Land Use Policies and Natural Resource Management in Kenya:

The Case of Nairobi River Basin

Presented by

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Outline of the presentation

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- Study area- Nairobi River Basin
- Land uses along Rivers of the Nairobi River Basin
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Summary

- Nairobi river basin complex
- Pollution of the river.
- Multiple land uses along the river
- Role of land use policies
- Lack of a solution through consensus
- Recommended best-compromise land use policy options

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Introduction

- The role of land in Kenya- Economic, Socio-cultural and Political development
- Importance of land

  -Home for natural capital based sectors of the economy(42% of GDP)

  -Environment: provides ecosystem services vital for quality life
- Need for sound management of natural capital

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Introduction cont'….

- Natural resource degradation in Kenya

  Challenges include:

  -high population growth rate (to reach 52.7M by2025)

  -undervaluation of environmental goods and services

  -under funding of the natural resource sector

  -weak enforcement capacity

  -lack of land use policies

- Enactment of the National Land Policy (Sessional Paper No. 3, 2009)

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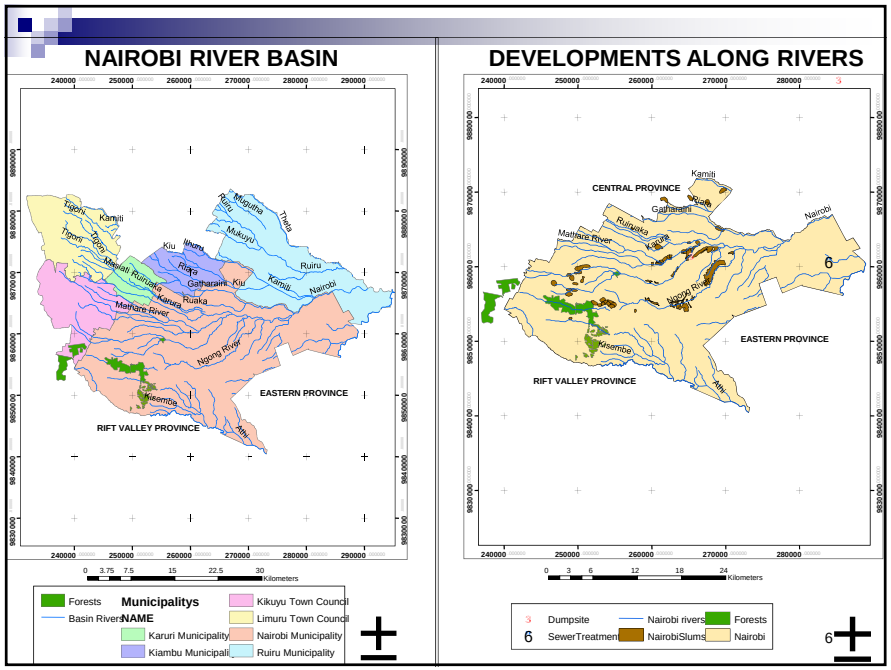

- Nairobi River system (Motoine/Ngong River, Nairobi River and Mathare) has its source at the Ondiri swamp in Kikuyu township
- The swamp is a source of water for livestock and domestic use

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Land uses along the Nairobi River Basin

- Natural Forest- Catchment areas
- Agricultural
- Residential
- Commercial
- Industrial

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Natural Forest- Catchment areas

- These are either wetlands (e.g. Ondiri Swamp) or forests (e.g. Dagoretti forest)
- However, the catchment areas are not maintained in a pristine state.

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Agricultural Uses

- Agricultural activities along the river basins have led to nutrient loading, soil erosion, sedimentation and siltation of rivers.
- Reduced vegetation cover has led to loss of habitat for many animal species
- Water abstraction for irrigation has affected the water table reducing water flow in rivers.

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RESIDENTIAL

- There is a shift from subsistence farming into residential properties
- Instances of raw sewage discharge from residential properties into rivers is turning them into open sewers. The situation is more pronounced in informal settlements

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COMMERCIAL

- Intense commercial activities along the river basins are characterised by high levels of pollution from solid and liquid waste.

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INDUSTRIAL

- Some industrial establishments discharge their waste waters directly into the rivers
- Accumulation of non bio-degradable waste overloads the system hence reducing its self-purification capacity

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Stakeholders of Nairobi River Basin

State Agencies are the major stakeholders, they include;

- Ministry of Environment and Natural Resources (MENR)
- National Environmental Management Authority (NEMA)
- Water Resources Management Authority (WRMA)
- Athi Water Services Board, City Council of Nairobi, Nairobi Water and Sewerage Company and the various local governments

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Stakeholders cont'……

- Small subsistence farmers
- Big commercial farmers
- Private property owners
- Public institutions owning land beside the river
- Small scale and large scale business owners
- Environmental conservation groups
- International environmental groups
- The wider public among others

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METHODOLOGY

- The use of multi-criteria decision analysis (MCDA) methodologies is currently in common use to analyse environment related matters
- The method facilitates collaborative decision making for public goods by allowing stakeholders to compare alternatives based on their preferences for attributes rather than the traditional top-down approach to management.
- It has been used to model the investment policy of Lisbon metropolitan region, solid waste planning, locating a waste treatment facility in Finland and resolution of a water allocation problem in Spree River basin in Germany.

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Data elicitation

- Data and information on the past trends in human population growth within the basin, changes in vegetation cover, changes in land uses, were used to carry out trend analysis
- Primary data was collected by the use of semi- structured questionnaires from different stakeholders
- The technique of multi attribute evaluation was applied to analyse the data collected

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Study findings

- The study interviewed a total of 141 respondents within the basin distributed among three groups based on land use; farmers(53.2%), commercial users(29.8%) and residential users(17%)
- Most respondents indicated that the river systems was important for them as shown by the figure 1 below.
- Across all the different management approaches, regulated use was the most preferred type of river management as shown in figure 2 below.

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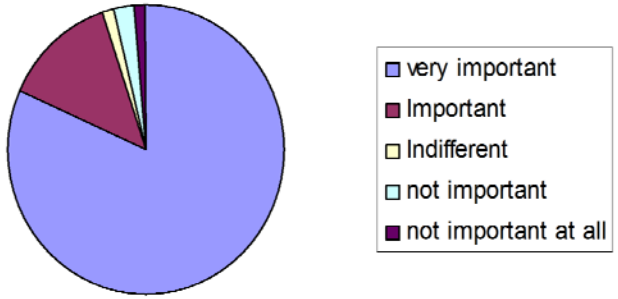
Fig 1.Respondents ranking of the importance of the river



Source: Field study, 2009

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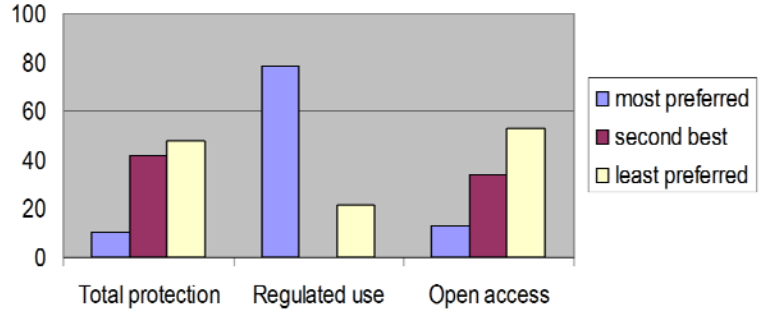
Fig 2. Respondents ranking of the preferred management approach



Source: Field study, 2009

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Conclusions

The study results strongly supports

- Regulated use of the river basin
- Adoption of a regulated system of management by the policy makers and stakeholders
- There is need to set up an effective regulated use system
- There is need for clear land use policies developed through multiple stake holder participation
- Land use policies and plans when well implemented result in sustainable natural resource management

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