SACFLMUN'25

# FAO STUDY GUIDE

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**Abstract**

Climate change threatens global food security and agricultural stability by increasing droughts, floods, and unpredictable weather patterns. The Food and Agriculture Organization (FAO) seeks to promote sustainable and climate-resilient agricultural practices that both mitigate greenhouse gas emissions and adapt to changing environmental conditions. This agenda emphasizes innovative farming systems, efficient use of natural resources, and social inclusion to ensure that all populations can access sufficient, nutritious food. Strengthening cooperation between nations, improving local farmer capacity, and supporting science-based solutions remain essential to building a food-secure and climate-ready world.

**Agenda Overview / Scope**

This agenda focuses on integrating sustainability and resilience into global agricultural systems in response to climate change. FAO's mandate includes coordinating international efforts to reduce hunger and supporting nations in adapting their agricultural sectors to environmental stress. The agenda examines how governments and organizations can combine modern technologies with traditional knowledge to create inclusive and climate-smart farming systems. It also covers the economic dimension of transitioning towards sustainability, highlighting the importance of financial mechanisms, trade cooperation, and fair resource distribution. Ultimately, it aims to transform agricultural practices to meet both current and future food demands without degrading ecosystems.

**Keywords**

- Food Security: The state of having reliable access to a sufficient quantity of affordable, nutritious food.
- Sustainable Agriculture: Farming methods that meet society's food and textile needs without compromising the ability of future generations to meet their own needs.
- Malnutrition: The condition that results from a person's diet lacking adequate nutrients for proper health. This includes both undernutrition (e.g, wasting, stunting) and overnutrition (e.g, obesity).
- FAO (Food and Agriculture Organization): A specialized agency of the United Nations that leads international efforts to defeat hunger and improve nutrition and food security.
- Climate Change: A long-term shift in global weather patterns and temperatures, which significantly impacts agricultural productivity and food systems.
- Resilience: The capacity of food systems to withstand and recover from shocks and stresses, such as natural disasters, economic crises, or pandemic.

**Introduction**

What is the central theme of our committee's agenda?
Our agenda revolves around developing resilience in global food systems to climate change and achieving sustainable food security. In brief terms, we're here to get to work on feeding the world in a changing climate.
Why is this problem so important now?

Climate change is not something in the future, it's already happening to agriculture. Extreme weather events like heatwaves, floods, and droughts are destroying crops and disrupting food supply chains. It puts the most vulnerable communities at greater risk of malnutrition and hunger. We need to act quickly in order to protect world food security.
What specific issues will we be adressing?
During our session, we'll be looking at a range of issues, including:

- The direct impacts of climate change on agriculture and food systems.
- The role of innovative technologies and farming practices.
- How we can strengthen international cooperation to share resources and knowledge.
- The importance of empowering local farmers and smallholders, who are often on the front lines of this crisis.

What is our ultimate goal?
Our goal is to move beyond debate and towards tangible, actionable solutions. We aim to draft a resolution that outlines effective policies to secure food for both current and future generations. The challenge is to create a framework that is both environmentally sustainable and economically viable for all member states.

**Historical Timeline**

- *2006 - "Livestock's Long Shadow" Report*
  In this report published in 2006, the FAO scientifically showed the effects of the agricultural sector on the climate. The report particularly emphasised the significant impact of livestock farming on greenhouse gas emissions. This study drew attention to the importance of sustainable agricultural policies. It also demonstrated that agriculture is both a contributor to and a victim of climate change. In this way, it laid the foundation for the FAO's future 'Climate-Smart Agriculture' approach.

- *2008 – High-Level Conference on World Food Security*
  At this conference held in Rome, the FAO directly associated climate change and bioenergy issues with food security. The conference promoted countries' shift towards climate-friendly agricultural practices. During this period, renewable energy, water management and soil fertility emerged as key topics. Discussions highlighted the need to integrate agriculture into climate policies. This process helped sustainable agriculture secure a permanent place on the FAO agenda.

- *2010 – Introduction of Climate-Smart Agriculture (CSA)*
  The FAO presented the CSA concept at the Hague Conference on Agriculture, Food Security and Climate Change in the Netherlands in 2010. CSA embraced three key objectives: increasing yields, strengthening resilience and reducing emissions. This approach aimed to balance environmentally friendly production with economic development. The FAO began supporting countries developing climate-resilient

policies. For the first time, sustainable agriculture was thus placed within a global strategic framework.

- *2013 – Publication of the First CSA Sourcebook*
  The FAO published the Climate-Smart Agriculture Sourcebook to systematically spread CSA practices. This book served as a policy guide for governments and organisations. It contained examples for water management, soil protection and adaptation strategies in agriculture. The document also explained financing and capacity development models. The scientific foundations of CSA became globally recognised through this resource.

- *2017 – Second Edition of the CSA Sourcebook*
  In its second version, the FAO emphasised topics such as digitalisation, renewable energy and technological solutions. The revised version shared data obtained from applications in developing countries. Climate risk analyses and sustainable water use methods were detailed. New policy guidelines on agriculture-climate financing were also presented. This edition has become the fundamental reference for FAO's climate-resilient agriculture strategy.

- *2020 – FAO Climate Action and COVID-19 Response*
  In 2020, the FAO developed new strategies to address both the impact of COVID-19 on agricultural production and the growing climate crisis. Under the FAO COVID-19 Response and Recovery Programme, the continuity of food supply chains and climate-resilient production systems were prioritised. In the same year, the FAO updated its ‘FAO Strategy on Climate Change’ document in line with the Paris Agreement targets. This strategy aimed to ensure the integration of agriculture and climate policies and reduce carbon emissions. 2020 marked the beginning of a new global era for the FAO in building sustainable and resilient food systems.

- *2021 – Scaling Up Climate-Smart Agriculture Initiatives*
  In 2021, the FAO initiated the ‘Scaling up Climate-Smart Agriculture’ initiative, aiming to embed CSA practices into national policies. Within this framework, climate-resilient production models were developed in Africa, Asia and Latin America. The programme aimed to increase farmers' incomes while reducing their carbon footprint. Digital farming tools, data-driven monitoring systems and satellite-supported early warning systems were put into operation. This was a milestone in FAO's efforts to place sustainable agriculture at the core of the global development agenda.

**Key Aspects of Agenda**

The topic of ‘Promoting Sustainable and Climate-Resilient Agricultural Practices’ deals with combating the effects of climate change while achieving food security, one of today’s most urgent global issues. Agriculture continues to be both a driver and a victim of climate change, contributing significantly to greenhouse gas emissions while also being extremely vulnerable to extreme weather events, soil degradation and changing rainfall patterns. Therefore, the main goal of this agenda is to identify and promote innovative strategies that increase sustainability, resilience and inclusion in agricultural systems worldwide.

A key consideration is to encourage the promotion of sustainable and environmentally friendly agricultural practices. These include methods such as crop diversification, integrated pest management, agroforestry, organic farming and precision farming, which are applied to preserve soil fertility, protect biodiversity and minimise pollution. Supporting local and traditional agricultural knowledge, particularly in rural and local communities, is also crucial for achieving context-specific sustainability.

Another key focus is on increasing climate resilience in agriculture through the use of modern technologies and adaptation strategies. Governments and international organisations are encouraged to promote drought-resistant crop varieties, efficient irrigation systems, and soil conservation programmes. Setting up early warning systems for extreme weather events and supporting research in climate-friendly agriculture are also crucial elements in reducing the risks posed by climate change.

The third important aspect is capacity building and knowledge sharing. Strengthening cooperation between member states, research institutions and local stakeholders will ensure the dissemination of best practices and innovations. The sharing of scientific data, access to agricultural education, and the empowerment of young people and women in rural areas are crucial for creating long-term sustainable change in agricultural systems.

Financial support schemes constitute another critical area of this agenda. Many smallholder farmers lack the necessary economic resources to transition to sustainable practices. The agenda therefore emphasises the development of available financial instruments, including microcredit, insurance programmes and green subventions. Encouraging private sector participation and supporting partnerships between international donors and national governments can also provide the investment needed to boost the adoption of sustainable techniques.

In addition, reducing agriculture's environmental footprint is also crucial. The agenda underlines the need to reduce greenhouse gas emissions through improved livestock management, the use of renewable energy in production processes, and sustainable fertiliser application. Protecting water resources and restoring degraded land will not only reduce emissions but also ensure long-term productivity.

Finally, ensuring food security and rural development remains a key objective. Sustainable agricultural practices must be aligned with efforts to end hunger and poverty. It is vital that policies support farmers' livelihoods while maintaining the affordability and accessibility of food for the entire population. Fostering inclusive rural development and empowering small-scale producers are necessary steps towards achieving the Sustainable Development Goals, particularly SDG 2 (Zero Hunger) and SDG 13 (Climate Action).

**Country Sides**

USA: The United States follows a policy that fosters sustainable and climate-resilient agricultural practices in collaboration with the FAO and other international organisations. Through its representatives at the FAO, the United States emphasises the principles of ‘science-based decision-making’, ‘efficient use of resources’ and ‘accountability’. It also contributes to projects such as the FAO and GAFSP (Global Agriculture and Food Security Programme) to provide financial assistance for the widespread adoption of climate-smart agriculture practices.

China: China has set targets to peak carbon emissions by 2030 and achieve carbon neutrality by 2060, aligning its agricultural sector with these goals. China's priority is to increase agricultural productivity while reducing environmental impacts and strengthening the resilience of smallholder farmers to climate change. Through its Climate-Smart Agriculture (CSA) projects China has concentrated on soil improvement, water management and making mechanisation more environmentally friendly. In this regard, it is conducting South-South Cooperation projects on sustainable soil management and water resources planning.

UK: The United Kingdom supports projects for climate-resilient agriculture in collaboration with the FAO and provides funding to developing countries. While promoting environmentally friendly agriculture through national programmes such as Environmental Land Management, it provides global leadership on COP and FAO platforms to support sustainable agricultural policies. As a result, the United Kingdom plays a pioneering role in climate-resilient agriculture practices.

South Africa: South Africa is already witnessing increasing challenges emanating from climate variability in the form of droughts, water scarcity, and land degradation. Agriculture is a significant driver of the economy as well as rural livelihoods, but it is highly vulnerable to climatic shocks. The government has partnered with FAO to launch Climate-Smart Agriculture (CSA) practices such as improving soil health, promoting water-saving irrigation methods, and supporting smallholder farmers through way of training and technology access.

European Union (EU): The EU promotes climate-resilient and sustainable agriculture through the Common Agricultural Policy (CAP) and the Farm to Fork Strategy of the European Green Deal. The policies aim to reduce emissions, protect biodiversity, and improve soil and water management. Internationally, the EU promotes adaptation and innovation through programs

like EUROCLIMA+ and Horizon Europe, offering financial and technical assistance to partner countries.

**Active Initiatives and Key Groups**

*Climate-Smart Agriculture (CSA) Initiative:* The program helps countries adopt productivity-enhancing, resilience-strengthening, and greenhouse gas emission-reducing practices. CSA provides technical guidance, training, and materials to farmers, with a focus on smallholders in vulnerable regions. CSA combines scientific data with traditional farming methods to create adaptive solutions.

*Global Soil Partnership (GSP):* The GSP harmonizes international efforts to protect and restore soil health. The platform develops soil monitoring systems, encourages best practices such as agroforestry and conservation tillage, and facilitates exchanges of knowledge between countries. The partnership supports governments and communities in maintaining sustainable soil management.

*FAO Water Productivity Open-access Portal (WaPOR):* WaPOR is based on satellite information to monitor water use efficiency in agriculture. It helps policymakers and farmers improve irrigation planning, reduce water losses, and respond to drought. The portal currently covers a number of countries in the Near East and Africa and contributes to sustainable water management.

*CGIAR (Consultative Group on International Agricultural Research):* CGIAR is a global research alliance that develops heat- and drought-tolerant crops, low-emission livestock production systems, and climate-smart agriculture practices. It collaborates with FAO in conducting research, providing technical guidance, and disseminating knowledge to farmers and policymakers.

*Global Forum on Agricultural Research (GFAR):* GFAR brings together governments, research institutions, civil society, and private sector actors in coordinating agricultural research. It concentrates on innovation sharing, capacity development, and policy guidance for climate-resilient and sustainable food systems.

*World Food Programme (WFP):* WFP works in partnership with FAO to fight food insecurity and strengthen local food systems. Its operations include emergency food assistance, agricultural support to smallholder farmers, and initiatives to improve nutrition and foster sustainable agriculture practices

**Past Resolutions and Committee Decisions**

*FAO Conference 41/RES/4 - Climate-Smart Agriculture for Sustainable Food Security*

This 41st FAO Conference resolution called for the adoption of climate-smart agriculture (CSA) in national policy. The resolution called upon member states to support smallholder

farmers by educating them, granting them economic incentives, and offering them access to technology.

*FAO Council 2021/7 - FAO Strategic Framework 2022–2031*

The architecture is based on achieving "Four Good" targets: Better Production, Better Nutrition, Better Environment, and Better Life.

It particularly emphasizes the need for climate-resilient agricultural systems, improved soil management, and sustainable food production.

*FCCC/SBSTA/2017/L.23 - UNFCCC Koronivia Agriculture Partnership (2017–2023)*

Not an FAO decision but an important UNFCCC initiative. It recognizes the central role that agriculture plays to tackle climate change and facilitates the sharing of best practices between countries to increase adaptation and reduce emissions.

*CFS 2021/47/RES/1 - Voluntary Guidelines on Food Systems and Nutrition (2021)*

These guidelines give a great deal of emphasis on sustainable production agriculture as a way to improve diets while at the same time protecting the environment. FAO invites nations to act on these guidelines.

*TREATIES-XXVII.7.d - Paris Agreement (2015) – Articles 2 and 7 The Paris Agreement*

The agreement is mostly focused on limiting greenhouse gas emissions, but also anticipates increasing agricultural adaptation capacity. FAO supports nations in aligning their national agriculture plans with their climate commitments (NDCs).

*FAO/2013/CSA - FAO's "Climate-Smart Agriculture Resource Book" (First Edition 2013, Revised 2023)*

Though not a policy choice, the book is highly referenced by government policymakers. It provides practical guidance to governments and farmers for implementing sustainable and climate-resilient agriculture practices.

**Technical Frameworks and Research**

*Technical Guidelines Used in Promoting Sustainable and Climate-Resilient Agricultural Practices*

1. *FAO Climate-Smart Agriculture (CSA)*

FAO developed the Climate-Smart Agriculture (CSA) strategy, introduced in 2010, as a strategy that integrates three main objectives: increasing productivity and farmers' income in a sustainable manner, adapting to climate change impacts and increasing resilience, and reducing greenhouse gas emissions if feasible. CSA promotes locally appropriate solutions by

blending new technology, scientific knowledge, and traditional farming practices. Studies indicate that implementing CSA can raise agricultural yields by as much as 30% in conditions of climate stress (FAO, 2022)

2. *FAO Global Information and Early Warning System (GIEWS)*

Global Information and Early Warning System (GIEWS) consolidates current data on crop yields, rains, and prices (FAO, 2023). Using this system, governments can pick up early signals of food insecurity and react rapidly to crop shocks such as drought or infestation. The data from GIEWS is also inputted into the UN Global Food Crisis Report, enabling multi-agency coordination.

3. *FAO Agricultural Stress Index System (ASIS)*

Agricultural Stress Index System (ASIS), which was developed in collaboration with the European Space Agency, is based on satellite images to monitor vegetation and detect agricultural droughts (FAO, 2021). It has been implemented in over forty nations across Africa, Latin America, and Asia. Science shows that ASIS early warnings can reduce national crop losses by 15 to 20 percent (FAO, 2022).

4. *FAO Sustainable Food and Agriculture (SFA) Framework*

The 2014-endorsed Sustainable Food and Agriculture (SFA) framework offers principles of sustainability for agriculture across all sectors, namely crops, livestock, forestry, fisheries, and aquaculture (FAO, 2014). The principles proposed emphasize the optimal utilization of resources, ecosystem conservation, climate shock resilience, and social inclusion. SFA is a key reference text for countries aligning their agricultural policies with the 2030 Agenda for Sustainable Development.

5. *FAO Global Soil Partnership (GSP)*

The Global Soil Partnership (GSP) initiated in 2012 synchronizes the world to act on observing and restoring soil health (FAO, 2020). GSP studies indicate that approximately 33 percent of the earth's soils are moderately to highly degraded due to erosion, nutrient disorder, and pollution. GSP promotes tillage conservation, agroforestry, and composting, while supporting national soil information systems at the country level through the Global Soil Information System (GLOSIS).

6. *FAO Water Productivity Open-access Portal (WaPOR)*

The FAO Water Productivity Open-access Portal (WaPOR) employs remote sensing technology to measure water productivity close to real time (FAO, 2023). It helps policymakers improve irrigation efficiency, identify water scarcity, and develop

climate-resilient water management policies. WaPOR presently covers more than thirty countries in Africa and the Near East and assists FAO's Water Scarcity Initiative.

*Research and Joint Ventures*

FAO works with international research networks like CGIAR, UNEP's Global Adaptation Network, and universities to promote innovation in agriculture. The main areas of research involve the development of drought- and heat-tolerant crop varieties, the application of low-emission livestock production systems, the strengthening of soil carbon sequestration and regenerative agriculture, and the use of digital agriculture and precision farming technologies. Synthetic research by FAO and CGIAR (2023) indicates that bundled practices such as crop diversification and agroforestry can potentially boost climate resilience and lower greenhouse gases by up to 25 percent.

**Additional Recommendations**

- Add regional CSA case studies from Africa, Asia, and Latin America.
- Include visuals linking climate risks to yield losses.
- Supply delegates with FAO data sheets and model clauses for resolutions.
- Add a glossary summarizing CSA, resilience, mitigation, adaptation.
- Present a table aligning FAO initiatives (CSA, SFA, GSP, WaPOR) with SDGs 2, 12, 13, 15.

Essential Information to Know

**Sustainable Agriculture**
Sustainable agriculture refers to farming systems that meet present food needs without endangering the ability of future generations to do the same. It ensures a balance between economic productivity, environmental conservation, and social well-being. Practices include reducing pesticide use, conserving soil, diversifying crops, and supporting small-scale farmers to create systems that are productive yet ecologically sound.

**Climate-Resilient Agriculture**
Climate-resilient agriculture focuses on modifying farming systems to withstand and adapt to climate-related shocks such as droughts, floods, and extreme temperatures. It involves using drought-tolerant crop varieties, improving irrigation efficiency, and diversifying production methods to reduce risks and increase long-term stability.

**FAO’s Role and Global Concern**
The Food and Agriculture Organization (FAO) prioritizes Zero Hunger and global food security. Unsustainable farming practices lead to soil degradation, water scarcity, and reduced productivity—conditions that exacerbate poverty and hunger. FAO supports policies and programs that integrate sustainability and resilience into agriculture to protect global food systems.

**Regions Most Affected by Climate Impacts**

Sub-Saharan Africa, South Asia, and Latin America are among the regions most vulnerable to climate-related agricultural challenges. Their reliance on rain-fed agriculture and limited adaptive resources heighten the risk of food insecurity. Mediterranean and arid countries also face growing threats from drought and desertification.

**Examples of Sustainable Practices**

Key sustainable farming practices include crop rotation and diversification, agroforestry (integrating trees into farming systems), organic compost use, precision agriculture technologies, and integrated pest management. These methods help preserve soil fertility, reduce pollution, and enhance biodiversity.

**Challenges to Implementation**

The transition to sustainable agriculture faces barriers such as insufficient funding, lack of technical training, market pressure for quick profits, and weak agricultural infrastructure. In many countries, national policy gaps and limited credit access prevent farmers from adopting innovative, long-term methods.

**International Frameworks Guiding FAO**

FAO operates within several global agreements, including the Paris Agreement, the 2030 Agenda for Sustainable Development, the FAO Strategic Framework (2022–2031), and the UNFCCC's Koronivia Joint Work on Agriculture. These frameworks provide guidelines for climate adaptation, emission reduction, and sustainable food systems.

**Policy Recommendations for Delegates**

Delegates should focus on empowering farmers through education and access to technology, supporting climate-resilient infrastructure, and mobilizing international funds such as the Green Climate Fund. Promoting gender equality and inclusive rural development are also essential to achieving sustainable progress.

**Adaptation and Mitigation**

Mitigation involves reducing agriculture's contribution to climate change—such as lowering methane emissions from livestock—while adaptation means adjusting farming practices to withstand climate effects, like planting drought-resistant crops. Both approaches are necessary for achieving long-term resilience.

**Support for Developing Countries**

Developing nations require financial investment, technology transfer, and capacity-building initiatives. International cooperation plays a key role in equipping farmers with the tools, knowledge, and infrastructure needed to transition toward sustainable and climate-resilient agriculture.

**Focus Tree (Research & Discussion Guide)**

What should I do and what should I focus on to satisfy the committee's requirements?

*First of all*, you should read your country's policy on this issue to find out how to proceed. can make relevant decisions or how to proceed when trying to find a solution because it contains very important details and it is very important for you too. Have fun and learn in the committee. Coming to the committee empty-handed without knowing any aspect of it is just a waste of your money.
*Secondly*, you should focus on solving problems as quickly as possible, otherwise you will not have enough time to do everything that the committee is obliged to fulfill Requirements.

*Step to Follow for Research & Discussion*

1. What barriers prevent CSA adoption in developing countries?
2. How can FAO funding (GCF, GAFSP) support farmers' transitions?
3. Which technologies and policies reduce emissions while maintaining yields?
4. How can local and traditional systems contribute to resilience?
5. What partnerships are needed between states, private sector, and NGOs?

**Pre-Conference Questions for Delegates**

1. How does climate change directly affect food security and agricultural productivity in your assigned country?
2. What sustainable farming practices already exist in your nation, and how effective are they in reducing emissions or improving resilience?
3. Does your country have a national strategy or policy for Climate-Smart Agriculture (CSA)? If yes, how does it align with FAO objectives?
4. What barriers (financial, technical, or institutional) prevent smallholder farmers from adopting sustainable practices?
5. How can international cooperation and FAO mechanisms (such as GCF, GAFSP, or South–South Cooperation) support your country's agricultural transition?
6. What role does technology (e.g., precision farming, satellite monitoring, early warning systems) play in strengthening your country's resilience?

7. How does your delegation plan to balance economic growth with environmental sustainability in the agricultural sector?

8. Which specific policies or resolution clauses would your country propose to promote sustainable and climate-resilient agriculture globally?

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**Future Readings**

*To better understand the intersection of climate change, agriculture, and sustainable development, delegates are encouraged to review the following key documents and reports before the conference:*

1. ***FAO (2021). Strategic Framework 2022–2031. I****ntroduces FAO's "Four Betters" (Better Production, Better Nutrition, Better Environment, Better Life) and outlines the global approach toward sustainable food systems.*

2. ***FAO (2013). Climate-Smart Agriculture Sourcebook.*** *Provides detailed strategies and examples of how to implement climate-smart agricultural practices.*

3. ***FAO (2020). FAO Strategy on Climate Change.*** *Describes how FAO aligns agricultural adaptation and mitigation with the Paris Agreement and the SDGs.*

4. ***UNFCCC (2017). Koronivia Joint Work on Agriculture.*** *A core text linking agriculture and climate change under the UN Framework Convention, focusing on adaptation and sustainable productivity.*

5. ***FAO & CGIAR (2023). Joint Research Report on Climate-Smart Agriculture.*** *Reviews global case studies on low-carbon farming, digital tools, and resilient production systems.*

6. ***FAO (2014). Sustainable Food and Agriculture (SFA) Framework.*** *Explains five guiding principles of sustainability applicable to crops, livestock, forestry, and fisheries.*

7. ***FAO (2022). State of Food and Agriculture 2022.*** *Examines how automation, innovation, and technology can strengthen resilience in global agriculture.*

8. ***UN (2015). Paris Agreement.*** *The foundational global treaty for reducing emissions and increasing adaptive capacity in agricultural sectors.*