

Food and Agriculture Organization of the United Nations

The state of the world's land and water resources for food and agriculture

Systems at breaking point

Presentation of FAO Land and Water Division

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SOLAW 2011 and 2021

THE STATE OF THE WORLD'S LAND AND WATER RESOURCES FOR FOOD AND AGRICULTURE

Managing systems at risk



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Systems at breaking point

Synthesis report 2021

The Context

We need to produce

more food, feed and biofuel than we did in 2012 95% of our food comes from our land Around

billion people are impacted by water scarcity

The Status of agricultural land

Land-use class change, 2000–2019 (million ha)

Land-use class	2000	2019	Change
Land under permanent meadows and pastures (a)	3 387	3 196	-191
Cropland (arable land and permanent crops) ($b = b1 + b2$)	1 493	1 556	+63
- Arable land (land under temporary crops) (b1)	1 359	1 383	+24
- Land under permanent crops (b2)	134	170	+36
Agricultural land (total of cropland and permanent meadows and pasture) $(C = a + b)$	4 880	4 752	-128
- Land area equipped for irrigation	289	342	+53
Forest land (land area > 0.5 ha with trees > 5 m + 10% canopy cover)	4 158	4 064	-94
Other land	3 968	4 188	+220

The State: The interconnected systems of land, soil and water are stretched to the limit



The State: Current patterns of agricultural intensification are not proving sustainable

Level of water stress due to the agricultural sector by basin, 2018



The State: Farming systems are becoming polarized

Global distribution of farms and farmland by land size class, 2010



The Challenge: Future agricultural production will depend upon managing the risks to land and water



The challenge: Land and water resources will need safeguarding



The responses: Land and water governance has to be more inclusive adaptive and effective.



The responses: integrated solutions need to be planned and implemented at all levels



The responses: Technical and managerial innovation can be targeted to address priorities and accelerate transformation



The responses: agricultural support and investment can be redirected towards social and environmental gains derived from land and water management.



No "one size fits all" solution exists, but a "full package" of workable solutions is available

Integrated water resource management

Soil organic carbon sequestration Sustainable use and management of Modular Soil desalinization fertilizers farming Multi-stakeholder knowledge exchange system

Solar-powered irrigation Water accounting **Innovative technologies**

and

degradation neutrality

River basin management Soil biodiversity

Nature based solutions

Capacity building

Adaptive governance

Circular economy

Climate mitigation Drought preparedness **Food security** Rainwater h Integrated landscape management

Transboundary water management Land and water resource planning Irrigation modernization Sustainable soil management

water management

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ess raising Ecosystem restoration

ture **Green infrastructure** Sustainable land and

Environmental health

Watershed

management

Inclusive land and water governance

Wastewater treatment Investments

Water tenure

Coordinated policies

Data collection

adaptation **Biosaline** Water, agriculture , food,

energy

Water

auditing

Climate

Remote sensing

Salt-tolerant crops

Innovative financing

Ecosystem restoration



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Over 95% of food is produced On Land and begins with Soils and Water.

Let's work together to produce more with less and safeguard these resources for the future.

Thank you !

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