

# **Managing the Biofuels Boom (and Bust?) – Mozambique's Experience**

***Sustainable Biofuels and Human Security:  
A Comparison of Brazil and Southern Africa***

**A Hewlett Conference at the University of Illinois at Urbana-  
Champaign**

**April 16-17, 2009**

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# Structure of Presentation

- Emergence of biofuels in Mozambique – context and reality check
- Issues raised by biofuels boom in Mozambique
- Managing the biofuels boom – steps taken
- Some final points

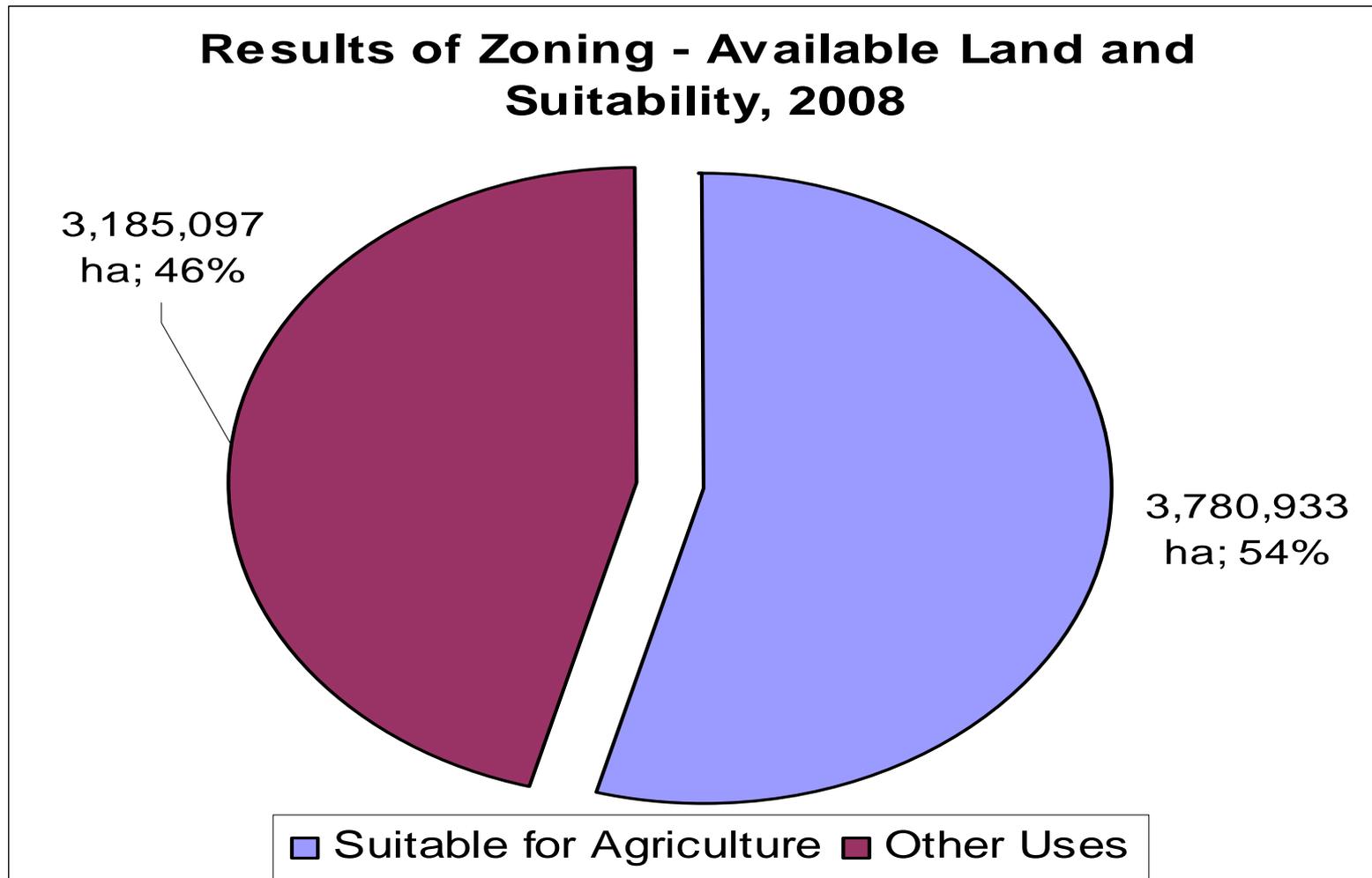
# Emergence of Biofuels – Why is Mozambique Interested?

- Increased cost of importing fossil fuels as net importer – rose from US\$400 million in 2006 to US\$700 million in 2007
- Opportunities for economic development given markets created by policies in EU and US

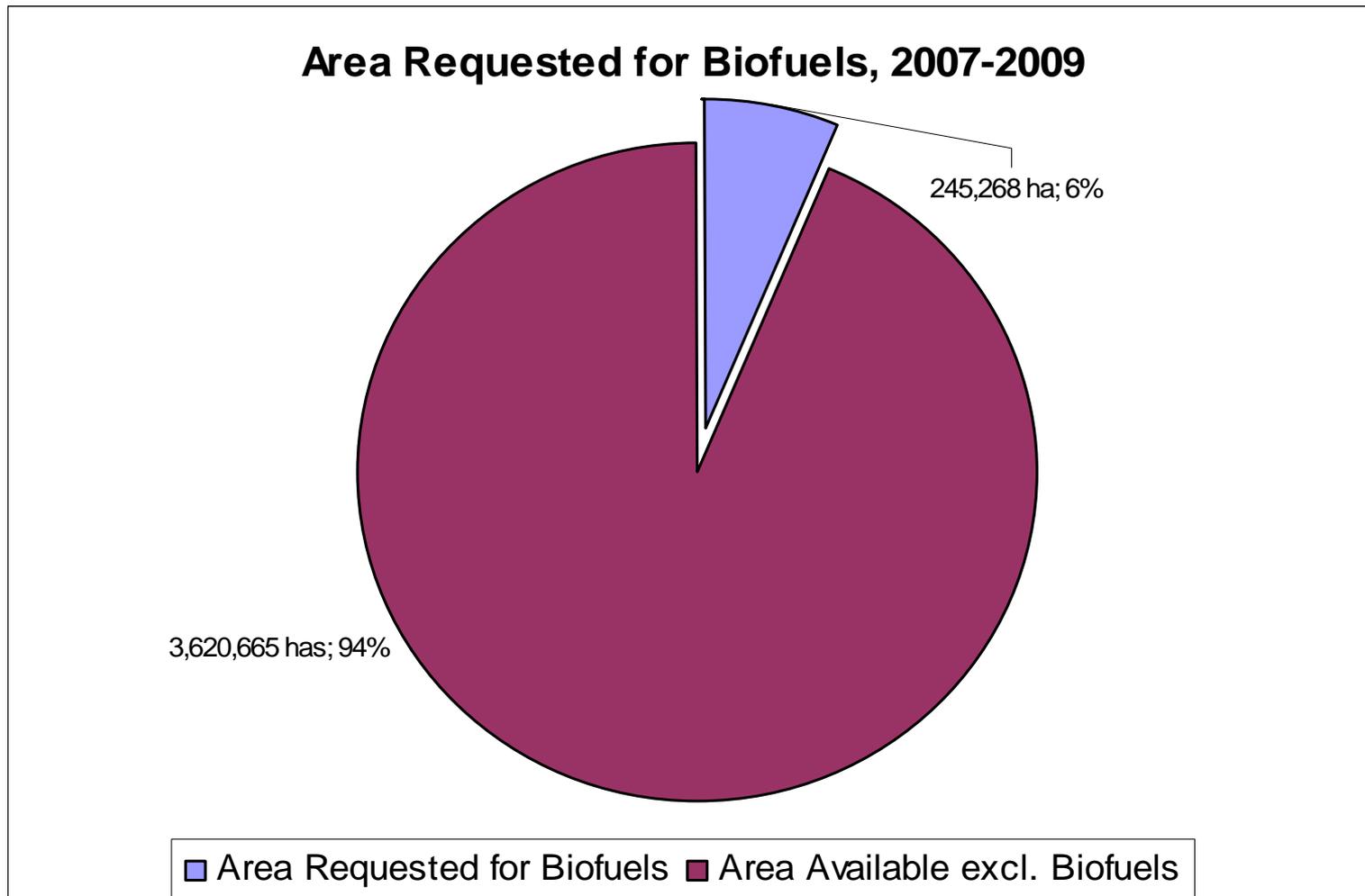
# Emergence of Biofuels – is there a boom?

- Comprehensive, official data on land applications in process of compilation but partial public data available
- From end of 2006, surge of interest by private sector in biofuel investment in Mozambique:
  - Just under 5 million hectares cultivated
  - Between end of 2006 and end of 2007, expressions of interest for another 3-5 million hectares – some individual requests for up to 1 million hectares

# Emergence of Biofuels – is there a boom?



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# Emergence of Biofuels – is there a boom?

- Increased interest also in:
  - Forestry projects (large-scale for paper/pulp)
  - Food production projects (oilseeds, cereals)
- Financial crisis and accompanying drop in petroleum prices resulted in slowdown in investment proposals in second half of 2008 and concern r.e. implementation of existing proposals and approved projects

# Emergence of Biofuels – is there a boom?

- Since end of 2006, only 2 biofuels projects formally approved (CEPAGRI, 2008):
  - PROCANA – 30,000 hectares, with 22,500 hectares under sugarcane for ethanol in southern Mozambique; main shareholder - CAMEC (Central African Mining Exploration Company)
  - Mozambique Principle Energy – 18,000 hectares under sugarcane for ethanol in central Mozambique; main shareholder – Principle Energy, UK-based hedge fund
- However, several bio-diesel projects already operating on land transferred from other companies:
  - ESV Bio-Africa: approx. 5,000 hectares under jatropha in southern Mozambique, with total land concession of 11,000 hectares
  - Energem: approx. 650 hectares under jatropha in southern Mozambique, with final goal of 15,000 hectares

# Issues Raised by Biofuels Boom

- Control of natural resources:
  - Access to land and sovereignty/liberation struggle
  - State vs. community ownership of land
  - Land speculation - who gets the rent?
  - Access to natural resources for community energy uses (charcoal, wood) or building materials
- Food security/food production:
  - Possible diversion of natural resources and labour from food production
  - Loss of land and fall-back option of food production for peasant farmers
  - Use of food crops as biofuel feedstocks causing increase in food prices
- Socio-economic impact – who will benefit? Emphasis on smallholders; national partnerships
- NOT centred on discussion of GHG emissions or biodiversity

# Steps Taken by Mozambican Government

- Land zoning exercise
  - Large-scale land requests frozen from October 2007 until May 2008 while government undertook land zoning at scale of 1:1,000,000 (capturing contiguous areas of more than 1,000 has):
  - Driven by concerns about potential pressure on land, conflict with food production and lack of control over process
  - Original idea - identify distinct areas for food and biofuel production, giving priority to food production

# Steps Taken by Mozambican Government

- Land zoning exercise (ctd)
  - Land not considered available for new projects:
    - Land already under use or designated for other uses:
      - Land titles & concessions (forestry, game farms, eco-tourism, aquaculture mining & mining prospecting areas) – approved or under consideration
      - Community areas or partnerships (community/private investor)
      - Slash and burn agriculture/forestry
      - Resettlement areas for people affected by recent floods
    - Ecologically sensitive areas:
      - Conservation areas
      - Mangroves
  - Final result - zoning identified:
    - Land available for large-scale projects: just under **7 mn hectares**
    - Land suitable for agriculture, livestock and forestry, without specifying obligatory final use: **3.78 mn hectares**

# Steps Taken by Mozambican Government

- Land zoning exercise (ctd)
  - Second phase launched:
    - More detailed scale of 1:250.000 in key provinces
    - Details on additional factors to be taken into consideration in identifying suitability not yet finalised
- Action Plan for Food Production – identification of priority districts (more fertile areas) for food production; already being taken into account in evaluation of some biofuel (jatropha) projects
- Land tenure services assistance, funded by Millennium Challenge Corporation, to improve:
  - Land policy monitoring
  - Facilitation of land access
  - Land administration capacity

# Steps Taken by Mozambican Government

- Strengthening/clarifying investment evaluation guidelines
  - Shift in emphasis away from purely investment *facilitation* towards investment *selection*
  - Guidelines discussed at inter-ministerial level improving coordination of previously more fragmented process (approved in November 2008)
  - Food production as component of biofuels projects encouraged with possibility of being made mandatory

# Steps Taken by Mozambican Government

- Biofuels policy/strategy - approved March 24, 2009
  - Limits on land for biofuels on basis of zoning
  - Feedstock choice:
    - Ethanol – sugarcane and sweet sorghum
    - Biodiesel – jatropha and coconut
  - Sustainability criteria as instrument for project selection and land allocation
  - Strong focus on domestic market creation via blending mandates
- Sustainability criteria
  - Discussion kicked off by request by EC for comments on proposal (Renewable Energy Directive) via seminar in December 2007 with government, private sector and civil society

# Steps Taken by Mozambican Government

- Sustainability criteria (ctd)
  - Principal conclusions – sustainability criteria important to ensure that:
    - Mozambique's natural resource base is protected to safeguard national resources for use by future generations of Mozambicans
    - The biofuels industry maximises potential socio-economic benefits and minimises potential negative impacts that could impede government's poverty reduction plans
    - Biofuels produced in Mozambique have access to key international markets (e.g. EU) that require compliance with sustainability criteria

# Steps Taken by Mozambican Government

- Sustainability criteria (ctd)
  - Creation of sub-group focused on development and application of sustainability criteria:
    - Monitor evolution of sustainability criteria internationally and enable Mozambique to participate actively in discussions
    - Develop national interpretations of international criteria, adapted to the necessities and realities of Mozambique

# Some Final Points – Conclusions/Recommendations

- Positive results from biofuels boom:
  - Important decisions taken to strengthen whole land administration and investment evaluation system
  - Questions raised more vocally about sustainability of commercial agriculture in general (bringing agriculture more closely into contact with environmental issues) and appropriate models of development
  - Some more innovative companies involved in biofuels projects, introducing new ideas and raising the bar on best practices
  - Profile of Mozambique raised internationally as investment destination

# Some Final Points – Conclusions/Recommendations

- Outstanding issues (to what extent are steps addressing concerns):
  - Natural resource use:
    - Zoning – sufficient factors taken into account?
      - Water availability?
      - Sustainability criteria?
    - Land administration and project evaluation methodology:
      - Limitations to steps taken (“best use” of land?)
      - Capacity of state to fulfil role implied by state ownership of land? Consistency with liberalisation set in motion by structural adjustment programmes?
      - Capacity of communities to negotiate land rights effectively (extent of community “representation”, understanding of implications of projects and value of land)?

# Some Final Points – Conclusions/Recommendations

- Outstanding issues:
  - Biofuels and food security:
    - Need to broaden debate to include other aspects of food security, not just food production by family farmers
    - Problematic focus on “food” crops – precise definition?
    - Potential positive synergies between biofuel (commercial agriculture) development and food security
      - Possible increase in food production and availability by companies and family farmers (access to inputs and technology)
      - Increased access (physical and economic) to food via infrastructure development and increased income
  - Choice of feedstock: need dynamic, flexible means of checking suitability of different feedstocks to take on board varietal development, new research results, etc.

# Some Final Points – Conclusions/Recommendations

- Outstanding issues:
  - Sustainability criteria (EU Directive):
    - Possible to fulfil? Commercially viable land vs. soil carbon debts/payback periods
    - Conflict with concerns over food security?  
Uncultivated land vs environmental concerns
    - Emphasis of EU criteria on carbon, with specific, quantified targets not matched by detail on soil, air and water quality, which are greater concerns for Mozambique
    - Information available to satisfy EU monitoring requirements?

# Some Final Points – Conclusions/Recommendations

- What lessons from the biofuels “bust”?
  - No single sector is a solution to economic development problems
  - Need to clarify what Mozambique really wants to achieve with development of biofuels sector
  - Implications for feedstock choice:
    - Better to opt for more flexible options?
    - New slant on debate on use of “food crops” for biofuels?

Thank you!

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