

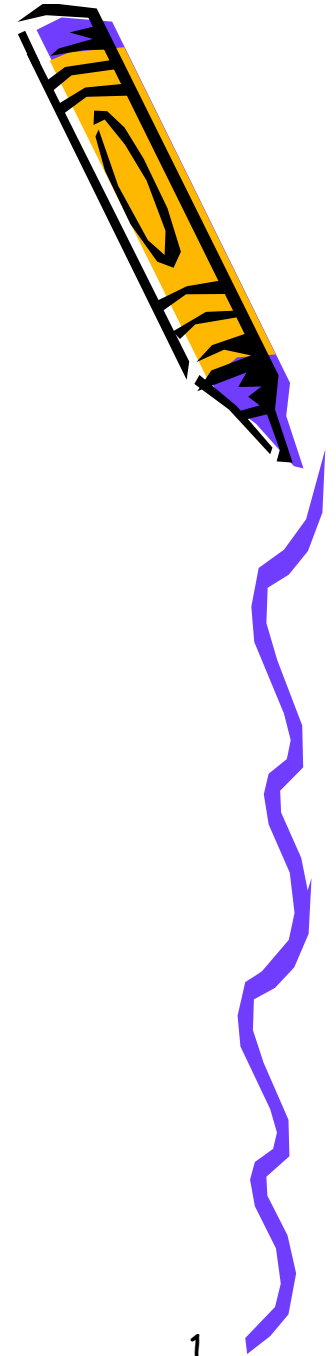
A
PRESENTATION
On
Sustainable Agriculture
The Link Between
Environment and Spirituality

9th General Assembly of AACCC - Maputo

Wilson Kinyua



8 11December 2008





The Presentation

- Is there a link between agriculture and spirituality?
- Importance of agriculture to the world
- Drivers of agricultural production and practices
- Impact of current agricultural practices on environment
- What can we do to sustain agricultural production and protect the environment?
- What is sustainable agriculture?
- Working with nature and not against nature
- Community based approaches in improving livelihoods
- Concluding Remarks



Is there a link between agriculture and spirituality?

The story of creation shows that agriculture is closely linked to Godliness. Why?

- First economic activity:
 - Gen 1:11-24, God creates all types of plants, sea animals and land animals and gives man and his descendants power over them.
- Agriculture was also God's first gift to Man:
 - Gen 2:8 – “Then the Lord God planted a garden in Eden and there he put man – Adam”.
 - Gen 2:15 – “The Lord God placed man in the Garden of Eden to CULTIVATE AND GUARD IT”. *[A responsibility to guard the gift]*
 - Adam's children – Cain and Abel were farmers.
- Did expulsion of Adam and Eve from Eden discharge them from the responsibility of protecting the resources given to them by God? NO!
 - Gen 28: “...I am putting you in charge of the fish, birds, and all wild animals.
 - Gen 29: “ I have provided all kinds of grain and fruits for you to eat; but for wild animals and birds, I have provided grass and leafy plants for food”.
 - This was a perpetual custody responsibility for man, to use resources created by God in a responsible and sustainable manner.



The Importance of Agriculture to the World

- Livelihoods
 - Food security
 - Employment
 - Raw materials for industries
 - Back bone of economic growth for many economies particularly the LDCs
 - A substantial proportion of trade within and without the country is based on agriculture
 - Potential impacts on environmental
 - Degradation through inappropriate agricultural practices
 - Restoration of degraded areas thorough afforestation
- The significance of these issues vary widely across countries



Regional Agricultural Profiles

	Agricultural based countries (Africa)	Transforming Countries (China, India)	Urban based Countries
Rural Population (millions)	417	2220	255
Share of Rural Population (%)	68	63	26
GDP Per Capita (\$)	379	1068	3489
Share of Agriculture to GDP (%)	29	13	6
Agricultural GDP Growth Rates 1993-2005 (%)	4.0	2.9	2.2
Rural Poverty Rates (%)	51	28	13

Source: World Development Report 2008s



Drivers of Agricultural Production and Practices

1. Internal Factors

- Population pressure
 - Over exploitation of land resource – no time for land to rejuvenate
 - Encroachment to marginally fragile lands, wildlife reserves, and forests
 - Rapid urbanisation upsetting land values and utilisation
- Land tenure practices
 - Inheritance practices that lead to uneconomic sub-division of land parcels
 - Gender bias in some communities inhibits ability of women to exploit their potential
 - Uncertain land rights and access inhibits investments and sustainable utilisation of land
- Geographic locations and agroclimatic conditions
- Socio-political conflicts – refugees
- Governance in producer organisations



Drivers of Agricultural Production and Practices (II)

- Economic stresses
 - Government interventions production and marketing policies e.g. Limitations on entry and exit; Restrictions in movement of goods and people;
 - Macro-economic policies bias against agriculture e.g. over valued currencies
 - Price controls
 - Excessive and multiplicity of taxation
 - Poverty makes it difficult for peasants to buy fertilisers to replenish soil nutrients
- Inappropriate agronomic practices – low application of modern inputs
- Access to financial services



Drivers of Agricultural Production and Practices (III)

2. External Factors

- Inequitable distribution of costs and benefits
 - Non-recognition of environmental costs leads to wasteful consumption of environmental gifts e.g. over-exploitation water resources for irrigation to produce cash crops; clearing of forests for log exports etc
 - Suppression of commodity prices leads to unnecessary production (see high level of stocks) as farmers expand production to improve their incomes.
- Rise in energy costs has led to:
 - Clearance of forests for production of bio-fuels
 - Substitution from food crops to bio-fuels leading world food shortage, increase in food prices and impoverishment of low income families. This threatens the achievement of MDGs.
 - Clearance of forests for wood fuel/charcoal



Drivers of Agricultural Production and Practices (IV)

- Protectionism in agricultural trade e.g. rice, cotton, sugar dairy products, horticultural produce etc
 - Domestic production subsidies in the developed countries pose unfair competition to imports from LDCs and accumulation of undesired stocks (e.g. mountains of butter in Europe) – depressing prices
 - Export subsidies (via food aid) in developed countries undermine production in LDCs
 - Tariffs and non-tariff barriers inhibit value addition in LDCs and hence reduce scope for employment and poverty reduction in LDCs
 - The welfare of consumers in the developed countries is also impaired as they are forced to consume products at artificially high prices

Developed-country agricultural policies cost LDCs about \$17 billion per year— equivalent to about five times the current levels of overseas development assistance to agriculture. Recent estimates show that the global costs of trade tariffs and subsidies would reach about \$100 billion to \$300 billion a year by 2015



Impact of Current Agricultural Practices on Environment

- Desertification and climate change
 - Logging for commercial purpose and wood fuel
 - Carbon Dioxide discharge through burning of biomass
- Land degradation
 - Soil loss
 - Siltation of rivers, dams and lakes
 - Lake Victoria – Depth has reduced
 - Eutrophication – Water hyacinth
 - Salination/acidification
 - Waterlogging
 - Agrochemical pollution
 - Nutrient loss
 - Disappearance of swamps



Impact of Current Agricultural Practices on Environment (II)

- Drying up of rivers
- Water conflicts
 - Upstream and downstream users
 - Rural versus urban users
 - Depletion of underground water reservoirs
- Human-animal conflicts – encroachment of national parks e.g. Nairobi, Mara
- Loss of biodiversity – Some plant and animal species are facing extinction
- Others



Unsustainable Farming Practices





Impacts of Unsustainable Farming





Land Degradation by Erosion





What do we do to make agriculture sustainable and environmentally friendly?

- Arrive at a common definition of sustainable agriculture that is **broadly** shared and supported at all levels i.e. individual, community, local authority, national government and even internationally
- Recognise and accept that poverty is the greatest polluter of the environment at the stage of our development
- The primary focus of our policies and activities should be to improve the quality of life particularly in the rural areas by reducing poverty to ensure environmental protection and sustainability
- We should be able to measure and demonstrate improvements
- The improvements in quality of life must be broadly shared



What is Sustainable Agriculture?

- Sustainability is a buzz word these days applied to all manner of social and economic pursuits -There is no single definition fitting all situations
- We can adopt one of the definitions that befits our conference theme i.e. "Sustainable agriculture is the use of farming systems and practices which in the long-term maintain or enhance:
 - the economic viability of agricultural production
 - the natural resource base
 - other ecosystems which are influenced by agricultural activities.
- Based on this definition what would be the indicators of sustainability?
 - profitability of the agricultural enterprise
 - land and water quality to sustain production
 - presence of skills to manage the sector
 - off-site environmental impacts.



What approaches are available for reducing poverty

- What options do African and other agricultural-based countries have to improve the quality of life and reduce poverty?
 1. Go begging for aid particularly food aid from the developed countries
 2. Migration from rural to urban areas and to developed countries
 3. Employment in farms and off-farm activities
 4. Improve incomes in the agricultural sector.

- Improving agricultural incomes appears the most preferable option as it will:
 - Allow and encourage long term investments in the sector
 - Create employment on-farm and create linkages off-farm

Scenes of Low Productivity

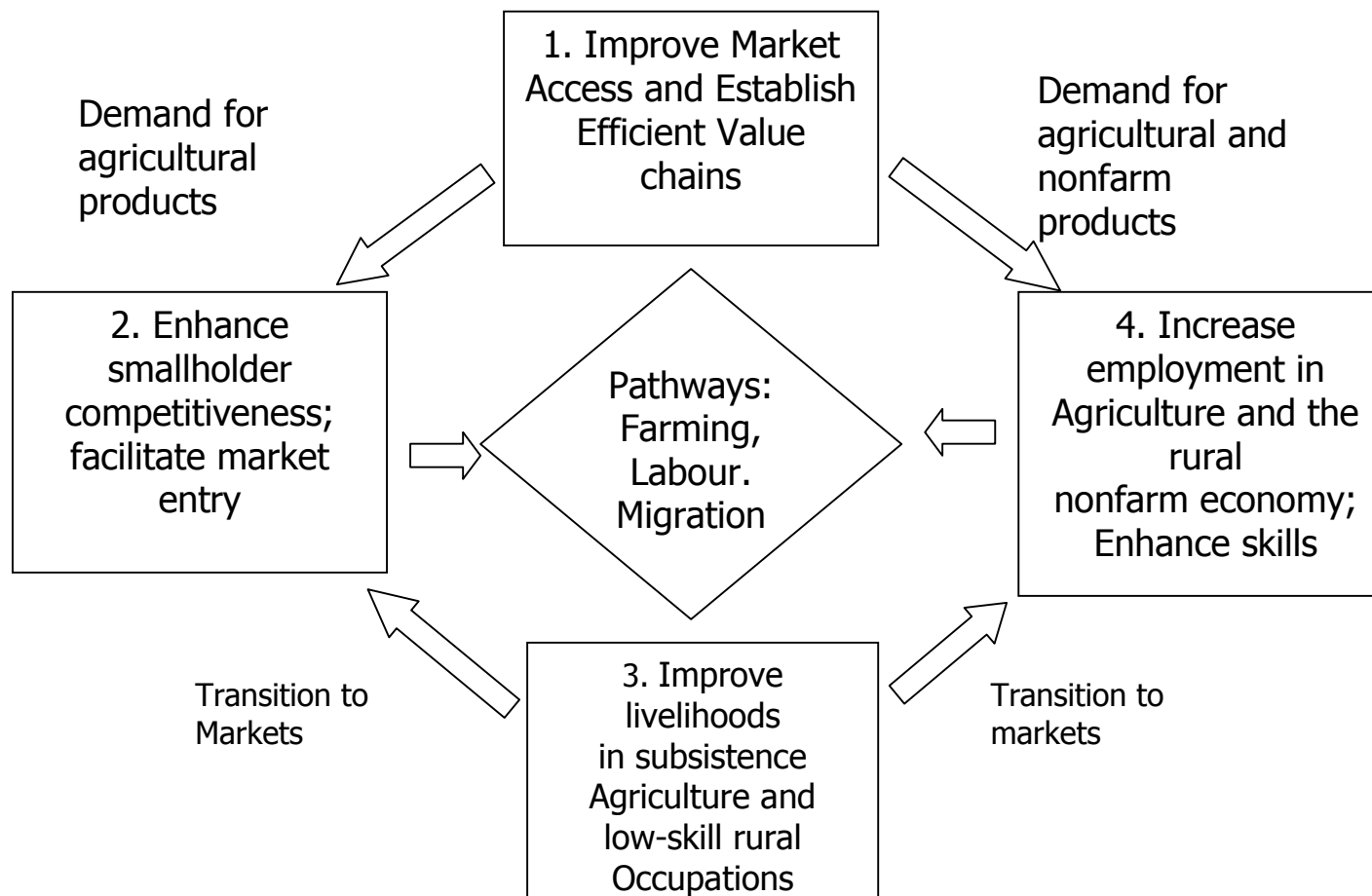




Strategies for Improving Farm Incomes and Employment

- Remove macro economic biases against agriculture
- Increase farm productivity – apply science and technology, reduce pre and post harvest losses etc
- Value addition at farm and off farm level
- Improving market access – quality management etc
- Establish efficient value chains for inputs and outputs
- Enhance competitiveness of small holder production – governance of farmers' organisations, free entry
- Others

Improving the Livelihoods of Agricultural Producers



Community Based Action Plans for Improving Livelihoods of Agricultural Producers

OBJECTIVE 1: TO INCREASE FARMERS PRODUCTIVITY

STRATEGIES	ACTION	INDICATORS	RESPONSIBILITY
1. Restore and maintain soil nutrients levels	<ul style="list-style-type: none"> ■ Apply natural manure ■ Apply fertilisers 	<ul style="list-style-type: none"> ■ Improvement in crop yields 	<ul style="list-style-type: none"> ■ Individuals
2. Conduct farmer education on conservation agriculture	<ul style="list-style-type: none"> ■ Digging of benches and trenches to arrest erosion ■ Planting of vegetative cover on bare hillsides ■ Farmer field schools 	<ul style="list-style-type: none"> ■ Benches and trenches dug ■ Area covered with protective vegetation 	<ul style="list-style-type: none"> ■ Individuals ■ The Church ■ Government Extension Officers
3. Increase the level of irrigation usage	<ul style="list-style-type: none"> ■ Educate farmers on water harvesting and maximisation technologies ■ Construct irrigation infrastructure 	<ul style="list-style-type: none"> ■ Improvement in crop yields ■ No. of farmers adopting water harvesting technologies 	<ul style="list-style-type: none"> ■ Individuals ■ The Church ■ Government
4. Apply improved seeds and inputs	<ul style="list-style-type: none"> ■ Education for farmers ■ Appropriate packaging for inputs 	<ul style="list-style-type: none"> Varieties adopted Improved yields 	<ul style="list-style-type: none"> Individuals Government

Farmer Field Schools





Good Agricultural Practices on Hillsides – Taitta Kenya



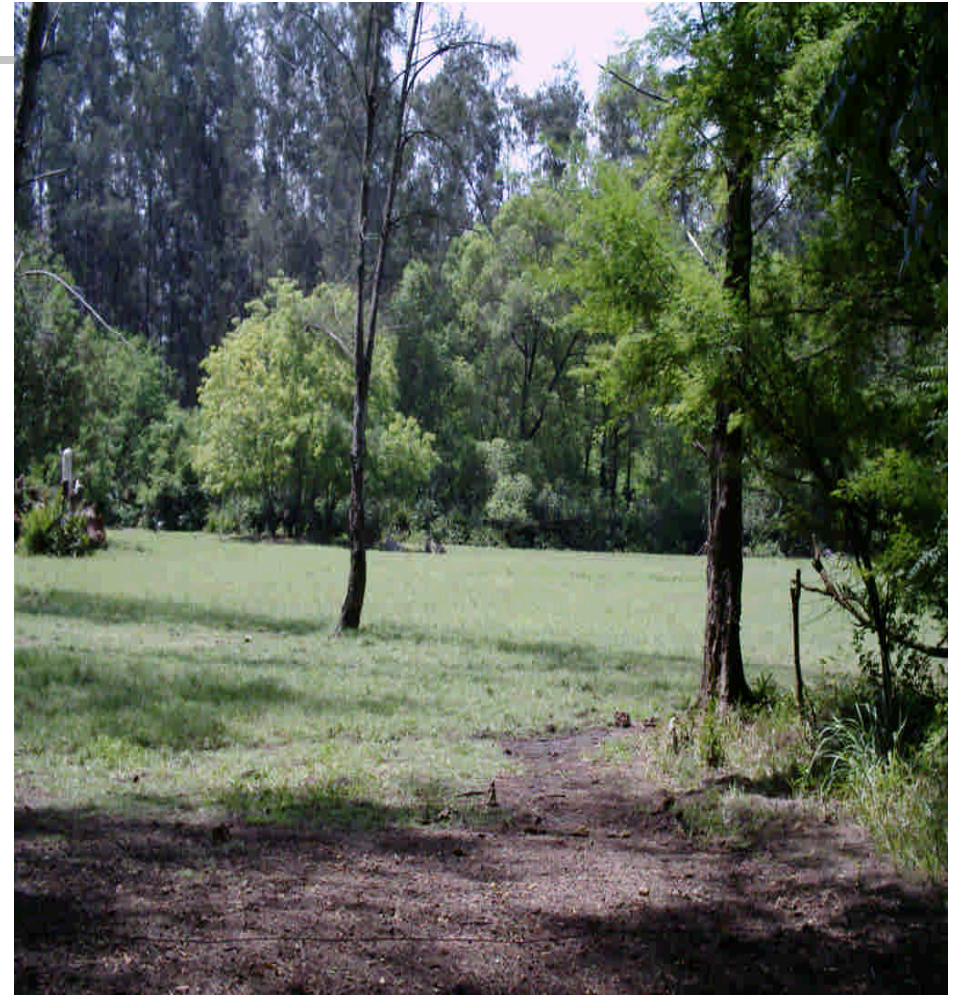
Community Based Action Plans for Improving Livelihoods of Agricultural Producers

OBJECTIVE 2: TO IMPROVE MARKET ACCESS			
STRATEGIES	ACTION	INDICATORS	RESPONSIBILITY
1. To link farmers with modern supply chains	<ul style="list-style-type: none"> ■ Remove legal and physical barriers to production and marketing ■ Create information centres ■ Build market infrastructure for sale, storage and cooling 	<ul style="list-style-type: none"> ■ No. of regulations repealed ■ Information centres created 	<ul style="list-style-type: none"> ■ Individuals ■ The Church ■ Government
2. To educate farmers on quality and health requirements	<ul style="list-style-type: none"> ■ Produce brochures on SPS ■ Train farmers on quality control 	<ul style="list-style-type: none"> ■ Reduction in wastage ■ Improved sales 	<ul style="list-style-type: none"> ■ Individual ■ The Church ■ Government

Community Based Action Plans for Improving Livelihoods of Agricultural Producers

OBJECTIVE: TO IMPROVE THE COMPETITIVENESS OF SMALLHOLDER FARMERS			
STRATEGIES	ACTION	INDICATORS	RESPONSIBILITY
1. Improve the governance of producer organisations	<ul style="list-style-type: none"> ■ Educate farmers on their rights ■ Enhance the supervision of the producer organisations ■ Improve the disclosure requirements for farmers organisations 	<ul style="list-style-type: none"> ■ Amendments in regulations for farmers organisations ■ Improved management of farmers organisations ■ Expanded disclosure requirements 	<ul style="list-style-type: none"> ■ Individuals ■ NGOs ■ The Church ■ Government
2. Improve the institutional support	<ul style="list-style-type: none"> ■ Enact smart subsidies ■ Protect land rights ■ Improve access to financial services 	<ul style="list-style-type: none"> ■ Budget allocation to the sector ■ Proportion of credit channeled to the sector 	<ul style="list-style-type: none"> ■ Individuals ■ The Church ■ Government ■ Banks and Microfinance Inst.

Land Reclamation Efforts



Cooling Mt Kenya





Conclusions on Agricultural Sustainability

Whatever we do or fail to do, we must accept that agricultural sustainability is:

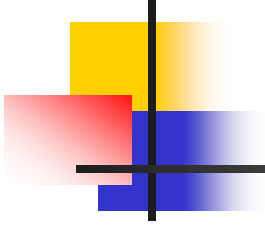
- A condition for achieving global economic and social goals (MDGs) for halving poverty by 2015
- A requirement for restoring and sustaining environmental health for our own survival
- A spiritual duty
 - To bequeath our descendants God's creation
 - To protect and guard resources as commanded



A Chinese Proverb

- If I tell you something, you are likely to forget
- If I show you something, you may remember
- But, if we do it together, you will learn how to do it.

**LET US THEREFORE DEVISE TOGETHER
APPROACHES TO SAFEGUARD OUR
ENVIRONMENT !!!**



THANK YOU