy shift towards systemic support that is scientifically dynamic; informed by big data; tied to global macro-indicators; and geared towards societal transformation.



FAO's ambition to provide a science-policy interface integrating all aspects of food security, including its climate and environmental dimensions, led to the establishment of a Chief Scientist post in mid-2020. Around the same time, the Organization published research showing that specific interventions along the length of food supply chains in every country would not only make healthy diets dramatically more affordable, thus improving the nutritional status of billions of citizens: they could also save up to four-fifths of the annual diet-related health and climate costs - amounting to USD 3 trillion – that will otherwise be plaguing the world's budgets by 2030.



FAO's technical assistance will be informed by big data and geared towards a transformation of food systems.

we have seen landscapes shift, the faces of agriculture morph, the app edge out the plough. Food itself has changed, and so has our biological and cultural understanding of it. How we feed the world, in the end, matters less. But that we do - soon, durably, by any safe and dignified means -

matters more with every breathing minute.

That year – 2030 – remains the horizon for ending hunger and malnutrition in all its forms. In the race to fulfil that quest,

2017, BANGLADESH

Children use a computer tablet as a learning device, Bangladesh. ©FAO/Mohammad Rakibul Hasan

# THE DIRECTORS-GENERAL



**Qu Dongyu** 2019 -

China. (1963) A world-renowned agronomist, scientist and the son of a rice grower, Dr Qu Dongyu is driven by the vision of eradicating hunger and eliminating extreme poverty in the world. With profound professional experiences ranging from leading academic positions, long-term international engagement and top private sector management, to becoming the Vice Governor of Ningxia and Vice Minister of Agriculture and Rural Affairs, China, Qu is a strong advocate for policymaking, innovation and the introduction of digital technologies to transform agri-food systems and rural development.

Qu is now leading the Organization to be more dynamic, innovative, efficient and inclusive, for a better world.



#### 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 before becoming FAO Director-General.



**Jacques Diouf** 

1994 - 2011

**Senegal** (1938–2019). Successively member of parliament, Secretary General of the Central Bank for West African States, and Senegal's ambassador to the United Nations, he holds the longest tenure in FAO's history.



**Edouard Saouma** 

1975 - 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.



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.



Binay Ranjan Sen

1956 - 1967

**India** (1898–1993). He was Secretary of the Ministry of Agriculture and ambassador. The first Director–General from a developing country, he launched the Freedom from Hunger Campaign in 1960.



Philip V. Cardon

1954 - 1956

**United States of America** (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.



Norris E. Dodd

1948 - 1953

**United States of America** (1879–1968). Before his appointment, he held various roles in agricultural associations and agencies in his homeland. Under his leadership, FAO moved its headquarters from Washington DC to Rome.



John Boyd Orr

1945 - 1948

**Scotland** (1880–1971). His proposals for a World Food Board led to the creation of the FAO Council in 1946. Nobel Peace Laureate in 1949 for his studies in the field of nutrition.

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Seventy-five years down the line, FAO's name, ambition and spirit remain: everything else has changed, and will change further.

Born in 1945 amid the idealism of post-war reconstruction, the Food and Agriculture Organization of the United Nations sets out to increase farm output around the world and make famines a thing of the past. Over the subsequent 75 years, FAO's outlook and body of work acquire new environmental and sustainability dimensions. By 2020, continued success requires strategic re-invention.

As the COVID-19 pandemic exacerbates vulnerabilities linked to conflict and climate change, FAO is looking to advanced research partnerships, digitalization and wall-to-wall innovation to help end hunger and malnutrition.

With ten years to go until the Sustainable Development Goals come due, the race is on for bold answers and dramatic solutions.



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