



**2nd Biennial Africa
Climate-Smart Agriculture Stakeholder Conference**

**Thematic Paper Presentation on
Compatibility assessment of
agroecology and CSA practices**

14th September 2022



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Ecological Organic Agriculture(EOA): A Mitigating Alternative for Climate Change

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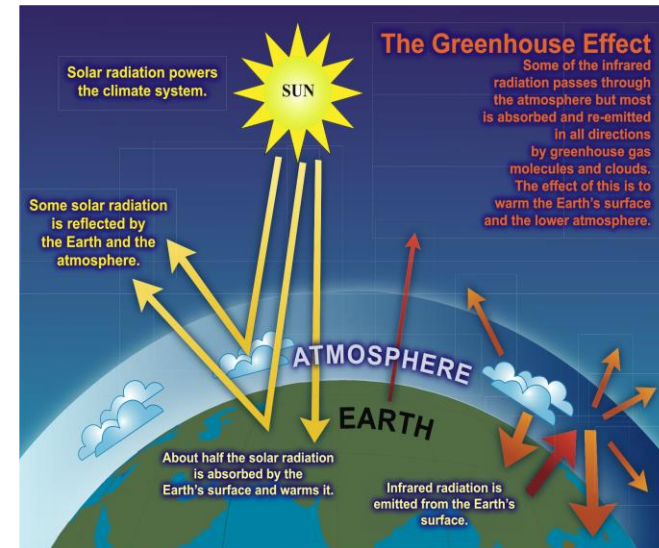
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Background

- Climate change refers to long-term discrepancies in weather patterns induced by nature or human activities
- Ocean acidification, global warming, green house gas emission
- Industrialisation, Urbanisation, Pollution ,Auto mobile activities and Land degradation
- Misuse and destruction of biological and ecological diversity (Norse and Tschirley, 2003).
- Absorption and emission of CO₂
- Research projected that by year 2050 all agro ecosystems of the world are anticipated to be affected by climate change
- World population growth by 2022 ending is projected to be 8 billion which will reach 8.5 billion in 2030 and 9.7 billion, in 2050 (UN report)



Roosevelt said: “The nation that destroys its soil destroys itself”. It can also be implied that: The society that destroys its soil and biodiversity destroys itself and the planet



Methodology

- The methodology employed a review approach
- To appraise and synthesize research on mitigating climate change through EOA
- The broad research question is ‘what is the potential of ecological organic agriculture strategies in mitigating climate change’ ?
- What are the strategic systematic approach in EOA to reduce GHG emissions from food production and the transition towards sustainable food systems?

Key findings

- EOA adopts feed-the-soil-not-the-plant approach ,
- Optimizes crop rotation with legumes, use of cover crops,
- Protection of existing grasslands from conversion to crop land,
- Combines various plants and animals species to enhance nutrient and energy cycling,
- Attracts new or re-colonizing animal species, pollinators and pest predators,
- Incorporates trees, reduces the activities of agents of erosion,
- Reduces temperature through tree canopy formation and evapotranspiration, volatilization and environmental heat,
- Reduced green house emissions linked to food production and consumption.



Lone bare tree in Chota Nagpur of Jharkhand India.

Justus Lavi Mwololo, Kenya Small Scale Farmers Forum KESSFF, noted that adverse effects of Climate Change was handled by Agro ecological techniques using Agroforestry and permaculture yielding tremendous results in Agribusinesses and food security. 19th, August 2022. family farming @dgrop.org

Key Recommendations and Conclusions

Mainstreaming EOA in mitigating climate change requires:

- societal-Level shifts,
 - Many lock-in factors and policies from the local to global level must be re-examined,
 - New farming systems based on ecological approaches ,
 - Establishment of new supply chains,
 - New innovative systems with extension and education adapted to EOA systems,
 - Proper funding through EU flagship in research program with sufficient budget,
- Reduced green house emissions linked to food production
 - Mitigates climate change and at the same time enhances food security, sustainable development and restoration of ecosystems,
 - Benefit humans by enhancing resistance and adaptability to climate change.



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Thank you



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