

Koronivia Joint Work on Agriculture

**Sustainable land and water
management, including integrated
watershed management strategies,
to ensure food security**

ENGO-Climate Action Network
(CAN)

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International

. **Climate change** is leading to erratic rainfall patterns, increased frequency of droughts and floods, increased temperatures and heatwaves, and salinization of soils.

The effects of these climate impacts are **exacerbated by certain practices** that increase the vulnerability of agriculture and food security, particularly for women smallholder farmers.




Foundigane, Senegal

Credit: Teresa
Anderson/ ACTIONAID

Synthetic nitrogen fertilisers

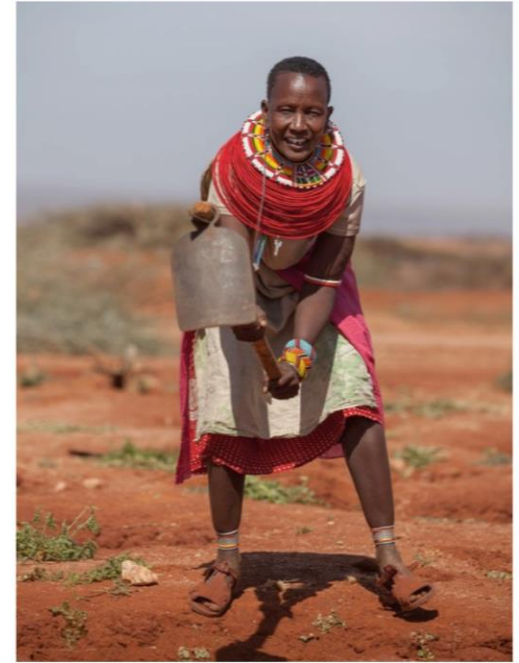
- When applied to soils, synthetic fertilisers **degrade soil organic matter** and **reduce water retention capacity**.
- In times of high temp or reduced rainfall, lower soil organic matter means reduced water availability for crops, resulting in a shorter growing season and **reduced crop yields**.
- Lack of soil organic matter and soil water retention also leaves soils more vulnerable to **erosion** as a result of heavy rains and floods.

Hybrid seed varieties

- Modern hybrid varieties sold by seed companies are often bred to respond to reliable amounts of water and fertiliser to grow effectively.
 - In times of low rainfall, these varieties do not perform and suffer reduced crop yields.
 - Industrialisation of agriculture leading to monocultures of single crop varieties increases likelihood of serious crop losses in times of climate change.
 - Regressive seed policies such as ARIPO inhibit farmers' ability to save and share seed.
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Gender-blind or gender-biased policies

- In the Global South, women make up 43% of farmers.
- In sub-Saharan Africa & Southeast Asia, women are more than 50% of farmers.
- Insecure access to land means women do not have incentive to invest in sustainable land or water management techniques.
- Lack of access to finance prevents women from investing
- Extension services often do not advise women farmers
- Women's lower literacy levels prevent access to information
- Women's lack of access to value addition and markets prevent them from decent earnings.



Kumontari Lekosiki,
Isiolo, Kenya

Credit: Alice
Oldenburg/ ACTIONAID

To ensure food security, it is increasingly important to have strategies for sustainable land and water management, including watershed management.

Need to increase adoption of strategies that:

- Restore soil health
- Restore biodiversity (including agrobiodiversity and ecosystems)
- Improve use of water
- Improve ability to absorb & retain water
- Improve ability to deal with flooding
- Reduce GHG emissions and agriculture's contribution to climate change
- Improve women's access to land, resources, information and services



Penda Mbara, The Gambia

Credit: Teresa Anderson/
ACTIONAID

Agroecological techniques:

- Use natural organic materials such as compost, manure, mulches and legumes to improve soil fertility and consistency, instead of synthetic fertilisers
- Provide cobenefits by reducing GHG emissions from production & application of fertilisers
- Increase local seed diversity, crop varieties and intercropping techniques to spread risk and reduce vulnerability to water scarcity or flooding.



Agroforestry

- Planting trees together with crops to provide fruit, fodder, fuel, timber, shade and nitrogen fixing properties
- Tree roots stabilise soil, increasing percolation of water down through soil and reducing erosion
- Trees improve fields' resilience to flooding, can also be drought resistant.

Lalmaya Mundel,
Narmaiya Bisenke,
Marse, Nepal

Credit: Teresa
Anderson/
ACTIONAID

Water management

- Water harvesting (collecting rainfall e.g. off roofs, storage in tanks or ponds)
- Land management: trench bunds, contouring, terraces
- Strategies to manage water flow and reduce erosion eg Small dams, gabion boxes
- The role of trees & biodiversity in managing water flows and local water cycle



Gender-responsiveness & inclusivity


- Address gender-blind & gender biased policies & programmes relating to land tenure, access to finance, extension services, training, literacy, access to markets
- Recognise & address women's care burdens which make hold back agriculture and food security
- Ensure policy development is inclusive and participatory, based on inputs from women farmers & marginalised communities

Small dam & fruit trees, Ankober, Ethiopia

Credit: Teresa Anderson/
ACTIONAID

In conclusion:

KJWA should develop guidance for climate action in agriculture that includes the following recommendations:

- Promote agroecology and agroforestry
 - Move away from industrialised agriculture, including through subsidies away from synthetic nitrogen fertilisers.
 - Encourage locally-adapted seed diversity, including reviving knowledge of seed selecting and seed saving techniques, farmer-led participatory seed breeding, and seed exchange systems.
 - Increase research & development in agroecology & agroforestry
 - Encourage adoption of water management techniques including water harvesting.
 - Ensure inclusivity, participation and gender responsiveness in policy development.
 - Gender-responsive extension services, training and public services.
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Thank you

Kegodougou, Senegal

Credit: Teresa
Anderson/
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