

# MODELING THE ECONOMIC SUSTAINABILITY OF JATROPHA PROJECTS

17 EU biomass conference  
Hamburg

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# Structure of this presentation

- Jatropha production models
  - India
    - IOC / Chhattisgarh government
    - Reliance / commission biofuel
    - Windrock
  - Mali
  - Mozambique / Tanzania / Madagascar
  - Zambia
- Modeling labour wages
- Provisional conclusions



# India models 1) Chhattisgarh wastelands

## Public works approach



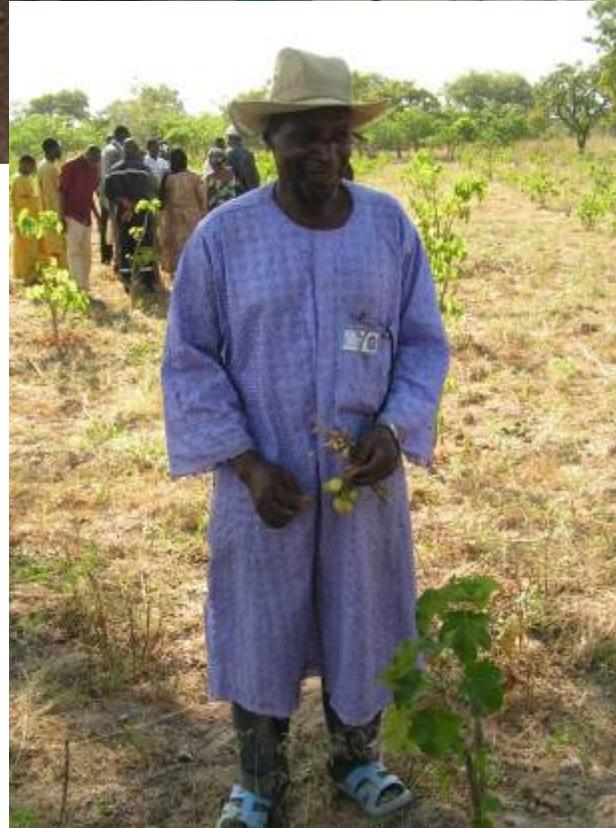
## India Models 2. Commission Biofuel and Reliance- Private small farmer approach

- Small growers
- Use underutilised land (2 000 rupees (US\$50))
- Plant to Jatropha
- CB facilitates access to loans
- Reliance – no loan
- Secured markets
- CB binds grower into long term project

# India model3: Winrock Chhattisgarh – village approach



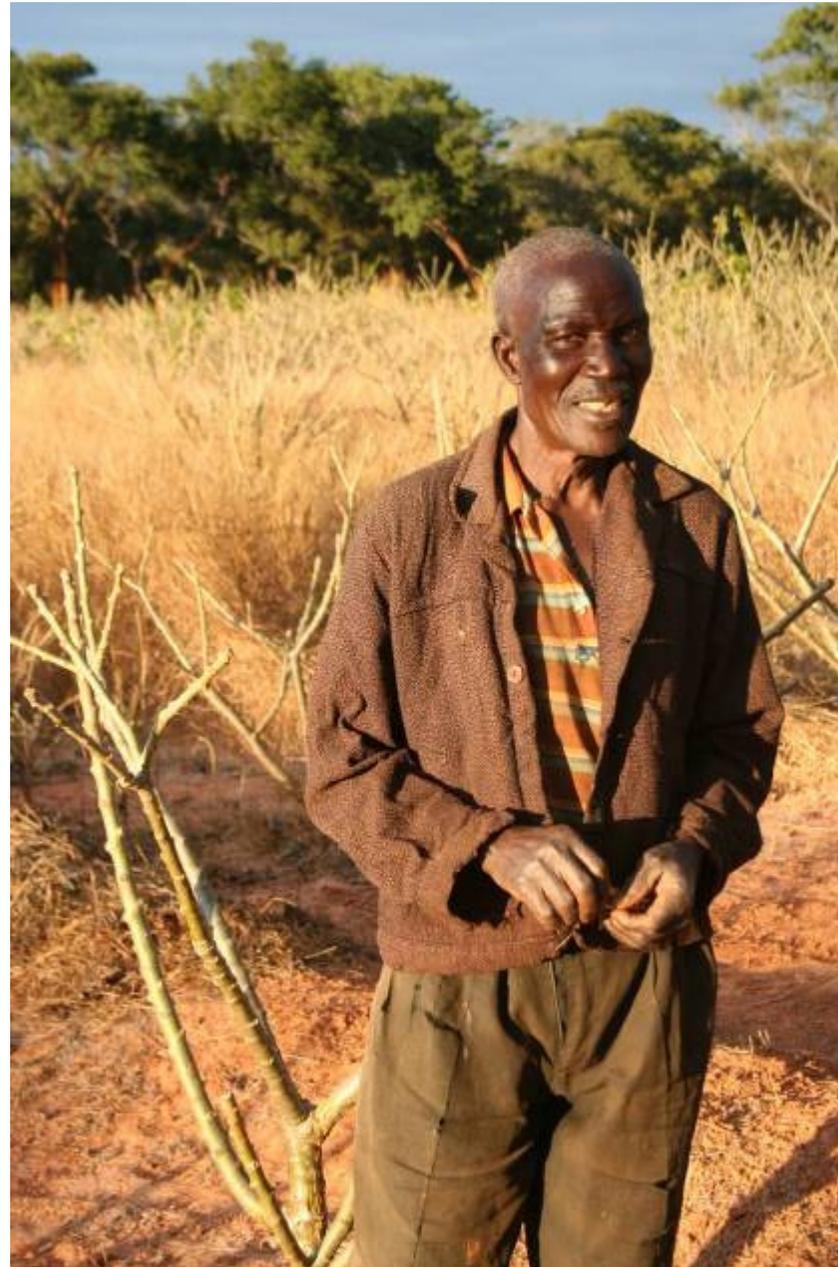
# Mali model Folkecentre



# Zambia outgrower



06

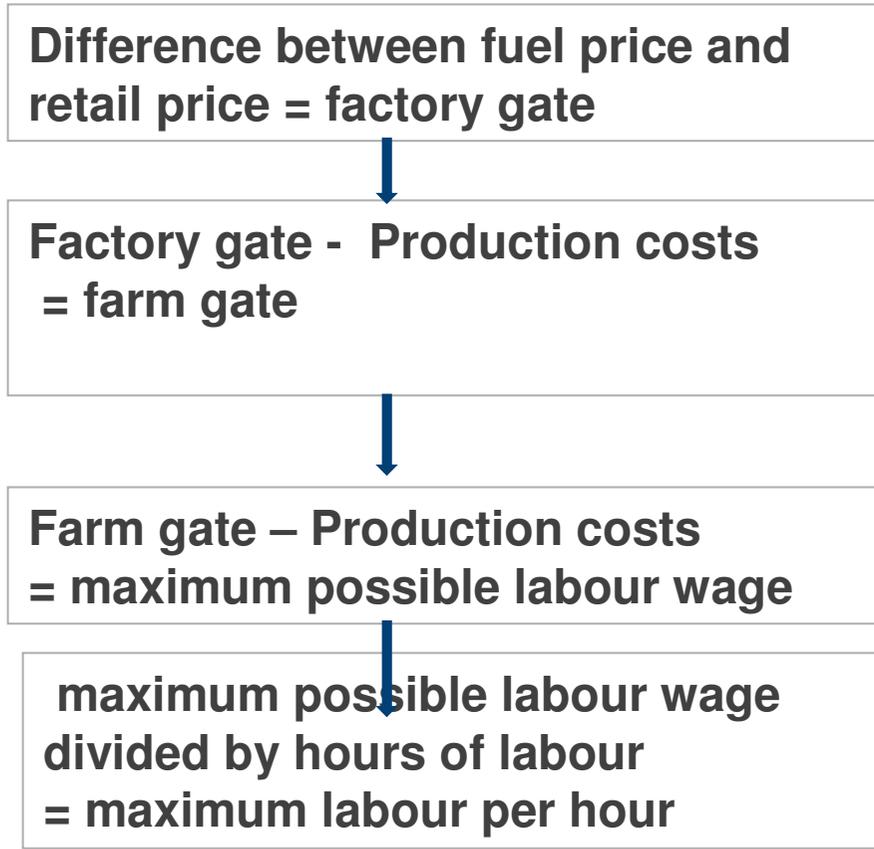


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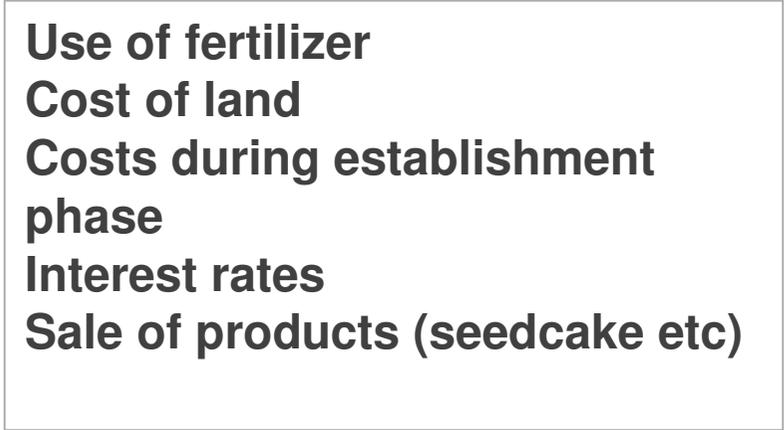
# Mozambique and Tanzania



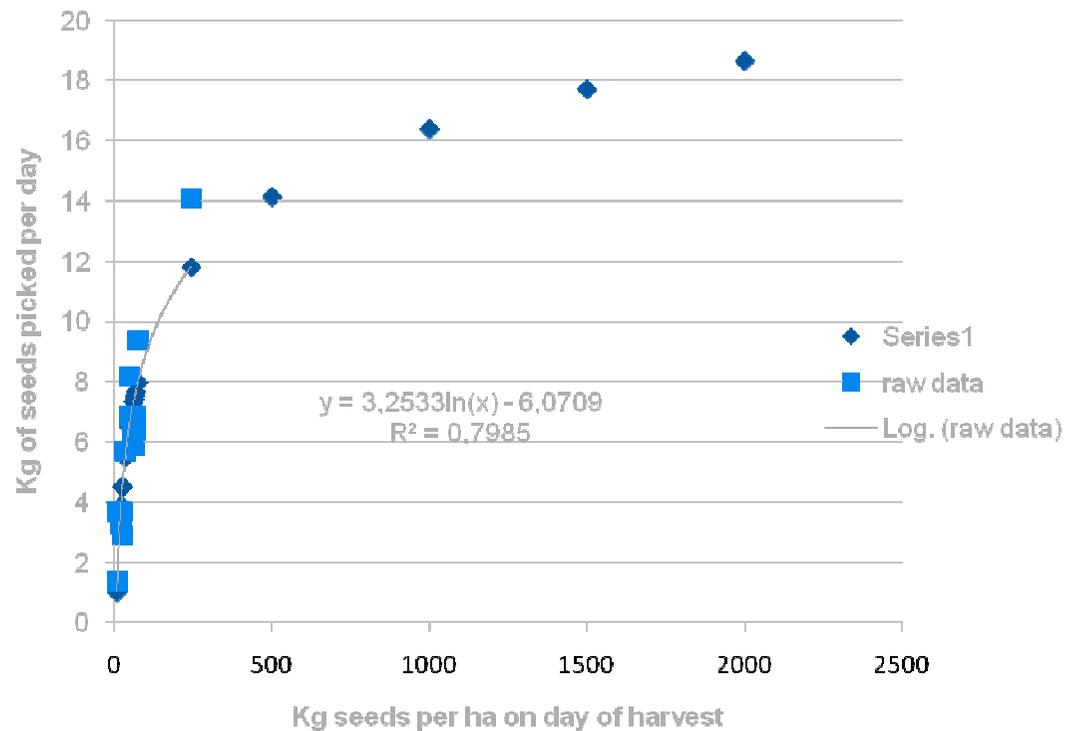
# The simple economic model

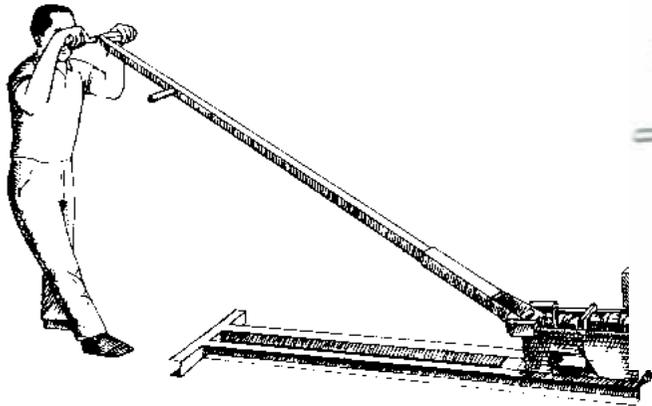


# Complicating factors



# Picking and de-husking





Ram 60 %  
Screw 65 – 75 %  
Chemical 97 – 99 %

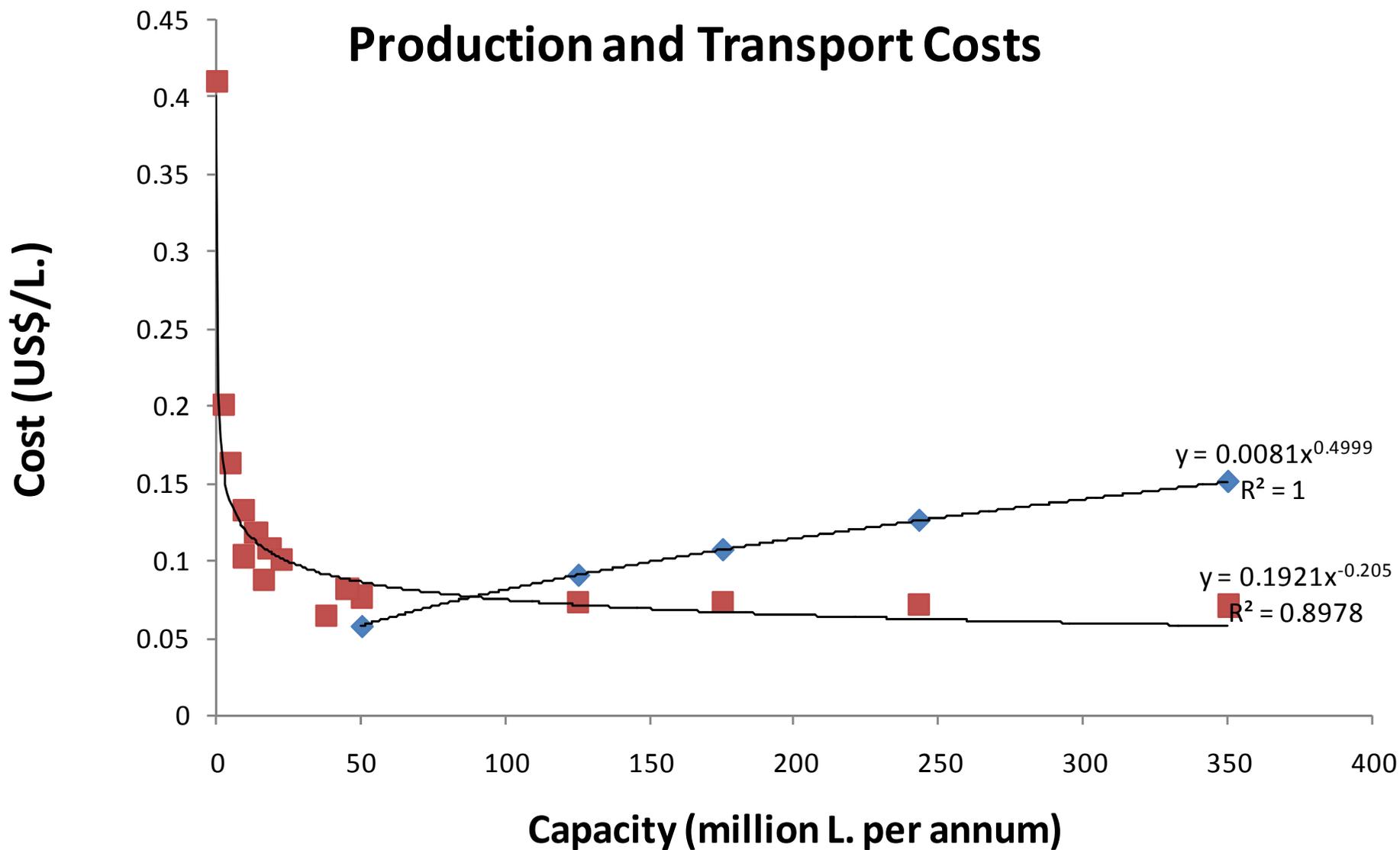


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# Production and Transport Costs



US\$ 100 000  
7 000 000



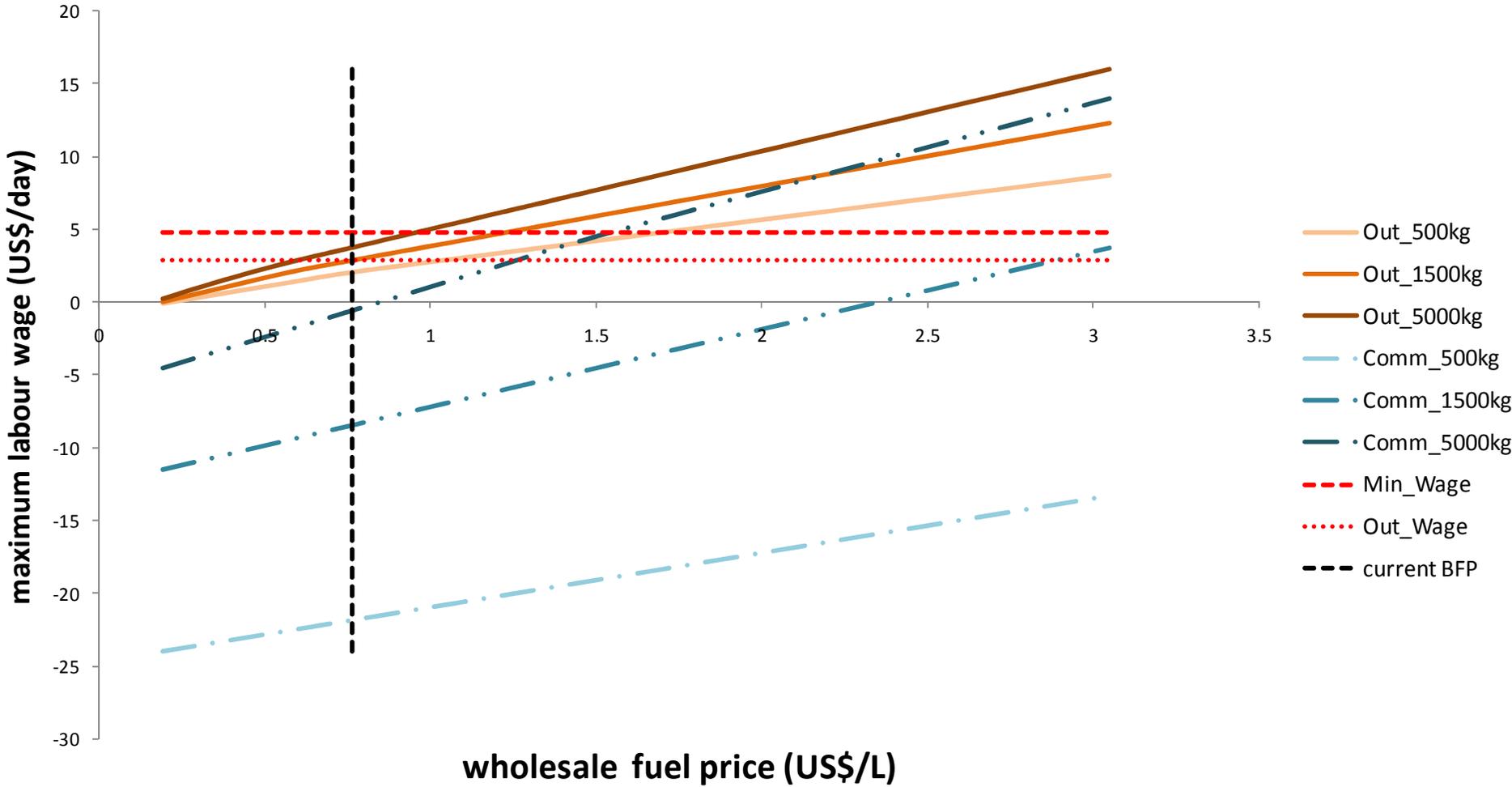
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SOUTH AFRICA

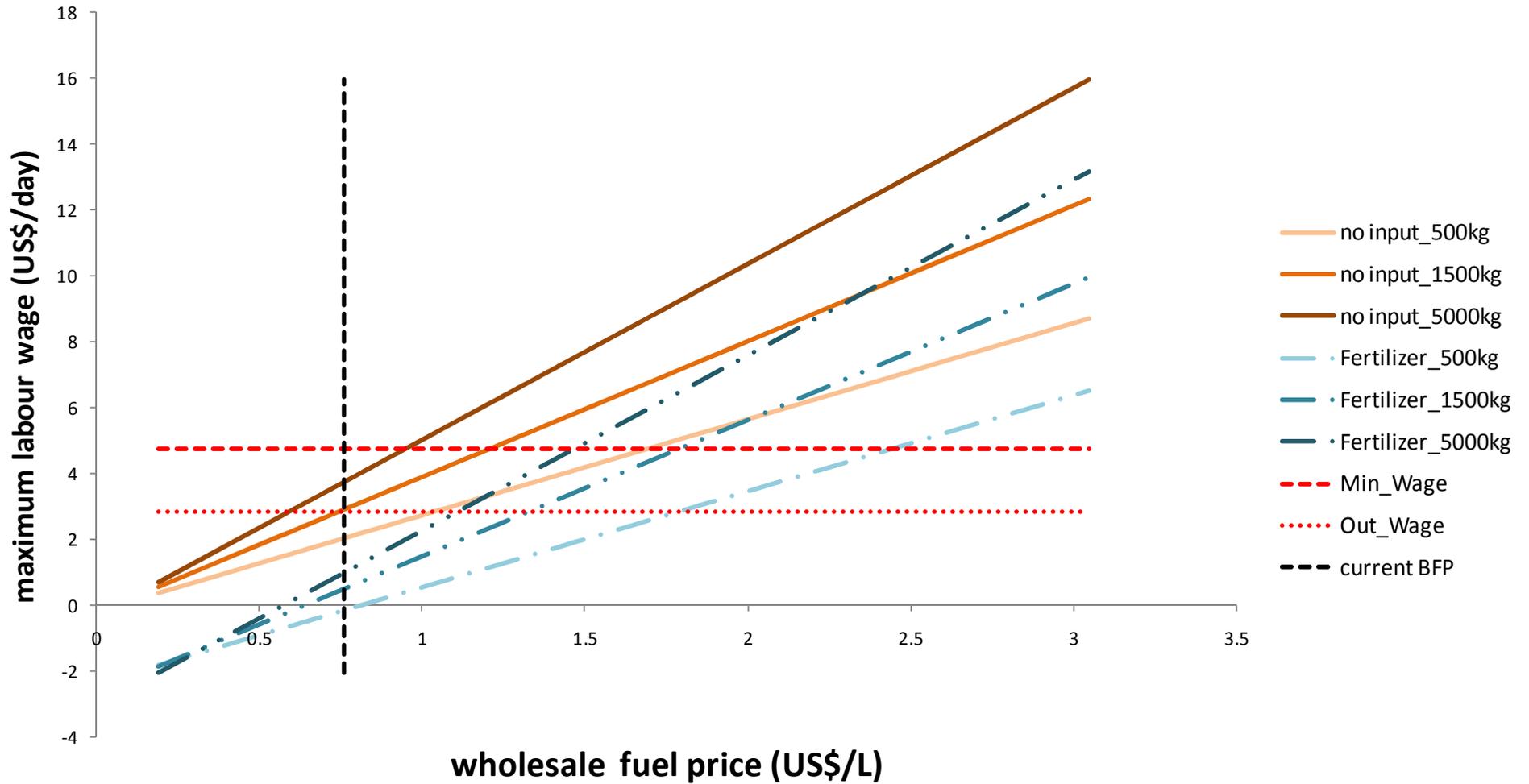
ZAMBIA



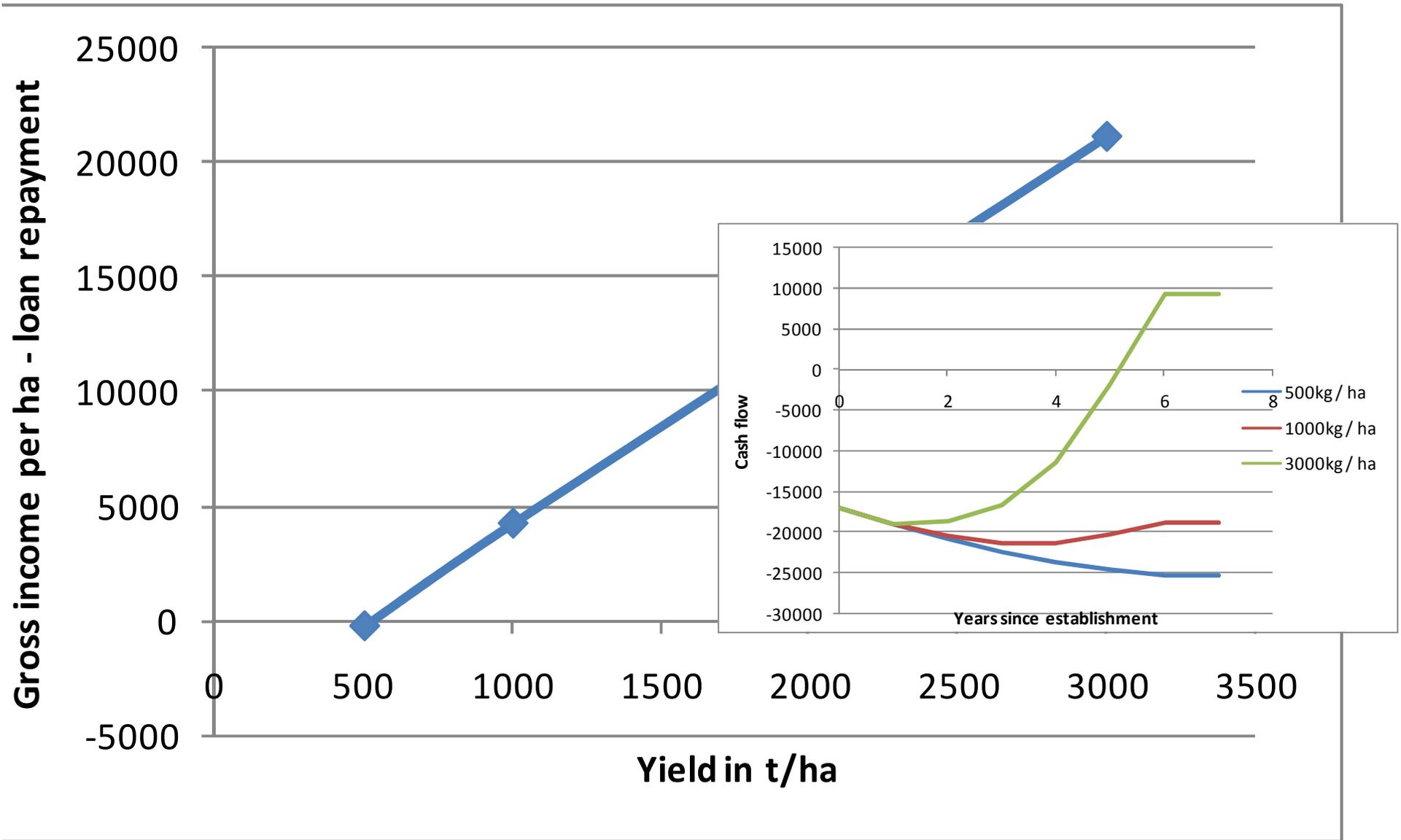
# Maximum Labour Wage



# Maximum Labour Wage



Gross farmer income in rupees based on a model where farmers take out an establishment loan



# Conclusions

Country dependent

Best where fuel is high and labour cheap

Would not fit SA labour legislation

Might give viable wages in a country like Zambia or India  
but what are the other costs

Yields less than expected could leave farmers carrying the  
cost

Thank you



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