Food and Agriculture Organization of the United Nations

HIGHGATE WOOD SCHOOL MODEL UNITED NATIONS

BRIEFING PAPER

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ABOUT THE FOOD AND AGRICULTURE ORGANIZATION OF THE UN:

The Food and Agriculture Organization of the United Nations (FAO) is a specialized agency of the United Nations that leads international efforts to defeat hunger and improve nutrition and food security. Founded in October 1945, the FAO is the oldest existing agency of the U.N..

WHO Priority areas

The goals of FAO are to eliminate hunger, food insecurity and malnutrition, reduce rural poverty, and make agriculture, forestry and fisheries more productive and sustainable. FAO recognizes that these goals cannot be fulfilled without decisive action on climate change, and climate change cannot be addressed without managing the world's natural resources and agricultural systems sustainably.

FAO has a set of six priority areas. These provide a more integrated approach to strengthening FAO's contribution to more efficient and inclusive food systems, and to ensure a clearer line of sight to the multiple Sustainable Development Goals impacted by food system developments.

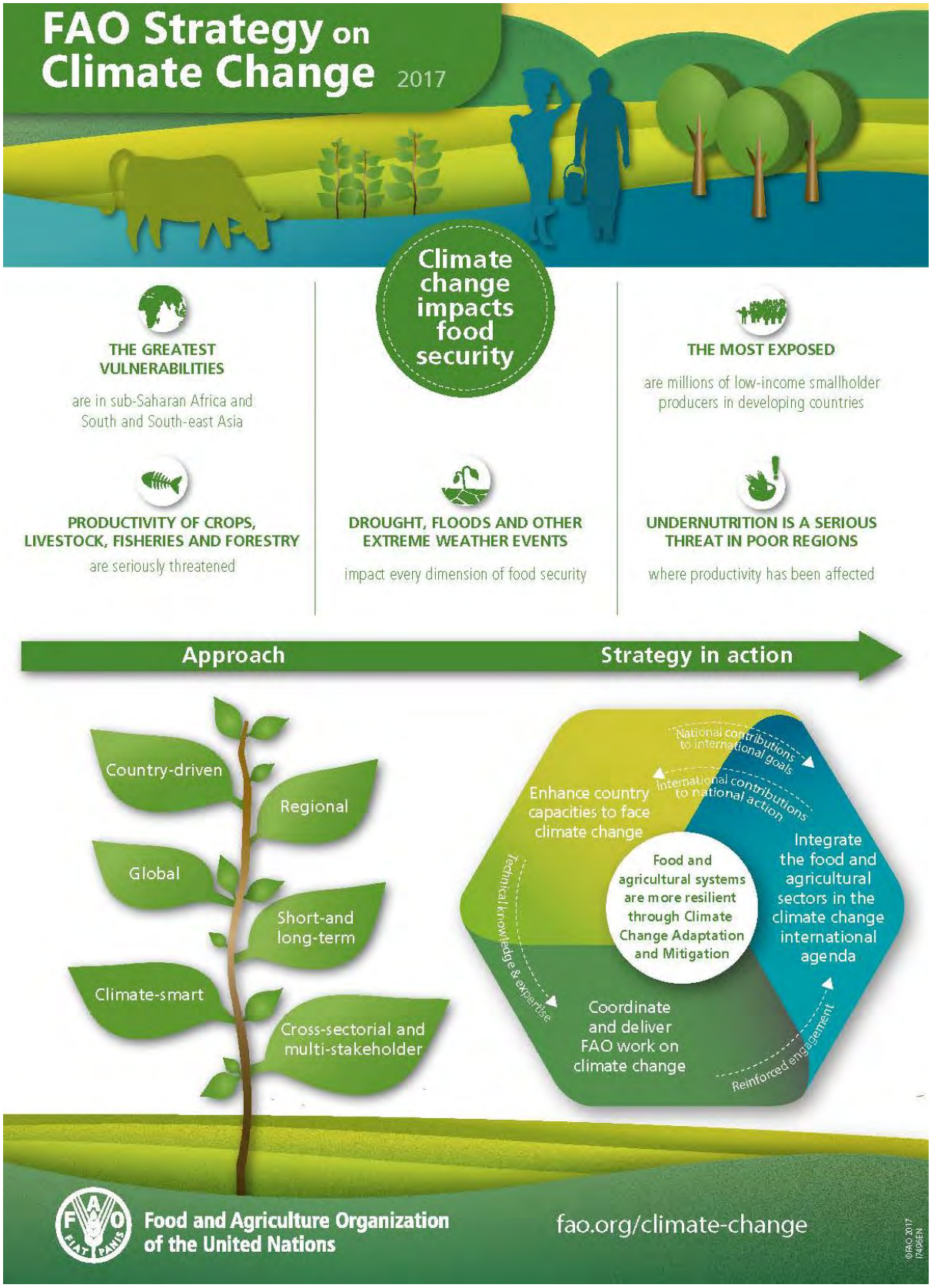
The six priority areas are:

- Trade and Agribusiness: Investing in sustainable value chains
- Urban Food Agenda for inclusive and efficient food systems
- One Health - Food Safety, Plant and Animal Health
- Sustainable Food Systems in the Small Island Developing States - countries that have particular susceptibility to natural disasters and the impact of climate change.
- Global Initiative on Food Loss and Waste
- Global Dialogue and Partnerships for Sustainable Food Systems

Challenges

Climate change threatens our ability to ensure global food security, eradicate poverty and achieve sustainable development. Greenhouse gas (GHG) emissions from human activity and livestock are a significant driver of climate change, trapping heat in the earth's atmosphere and triggering global warming.

Climate change has both direct and indirect effects on agricultural productivity including changing rainfall patterns, drought, flooding and the geographical redistribution of pests and diseases. The vast amounts of CO2 absorbed by the oceans causes acidification, influencing the health of our oceans and those whose livelihoods and nutrition depend on them. FAO is supporting countries to both mitigate and adapt to the effects of climate change.


FAO Strategy on Climate Change 2017
Climate change impacts food security
THE GREATEST VULNERABILITIES
are in sub-Saharan Africa and South and South-east Asia
THE MOST EXPOSED
are millions of low-income smallholder producers in developing countries
PRODUCTIVITY OF CROPS, LIVESTOCK, FISHERIES AND FORESTRY
are seriously threatened
DROUGHT, FLOODS AND OTHER EXTREME WEATHER EVENTS
impact every dimension of food security
UNDERNUTRITION IS A SERIOUS THREAT IN POOR REGIONS
where productivity has been affected
Approach
Strategy in action
Country-driven
Regional
Global
Short-and long-term
Climate-smart
Cross-sectorial and multi-stakeholder
National contributions to international goals
International contributions to national action
Enhance country capacities to face climate change
Integrate the food and agricultural sectors in the climate change international agenda
Food and agricultural systems are more resilient through Climate Change Adaptation and Mitigation
Technical knowledge & expertise
Coordinate and deliver FAO work on climate change
Reinforced engagement
Food and Agriculture Organization of the United Nations
fao.org/climate-change
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FAO's support to countries facing climate change

The number of undernourished people in the world has been on the rise since 2014, reaching an estimated 821 million in 2017.

The global response to climate change today will determine how we feed future generations tomorrow. By transforming their agriculture sectors, countries have the chance to achieve food security for all.

At the same time, agriculture, including forestry, fisheries and livestock production, generate around a fifth of the world's greenhouse gas emissions. This must be reduced by 2030 to achieve the goal of limiting global warming to 2°C.

To meet these challenges FAO's strategy focuses on adaptation and mitigation in the agriculture sectors and advocates for better management of synergies and trade-offs between the two. FAO supports its member countries in these efforts offering technical guidance, data and tools for improved decision making and the implementation of adaptive measures. FAO has also embedded these tools and approaches in broader frameworks such as climate-smart agriculture and in the promotion of Disaster Risk Reduction policy and action.

The Organization's assistance to developing countries focuses on integrated approaches to agricultural development. It facilitates the design of National Adaptation Plans (NAPs) and Nationally Appropriate Mitigation Actions (NAMAs), and supports climate actions that countries have publicly pledged to achieve, known as Nationally Determined Contributions (NDCs)

From 2009 to 2017, more than 300 FAO programmes and projects addressed the problems caused by climate variability and extremes in the agriculture sectors.

FAO's CLIMATE CHANGE STRATEGY

José Graziano da Silva, Director-General of Food and Agriculture Organization writes:

"There is no peace without tackling food security and eliminating hunger and there will be no food without tackling climate change. I am convinced that we can end hunger in our lifetime. We have the tools and the know-how. However, the goals and aspirations of the 2030 Agenda for Sustainable Development to end hunger, reduce rural poverty and manage natural resources in a sustainable manner cannot be achieved if temperatures continue to rise.

We have a window of opportunity to stabilize global average temperatures to safe levels but we must act now. Now is the time to take action to meet the target included in the Paris Agreement of the UN, Framework Convention on Climate Change.

That is why climate action, a cross-cutting theme of FAO's Strategic Framework, is being integrated into every facet of our work, bolstering and building on decades of accumulated global experience and expertise.

CHINA
Rice-fish culture system. Fish and rice grow side by side in the paddy fields.

Agriculture and food systems are partly responsible for increased temperatures but are also a fundamental part of the solution to mitigate greenhouse gas emissions and promote adaptation to a changing climate, especially for rural family farmers in developing countries. Often the poorest, they are also the most vulnerable to climate change. For millions of people, our actions can make a difference between poverty and prosperity, between hunger and food security."

GUIDING PRINCIPLE OF FAO CLIMATE STRATEGY

The FAO's Climate Strategy aims to facilitate the organizations contribution to the transition of food and agricultural systems and dependent livelihoods to become more resilient to climate change, as well as national transitions towards low carbon economies. It is founded on the following principles of social inclusion and environmental sustainability.

Give precedence to food security, poverty reduction and sustainability

Climate change undermines food security, nutrition, poverty reduction and sustainability in many contexts, and creates opportunities for improvement in others.

Leave no one behind

Through its long experience in people-cantered work on agriculture, rural development and climate change, FAO recognizes that their approach must be inclusive to ensure that everyone can benefit, and that no one is left behind. Prioritizing the most vulnerable groups and countries is therefore at the heart of this Strategy, and FAO consequently considers gender-specific vulnerabilities and needs along with opportunities and capabilities with regard to climate change; the vulnerabilities and needs along with opportunities and capabilities of indigenous people; as well as other vulnerable communities, including communities living in fragile environments such as Small Island Developing States, drylands, mountain areas or coastal zones. FAO will work to develop financing vehicles and safety nets for the small landholders of the world, usually excluded from "green finance".

Promote ecosystem-based approaches

Ecosystems provide valuable services that help to build resilience and reduce the vulnerability of people and their livelihoods to climate change impacts.

Integrating the protection of biodiversity and ecosystem services into adaptation strategies and mitigation options through agro-ecological approaches and the conservation and sustainable use of genetic resources for food and agriculture increases the resilience of human and natural systems to climate and non-climate risks, providing benefits to society and the environment.

Food security

UNITED REPUBLIC OF TANZANIA Using a push weeder in a rice paddy. FAO is working to strengthen the capacity of farms by improving land and water management, and promoting climate-resilient agriculture.

Climate change stands to undermine the four dimensions of food security in different ways.

Food availability will be compromised by projected yield declines across the crop, livestock and fisheries and aquaculture sectors especially in sub-Saharan Africa and South Asia, where most of today's food insecure live. This will raise the pressure on the natural resource base and add to upward pressure on international food prices,

while global food supply needs to increase by 60 percent from 2006 to 2050 to meet the needs of a growing population and changing diets.

Expected changes in natural resources and growing conditions also mean that climate change will very likely change the geography of production

Climate change also compromises food access by affecting the purchasing power of consumers, especially of the poor. Most model projections indicate some price increases as a result of climate change, although the scale and impact of this is still unknown.

Climate change affects food utilization primarily through its impacts on food safety and health. In general, climate change is likely to reduce food safety through a higher incidence of food-borne diseases.

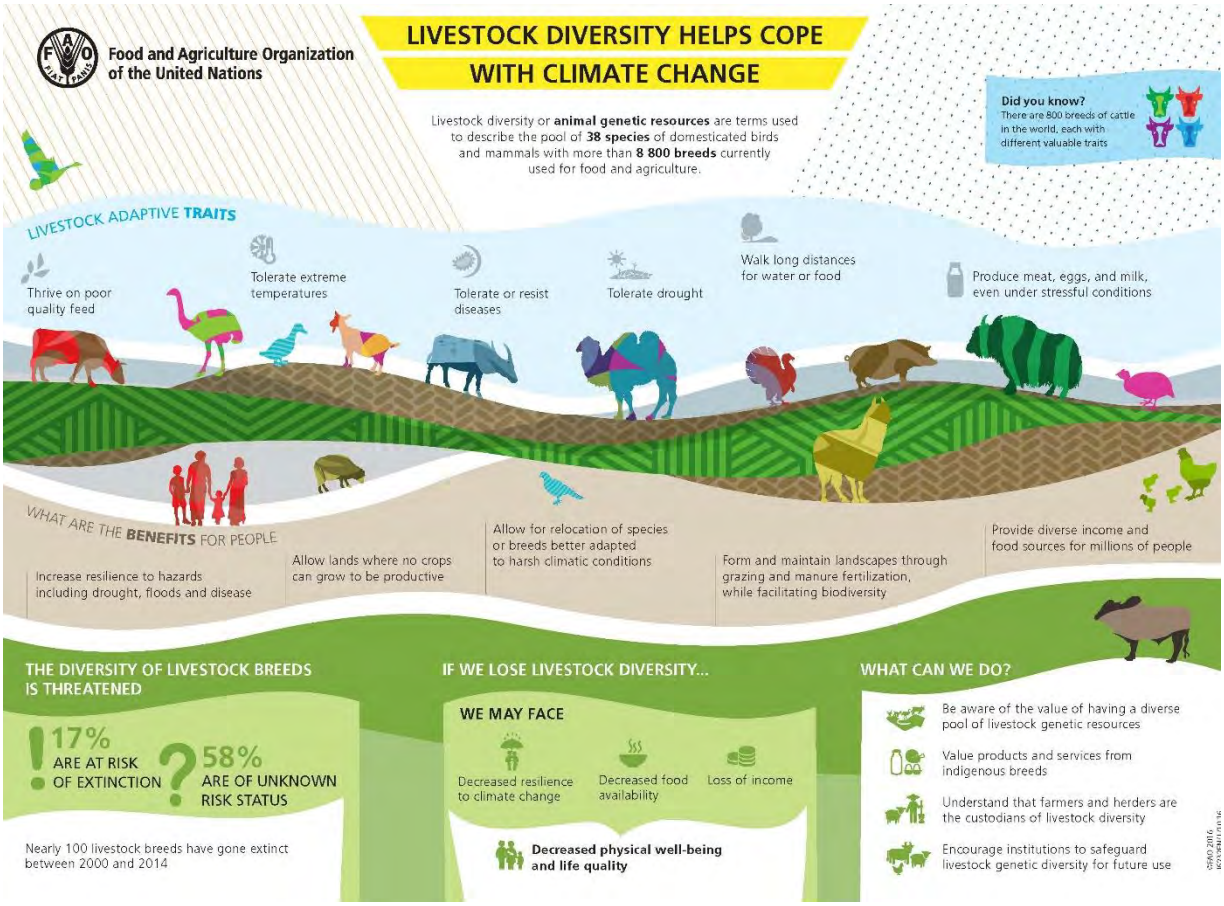
With regards to food stability, the risks to food and nutrition security are made worse by the expected increase in the frequency and intensity of climate related events. Shocks and crises caused by extreme weather events destroy resources and infrastructures and hence reduce overall food production capacity.

Another potential impact of climate change lies in increased food price volatility. Recent international food price spikes often followed climate extremes in major producing countries, and have become more likely as a result of climate trends.

Nutrition and human health

Linked to food security, climate change directly affects the nutrition of millions of

people, undermining current efforts to address undernutrition and hitting the poorest the hardest, especially women and children. It is seen as a significant "hunger-risk multiplier" for which some forecasts anticipate 24 million additional malnourished children by 2050 - almost half of them in sub-Saharan Africa.36 This negative impact will be significant in developing countries, especially on per capita calorie availability, childhood undernutrition, and undernutrition-related child deaths.



The agricultural sectors

In the crop sector, there is evidence that climate change has already negatively affected wheat and maize yields in many regions and at the global level. The increased frequency of warmer nights in most regions is damaging for many crops, with observed impact on rice yields and quality.

Climate change is also expected to have a significant impact on the frequency and intensity of plant pest and disease outbreaks. For example, an increase in extreme weather events in addition to causing severe disruption in their own right, can lead to more frequent and intense plant pest and disease outbreaks, as was the case during the Desert Locust outbreaks in Northwest Africa and in Yemen in late 2015.

Livestock, including feed crops, contributes approximately a third of greenhouse gas emissions. However, FAO estimates that a reduction of up to 30 percent can be achieved through improved feed and stock management.

The livestock sector experiences important negative climate impacts in animal productivity, yields of forage and feed crops, animal health and reproduction, and biodiversity.

The impacts of climate change on fisheries and aquaculture occur as a result of both gradual atmospheric warming and associated physical and chemical changes of the aquatic environment.

Climate change is likely to affect already vulnerable fisheries and ocean-dependent communities through less stable livelihoods, changes in the availability and quality of fish for food, and rising risks to their health, safety and homes.

Extreme events such as deep sea ocean swells, particularly high temperatures, and cyclones can affect the ability of ecosystems such as coral reefs and mangroves to provide services crucial for livelihoods and food security.

Concerns around beef farming and deforestation

As population increases, our food demands are also rising and the international market's demand for certain products is leading to some disastrous and unsustainable affects.

Despite existing policies to curb development, the demand for beef by numerous first world countries is actively encouraging Central and South American countries, Brazil being the largest participant, to cut down swathes of rainforest to create more cattle ranching.

Over the past 70 years Brazil has partnered with FAO to eradicate hunger, food insecurity and malnutrition. Brazil's own development priorities include the sustainable management of its natural resources. However, the commercial rewards of beef production make the pressure to go against this almost irresistible.

While the situation is complex, the basic equation is simple. A growing demand for beef will result in increased production. For countries such as Brazil, this means finding new land which comes at the cost of one of our most vital rainforests. And it is not simply that the removal of rainforest. Statistics from the United Nations Food and Agriculture Organization suggest that approximately 300 million tonnes of carbon are released by the destruction process itself.

What is the solution? Move beef production elsewhere? Reduce the global consumption of beef? And should the existing beef producing countries be compensated for their loss?

Questions to consider:

- What role does agriculture play in your countries economy and what impact might that be having on climate change?
- How much food is produced locally, how much is it imported? What is the impact of that on the climate?
- What has been the impact, or what might be the impact, of climate change on food production in your country?
- Would it be possible to move to a more carbon neutral diet?