

Organic Farming: Putting the tools of resiliency to climate change in the hands of small-scale farmers

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Introduction

- ❑ Globally agriculture is a major driver for social, economic and rural development and in Kenya, agriculture supports about 75% of the rural population in terms of food and nutrition security, employment, and sustainability of livelihoods.
- ❑ However, agricultural production should depend on the sustainable use of natural resources, because it can also be a source of environmental and climate pressures, leading to the pollution of soil, water and air, and the over-exploitation of natural resources.
- ❑ The most important challenge in country has been to sustainably produce enough food for the growing population and this in most instances has been achieved through use of modern agricultural technologies like intensive use of fertilizers and pesticides.

Drawbacks of modern agriculture (FOOD, ENERGY, WATER)

- ❑ However, modern technology and a sustainable environment cannot coexist as it promotes the use of synthetic inputs including fertilizers and pesticides that due to their high costs has continued to impoverish farmers, increase chemical residues in food, degrade the production enviro, while accelerating the effects of climate change.
- ❑ There is ;
 - ❑ Rapid degradation of soil health and fertility status – due to low organic matter content
 - ❑ Increased cost of production (pesticides and fertilizers) – impoverishment of farmers
 - ❑ The numbers and diversity of natural enemies decrease because of pesticide use and habitat loss
 - ❑ Rapidly dwindling genetic diversity of seeds, crops and livestock breeds
 - ❑ Pests and diseases become more difficult to control as they become resistant to artificial pesticides.
 - ❑ Dependency syndrome (pest resistance and greater quantity of fertilizer required)
 - ❑ Increased environmental pollution (soil, water, atmosphere)
 - ❑ Generation of major greenhouse gas emissions – increased vulnerability to climate change.
 - ❑ Health hazards – food chain/ low efficiency of antibiotics/ beneficial insects
 - ❑ Large-scale habitat and biodiversity losses threatening essential species, including pollinators.

Consumer Demands

- ❑ The effects of modern agriculture have forced people to demand food grown sustainably without use of synthetic fertilizers and pesticides and this has paved the way for organic farming.
- ❑ Organic farming is an agricultural method of producing food using natural substances and processes, hence contributing to greater biodiversity and less water, air, and soil pollution.
- ❑ The primary aim of organic farming is to maintain soil fertility and ecological balance without the use of synthetic fertilizers and pesticides but through the use of biological wastes and other biological materials along with beneficial microbes to release macronutrients and micronutrients to crops for increased sustainable production in an ecofriendly pollution free environment.

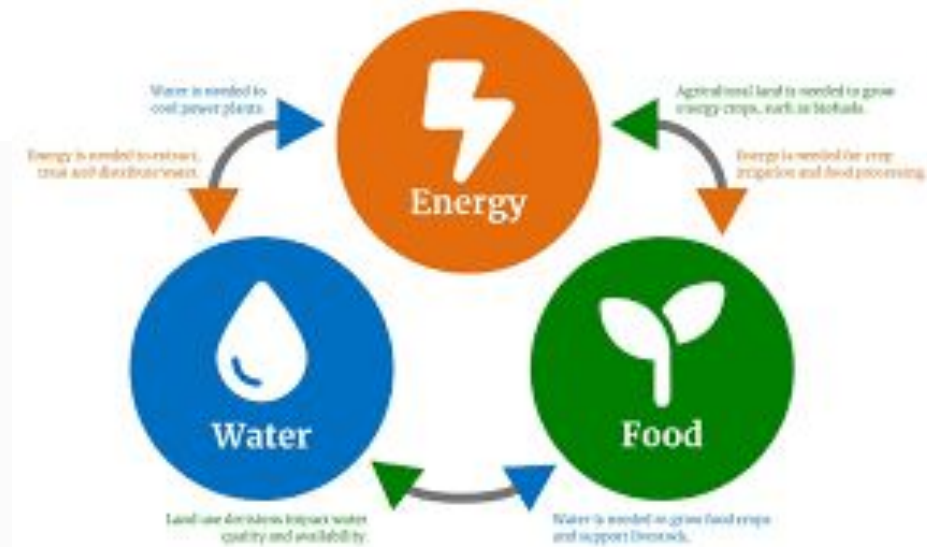
Concept of Organic Farming



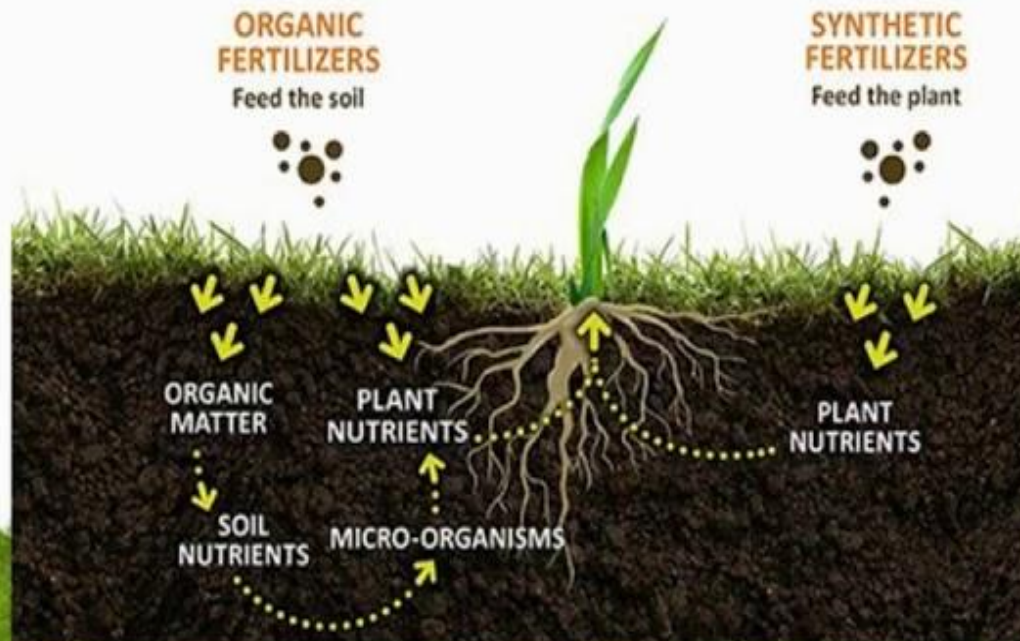
Organic farming practices like crop rotation, push pull, composting, farmscaping, cover cropping, companion planting among other management practices can improve soil health and fertility, as well as the soil's capacity to retain water and capture carbon, contributing to climate change resilience.

Concept of Organic Farming

- uses nature as a model
- encouraging natural predators to manage pests
- consider the farm as an integrated entity
- do not consume or release synthetic pesticides, chemicals
- based on maintaining a living soil
- “feeding the soil, not the plant”
- organic matter is maintained in the soil



- ❑ Furthermore, organic farming provides quality food that is beneficial to human health and the practice keeps the environment friendly.
- ❑ There is more **FOOD**, renewable **ENERGY** use, and less **WATER** use



Why Promote Organic Farming

✓ Growing and profitable market	✓ Resilience to climate change
✓ Positive impacts on the incomes	✓ Slow-release forms of nutrients
✓ Self-sustaining and socially and ecologically superior	✓ Produce nutritious food for human and feed for animals – quality/ price
✓ Improved food security and consistent agriculture production	✓ Protect pollinators and other beneficial organisms
✓ Low cost of production	✓ Long-term soil fertility
✓ Environment friendly -less soil, air and water pollution	✓ Reduced health risk for farmworkers and consumers
✓ Seeds have more vitality and are good for successive generations	✓ Produce is free of contamination from chemical residues- taste/ flavour
✓ Other benefits to farmers; cooperatives, networks, training, and access to credit programs	✓ Employment Opportunities

Promoting Indigenous Crops as an Organic Farming Practice



Buderie SHG



Nanak Bujibi SHG



**Temakho Wesi
SHG**



Alungoli Widows SHG



Sirikwa SHG



Mumbiri SHG

Promoting CSA as an Organic Farming Practice- Onfarm



Opportunities for Organic Farming in Eastern Africa

- Botanical richness and diverse natural resources , favourable climatic conditions hence conducive for various crops,
- For example three quarters of Kenya consist of arid and semi arid areas -wild harvests
- Many institutions that train farmers on organic farming, majority of farmers organized into groups, thousands of farmers have been trained, hence compliance to organic certification easy.
- Consumer trends: concerned about their health -potential for local markets
- EAC and creation of the Common Market presents better trading opportunities.
- Most production in EA is traditional –no use of inputs due to poverty.
- Low certification costs due to available local expertise e.g. Ecocert and Africert

Production Constraints to Organic Farming

✓ High cost of certification

✓ Lack of financing

✓ Inadequate economies of scale

✓ Lack of institutional support

✓ Low level of knowledge and awareness

✓ Presence of many standards

✓ Low productivity

✓ Conversion into organic agriculture

✓ Lack of marketing infrastructure

✓ Lack of and high organic input costs

✓ Low Price premiums

✓ Climate-related challenges to conversion

✓ Lack and high cost of labour

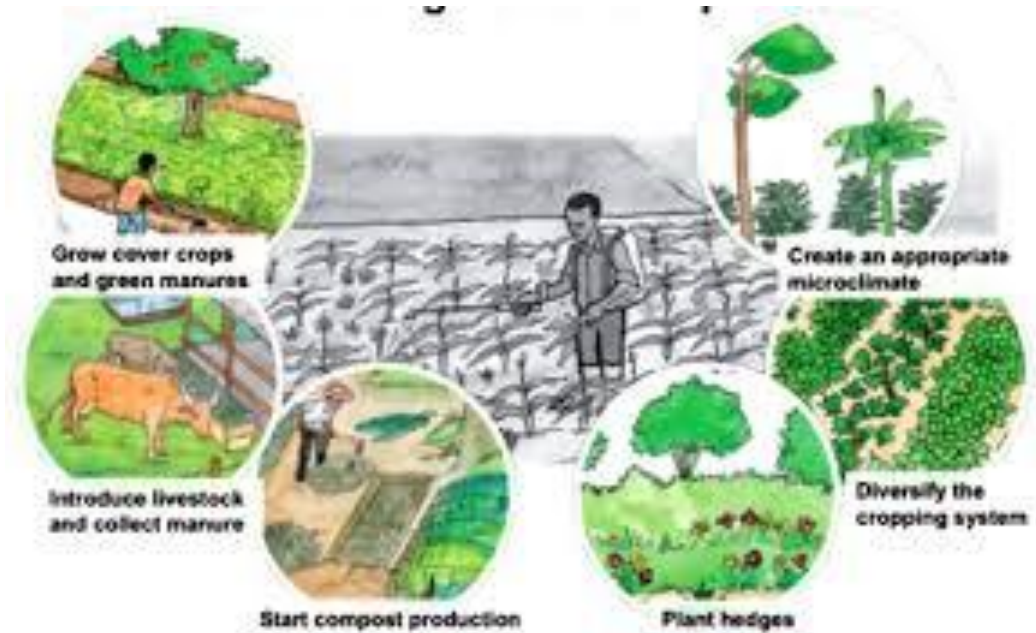
✓ Lack of organic farming policy

Solutions to Overcome Organic Farming Constraints

✓ Education and training of farmers	✓ Developing pro-organic research systems
✓ Creation of awareness; environmental and economic benefits of organic agriculture	✓ Improving organic production technologies - innovations
✓ Creation of awareness of the benefits of organic products to create local demand	✓ Localizing food systems to decrease the overdependence on export markets
✓ Countries to set own standards for organic certification	✓ Strengthening human and social capital- local experts
✓ Revising the pricing for organic products to increase competitiveness	✓ Strengthening technical advisory and training on organic inputs
✓ Small farmers to partner with larger companies for economies of scale	✓ Timely availability and adequate quantity of organic inputs – 4Rs
✓ Communities at individual level, should promote the use of organic produce	✓ Identification of crops for cultivation on the organic farms
✓ Market development for the organic products	✓ Creating enabling policy environments

Conclusion

- ❑ This farming practice promotes increase in agricultural productivity, profitability, natural resource management and biodiversity conservation hence sustain health of soils, ecosystems, and people.
- ❑ In light of this there is need to support the development of the organic sector by establishing suitable promotional policies in areas of financing, training, production, marketing and utilization to match with those aligned to modern agriculture.



Thank
you