



Food and Agriculture
Organization of the
United Nations

Strategic Framework 2022-31



This document presents FAO's Strategic Framework 2022-31 as endorsed by Conference in June 2021, with the specific terminology changes indicated in C2021/LIM/4, Section II. Further decisions and guidance from the Conference on implementation of this Framework is to be reported in the *Adjustments to the Programme of Work and Budget 2022-23* (CL 168/3) for consideration by the Council in December 2021.

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EXECUTIVE SUMMARY

1. As called for in the Basic Texts, since 2010 all of FAO's work is guided by a Strategic Framework prepared for a period of ten to fifteen years, reviewed every four years. The Strategic Framework 2022-2031 has been developed in the context of major global and regional challenges in the areas of FAO's mandate, including the COVID-19 pandemic.
2. A world facing escalating threats demands that we act without delay to safeguard livelihoods, future-proof our planet and lock in sustainable outcomes. The 2030 Agenda is there to guide us, but the historic consensus surrounding its adoption must be matched by political determination to deliver it. With many of the goals in the 2030 Agenda off-track, the need to engage all actors at all levels becomes all the more pressing. Today's challenges require cooperation, not only across borders but across the whole of society.
3. FAO's Strategic Framework seeks to support the 2030 Agenda through the transformation to MORE efficient, inclusive, resilient and sustainable, agri-food systems for *better production, better nutrition, a better environment, and a better life*, leaving no one behind.
4. The *four betters* represent an organising principle for how FAO intends to contribute directly to SDG 1 (No poverty), SDG 2 (Zero hunger), and SDG 10 (Reduced inequalities) as well as to supporting achievement of the broader SDG agenda, which is crucial for attaining FAO's overall vision. The *betters* reflect the interconnected economic, social and environmental dimensions of agri-food systems. As such, they also encourage a strategic and systems-oriented approach within all FAO's interventions.
5. Twenty Programme Priority Areas will guide FAO on filling critical gaps and putting in place the conditions needed to drive the changes that will ultimately contribute to the achievement of the selected SDG targets. By fully embracing the SDGs, FAO moves away from bespoke targets and indicators and adopts a common language.
6. FAO will also apply four cross-cutting/cross-sectional "accelerators": (i) technology, (ii) innovation, (iii) data, and (iv) complements (governance, human capital, and institutions) in all its programmatic interventions to accelerate impact while minimizing trade-offs.
7. The document also highlights the importance of a shift in FAO's working paradigm to ensure transformational change. FAO's reinvigorated, fit-for-purpose business model aims to ensure an inclusive and agile Organization that is transparent, open, innovative, responsible, effective and impactful - and that serves its Members to achieve the *four betters*. The improved programmatic approach will be supported by deepening and expanding partnerships, ensuring optimal leverage of FAO's normative strengths, seeking innovative financing mechanisms and sources, working under a unified vision (One FAO), embracing efficient and innovative approaches, and being prepared to operate in a world of increasing risk and uncertainty.
8. The Strategic Framework was developed through an inclusive and transparent process involving extensive internal and external consultations, Governing Body meetings and informal consultations. It was also guided by FAO's strategic foresight exercise, which aims to increase preparedness and effectiveness around achieving the Agenda 2030 and to share knowledge on challenges, threats and opportunities toward the transformation to more efficient, inclusive, resilient and sustainable agri-food systems.

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Director-General's Foreword

It is my pleasure to present FAO's Strategic Framework 2022-2031, which sets out my vision of building a dynamic FAO for a better world, while remaining committed to the Organization's original aspirations, mandate and mission.

I strongly believe that food and agriculture hold the key to realizing the 2030 Agenda for Sustainable Development and that agriculture in particular is the most inclusive tool to end poverty and ensure food security for all. I am ever more convinced that with its strengths, unique expertise and wealth of experience in sustainable development, FAO is well positioned to support all countries in realizing the Goals of the 2030 Agenda.

Since taking office in 2019, I have introduced various innovations to make FAO more efficient, dynamic, transparent and inclusive. As such, the Strategic Framework builds on the momentum and harmonized transformations already taking place in the Organization, including structural reforms, a new management model as well as a number of flagship activities, including the Hand-in-Hand Initiative, and the COVID-19 Response and Recovery Programme.

I welcome that this Strategic Framework has been developed through a thoroughly inclusive and transparent consultation process, including sessions of the Programme Committee, Joint Meeting of the Programme and Finance Committees, Council, Regional Conferences and Technical Committees. The consultation process also benefited from numerous informal meetings with Members and inputs from all parts of the Organization.

The Strategic Framework puts at its centre the transformation to MORE efficient, inclusive, resilient and sustainable agri-food systems for better production, better nutrition, a better environment, and a better life - the four betters - leaving no one behind.

The Framework is anchored in the 2030 Agenda and guided by SDG 1 No poverty, SDG 2 No hunger, and SDG 10 Reducing inequalities. Given their interconnectivity, the Framework also highlights the importance of all SDGs in achieving FAO's overall vision.

We have introduced twenty Programme Priority Areas, which embed FAO's comparative advantages and will guide our interventions, representing the Organization's strategic contribution towards the SDGs.

The development of this Strategic Framework took place during a period of unprecedented challenges driven by the COVID-19 pandemic - a global crisis, which highlighted the critical mandate of FAO to ensure functioning and sustainable agri-food systems that allow for sufficient production and consumption of food. It has also been a period of increased efficiency, a blossoming digital FAO, as well as breaking down silos, removing administrative layers and innovating work processes. A new FAO is emerging and we will continue on this path, seeking ways to achieve more tangible results and better delivery with an innovative business model.

The Strategic Framework builds on this positive momentum, and clearly sets the direction of the Organization for the next decade. I look forward to working with all our Members and partners to realize global food security and the wellbeing of all.

QU Dongyu
Director-General

Introduction

1. This document presents the Strategic Framework 2022-2031, which has been developed in the context of recent global developments, global and regional trends and major challenges in the areas of FAO's mandate.
2. As called for in the Basic Texts, since 2010 all of FAO's work is guided by a Strategic Framework prepared for a period of ten to fifteen years, reviewed every four years and including *inter alia* an analysis of the challenges facing food, agriculture and rural development and populations dependent thereon, including consumers; a strategic vision, the goals of Members in areas of FAO's mandate, as well as Strategic Objectives to be achieved by Members and the international community with support from FAO.¹
3. The Strategic Framework was developed through an inclusive and transparent process involving extensive internal and external consultations, Governing Body meetings and informal consultations. This document builds on the *Outline of the Strategic Framework 2022-2031 and Outline of the Medium Term Plan 2022-25*,² and guidance received from the Programme Committee, Joint Meeting of the Programme and Finance Committees, and the Council at their sessions during November-December 2020,³ as well as guidance provided by 2020 Regional Conferences and Technical Committees and various informal meetings with Members.
4. FAO's Strategic Framework has been developed during an uncertain economic outlook for the medium term. As highlighted by the International Monetary Fund,⁴ COVID-19 has triggered the deepest global recession in decades, with an estimated -3.5 percent change in global GDP⁵ growth in 2020. The pandemic is resulting in GDP growth contractions across developed countries, the vast majority of emerging markets (estimated at -2.4%) and developing economies (with estimates for Latin America -7.4%, Middle East and Central Asia -3.2%, and sub-Saharan Africa -2.6%) and cause lasting damage to output loss,⁶ labour productivity and jobs. This will potentially increase the number of extreme poor by between 88-115 million in 2020 with an additional potential increase of between 23 million and 35 million in 2021.⁷
5. In this scenario, global coordination and cooperation, as well as a reinforced commitment to sustainable policies and to undertaking the reforms necessary to support long-term prospects are critical.
6. The Strategic Framework is guided by FAO's vision and the three Global Goals of Members and is firmly anchored in the SDGs. It also highlights the importance of FAO being a modern and efficient Organization and an agile enabler of change and outlines areas of FAO's focus for building an optimal enabling environment.
7. Other elements which guided the development of the Strategic Framework include:
 - a) A review of *global trends and challenges* that will influence food and agriculture in the coming decades, attempting to gain a deep understanding of the challenges that agriculture, rural development and agri-food systems are facing now and in the future, and ensuring they are appropriately addressed in how FAO does its work.
 - b) The *new vision* articulated by the Director-General for a dynamic and innovative FAO in a world where challenges are complex and inter-related and in which food and agriculture, people's livelihoods and wellbeing, as well as preservation of natural resources cannot be addressed in isolation.

¹ C 2009/REP

² CL 165/3

³ CL 165/9, CL 165/10, CL 165/REP

⁴ World Economic Outlook, January 2021, IMF

⁵ Gross domestic product (GDP)

⁶ Estimated around USD 11 trillion over 2020-21 to USD 28 trillion over 2020-2025 for cumulative loss

⁷ World Bank, *Poverty and Shared Prosperity 2020*, PovcalNet

- c) The organising principle of the *four betters* - *better production, better nutrition, better environment* and *better life*, which demonstrate how FAO intends to support achievement of the SDG agenda and reflect the interconnected economic, social and environmental dimensions of agri-food systems while encouraging a strategic and systems-oriented approach.
- d) The further articulation of FAO's *results framework* with twenty Programme Priority Areas under the overarching framework of the Agenda 2030, anchored in the Sustainable Development Goals and focused on targets most relevant to its mandate.
- e) The "*new normal*" under the global challenge of COVID-19 and other potential future risks and uncertainties, ensuring that FAO has a well-articulated approach to bring to bear its technical expertise and to shape, support and influence the global community's response now and into the future, in response to the changing landscape worldwide.

A. The 2030 Agenda and the big challenges ahead

8. Despite the enormous progress made in the last 75 years since FAO was created, and even though we produce enough food to feed the world, 690 million people suffered from hunger even before COVID-19. Millions more are micronutrient deficient, and an alarmingly growing number of people are overweight across all ages, classes and borders. The pandemic has increased the number of undernourished up to 132 million more people, putting the importance and vulnerability of the world's agri-food systems under the spotlight. As highlighted by the Secretary General in his recent address to the General Assembly, in many places, the pandemic coupled with conflict and disruption is dealing devastating setbacks to food security, with millions of people facing the risk of famine.⁸

9. Food markets continue to face uncertainties due to prospects of weak economic growth. African swine fever and a catastrophic desert locust outbreak constitute major disasters, in addition to threats and shocks of climate change. Agri-food systems which directly employ over 1 billion people and provide livelihoods to another 3.5 billion, are experiencing disruptions that could at least temporarily disrupt the incomes and, by extension, food access of 1.5 billion people.

10. This unprecedented situation is an opportunity for the Organization and its Members to reaffirm FAO's leadership and position as the UN agency mandated to defeat hunger and achieve global food and nutrition security while preserving the planet's resources and reducing the environmental impact. There is growing recognition of the fundamental role of agri-food systems in achieving the 2030 Agenda. The *Global Sustainable Development Report 2019* identified building sustainable food systems and healthy nutrition patterns as one of the six key "entry points" where focused and collaborative action by various stakeholders can accelerate progress towards the SDGs. Major global initiatives such as the upcoming UN Food Systems Summit provide a historic opportunity to build back better. The cornerstone of our existence, and at the core of the 2030 Agenda for Sustainable Development, is a healthy planet that allows our agri-food systems to provide a healthy diet for all in a sustainable manner.

Transforming our world: the 2030 Agenda for Sustainable Development

11. A world facing escalating threats demands that we act without delay to safeguard livelihoods, transform our agri-food systems to future-proof our planet and lock in sustainable outcomes. The 2030 Agenda is there to guide us. But the historic consensus surrounding its adoption must be matched by political determination to deliver it.

12. In September 2015, UN Member States unanimously signed up to a new vision for humanity. By tying broad principles to detailed benchmarks, the 2030 Agenda with its 17 Sustainable Development Goals (SDGs) and their related targets and indicators, charts a bold path. It squarely commits the international community to ending poverty, hunger and malnutrition. Its vision is one in which a healthy, prosperous and dignified life, rooted in thriving ecosystems, is a reality for all - a vision in which no one is left behind.

⁸ Secretary General's address to the General Assembly, September 22, 2020

13. The Agenda 2030 embraces five basic principles that feed into all SDGs – the ‘five Ps’: People, Planet, Prosperity, Peace, and Partnership. The *five Ps* highlight how the SDGs are one intertwined framework and that progress on one P must balance and support progress on another.

14. Today, progress is being made in many places, but, overall, action to meet the Goals is not yet advancing at the speed or scale required. 2020 has ushered in a decade of ambitious action needed to deliver the Goals by 2030. The Decade of Action has further set the direction for FAO’s support to its Members calling for accelerating sustainable solutions to all the world’s biggest challenges, ranging from poverty and gender, to climate change, inequality and closing the finance gap. The 2030 Agenda is the roadmap for the world we all want and its implementation a necessity for our survival.

15. As emphasized in the *Declaration on the commemoration of the seventy-fifth anniversary of the United Nations*, the peoples have to be at the centre of all our efforts and particular attention must be given to people in vulnerable situations. The spirit of “We the peoples” entails the full participation and empowerment of women and girls in all domains, and engagement with youth, the “missing piece for peace and development”.⁹

Transforming the world through food and agriculture

16. The 2030 Agenda for Sustainable Development and the SDGs call for transformative shifts, integrated approaches and solutions to structural barriers to sustainable development and it recognizes the fundamental role played by sustainable agriculture in the connection between people, planet and prosperity.

17. Explicit in SDG 2 *Zero Hunger* - but implicit throughout, the concept of food security - safe and nutritious food for all - underpins the 2030 Agenda. It is inseparable from the urgency to eradicate extreme deprivation, tackle climate challenges, build community resilience and responsibly manage natural resources and rich biodiversity. In short, achieving the 2030 Agenda calls for fundamental transformation of our agri-food systems.

18. When many of the Goals in the 2030 Agenda are off-track, the need to engage more effectively all actors at all levels - from international to regional to national - becomes all the more pressing. Today’s challenges require cooperation, not only across borders, but across the whole of society, with relevant stakeholders including regional and subregional organizations, non-governmental and civil society organizations, the private sector, research institutions and academia and parliamentarians.⁹

19. As highlighted by the *Global Sustainable Development Report* and confirmed by deliberations at the SDG Summit in 2019, actions to achieve SDG 2 and realizing sustainable agri-food systems will accelerate progress across most other goals and targets, and help maximizing and scaling up results, while also mapping and addressing potential trade-offs. In short, to transform the world through food and agriculture, we must: (i) get hunger back on a steep downward trend; (ii) transform agri-food systems to nourish people, nurture the planet and build resilient livelihoods and ecosystems; and (iii) commit to a rural transformation and invest expressly in vulnerable populations to reduce inequality, leaving no country and no person behind.

⁹ A/RES/75/1

UN Food Systems Summit

20. The United Nations Secretary-General's Food Systems Summit will provide a process through which a food systems approach can be better articulated, and an improved alignment of food system actors' initiatives in support of more sustainable food systems promoted. The Summit is a catalyst for agri-food systems transformation.

21. FAO will act as a facilitator and enabler of change. FAO hosts the Rome-based part of the Summit Secretariat focused on ensuring the provision of evidence, knowledge and data on agri-food systems as inputs to the Action Tracks and to the country-level Food Systems Dialogues, in close cooperation with the Scientific Committee of which FAO's Chief Scientist and Chief Economist are members. FAO is also the core UN agency directly supporting Action Track 1 on "Ensuring access to safe and nutritious food for all" and is involved in all other action tracks. The Scientific Group, with FAO's support, is developing short scientific papers on each Action Track and a series of papers on, *inter alia*, definitions and concepts as well as a general equilibrium model to be able to measure the trade-offs of different actions recommended by the Summit.

22. The Summit's five Action Tracks: 1) *Ensure access to safe and nutritious food for all*; 2) *Shift to sustainable consumption patterns*; 3) *Boost nature-positive production*; 4) *Advance equitable livelihoods*; and 5) *Build resilience to vulnerabilities, shocks and stress* helped inform the identification and development of FAO's Programme Priority Areas in the Strategic Framework.

23. While the process towards the 2021 UN Food Systems Summit provides significant opportunities for FAO to further leverage its support to Members, the outcomes and follow-up actions resulting from it to support more efficient, inclusive, resilient and sustainable agri-food systems will guide FAO's work under the Strategic Framework.

B. Global challenges and opportunities

24. To accelerate strategic thinking on global challenges and opportunities, FAO is undertaking a Corporate Strategic Foresight Exercise (CSFE) which aims to increase preparedness and effectiveness in providing support to achieving the Agenda 2030, and to share knowledge on challenges, threats and opportunities in moving agri-food systems towards sustainability.

25. The Exercise comprises several stages including: (i) an Internal Expert Consultation, (ii) a Staff Sample Survey, (iii) an External Expert Consultation, and (iv) the preparation of selected technical papers on key trends and emerging challenges for agri-food systems. The results of the CSFE to-date are presented in this document. The CSFE will also result in a flagship report as part of the FAO series *the Future of Food and Agriculture*.

Critical drivers of agri-food systems

26. The Internal Expert Consultation identified 18 key current and emerging interconnected socio-economic and environmental drivers impacting food and agricultural systems as shown in *Table 1*. Six are overarching drivers and the other 12 affect in particular food access and livelihoods, food and agricultural production and distribution processes, and environmental systems. Further detail on the drivers is provided in *Annex 1*.

Table 1: Critical drivers of agri-food systems and related trends

A. Systemic (overarching) drivers
1. Population dynamics and urbanization, which are expected to increase and change food demand
2. Economic growth, structural transformation and macro-economic outlook, which are not always delivering the expected results in terms of inclusive economic transformation of societies
3. Cross-country interdependencies, which tie together agri-food systems globally
4. Big data generation, control, use and ownership, which enable real-time innovative technologies and decision-making, also in agriculture
5. Geopolitical instability and increasing conflicts, which include resource- and energy-based conflicts
6. Uncertainties, which materialize in sudden occurrences of events in many occasions impossible to predict
B. Drivers directly affecting food access and livelihoods
7. Rural and urban poverty, with a high proportion of rural people living in poverty or extreme poverty
8. Inequalities, characterized by high income inequality and inequalities in job opportunities, in gender, access to assets, basic services and inequitable fiscal burden
9. Food prices, ¹⁰ which are in real terms lower than in the 70's but higher than in the 80's and 90's despite the fact that they fail to capture the full social and environmental costs of food
C. Drivers directly affecting food and agricultural production and distribution processes
10. Innovation and science including more innovative technologies (including biotechnologies and digitalization) and systemic approaches (<i>inter alia</i> agroecology, and conservation and organic agriculture)
11. Public investment in agri-food systems, which is often insufficient
12. Capital/information intensity of production, which is increasing due to mechanization and digitalization of production, including in food and agriculture
13. Market concentration of food and agricultural input and output, which represents a challenge for the resilience and equitability of agri-food systems
14. Consumption and nutrition patterns, resulting from behavioural change of consumers which are increasingly being asked to make complex choices about the nutritional content and safety of what they eat and where shifting consumer demand in the direction of healthier eating patterns is key
D. Drivers regarding environmental systems
15. Scarcity and degradation of natural resources, including land, water, biodiversity, soil
16. Epidemics and degradation of ecosystems, which may increase in the future due to rising trends in transboundary plant pests and diseases, agriculture encroaching in wild areas and forests, antimicrobial resistance, the increasing production and consumption of animal products
17. Climate change, including weather extremes and variability of temperatures and rainfall patterns, which is already affecting agri-food systems and natural resources and is expected to accelerate hunger and poverty in rural areas
18. The 'Blue Economy', ¹¹ where the development of economic activities related to the fisheries and aquaculture sector is increasing globally, and arising trade-offs require sound policy-making integrating technical, social and economic solutions, principles of ecosystem restoration of production systems, and cross-sectoral stakeholder involvement in the context of transformative agri-food systems.

¹⁰ As measured by [FAO Food Price Index](#) (FFPI). The FFPI is a measure of the monthly change in international prices of a basket of food commodities. It consists of the average of five commodity group price indices weighted by the average export shares of each of the groups over 2014-2016.

¹¹ In the context of the Corporate Strategic Foresight Exercise, the World Bank definition for *blue economy* applies: The sustainable use of ocean resources for economic growth, improved livelihoods, and jobs while preserving the health of ocean ecosystem ([What is the Blue Economy?](#), World Bank, 6 June 2017).

Transforming agri-food systems: priority triggers of change

27. Achieving Agenda 2030 and FAO's global goals requires a diagnosis of current agri-food systems and an understanding of how to trigger or to accelerate transformative processes of agri-food systems such that corporate goals be achieved.

28. Almost all the core activities of agri-food systems - primary production, processing, distribution, consumption, disposal etc. - and their interactions with socio-economic and environmental systems present critical aspects, weaknesses and pitfalls. Critical aspects emerge due to selected trends in major 'drivers' of agri-food systems, as well as in weaknesses of the institutional set up and inadequate governance processes. It is recognized that, increasingly, concurring factors contribute to generating multiple risks and uncertainties in agri-food systems.

29. A number of '*priority triggers*' considered effective starting points or boosters of transformative processes to move away from 'business as usual' are presented below. These triggers are expected to mutually interact and have systemic impacts on agri-food systems.

Institutions and governance

30. Transformative processes require, as a precondition (upstream enabler), much stronger, more transparent and accountable institutions and governance, including adaptive and effective regulatory governance. These are required both within and outside agri-food systems because governance and institutions influence all the drivers and the channels that link the various elements of agri-food systems with the other systems. These comprise, for instance, processes and rules for climate change and other disaster and crisis risks and emergencies, governance of agri-food systems at all levels (food production and processing, food trade, food safety, food quality and food consumption, etc.), mechanisms for contributing to sustained peace and conflict prevention, and institutions for poverty and hunger eradication. Given the multiple issues at stake and their inter-relationships, clear, specific, well-designed institutional mechanisms with effective compliance rules need to be in place.

31. Overall, the institutional vacuum is particularly felt in the discrepancy between the global level of issues at stake, such as international capital flows, global climate issues, international conflicts or local conflicts fed by external dynamics, big data generation, storage, use and control, on one side, and the increasing weakness of most of the sovereign countries to govern such issues, on the other side. With few exceptions, the size of most countries is clearly too small to influence, at least to some extent, these global dynamics.

Consumer awareness

32. The need to increase and exploit consumer awareness regarding the type, quantity and safety of food to consume, as well as regarding food waste and other broader impacts of consumption choices, is underlined as a trigger to directly influence selected outcomes of agri-food systems and, via feedback effects, also selected drivers. Increasingly, the younger generation is eager to change, for instance in relation to climate action. Youth feel their future is at stake and are more likely to pursue ethical ideals, progressively lead development and policy processes, and thus could become a trigger of change, including for environmental problems and social problems brought by certain food production processes, but also structural problems as described in the preceding section. Consumer awareness regarding food, but also non-food consumption is also important in the light of existing sectoral and cross-country interdependencies.

33. Social media are also increasingly influencing the shaping of consumers' views and behaviours, on one hand through facilitating communication between governments and citizens, including in emergency situations such as the COVID-19 pandemic, and on the other, through targeted business advertising to increasingly influence consumers' preferences.

Income and wealth distribution

34. The urgency of improving income and wealth distribution among and across societies is seen as a channel through which inequalities, including urban and rural poverty, can be reduced. Improving

food security and nutrition is difficult if income and wealth distribution are not improved.¹² For instance, billions of people cannot afford nutritious diets,¹³ while global wealth accumulates in small fractions of the population. Reducing cross- and within-country inequalities may also positively impact on geo-political instability.

35. Providing more income opportunities implies that the channels through which income is distributed throughout the economic system are enlarged and maintained active also during economic downturns. Equitable employment opportunities across economic sectors should be ensured for wage workers, while equitable profit sharing should be required for capital owners.

Innovative technologies and approaches

36. Large reliance is put on ‘technological’ innovative solutions to: produce more with less (water, land degradation, food loss and inputs, loss of biodiversity etc.), reduce food and agricultural prices including the cost of nutritious food, and reduce the risks of epidemics and pandemics. Innovative technologies are also expected to increase transparency in transactions, create new earning opportunities and boost overall technical progress while promoting social inclusion. Systemic approaches, including conservation agriculture, integrated agriculture, agroforestry, and agroecology are seen as entry doors to support the development of emerging sectors, such as the ‘blue economy’.¹⁴ Further research, in addition to better governance, is also needed to address structural issues such as the excessive concentration in big-data ownership, use and control, and to improve income distribution through better profit sharing.

37. There is growing recognition of ‘digitalization’ and the so-called ‘new technologies’ spanning all available approaches, systems, tools and innovations, including a suite of biotechnologies such as genome editing (or gene editing), in particular CRISPR-Cas,¹⁵ or synthetic biology, where the genetic material of an organism can be synthesized. Advances in food and medicine research in the area of genomics, food processing, and drug design/formulation, may increasingly lead to ‘personalized foods’ to address specific health conditions. This is an area in rapid evolution where regulatory guidance and oversight would be needed.

38. It is important to note that technology can be an enabler, but could also lead to a technological divide impacting smallholder farmers, who due to the high initial investment costs and need for training and education, may not have access to the benefits. However, a strategic deployment of technology and innovation has the potential to resolve and minimize trade-offs among the SDGs.

Current and emerging challenges and opportunities

39. Managing and transforming agri-food systems in the context of the drivers and trends introduced above presents a series of challenges, divided into (1) overarching challenges which directly relate to FAO’s global goals¹⁶ and (2) challenges pertaining to triggers of transformative changes for agri-food systems.

40. Mapping drivers and related trends into challenges ensures the reflection of all key drivers affecting agri-food systems, notwithstanding the fact that, given the systemic nature of food and agriculture and their environments all drivers are interlinked.

41. Challenges in the context of transforming agri-food systems are not only negative, but also represent opportunities for the global transformation of economies and societies. For example, the

¹² SDGs 1 and 2 and related targets

¹³ SOFI 2020

¹⁴ In the context of the Corporate Strategic Foresight Exercise, the World Bank definition for *blue economy* applies: The sustainable use of ocean resources for economic growth, improved livelihoods, and jobs while preserving the health of ocean ecosystem ([What is the Blue Economy?](#), World Bank, 6 June 2017).

¹⁵ CRISPR-Cas represents a relatively new set of techniques for making precise changes to the genetic makeup of a living organism without transferring transgenes across species boundaries

¹⁶ Selected challenges were already identified in the FOFA 2017 *Trends and challenges*. For instance, the increasing population raises concerns for the capacity of agri-food systems to nourish a progressively larger number of people.

COVID-19 pandemic despite threatening the livelihoods of billions of people and causing massive casualties, highlights opportunities to build back better and transform agri-food systems by implementing structural changes that were not feasible before. At the same time, commodities like fish are increasingly recognized as a significant source of protein, micronutrients and ‘good’ fats and therefore opening a new opportunity to provide more affordable healthy diets.

Overarching challenges which directly relate to FAO’s global goals include:

- A. Addressing climate change and intensification of natural hazards by drastically reducing GHG emissions of global agri-food systems and economy-wide, in partnership with other agencies.
- B. Making agri-food systems more resilient to shocks and climate hazards.
- C. Ensuring the sustainable use of natural resources and the restoration of the natural resource base.
- D. Ensuring that all development processes contribute to definitively eradicating extreme and persistent poverty.
- E. Ensuring that all strategies and policies contribute to end hunger, eliminate all forms of malnutrition and maintain these results in the long run.

Challenges pertaining to triggers of change include:

- F. Addressing the weaknesses of institutions, lack of cross-sectoral coordination, governance processes and legal frameworks at all levels, tackling their enforceability issues, and their implications for agri-food systems.¹⁷
- G. Supporting countries and the global development community to increase consumer awareness on transformative consumption choices.
- H. Addressing income and wealth distribution within and between countries, including implications for agri-food systems.
- I. Managing innovative technologies and systemic approaches and their potential risks to sustainably improving food and agricultural productivity.

C. FAO’s basic attributes and core functions

FAO’s basic attributes

42. The nature of global challenges facing food and agriculture, and the approach envisaged in Agenda 2030 clearly suggest that these issues cannot be tackled by FAO alone. FAO’s future role and work thus needs to be considered in light of its basic organizational attributes. The most relevant basic attributes and strength of an organization are those that are intrinsic and unique to it, and which define its basic organizational characteristics. There are several basic attributes which are intrinsic and in combination unique to FAO:¹⁸

- a) It is the United Nations specialized agency in food and agriculture, with a comprehensive mandate from its Members to work globally on all aspects of food and agriculture (including fisheries, forestry and natural resources’ management), food security and nutrition across the humanitarian-development continuum.
- b) Its intergovernmental status and neutrality and the authority to provide a neutral platform where nations can call on each other for dialogue and knowledge exchange.
- c) It has the authority to request any Member to submit information relating to the purpose of the Organization.

¹⁷ Laws and regulations are vital to build strong and transparent institutions and promote accountable governance. FAO’s legal and governance work is pivotal to improve institutions and governance mechanisms while anchoring policies and strategies for the achievement of Agenda 2030.

¹⁸ C 2017/7 Rev. 1, paragraph 108

- d) Its Regular Budget is derived from assessed contributions that provide a minimum guaranteed amount of resources that can be committed for priority activities agreed upon by Members in the Governing Bodies, complemented by voluntary contributions to leverage FAO's knowledge and enhance outreach.
- e) Its staff with a broad range of expertise across its areas of mandate working in an interdisciplinary fashion.
- f) Its country-level presence, supported by regional and global teams of experts, to respond to demands articulated by countries and regions.

Core functions

43. Core functions are the critical means of action employed by FAO to achieve results. Consequently, they represent the types of interventions to which the Organization will give priority in its plan of action. They are areas in which FAO is expected to play a lead, but not necessarily exclusive role. In such cases, FAO needs to work with partners and should intensify its efforts to develop and operationalize strategic partnerships.

1. *Assemble, analyse, monitor and improve access to data and information*, in areas related to FAO's mandate, working in concert with countries and other development partners to identify consumer drivers, policy and investment gaps, promote common platforms and use emerging technological tools.
2. *Facilitate and support countries and other partners in the development and implementation of normative and standard setting instruments* for more efficient, inclusive, resilient and sustainable agri-food systems, such as international agreements, codes of conduct, technical standards and related technologies, digital tools, good practices and others.
3. *Facilitate, promote and support agri-food systems policy dialogue at global, regional and country levels*, including explicit recognition and consideration of trade-offs.
4. *Support institutions at all levels, including through capacity development, to prepare, implement, monitor and evaluate evidence-based policies and programmes, and leverage investments*.
5. *Facilitate partnerships and coalitions* for more efficient, inclusive, resilient and sustainable agri-food systems that address inequalities and leave no one behind, including with governments, development partners, civil society organizations and the private sector.
6. *Advise and support activities that assemble, disseminate and improve the uptake of knowledge, technologies and good practices* in the areas of FAO's mandate.
7. *Advocate and communicate at national, regional and global levels*, including to consumers, leveraging the Organization's knowledge, data, position as UN specialized agency, and trusted role as neutral broker.

D. FAO's Theory of Change – strategic results framework

44. The Strategic Framework sets out FAO's agenda for the future. It defines FAO's *strategic vision* in terms of its contribution to transformative and structural changes at global, regional and country levels. This requires not only reviewing the formulation and execution of a programmatic approach fit for tackling the SDGs, but also how FAO works across organizational layers and with partners to promote sustainable results and maximum impact.

45. This Section outlines how FAO has reshaped its results framework to ensure that its contribution to development processes at country, regional and global level best leverage its comparative advantage as a UN specialized agency.

46. *Section E* describes further FAO's reinvigorated business model, including the programmatic approach and how FAO works across organizational layers and with partners to promote sustainable results and maximum impact.

FAO's Vision and Global Goals

47. The Strategic Framework is guided by FAO's vision and the three Global Goals of Members.

FAO's vision: *A world free from hunger and malnutrition where food and agriculture contribute to improving the living standards of all, especially the poorest, in an economically, socially and environmentally sustainable manner.*

48. The three **Global Goals** of Members:

1. eradication of hunger, food insecurity and malnutrition, progressively ensuring a world in which people at all times have sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life;
2. elimination of poverty and the driving forward of economic and social progress for all, with increased food production, enhanced rural development and sustainable livelihoods; and,
3. sustainable management and utilization of natural resources, including land, water, air, climate and genetic resources for the benefit of present and future generations.

FAO's strategic narrative and the Sustainable Development Goals

49. The strategic narrative guiding the Strategic Framework is the transformation to **MORE** efficient, inclusive, resilient and sustainable agri-food systems for *better production, better nutrition, a better environment, and a better life*, leaving no one behind.

Figure 1: The four betters



50. The *four betters* represent an organising principle for how FAO intends to contribute directly to the three guiding SDGs, SDG 1 (No poverty), SDG 2 (Zero hunger), and SDG 10 (Reduced

inequalities)¹⁹ as well as to supporting achievement of the broader SDG agenda, which is crucial for attaining FAO's overall vision. The *bettors* reflect the interconnected economic, social and environmental dimensions of agri-food systems, and, as such, encourage a strategic and systems-oriented approach within all FAO interventions.

51. The SDGs are central in FAO's overall theory of change. Key SDGs and their indicators, including all indicators for which FAO is custodian or contributing agency,²⁰ are used to promote focus, track progress and express aspirations at the level of medium/long-term outcome/impact.

52. FAO is uniquely placed to directly contribute to the achievement of a number of SDGs organized around FAO's four aspirations (*better production, better nutrition, a better environment, and a better life*). For example, SDG 14 *Life below water*, spans all *four bidders*, given the importance of, *inter alia*, supporting the sustainable intensification of aquaculture production, investing in transformative and innovative fisheries management, transforming and upgrading fish value chains, and making fish an indispensable component of food security and nutrition strategies.

Figure 2: The Sustainable Development Goals (SDGs)



53. FAO will implement its Strategic Framework and deliver results against its results framework through programmes around the *four bidders*, using the systems approach to minimize trade-offs in achieving the SDGs. Through the agri-food systems approach, FAO will focus on profiling agriculture beyond production and macro-economic purposes to ensure food security and resilient livelihoods, promote innovations, and better catalyse investment and partnerships.

54. By putting the 2030 Agenda and the SDGs at the centre of the Strategic Framework, FAO moves away from bespoke targets and indicators and uses a common language to articulate its mandated targets and respective results across all Organizational levels.

¹⁹ Including reducing inequalities between rich and poor countries, urban and rural areas, and men and women

²⁰ Relevant indicators under SDG 1 (No Poverty), SDG 2 (Zero Hunger), SDG 5 (Gender), SDG 6 (Clean Water and Sanitation), SDG 12 (Responsible Production and Consumption), SDG 14 (Life under Water), and SDG 15 (Life on Land).

Programme Priority Areas

55. Programme Priority Areas guide the programmes that FAO will implement under the *four betters* in order to fill critical gaps and put in place the conditions needed to drive the changes that will ultimately contribute to the achievement of the selected SDG targets. The Programme Priority Areas respond directly to the issues and challenges emanating from the Corporate Strategic Foresight Exercise, the Regional Conferences, the Technical Committees, and other formal and informal consultation processes. They represent FAO’s comparative advantage as a UN specialized agency in contributing to the 2030 Agenda, bringing together FAO’s breadth and depth of technical expertise and knowledge.

56. Programme Priority Areas are formulated as inter-disciplinary, issue-based technical themes, representing FAO’s strategic contribution to specific SDG targets and indicators. This is in line with the Evaluation of FAO’s strategic results framework, which recommended “updating the theory of change underpinning the results framework to identify more tangible, issue-based programmatic objectives”.²¹ Programme Priority Areas embody the interconnectedness and indivisibility of the SDGs.

57. Introducing issue-based Programme Priority Areas is also aligned with the objectives of the headquarters organizational structure approved by Council in July 2020²² for a modular and flexible structure aiming to ensure efficiency, effectiveness and cross-sectoral collaboration.

58. The 20 Programme Priority Areas proposed in the Strategic Framework are outlined in *Table 2*.

Table 2: 20 Programme Priority Areas (PPAs)

PPA	Outcome Statement	SDG Targets
BETTER PRODUCTION	<i>Ensure sustainable consumption and production patterns, through efficient and inclusive food and agriculture supply chains at local, regional and global level, ensuring resilient and sustainable agri-food systems in a changing climate and environment</i>	
BP1: Innovation for sustainable agriculture production	Sustainable crop, livestock and forestry production systems that are productive, resilient, innovative and competitive, and create integrated entrepreneurial and business opportunities, inclusive of small scale and vulnerable producers, supported through enabling technologies and policies	2.3, 2.4, 6.4, 15.2
BP2: Blue transformation	More efficient, inclusive, resilient and sustainable blue food systems promoted through improved policies and programmes for integrated science-based management, technological innovation and private-sector engagement	2.1, 2.2, 14.2, 14.4, 14.6, 14.7, 14.b, 14.c
BP3: One Health	Strengthened and better performing national and international integrated One Health systems for human, animal, plant and environmental health achieved through improved pest and disease prevention, early warning and management of national and global health risks, including AMR	1.5, 3.d, 15.8
BP4: Small-scale producers’ equitable access to resources	Enhanced equitable access of small-scale producers and family farmers to economic and natural resources, markets, services, information, education and technologies ensured through improved policies, strategies and programmes	1.4, 2.3, 2.4, 9.3
BP5: Digital agriculture	Accessible digital ICT technologies to enhance market opportunities, productivity and resilience integrated into agri-food systems policies and programmes, with particular focus on ensuring affordable and equitable access of poor and vulnerable rural communities	1.4, 5.b, 9.c, 17.8

²¹ PC 127/2, paragraph 10

²² CL 164/REP, paragraph 14.a)

PPA	Outcome Statement	SDG Targets
BETTER NUTRITION	<i>End hunger, achieve food security and improved nutrition in all its forms, including promoting nutritious food and increasing access to healthy diets</i>	
BN1: Healthy diets for all	The right to adequate food established and transition towards healthy diets for national populations prioritized in integrated institutional, policy and legal environments that ensure and incentivize engagement of consumers and the private sector	1.3, 2.1, 2.2 3.1, 3.2, 3.4 12.8, 14.b
BN2: Nutrition for the most vulnerable	Identifying and ending food insecurity and malnutrition for the most vulnerable individuals in all contexts made the specific focus of targeted policies, strategies and programmes developed and implemented by countries	1.3, 2.1, 2.2 3.1, 3.2
BN3: Safe food for everyone	Integrated, multi-sectoral food safety policies and legislation across national agri-food systems adopted and implemented by governments, and capacities and awareness of value chain operators and consumers enhanced.	2.1, 2.2, 3.2
BN4: Reducing food loss and waste	Clear, specific and contextualized roadmaps to prompt and enable all actors in the food supply chain, the food environment and at consumer level to reduce food loss and waste put in place and implemented by governments and intergovernmental organizations	2.1, 2.2, 12.3
BN5: Transparent markets and trade	Improved market transparency and equitable participation in markets, global value chains and international trade achieved through policy coordination and human and institutional capacities for evidence-based decision-making	2.b, 2.c, 10.a, 17.11
BETTER ENVIRONMENT	<i>Protect, restore and promote sustainable use of terrestrial and marine ecosystems and combat climate change (reduce, reuse, recycle, residual management) through more efficient, inclusive, resilient and sustainable agri-food systems</i>	
BE1: Climate change mitigating and adapted agri-food systems	Transformation and resilience of agri-food systems to achieve sustainability and Paris Agreement goals enabled through the establishment and implementation of climate-smart agricultural practices, policies and programmes	2.4, 13.1, 13.2, 13.b, 14.3
BE2: Bioeconomy for sustainable food and agriculture	A bioeconomy that balances economic value and social welfare with environmental sustainability promoted through formulation and implementation of integrated evidence-based policies and practices in micro and macro environments, using technological, organizational and social innovations	12.2, 12.4, 12.5
BE3: Biodiversity and ecosystem services for food and agriculture	Biodiversity for food and agriculture maintained and sustainable use, conservation and restoration of marine, terrestrial and freshwater ecosystems, and their services promoted through adoption of targeted policies and practices	2.5, 14.4, 15.1, 15.3, 15.4, 15.6
BETTER LIFE	<i>Promote inclusive economic growth by reducing inequalities (urban/rural areas, rich/poor countries, men/women)</i>	
BL1: Gender equality and rural women's empowerment	Women's equal rights, access to, and control over resources, services, technologies, institutions, economic opportunities and decision-making ensured, and discriminatory laws and practices eliminated, through gender-responsive policies, strategies, programmes and legal frameworks	2.3, 5.4, 5.a, 5.c
BL2: Inclusive rural transformation	Inclusive rural transformation and revitalization of rural areas ensuring equal participation of, and benefits to poor, vulnerable and marginalized groups accelerated through implementation of targeted policies, strategies and programmes	1.1, 8.3, 8.5, 10.1, 10.2, 10.7, 14.b
BL3: Achieving sustainable urban food systems	More efficient, inclusive, resilient and sustainable urban and peri-urban agri-food systems transformation that addresses urban poverty, food insecurity and malnutrition, enables healthy diets and catalyses inclusive and sustainable rural transformation, promoted through the adoption of supportive policies and programmes, and the initiation and scaling-up of actions and investments by national and local stakeholders	1.1, 2.1, 11.a, 12.1

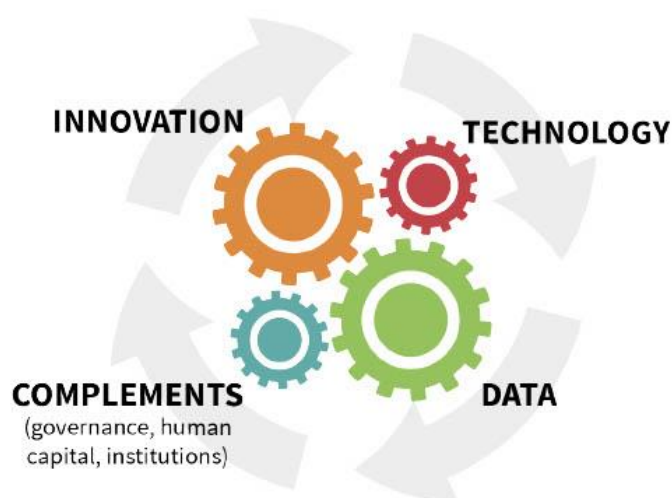
PPA	Outcome Statement	SDG Targets
BL4: Agriculture and food emergencies	Countries facing, or at risk of acute food insecurity provided with urgent livelihood and nutrition assistance and, adopting a humanitarian-development nexus and its contribution to peace approach, their populations equipped with appropriate capacities to better withstand and manage future shocks and risks	1.5, 2.1, 2.2, 2.3, 16.1
BL5: Resilient agri-food systems	Resilience of agri-food systems and livelihoods to socio-economic and environmental shocks and stresses strengthened through improved multi-risk understanding and effective governance mechanisms for implementation of vulnerability reduction measures	1.3, 1.5, 2.4
BL6: Hand-in-Hand (HIH) Initiative	Agricultural transformation and sustainable rural development accelerated through targeting the poorest and the hungry, differentiating territories and strategies, and bringing together all relevant dimensions of agri-food systems through analysis and partnerships	1.1, 1.2, 2.1, 2.2, 2.a, 10.1, 10.2
BL7: Scaling up investment	Transformation towards sustainable agri-food systems with large-scale impacts on reducing inequalities and eradicating poverty and hunger accelerated through increased public and private investment, and improved capacities to leverage future investments	1.b, 2.a, 10.1, 10.2, 10.b, 17.5

59. A more detailed presentation of the PPAs and their results frameworks is included in the Medium Term Plan 2022-25 and Programme of Work and Budget 2022-23,²³ including the main gaps being addressed, how these relate to SDG targets and indicators, how FAO will leverage the accelerators to fast-track progress, principal thematic components, including normative aspects and those relating to FAO's core functions, and key risks and trade-offs.

FAO's accelerators

60. In order to accelerate progress and maximize our efforts in meeting the SDGs and to realize our aspirations - the *four betters* - FAO will apply four cross-cutting/cross-sectional "accelerators": *technology, innovation, data and complements (governance, human capital, and institutions)* in all our programmatic interventions. Sustainably feeding close to 10 billion people by 2050 is an unprecedented challenge. And it speaks to the paramount importance of accelerating the impact of our programmatic interventions while minimizing trade-offs. The four accelerators, shown in *Figure 3*, can help achieve both objectives. It is critical that technology, innovations and data are inclusive and gender-sensitive, and are used to spur development.

²³ C 2021/3

Figure 3. Four cross-cutting/cross sectional accelerators

61. Emerging *technologies* are already changing the food and agriculture sector, yet most governments or agri-food systems actors have yet to harness their powerful potential. Helping farmers take full advantage of new technologies such as digital agriculture, biotechnologies, precision agriculture, innovations in agroecology, 5G, and Artificial Intelligence (AI) to increase food production whilst respecting the environment, is of paramount importance. The accelerators aim to the need to reduce physical inputs and improve the way we optimise their use, i.e. allocate them more efficiently to get more out of every unit of input.

62. As an example, the food and agriculture sectors can harness digital tools ranging from e-commerce and blockchain transaction ledgers to the use of Artificial Intelligence for improved pest control and crop genetics, as well as tools allowing optimized management of natural resources and early warning of food security threats.

63. *Innovation* in general and in particular in agriculture, is a central driving force for achieving a world free from hunger and malnutrition. Innovations, including social, policy, institutional, financial and technological innovations, which are science and evidence-based, are important drivers affecting food and agricultural production and distribution processes.

64. Applying innovative approaches is also critical in the context of building back better, where innovation needs to be considered in its broadest sense including innovation on technology, management, business models, and enabling policies.

65. Globally, food and agriculture can highly benefit from the fourth industrial revolution (or specifically in agriculture referred to as agriculture 4.0) which is driven largely by large sets of data (big data) with innovative digital technologies in convergence with science and technology. This creates an unprecedented opportunity to move towards an agriculture sector that produces more with less, needing less water, land and energy, saving biodiversity and reducing carbon emissions. Agricultural innovation is broader than technology, and is the process whereby individuals or organizations bring new or existing products, processes or ways of organizing into use for the first time in a specific context, to increase effectiveness, competitiveness and resilience with problem-

solving goal. Innovation also encompasses modernization of policies and business models for agri-food systems.

66. On *Data*, FAO's *Hand-in-Hand geospatial platform* and the big data lab exemplifies how data on food, agriculture, socio-economics, and natural resources can come together to help strengthen evidence-based decision-making in the food and agriculture sectors. Data can, *inter alia*, enable monitoring of agricultural water productivity, including agricultural systems at risk due to human pressure on land and water, ascertain aquatic species distribution, and analyse precipitation trends, allowing the design of targeted agricultural interventions and investment plans through a territorial approach which fosters equality, inclusion and sustainable food and nutrition security.

67. *Complements* refers to the needed governance, human capital and institutions to assure an inclusive agri-food system transformation. Transformative processes require, as a precondition (upstream enabler), much stronger, more transparent and accountable institutions and governance, including adaptive and effective regulatory governance.

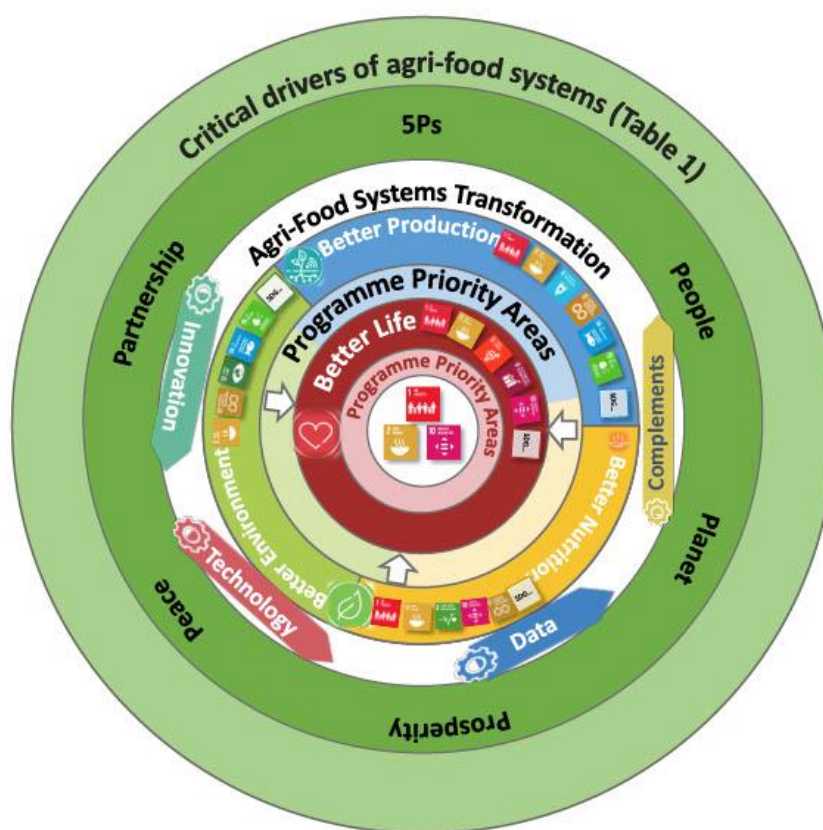
68. As technologies revolutionize, the risks of unequal access and exclusion loom. Investments in human capital by building capacities, as well as policy and regulations minimizing such risks are required. It is central that the labour supply responds to the new labour demand that will result from the new technologies and innovation to make the process more inclusive. Technologies have to be affordable, so everyone can access them and use them, and other structural barriers to their application, including education and training, must be identified and addressed.

Graphic depiction of Strategic Framework elements

69. *Figure 4* provides a graphic presentation of the main elements that impact and are part of FAO's strategic results framework, moving from the outer layer as follows:

- the *drivers* impacting agri-food systems (described in *Table 1* and *Annex 1*)
- the five basic principles that feed into all SDGs - the '*five Ps*', People, Planet, Prosperity, Peace, Partnership
- a distinctive systems approach to support *agri-food systems transformation* and the *four accelerators* to speed up progress towards the achievement of the 2030 Agenda
- FAO's four aspirations (the *four betters*) anchored in the SDGs
- programmes to fill critical gaps and linking different aspects of FAO's work, including agriculture, fisheries, forestry, livestock, land and water, poverty reduction, and improved access to investment and finance, and
- the guiding lens of SDGs 1 *No poverty*, 2 *Zero hunger*, and 10 *Reduced inequalities*

Figure 4: Main elements of FAO's strategic results framework



Cross-cutting themes

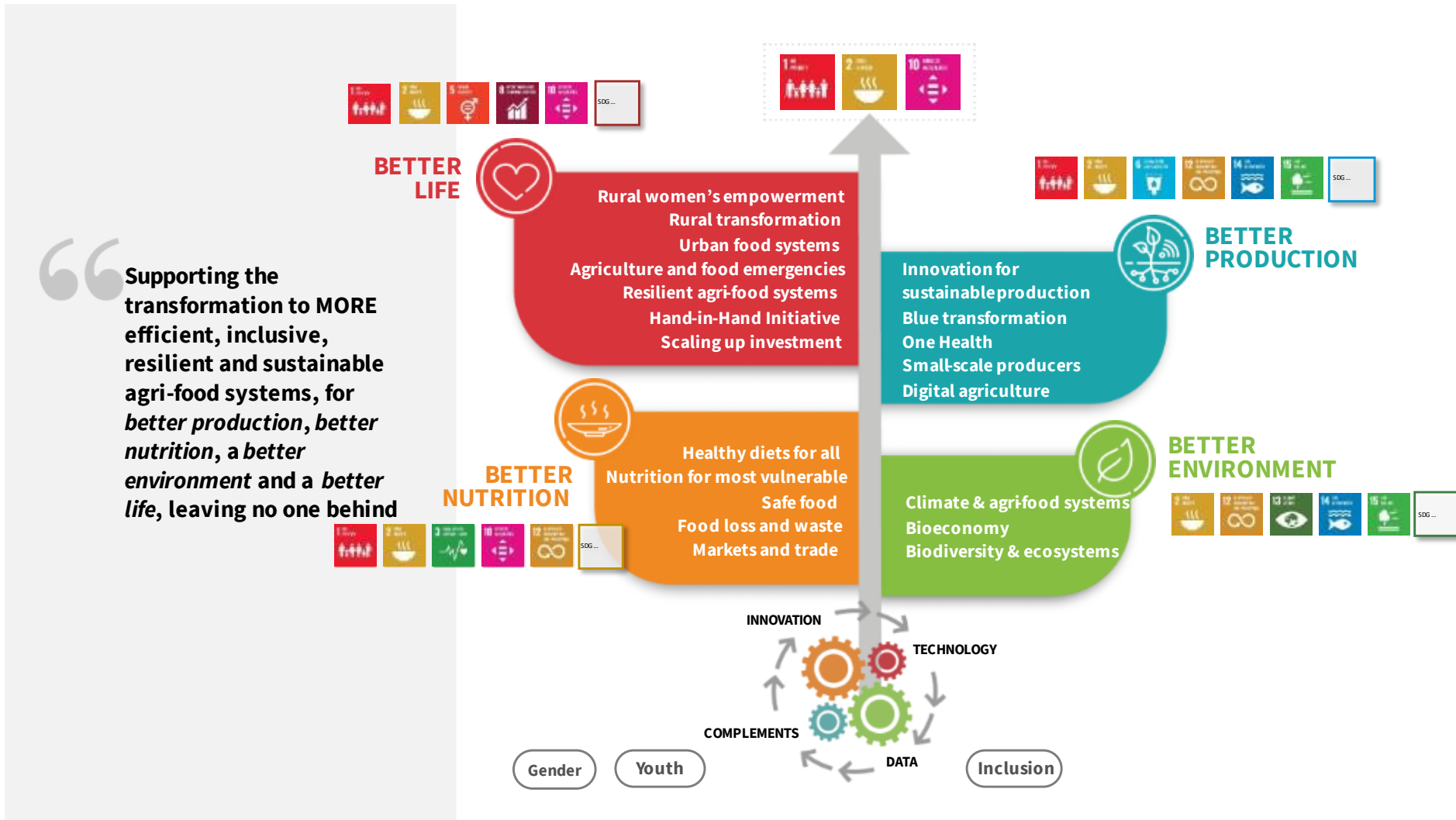
70. FAO's cross-cutting themes are important issues that need to be taken into account across all of FAO's programmatic work, and which require particular visibility.

71. For the Strategic Framework, it is proposed to focus the cross-cutting themes on few, key issues of critical importance to the 2030 Agenda and in support of the strategic narrative. With this logic, FAO has identified the themes of *gender*, *youth*, and *inclusion* (for reduced inequalities and leave no one behind, LNOB). In doing so, the intent would be to promote a more systematic mainstreaming and operationalization of these issues across all of FAO's work.

72. In this regard, it is noted that a number of key technical themes of a cross-cutting nature (climate change, nutrition and biodiversity) are explicitly visible in the PPAs and have dedicated cross-organizational strategies requested by the Governing Bodies with specific accountability to Members.

73. *Figure 5* provides an overview of FAO's results framework including the Programme Priority Areas, the cross-cutting themes and the accelerators.

Figure 5: FAO strategic results framework



74. *Annex 2* provides a graphic depiction of FAO's results framework, putting the SDGs at the centre of the Organization's work, while *Annex 3* provides a view of how the architecture plays out at country level, with the SDGs providing the common language for linking country priorities to the overall results framework.

E. FAO's Practice of Change – a reinvigorated business model fit for purpose

75. A clear results chain and architecture is essential to clarify ultimate goals, intermediate milestones and immediate actions, and to provide a clear statement of priorities and value added. The challenge of the 2030 Agenda, however, also requires a shift in working paradigm to ensure the transformational change that is called for. FAO and all UN entities need to re-examine our ways of working to ensure that we are leveraging most effectively our limited resources and taking best advantage of our global knowledge, neutral status, and convening authority. In short, we need to focus both on "doing things right" and on "doing the right things".

76. A more explicit articulation of FAO's business model together with the strategic narrative, the accelerators and SDG-based results framework are key foundational elements in the Strategic Framework. FAO's aim is to create an inclusive and agile Organization that is transparent, open, innovative, responsible, effective and impactful, and that serves its Members to achieve the *four betters*.

77. FAO will leverage its comparative advantage as a UN specialized agency to catalyse and contribute to larger coalitions of partners around issues of food, agriculture and agri-food systems to support processes at global, regional, subregional and country level. FAO will shift from a more traditional to a more forward-looking business model promoting science, technology and innovation.

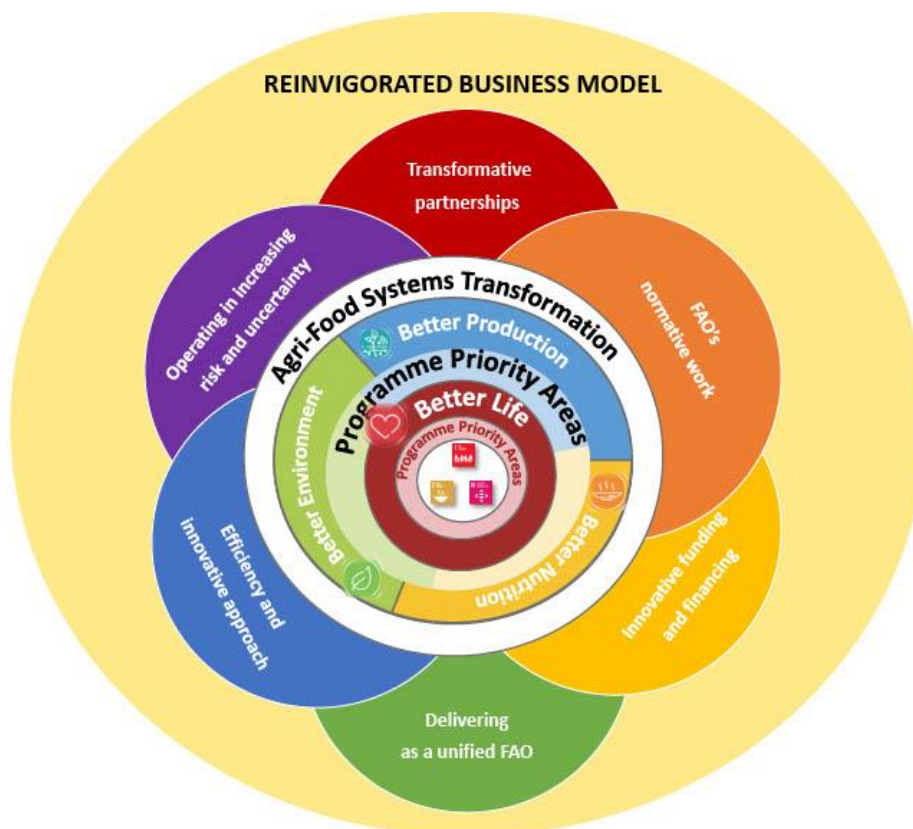
78. To do so, the Organization will adjust its balance of work to better promote enabling other actors, providing a solid information and analytical base in order to attract significant, sustainable investments and take advantage of innovative financing mechanisms. This will mean repositioning FAO's analytical, technical, policy and investment assets to deliver better targeted and more impactful results through partnership-enabled services, bringing together normative and project work in a better focused, programmatic approach.

79. The programmatic approach will ensure the Organization fully leverages its comparative strengths to promote working at scale for greater sustainability and longer-term impact. Such an approach involves aligning the various levels and layers of the Organization around a common vision of objectives to be achieved and means of action to achieve those objectives in response to Members' needs.

80. The improved, programmatic approach will be supported by boosting transformative and expanded partnerships, ensuring optimal leverage of FAO's normative strengths, seeking innovative financing mechanisms and sources to complement its traditional funding modalities, working under a unified vision (One FAO), embracing efficient and innovative approaches, and being prepared for operating in increasing risk and uncertainty, as shown in *Figure 6* and outlined in more detail below. A more efficient, modern, service-oriented administration will support delivery under a reinvigorated business model

81. To ensure that the Organization continues to evolve as an agile enabler of change, FAO is putting in place a Change Management Strategy (CMS) in conjunction with the Strategic Framework, leading to a reinvigorated business model better fit-for-purpose.

Figure 6: FAO's reinvigorated business model fit for purpose



Transformative partnerships

82. Partnerships are central to reaching the goals of the 2030 Agenda; partnerships are highlighted as one of the ‘five Ps’ for sustainable development and are encapsulated in SDG 17 which calls upon all actors to work in alliance for implementing the SDGs. While partnership is not an end in itself, it is a key vehicle to achieve the complex challenges ahead.

83. As noted in the Director-General’s Manifesto, newer forms of partnerships are needed to advance in the 2030 Agenda, including reinvigorated North-South Partnerships and South-South and Triangular Cooperation. These invigorated partnerships can include businesses and academic institutions, regional organizations, and civil society organizations working in collaboration with FAO and Members.

84. FAO is seeking to strengthen partnerships across the spectrum. First and foremost, FAO aims to strengthen its partnerships with Members in order to work as one to support delivery of the SDGs at country level. FAO also seeks to strengthen its partnerships with other UN agencies and financial institutions, corroborated *inter alia* by the introduction of “Centres” in FAO’s organizational structure. FAO will also continue to seek to expand and deepen its partnerships with producer organizations, academic and research institutions, and civil society organizations.

85. As the private sector is a key area of partnerships towards achieving the SDGs, FAO has developed a new strategy for private sector engagement²⁴ which was endorsed by Council at its 165th session in November 2020. The overall goal of the new strategy is to enhance engagement with the private sector in FAO’s work, including at the decentralized level, as “One FAO” to work towards more long-term sustainable solutions. FAO envisions its private sector engagements will bring strategic partnerships, scale up collective multi-stakeholder efforts, and bring country-owned and

²⁴ CL 165/4 Rev. 1 *FAO’s Strategy for Private Sector Engagement 2021-2025*

country-led innovative solutions to help FAO Members in achieving the SDGs, and ultimately maximizing the positive impact for its beneficiaries the Organization supports.²⁵

86. The ongoing UN development system repositioning has played a catalytic role in reinforcing and diversifying FAO's collaboration with Rome-based Agencies (RBAs) and other UN entities at regional and country levels. There is an increasing number of partnerships for resilience and the co-led FAO/WFP global food security cluster is supporting food security coordination in food crisis countries. FAO plans to expand and upgrade partnerships with UN entities and the RBAs in particular.

87. FAO's close relationship with the RBAs and other UN entities is also exemplified in the Programme Priority Areas, with, for example, the PPA on *Agriculture and Food Emergencies* providing the direct link to FAO's collaboration with WFP, the PPA on *Scaling up Investment* highlighting FAO's collaboration with IFAD, and the PPA on *One Health* encompassing the joint work with WHO and OIE.

88. Other key emerging partnerships, inter-alia, include:

- *CGIAR*: CGIAR has moved from being solely a research organization to “the world's largest global agricultural innovation network” and now operates in the same development space as FAO. It is opportune to partner with the unified “One CGIAR” in order to maximize collective impact, leveraging the comparative advantages and building on the institutional strengths of each organization.
- *Academic and other Research Institutions*: FAO has historically collaborated with universities and other research organizations either individually (National Agriculture Research Systems, NARS) or through their consortia (Global Confederation of Higher Education Associations for Agricultural and Life Sciences, Global Forum on Agricultural Research and Innovation, and others). FAO partnerships with national, regional, and international institutions in all continents will be critical to improving knowledge dissemination and developing innovative approaches with local ownership. Mainstreaming findings into practical policies and practices is becoming more critical, and also important for FAO as a knowledge Organization.
- *Parliamentarians*: FAO's work with Parliamentary Alliances in several regions has led to important impacts on countries' legislative agendas. Successful examples should be replicated and expanded.

89. Areas of particular focus for partnerships looking ahead are expected to include the agri-food systems agenda, partnerships for healthy diets and eradicating all forms of malnutrition (including obesity), and partnerships towards the eradication of hunger and rural poverty and addressing food crises. Furthermore, newer areas of emphasis would include scaling up science, technology and innovation to achieve the SDGs, more and better public and private investments to bring technical expertise to scale, and leveraging data, non-traditional sources of data, and data science.

FAO's normative work

90. FAO's normative work is a major comparative strength of FAO as a UN specialized agency. FAO's normative work includes the development of norms and standards in conventions, declarations, regulatory frameworks, agreements, guidelines, codes of practice and other standard setting instruments, at global, regional and national level.²⁶ Furthermore, FAO produces global public goods in the form of knowledge products and data and statistics to support the development of norms and standards and their implementation at different levels.

91. FAO's normative and operational work are not only largely interdependent, but they are also mutually reinforcing: the quality of FAO's activities in the field is ensured by the constant nourishment derived from the Organization's normative resources. Likewise, FAO's normative work is constantly

²⁵ CL 165/4 Rev. 1 *FAO's Strategy for Private Sector Engagement 2021-2025*

²⁶ Definition used by UNEG 2013 *UNEG Handbook for Conducting Evaluations of Normative Work in the UN System*.

reinforced by lessons learned in the field. It is this combination that gives FAO its comparative advantages and explains the unique "value added" that it provides to Members.

92. To improve relevance, visibility and impact of its normative work, FAO will support Members and partners to build capacity to develop, adapt and use those norms, standards, knowledge products, data and statistics required to achieve SDGs related to food and agriculture, while striving to ensure that norms and standards are based on scientific evidence in a transparent, participatory and inclusive formulation process.

93. FAO's normative work will contribute to the articulation of FAO's comparative value-added at country level, including through better integration of normative work into the UN Common Country Analyses (CCA), the UN Sustainable Development Cooperation Frameworks (UNSDCFs) and the derived FAO Country Programming Frameworks (CPFs). To ensure optimal use of FAO's normative work across the Organization, additional focus will be given to: ensuring appropriate integration of normative work into FAO country programmes and projects; stepping up efforts to mobilize resources for the implementation of normative work; strengthening staff capacities at all levels to contribute to the development and use of normative work; and, improving knowledge sharing across the Organization. Finally, based on lessons learned and recommendations of the Evaluation of FAO's strategic results framework, normative work will be featured more prominently in FAO's results framework and priority programmes, including through performance metrics.

Innovative funding and financing

94. FAO's reinvigorated business model needs to include innovative financing mechanisms and sources to complement its traditional funding modalities, in order to reach the required development objectives under the 2030 SDG Agenda. Estimates for financial resources needed to implement the SDGs vary from USD 2.5 trillion to over USD 5 trillion a year. Official Development Assistance while remaining important, will not be enough. Progress will require harnessing additional financial flows and capital.

95. FAO resource mobilization has been based on a highly diffuse model, with a strong focus on operations at a decentralized level, which mirrors the action of most main resource partners who have now decentralized a large part of their funding decisions to their country or regional offices. FAO headquarters leads resource mobilization for major global programs, for humanitarian funding, for interaction with the private sector and for International Financial Institutions (IFIs) and vertical funds such as the GCF and GEF. It also provides the key resource mobilization support functions and an enabling environment for country level resource mobilization efforts.

96. In recent years, FAO has significantly diversified the typology of partners it works with. While the traditional OECD-DAC pool of resource partners has remained steady in absolute terms over the last five years, emerging donors from the global south and FAO engagement with IFIs and vertical funds has grown and now accounts for approximately half of the total.

Flexible funding and programmatic approaches

97. At present over 95 percent of the extrabudgetary contributions received by FAO are fully earmarked to the achievement of specific outcomes at the project level. This provides minimal space to redirect resources based on changing needs or underfunded priorities. In order to encourage a programmatic approach, and to reduce transaction costs thereby ensuring that a higher percentage of contributions goes directly to programme beneficiaries, FAO currently makes available to resource partners four specialized pooled and funding mechanisms:

- The FAO Flexible Multipartner Mechanism (FMM), FAO's main pooled funding mechanism for flexible, voluntary and multi-year contributions for the achievement of results under FAO's Strategic Framework and the realization of catalytic impacts
- The Special Fund for Emergency and Rehabilitation (SFERA), which provides rapid response funds for humanitarian emergencies
- The Special Fund for Development Finance Activities (SFDFA) established to help leverage development finance resources, which has been instrumental in supporting GCF programming

- The Africa Solidarity Trust Fund (ASTF) – an innovative and catalytic flexible funding instrument for Africa-to-Africa initiatives on food and agriculture

98. These funding mechanisms have achieved important successes in piloting new models and approaches, however there is an urgent need for an increasing volume and share of funding to be channelled through these types of mechanisms to achieve greater impact.

Emergency and Resilience funding

99. FAO has been working to build the resilience of people's livelihoods against a growing number of threats and crises. These efforts focused on the more than 100 million people in acute food insecurity and on communities exposed to food chain emergencies and natural disasters. By 2023, FAO aims to assist 60 million people annually with emergency and resilience interventions, and through investments in anticipatory action that will reduce humanitarian needs in the future. While an ambitious scale up,²⁷ this is a minimum considering the scale of humanitarian needs and the imperative to empower people and communities with more efficient, inclusive, resilient and sustainable agri-food systems to achieve sustainable development. To reach this target, FAO will need to significantly increase its current funding levels.

Climate and Environment Finance

100. The Global Environment Facility (GEF) serves as the financial mechanism for five multilateral environmental agreements and its programming reflects the priorities of these major Conventions to conserve and sustainably utilize biodiversity, mitigate and adapt to climate change, combat desertification, and remove hazardous agricultural chemicals. FAO's portfolio includes investments in all of these areas with many projects combining several into one multi-focal, integrated approach.

101. The FAO-GEF program serves as a key vehicle and catalyst to help FAO achieve its strategic priorities. In this context, the first FAO-GEF Strategy and Action Plan was completed in 2020 which has as a key overarching priority the alignment of FAO-GEF priorities to FAO's Strategic Framework.

102. The Green Climate Fund (GCF) is the primary financial mechanism of the Paris Agreement, and has the ambition to mobilize and leverage USD 100 billion per year to achieve the Agreement's goals. FAO's core objective in engaging with the Green Climate Fund (GCF) is to support Members to invest in sustainable, climate-resilient and low-emissions development pathways for the Agriculture, Forestry and Other Land Use (AFOLU) sector through sustainability driven innovations that reduce poverty (SDG 1), hunger (SDG 2) and inequality (SDG 10) and help Members face the challenges of Climate Change (SDG 13).

103. GCF projects are specifically designed to help Members deliver their nationally determined contributions (NDCs), ensuring that the FAO GCF partnership contributes meaningfully to Agenda 2030. Paradigm shifting innovations, sustainability, scalability and replicability are the hallmarks of a GCF project. They contribute to the *four betters* through the core nature of the interventions, targeting actions best suited to national contexts for a transformational change that improve agricultural production and ecosystem health, reduce emissions and increase carbon sequestration, strengthen livelihoods, and develop resilient value chains. Moving forward, FAO's engagement with the GCF is evolving into a programmatic approach that seeks to leverage the comparative advantages of public and private partners to streamline and scale AFOLU sector climate change interventions.

Investment Support

104. Given the estimated cost of achieving the SDGs of USD 2.5 trillion per year, and the availability of approximately USD 153 billion per year in ODA, it is clear that the bulk of the needed financial resources needs to come from private sector investments, including those made by farmers and other development actors themselves, and through public and private financial investments. FAO's role in this is to support, facilitate, de-risk and leverage investments at scale to help countries achieve the SDGs.

²⁷ In 2019, FAO programmes protected and improved the livelihoods of around 35 million people worldwide.

105. The FAO Investment Centre supports public and private investments in member countries through a unique business model involving government, International Financial Institutions (IFIs) and FAO. This is enabled by the Centre's longstanding collaboration agreement with IFIs and a professional culture of partnership and delivering results at country level. Cost-sharing and other collaborative arrangements result in a structure of budget of approx. 40%-60% from FAO-IFI partners respectively, resulting in an aggregate leverage effect of 1.5.

Delivering as a unified FAO

106. The Strategic Framework provides the unifying strategic vision to reposition the Organization's resources and operating modalities to better support its Members' collective and national efforts to achieve the SDGs. It envisages delivering as a unified FAO where actions at all levels of the Organization are oriented towards the achievement of the 2030 Agenda and SDGs at country level, in line with the spirit of the repositioning of the UN development system.

107. Promoting a unified FAO requires adopting a programmatic approach and delivering results more efficiently and effectively at the country level. This necessitates that FAO be involved at the country level in the development of both the UN Common Country Analysis (CCA) and the UN Sustainable Development Cooperation Framework (UNSDCF), to ensure that FAO provides strategic and timely contributions as part of the UN collective offer in each country.

108. The Cooperation Framework is intended to be the polestar of all UN country-level activities and serves as the results framework against which contributing UN entities are held collectively and individually accountable. The FAO Country Programming Framework (CPF) is therefore duly derived from the UNSDCF and seamlessly aligned with its processes and cycle.

109. In line with these coherent efforts and coordinated actions, the UNSDCF National/UN Joint Steering Committee (JSC) will also serve as the main oversight mechanism for the CPF at country level.

110. The CPF, duly derived from the UNSDCF, incorporates country-level results which are defined in the context of the UNSDCFs and are linked to the achievement of SDG targets and indicators. This allows all FAO offices to use a common language and facilitates measurement of FAO's interventions at all levels, by aggregating and rolling-up results from country, regional and global levels.

Efficiency and innovative approaches

111. Transforming FAO into an agile, results-oriented Organization that is fit-for-purpose will mean to reduce internal bureaucracy, enhance efficiency and improve FAO's service orientation. FAO will continue to simplify and rationalize its business processes, procedures and systems, building on past and current reforms in work-streams such as human resources, procurement, finance, information technology, information management and administrative services.

112. A future-proof FAO means embracing the opportunities that innovation and digitalization offer, whether in terms of knowledge management, interdisciplinary collaboration, programming, partnerships, business processes and systems or otherwise. The digital revolution offers huge potential to enhancing FAO's contributions to the SDGs by transforming the way it works and delivers against its mandate - both internally and in partnership with others. Digitalization of the workspace has already proven to have a profound impact on the office culture and relationships, flattening the structure and dramatically improving access to information and decision-making. FAO will continue pursuing innovative ways to foster a digital workplace and culture.

Operating in the context of increasing risk and uncertainty

113. FAO is committed to strong enterprise risk management (ERM) throughout the Organization and significant progress has been made in recent years integrating risk considerations in programme implementation and process design. In order to generate full benefits, however, risk management must be embedded at all stages of the organizational management processes, from strategic thinking to detailed workplans. The strategic planning process has therefore been accompanied by an analysis of

risks, both those influencing the process itself and those affecting the achievement of the objectives and programmes under development.

114. The FAO Strategic Framework spans ten years, a long timeframe in a rapidly changing world. The assumptions and dependencies, which are an integral part of the framework, are affected by the volatility of the external political, economic and social environment and by developments in priorities of partners and other stakeholders. Assumptions underpinning the framework are less likely to hold as time progresses which introduces risks and uncertainty. Strategic planning therefore requires the incorporation of careful risk management in order to improve the achievement of the relevant goals.

115. The key risks, i.e. the possibility of negative events happening but for which the future outcome can be predicted, identified affecting the process of developing the Strategic Framework were addressed as follows:

Risk	Mitigating action
The Strategic Framework does not lead to significant progress towards the Organization's overall goals, including the relevant SDGs, or does not fully reflect FAO's mandate.	The development of a robust theory of change has been at the core of the development of the proposed Strategic Framework.
The Strategic Framework does not adequately reflect the priorities of Members, key contributors and donors.	A carefully considered process has been followed to ensure involvement of governing bodies and member nations at different stages of the Strategic Framework Development.
The Strategic Framework does not focus on FAO's comparative advantages and FAO's place in the overall UN family and global development context.	The Programme Priority Areas (PPAs) have been formulated based on analyses of FAO's comparative advantage and the presence of other actors.
The Strategic Framework does not allow the development of a meaningful results framework, and does not enable quality monitoring and reporting.	The PPAs have been carefully developed with a view to a well-structured results framework and incorporating the differences across regions in consultation with Regional Conferences and regional and country offices.
The Outputs, Outcomes and impacts of the Strategic Framework are delayed because of potential risks.	The PPAs have been carefully developed to incorporate risk-coping strategies and to increase resilience of the agri-food systems.

116. The development of the PPAs has embedded an analysis of the key risks from the external context, as well as internal constraints.

117. The most significant and uncertainties, i.e. negative events or shocks for which the future outcome cannot be predicted, to the overall framework are:

Uncertainty	Mitigating action
Unexpected political uncertainty or conflict.	Strong PPAs on emergencies and on shock responsive and resilient agri-food systems have been developed.
Uncertainties on significant health shocks or pandemics.	PPA on <i>One Health</i> approach to prevent the emergence of new zoonotic reservoirs has been developed.
Uncertainties on climate shocks.	The PPAs include innovations on agricultural insurance combining index-based insurance, traditional insurance and access to finance.
New potential uncertainties affect the agriculture sector and food security and nutrition.	The PPAs include innovations to increase early warning systems and capacity to better predict those events when they occur.

118. Risks and uncertainties affecting each programme, as well as relevant mitigating actions, have been identified as part of the Programme Priority Area formulation process for the Medium Term Plan 2022-25.

An agile Organization

119. Building a flexible Organization which can adapt to changes in context and priorities is at the core of risk management in the context of uncertainties over time. The COVID-19 pandemic has highlighted the need for rapid adaptation and the challenges encountered have provided an opportunity for FAO to test its readiness, with excellent results.

120. FAO has taken action on several fronts to prepare for the multifaceted challenges of a volatile environment:

121. **Flexible and streamlined structure.** The implementation of a modular, flatter structure, through the Further Adjustments of the Programme of Work and Budget, allows for an agile response through strengthened cross-sectoral collaboration and greater flexibility in organization of resources and capacity around emerging needs and priorities. The business model foresees organizational functions delivering as one across sectors and geographic layers, allowing for expertise to be called upon in a timely manner, irrespective of geographical location.

122. **Robust Strategic Framework.** The Strategic Framework, with a clear vision and guiding principles, is designed to remain fundamentally unaltered across different potential scenarios. While methods of work, specific priorities and scale may change, the Organization's goals and values will remain a stable basis around which to build flexible operations. Should there be need for programmatic changes and resource shifts to respond to changing requirements, these can be carried out, in line with past biennia, with approval from the Governing Bodies as foreseen by established procedures.

123. **Active monitoring.** In order to allow rapid and appropriate reaction to changes in the external context, emphasis is placed on quality and speed of intelligence gathering and availability of information on evolving situations, risks and opportunities. The current modular structure has broken down silos and bureaucracy to achieve greater transparency and faster reactions, strengthening internal information flows to inform decision-making.

124. **Subsidiarity.** The framework has been developed with the principle that resources and authority be granted to the level that is responsible and accountable for achieving the results, whether national, regional or global. Country level support, be it technical, operational or administrative, will be a key responsibility of relevant offices throughout the Organization. Delegation of authority and operational procedures will be reviewed as necessary as part of the change management process.

125. **Culture change.** At the basis of an agile Organization is the flexibility and willingness of employees and decision-makers - FAO management and Members - to adapt. Accompanying the structural changes, a process of culture change is underway throughout the Organization, through strengthened collaboration across functions, innovative communication and inclusive planning processes. The change management plan will be instrumental in continuing the evolution.

Annex 1: Critical drivers of agri-food systems and related trends

1. The CSFE identified key current and emerging socio-economic and environmental drivers and related trends which impact agri-food systems and are in turn impacted by them through feedback effects. Some drivers directly affect the entire agri-food systems [systemic (overarching) drivers] given their high interconnectedness with both supply and demand sides, and their linkages with the global socio-economic context within which food and agricultural activities occur. Other drivers directly impact on food access (food demand) and livelihoods, production and distribution processes, or the environment natural resource base supporting food and agricultural activities.

Systemic (overarching) drivers

2. **Population dynamics and urbanization** are expected to keep increasing and changing food demand. Sub-Saharan Africa and South Asia are leading these changes. In addition to population growth, other factors relative to the different locations are also important (e.g. ageing in rural areas and high-income countries). Other social aspects, such as spatial location and/or gender balances, change also as a consequence of internal and international migration. The UN report²⁸ on megatrends affecting global societies and economies notes that between 2018 and 2050, globally, the portion of people living in urban areas will shift from 67 percent to 83 percent. These population dynamics present interconnected implications for agri-food systems because population growth and changing structure, urbanization and food demand are closely linked. Urbanization is seen as a challenge for food and agriculture, for instance through encroaching on fertile land. In addition, the growth of young cohorts, particularly in sub-Saharan Africa and in South Asia raises serious concerns regarding employment opportunities and the risks of degrading the quality of jobs (remunerations, exploitation, safety) within and outside agri-food systems.

3. **Economic growth, structural transformation and macro-economic stability** are not always delivering expected results towards inclusive economic transformation of societies. The transformation of agri-food systems is closely tied to structural transformation of socio-economic systems at large and their macro-economic stability. Economic growth and economy-wide structural transformation is a result and driver of food and agriculture transformation processes. The World Bank²⁹ suggested that stronger economic growth is an important driver of poverty reduction, however, poverty reduction is only realized when the gains of economic growth are shared across social strata. Sub-Saharan Africa, for instance, despite the very high economic growth in the last two decades, still awaits substantive economic transformation. The outbreak of COVID-19 is expected to add to the already existing macro-economic imbalances of several countries, where “*if the current policy stances continue, the global economy from here to 2030 will face slower growth and higher instability. As labour shares across the world continue on their decreasing path, household spending will weaken, further reducing the incentive to invest in productive activities.*”³⁰

4. **Cross-country interdependencies** tie together agri-food systems globally, but low-income food-deficit countries (LIFDCs), small island developing States (SIDS) and landlocked developing countries (LLDCs) heavily depend on imports for their food needs. Other countries depend on a small number of export commodities in order to import technology, energy, financial services or health care equipment. This commodity-dependence makes economic systems fragile and leads to negative impacts on the lives of people. *The State of Food Security and Nutrition in the World (SOFI) 2019*³¹ reports that “*eighty percent of the countries (52 out of 65) with a rise in hunger during recent economic slowdowns and downturns are countries whose economies are highly dependent on primary commodities for export and/or import.*” Furthermore, commodity-dependency may increase the difficulty of addressing environmental and social concerns *inter alia* because multilateral trade

²⁸ UN Department of Economic and Social Affairs, 2018. *World Urbanization Prospects – The 2018 Revision*

²⁹ World Bank, 2018. *Poverty and shared prosperity 2018 – Piecing together the poverty puzzle*

³⁰ UNCTAD, 2019. *Trade and development report 2019 - Financing a global green new deal*

³¹ FAO, IFAD, UNICEF, WFP and WHO. 2019. *The State of Food Security and Nutrition in the World (SOFI) 2019. Safeguarding against economic slowdowns and downturns.*

agreements create uncertainties;³² as well as potentially lead to illicit financial flows that draw resources from low-income towards high-income countries, due to weak institutions.³³ The conditions under which these interdependencies increase the resilience and sustainability of agri-food systems and economic systems in general, or force them towards commodity-dependency or other forms of dependency (technological, energy, financial, cultural, geo-political and strategic etc.), is an issue that requires further consideration, while it is hoped that as a reaction to COVID-19, selected countries and communities may move towards self-sufficiency.³⁴

5. **Big data generation, control, use and ownership** enable real-time decision-making in agri-food systems. However, due to the large economies of scale that exist in digital industries, digitalization of many aspects of human life, social interactions and production, including agri-food value chain processes, has resulted in a digital divide raising concerns also about the economic benefits of big data platforms that are able to amass extraordinary amounts of information on consumer behaviour and preferences.³⁵ Capacities in National Statistical Systems and awareness of consumers and civil society need to be built on data harvesting, storage, management and control, to ensure country-driven independent, transparent and accountable data generation, validation and utilization processes, as well as their conversion into statistics, and this is particularly important for small countries.

6. **Geopolitical instability and increasing impacts of conflicts**, including those relating to competition over resources and energy, are a major driver of food insecurity and malnutrition.³⁶ SOFI 2017³⁷ highlights that the vast majority of chronically food insecure and malnourished people live in countries affected by conflicts. Furthermore, research suggests that 40-60 percent of intrastate armed conflicts over the past 60 years have been triggered, funded, or sustained by natural resources.³⁸ Conflicts reduce food availability, disrupt access to food and health care, and undermine social protection systems, and the majority of food insecure people in many parts of the world are the result of conflicts. This driver, interacting with climate change, degradation of renewable natural resources and desertification, is disrupting agricultural livelihoods and agri-food systems. Extractive activities tend to be concentrated in rural areas that include indigenous territories and have been a recurrent reason for socio-economic and ethno-territorial conflicts. A “world in disorder” where international and national conflicts emerge and persist is among the possible future scenarios. Agri-food systems would be affected by disruptions in various parts of socio-economic and environmental systems and would affect people according to their social features (gender, age, ethnicity, socio-economic status, etc.).

7. **Uncertainties.** All drivers affecting agri-food systems are subject to multiple systemic risk of hazards carrying uncertainties that often materialize in sudden occurrences of events. *The Future of Food and Agriculture*³⁹ (FOFA) highlights that the future of food and agriculture faces uncertainties

³² For instance, “Since carbon footprint is not in essence a physical part of products...the implications of the TBT [Technical Barriers to Trade] Agreement requirement for the equal treatment for imports of ‘like’ products remain untested” FAO, 2018. *The State of Agricultural Commodity Markets (SOCO): Agricultural trade, climate change and food security*

³³ cf. SDG 16, target 4, and Joint African Union Commission (AUC)/United Nations Economic Commission (ECA), 2014. *Illicit financial flows: why Africa needs to “Track it! Stop it! Get it!”*. High level panel on Illicit financial flows

³⁴ Self-sufficiency is intended in a broad sense, as reflecting an increasing attitude of communities to satisfying their basic needs with their own forces.

cf. FAO 2015-16 *SOCO - In Depth - Food Self-Sufficiency and International Trade: A False Dichotomy?* American Journal of Economics 0(5): 277-283. Buheji M. et al. 2020. *Optimising Pandemic Response through Self-Sufficiency – A Review Paper*

³⁵ CEB/2019/1/Add.2

³⁶ The number of forcibly displaced persons in 2019 reached almost 80 million people UNHCR, 2019. *Global Trends – Forced displacement in 2019*

³⁷ FAO et al. 2017. *The State of Food Security and Nutrition in the World (SOFI) 2017 - Building resilience for peace and food security*

³⁸ United Nations, World Bank. 2018. *Pathways for Peace: Inclusive Approaches to Preventing Violent Conflict*

³⁹ FAO, 2018. *The future of food and agriculture – Alternative pathways to 2050*

that give rise to serious questions and concerns and that These uncertainties revolve around different factors, including population growth, dietary choices, technological progress, income distribution, the state of natural resources, climate change, and the sustainability of peace. The timing, speed, geographic spread and magnitude of the outbreak of COVID-19 and its impacts is a case in point.⁴⁰ Multiple risks of disasters and crises, often combined with conflicts and other shocks, generate damage and losses. Extreme climate events such as drought, floods and storms, weather seasonal variabilities and slow onset events such as sea level rise are also unfolding emergencies. The 2020 desert locust upsurge together with other high-impact and transboundary food chain crises are also threatening agri-food systems. Uncertainties, and more specifically, their impacts on agri-food systems are difficult to predict and measure, but prevention with risk management and anticipation, including emergency preparedness and capacity to face them may reduce their impacts.

Drivers directly affecting food access and livelihoods

8. **Rural and urban poverty.** Rural areas are lagging behind. Despite great potential in many instances, a high proportion of rural inhabitants live in poverty or extreme poverty. Labour income in the agricultural sector is lower than the average income of other sectors and is characterized by higher gender imbalances. Many rural territories face severe deficits in infrastructure, institutional weakness, limited access to basic services and natural resources, and an eroded social fabric. Overall, the number of food insecure people is increasing and malnourishment is widespread, as stated in SOFI 2020, because the cost of a healthy diet is much higher than the international [extreme] poverty line, established at USD 1.90 purchasing power parity (PPP) per day⁴¹ and there are significant risks for the most vulnerable to fall in to poverty. While the whole Agenda 2030 is grounded on the leave no one behind principle, still certain groups within society such as the elderly, children and youth, women, as well as indigenous people, in many instances face risking discrimination and marginalization. Moreover, in some instances these groups face conditions such as insecurity, violence and/or involvement in illegal economic activities which aggravates their situation. An additional issue brought by the outbreak of COVID-19 is the disparity of access to public health care services, as well as other public services, within societies and across countries, topped by exacerbated pre-existing gender inequalities along many dimensions, including the increase of care and domestic work that limit women's participation in the labour market. These often unmeasured disparities may provide a more severe picture of current poverty levels, with resulting worsening of purchasing power, and consequent resorting to mere calory consumption, thus worsening their nutritional status.

9. **Inequalities.** Societies are characterized by high inequalities in income, job opportunities, and access to assets including natural resources, basic services, and fiscal burden. There are large segments of populations that are living either below the threshold, or at the edge of poverty, while a few make very significant profits, within and outside the food and agriculture sectors. Women, girls, youth, small producers and indigenous groups suffer the most in ways that are not always measured because they go very much beyond mere economic inequalities. Increased inequality can erode social cohesion, lead to political polarization and ultimately lower economic growth.⁴² Worryingly, inequality of income is growing. In Asia, for instance, despite the high economic growth over the past few decades (an average annual gross domestic product (GDP) per capita growth rate of 5 percent from 2000 to 2016), income inequality has risen, thus slowing progress in poverty reduction, with further exacerbating inequalities due to COVID-19 impact.

10. **Food prices** are significantly higher in recent years than 20-30 years ago. Indeed, food is around 30 percent more expensive than in the '90s, even without considering the price spikes of 2008 and 2011.⁴³ This occurred despite the fact that current pricing mechanisms fail to capture the whole cost of food, including social and environmental externalities at all levels (full cost accounting). FOFA 2050 highlights that if environmental costs were accounted for, food prices might significantly

⁴⁰ FAO, 2018. *Protecting people and animals from disease threats*

⁴¹ FAO et al. SOFI 2020

⁴² International Monetary Fund (IMF). 2017. *Fiscal Monitor: Tackling Inequality*

⁴³ As measured by the real FAO Food Price Index (FFPI). The FFPI is a measure of the monthly change in international prices of a basket of food commodities. It consists of the average of five commodity group price indices weighted by the average export shares of each of the groups over 2014-2016.

increase, other things equal, by 30-35 percent in the next decades. While political and media attention is sensitive to the price of food, and policy makers raise concerns on the efficiency of food and agricultural systems, cheap, unhealthy, and socially- and environmentally-unsustainable food cannot be the solution.

Drivers directly affecting food and agricultural production and distribution processes

11. **Innovation and science.** Accelerating and scaling up science, technology and innovation (STI), including institutional innovations, is key to meeting the aspiration of more efficient, inclusive, resilient and sustainable agri-food systems and leveraging emerging opportunities for achieving the SDGs. Emerging STI has enormous transformative potential, but it also presents substantial risks and can be exploited in ways that reinforce inequality and market concentration, and contribute to the degradation of natural resources. STI has huge potential of producing co-benefits of complementary sets of actions, for example by addressing environmental concerns while increasing farmers income and nutrition. Technical progress including the emergence of more systemic approaches, digitalization, biotechnologies and all other innovative solutions raise opportunities⁴⁴ to achieve, in concert, the dual aims of producing sufficient food and safeguarding the environment, while remaining mindful of challenges.⁴⁵ Research is ongoing on their development, limits and potential risks to ensure that safety and acceptability aspects are properly addressed, providing gender-balanced access, and bringing low-income countries on board to avoid technological divides.

12. **Public investment in agri-food systems** decreased significantly in the last 15 years, as shown by the FAO Agriculture Orientation Index (AOI) for Government Expenditures (SDG Indicator 2.a.1). In many instances, priorities set by governments, particularly those of low-income countries, including LIFDC, SIDS, and LLDCs, are not implemented due to insufficient public investment and/or low priority attributed to local agri-food systems. Thus, those countries that are currently heavily dependent on import to cover their food needs are likely to remain such, unless they shift their priorities. In addition, adequate regulatory and legal frameworks to secure financing are limited and not conducive to attract private sector investments.

13. **Capital/information intensity of production** is increasing due to automation, mechanization and digitalization of production in almost all sectors, including in food and agriculture. While these trends contribute to raising the overall productivity, they also raise concerns for the levels of employment, both in rural and urban areas.⁴⁶ Increasing capital intensity in the downstream segments of food value chains limits labour demand in processing and distribution, other things equal. In addition, the mechanization/digitalization of primary production lowers profits for farmers who do not or cannot appropriate new capital assets. Young farmers, possibly more inclined to adopting digital technologies and other innovations, can increase their capital ownership only if they have access to finance, training and capacity development. However, despite the fact that the progressive spread of advanced technologies is likely to increase the profitability of food-related livelihoods and create new job opportunities, the net job balance is most likely to be negative. Thus, increasing capital/information intensity of food production, associated to ageing, may further contribute to urban migration and emptiness of rural areas, and if employment and other earning opportunities cannot be found in urban areas, poverty and food insecurity may increase.

14. **Market concentration of food and agricultural inputs and outputs** represents a challenge for the resilience, equitability and sustainability of agri-food systems. Unprecedented levels of market

⁴⁴ FAO advocates for the leveraging of ecosystem services to complement these external inputs. The overuse of external inputs increases the environmental footprint of food production – too much irrigation exerts more pressure on an already scarce resource just as too much pesticides and herbicides damages the environment, reduces biodiversity (which generate ecosystem services) and could be prejudicial to human health.

⁴⁵ UN, 2018. *UN Secretary-General's Strategy on New Technologies*

⁴⁶ E/CN.9/2020/2 UN Economic and Social Council, 2020. *Population, food security, nutrition and sustainable development* “[...] the manufacturing, agri-food and service sectors are themselves undergoing capital intensification through the adoption of information technologies (robotics, digitalization and artificial intelligence) that reduce the need for workers”

concentration throughout the global agri-food systems^{47,48} spanning from crop seeds, agricultural chemicals, veterinary pharmaceuticals, agricultural machinery, fertilizers, livestock genetics, fishing rights, food processing and commodity trading deserves attention. Furthermore, land concentration associated to lack of land use regulation also affects access to resources. This puts rural, local and low-income economies at risk and increases dependency on external actors. The COVID-19 pandemic is showing the weaknesses of such concentrations which may require in some circumstances relying more on locally produced goods.

15. **Consumption and nutrition patterns**, resulting from behavioural change of consumers are key factors affecting agri-food systems. Consumers are increasingly making complex choices about the sustainability, nutritional content and safety of what they eat. Shifting consumer demand in the direction of sustainable and healthier eating patterns is important. Recognizing that consumers are ready to change behaviour if correctly informed may lead to deep changes in production systems. For instance, carbon labelling could help shape consumer preferences, contributing to the transition to a low-emissions economy. This would require an internationally recognized approach in setting the related standards (FAO SOCO, 2018) and, as recalled in the Global Sustainable Development Report, building sustainable agri-food systems and healthy nutrition patterns to accelerate progress towards the SDGs requires collaborative action by various stakeholders, including consumers.⁴⁹

Drivers regarding environmental systems

16. **Scarcity and degradation of natural resources.** Land, water, soil and biodiversity are progressively degrading. Water scarcity, land degradation, soil nutrients depletion, large scale deforestation, overexploitation of marine resources and pasture, pollution at all levels raise serious concerns, not only for the entire agri-food systems, but also for the achievements of the SDGs. “Inefficient or unsustainable farming systems are often associated with environmental and soil degradation and biodiversity loss and an increase in crop specialization and distribution can raise the risk of poor harvests.”⁵⁰ Availability and accessibility of natural resources per capita, including land and water are one of the most important bottlenecks for agri-food systems. For instance, although the Asia and the Pacific region accounts for more than half (56 percent) of the world population, the region covers less than one-quarter of the global land area. Population increase, urbanization and industrialization are increasing pressure on natural resources used by the agricultural sector. In Latin America, natural resources of the region have been degraded by the development of intensive productive activities related to agri-food systems. Sub-Saharan Africa is experiencing the same situation of severe degradation of natural resources, water scarcity in dryland areas of the Sahel and the Horn of Africa, as well as in Southern Africa. Massive deforestation also occurs, linked to the extension of agricultural land, to the exploitation of mining, to infrastructure works such as hydroelectric dams or roads, to urbanization, and even to excessive logging. Competition over progressively scarce natural resources contribute to conflicts, and likewise, the agriculture sector across many regions is increasingly deeply affected by the frequency and intensity of extreme weather events.⁵¹

17. **Epidemics and degradation of ecosystems**, beyond COVID-19, may increase in the future due to rising trends in transboundary animal and plant diseases and pests, agriculture encroaching in wild areas and forests, antimicrobial resistance and the increasing production and consumption of animal products. According to a UNEP-ILRI report,⁵² “the pathogens originate in animals, and the emergence or spillover of the diseases they cause in humans is usually the result of human actions,

⁴⁷ IPES-Food. 2017. *Too big to feed: Exploring the impacts of mega-mergers, concentration, concentration of power in the agri-food sector*

⁴⁸ UNCTAD, 2018. *Trade and Development Report 2018: Power, Platforms and the Free Trade Delusion*

⁴⁹ UN, 2019. *Global Sustainable Development Report 2019: The Future is Now: Science for achieving sustainable development*

⁵⁰ UN Environment (UNEP), 2019. *Global Environment Outlook – GEO-6: Healthy Planet, Healthy People*

⁵¹ Full cost accounting of natural resource use and degradation, mentioned above, while engendering shifts in prices may have impacts on natural resource use, GHG emissions and biodiversity.

⁵² United Nations Environment Programme and International Livestock Research Institute, 2020. *Preventing the Next Pandemic: Zoonotic diseases and how to break the chain of transmission*

such as intensifying livestock production or degrading and fragmenting ecosystems, or exploiting wildlife unsustainably.” All this adds to the increasing occurrences of events that threatens food safety, aggravated by climate change, and calls for a One Health approach.⁵³

18. **Climate change**, due to agricultural and economy-wide greenhouse gas (GHG) emissions, is already affecting agri-food systems, food safety and natural resources, and is expected to accelerate hunger and poverty in rural areas.⁵⁴ In Latin America, for instance, agri-food systems will be impacted, both currently and in the medium- and long-term, by climate change. It is estimated that rain-fed production in selected areas (e.g. in the Southern Cone of Latin America) will be reduced by seasonal water stress. In addition, fisheries and aquaculture production will be affected. SIDS and coastal areas will face sea level rise, increased hurricane frequency and intensity, saline intrusion, ocean acidification and warming and increased incidence of coral bleaching. On the other hand, “an estimated 23% of total anthropogenic greenhouse gas emissions (2007-2016) derive from agriculture, forestry and other land use”.⁵⁵ Not only agri-food systems contribute a large share of total global CO₂-equivalent emissions, including through deforestation and other land use changes, but almost all prevailing economy-wide development paradigms are based on fossil fuels and huge GHG emissions.⁵⁶ Overall, there are no risk-informed measures to tackle a warming planet beyond a 1.5 degree scenario and there is limited understanding of the implications of deep decarbonisation. Vision and knowledge about these issues is particularly important for the post-COVID recovery process that is assumed to build back better.

19. **The ‘Blue Economy’**,⁵⁷ that is the development of economic activities related to oceans and coastal areas is increasing globally, and increasingly the concept around which countries (particularly SIDS and other states that enjoy large Exclusive Economic Zones (EEZ) build their economic development policies. A recent IPCC report⁵⁸ highlights an important role for sustainable ocean industries to reduce GHG emissions and adapt to climate change. At the same time, while aquaculture is expected to provide the necessary increase in aquatic products globally, its regional development is uneven and hampered by constraints which need to be adequately addressed through better governance, increased investment, and targeted support to environmentally-friendly production systems such as integrated multi-trophic aquaculture in coastal and integrated agriculture aquaculture in inland regions, with a special focus on Africa which is the only region foreseen to have declining ‘apparent consumption’.⁵⁹ Aquatic food production systems are nested in the larger development framework. However many ‘blue economy’ policies favour large projects such as oil/gas and shipping/ports or even tourism, which bring economic benefits, but also environmental degradation, with impacts on food from the ocean and ocean biodiversity. Arising trade-offs require further investigation for risk-informed, sound policy-making and investments for resilient and sustainable development.

⁵³ World Health Organization (WHO). One Health approach to designing and implementing programmes, policies, legislation and research requires that multiple sectors work together to achieve better public health outcomes such as food safety, the control of zoonoses (diseases that can spread between animals and humans, such as flu, rabies and Rift Valley Fever), and combatting antibiotic resistance of bacteria.

⁵⁴ Regarding the impact on food safety, see for instance: FAO, 2020. *Climate Change: unpacking the burden of food safety*

⁵⁵ Intergovernmental Panel on Climate Change (IPCC), 2019. *Special Report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems*

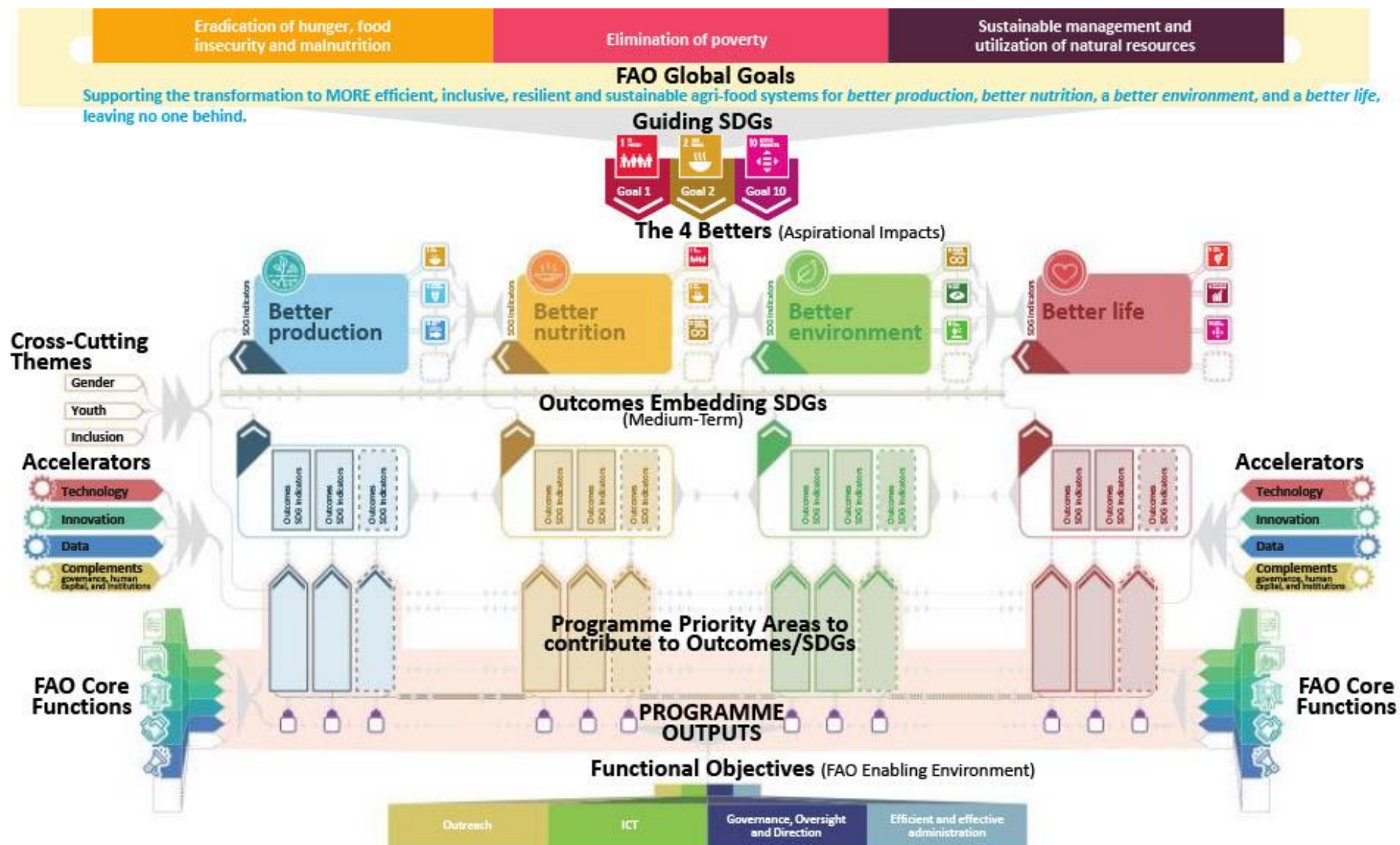
⁵⁶ This also applies to some activities that are increasingly portrayed as complementary to agricultural activities in rural areas such as tourism, whose GHG footprint has largely to be investigated.

⁵⁷ In the context of the Corporate Strategic Foresight Exercise, the World Bank definition for *blue economy* applies: The sustainable use of ocean resources for economic growth, improved livelihoods, and jobs while preserving the health of ocean ecosystem ([What is the Blue Economy?](#), World Bank, 6 June 2017).

⁵⁸ IPCC, 2019. *Special Report on the ocean and cryosphere in a changing climate*

⁵⁹ Apparent consumption is a proxy measure for consumption of a product or material defined as production plus imports minus exports of the product or material (UN Stats Glossary)

Annex 2: FAO's results framework



Annex 3: FAO's results framework depiction of country level planning

