

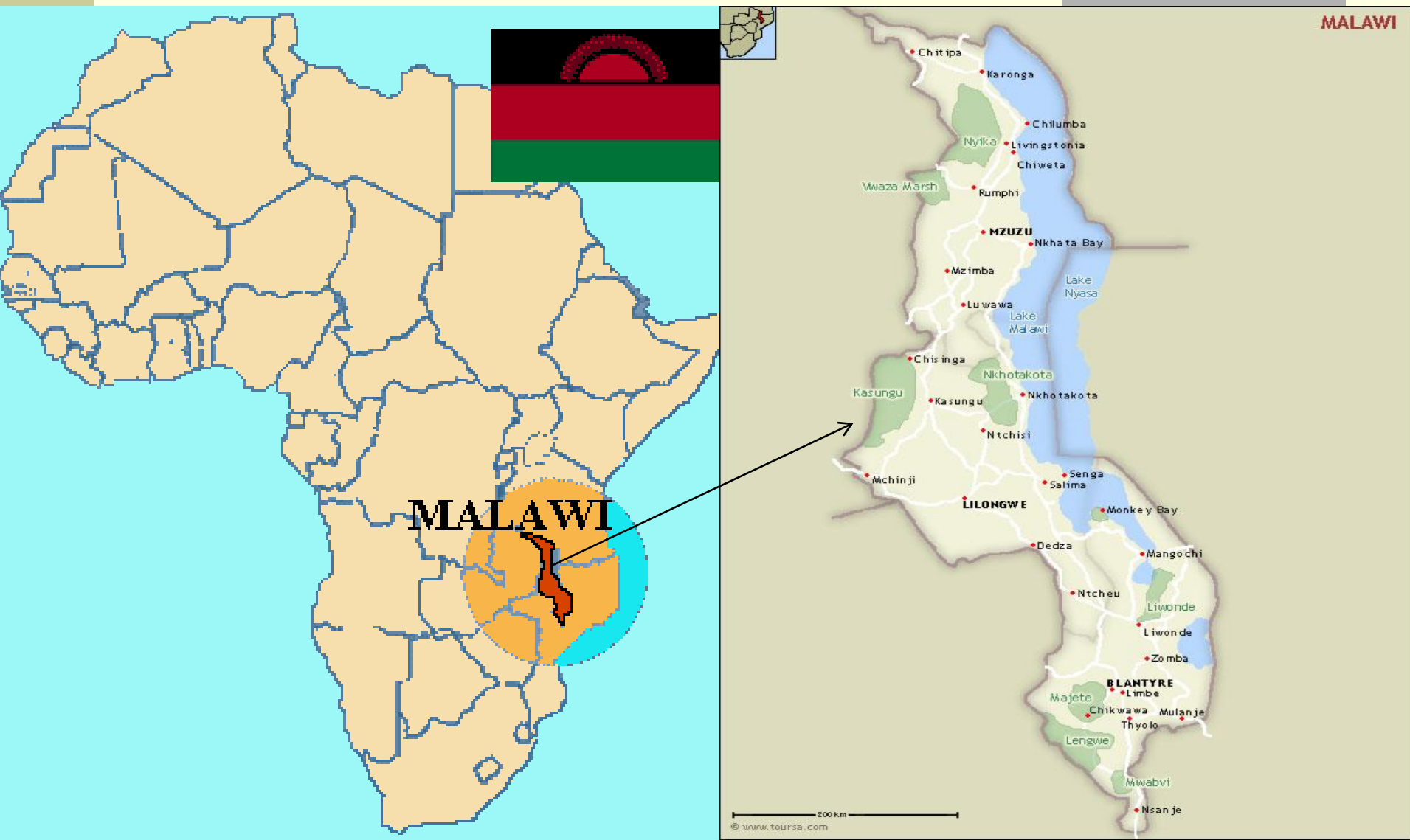


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# Location of Malawi on World Map



# Where is Malawi in Africa?



# History

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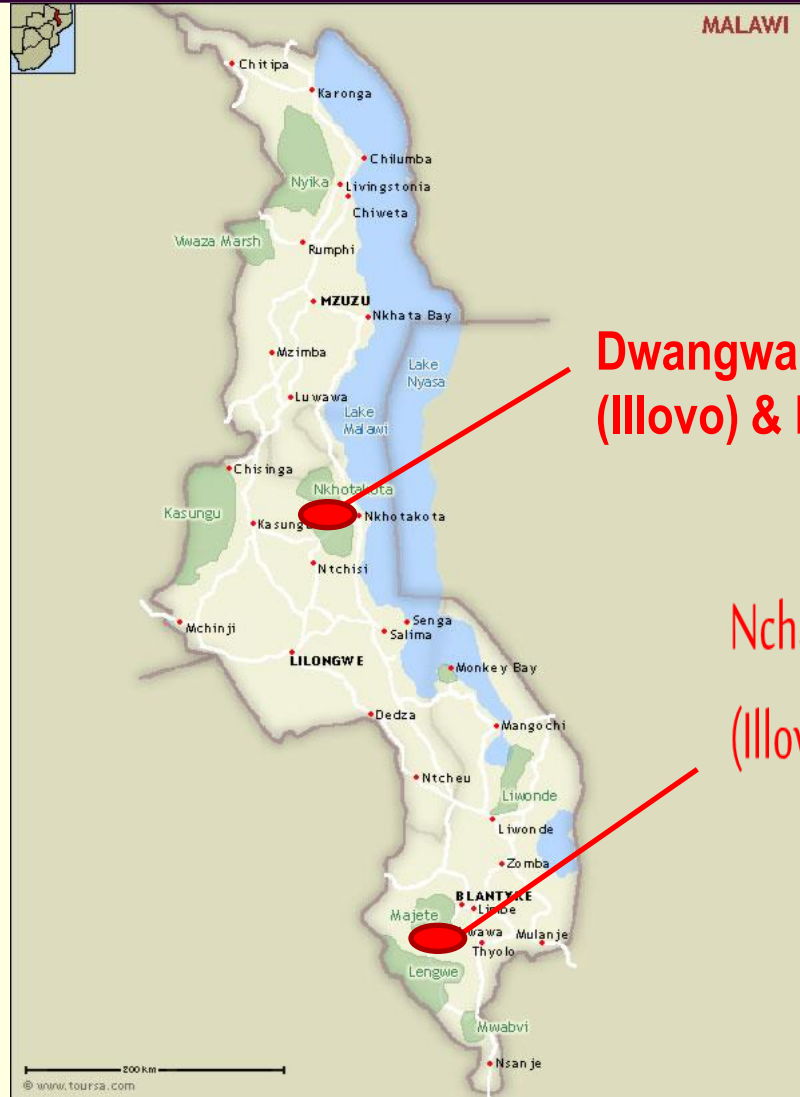
- Sugarcane production in Malawi started in 1960 with the establishment of sugar estates & processing plants at Nchalo in Chikwawa district
  - A second factory was established in 1970s in Central Region of Malawi– Dwangwa Sugar
  - Investments were a joint venture between Lonhro (British multinational) and the Government of Malawi.
  - Outgrower farmers (initially only under irrigation)
  - In 1990s, individuals with more than 20 ha were allowed to produce sugarcane on their rainfed
  - This was coordinated by a government parastatal (Smallholder Sugar Authority – SSA) that also provided farm inputs, credit & extension services
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# Bioethanol in Malawi

- In late 1980s, the Malawi Government constructed Ethanol processing plant in Dwangwa:
  - Some form of energy security
  - Reduce imports hence saving on foreign exchange
  - Blending petrol with ethanol at 20% since 1982
- Government established a second plant in Nchalo
- Currently, the 2 plants has a combined capacity of 18 million liters per annum
- Production is constrained by the shortage of raw materials-Molasses



# Location of bioethanol plants in Malawi

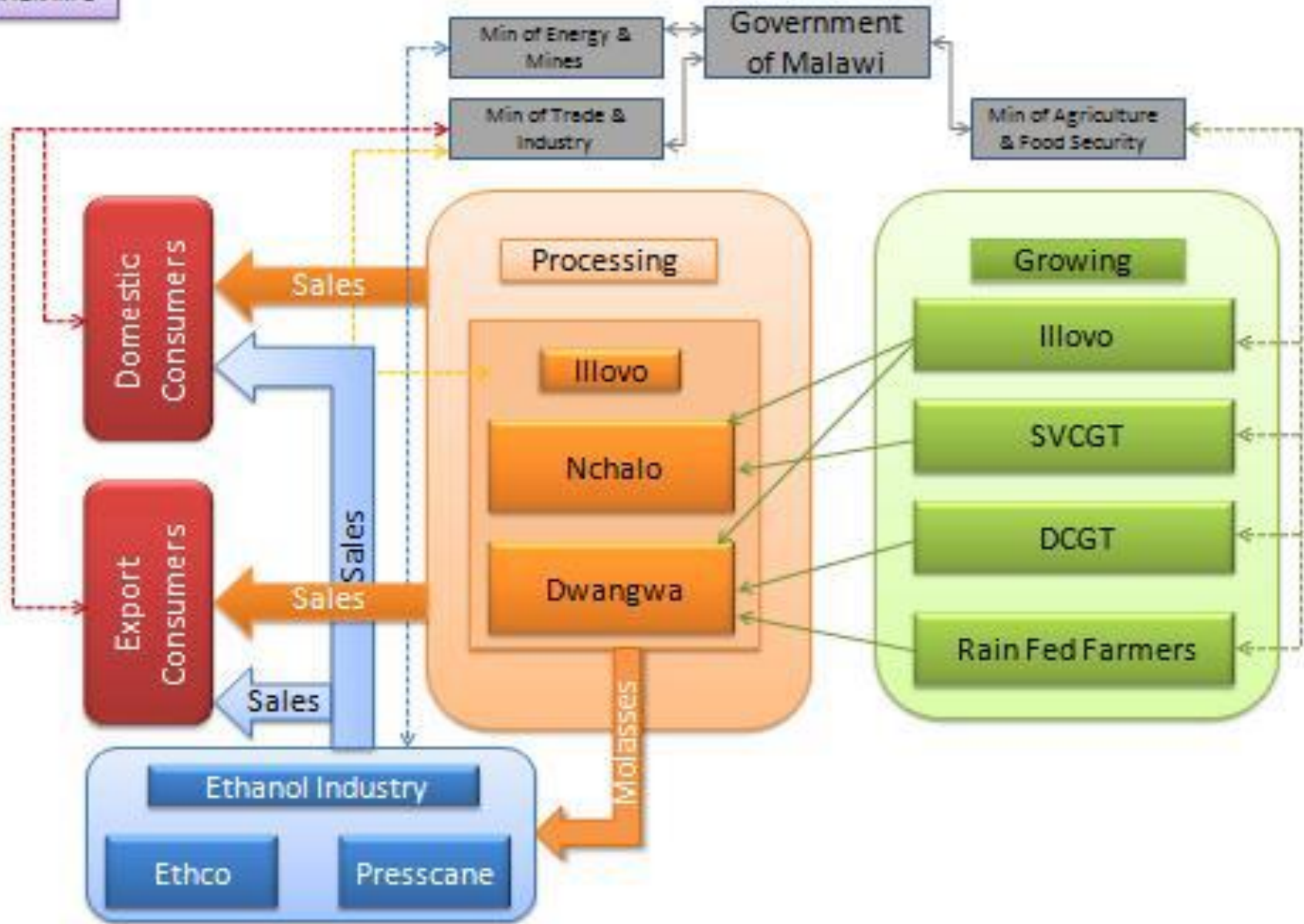


**Dwangwa Sugar Mill  
(Illovo) & ETHCO Ltd.**

**Nchalo Sugar Mill  
(Illovo) & Presscane Ltd.**

# Ethanol Production Models

DIAGRAM 1



# Bioenergy Potential in Malawi

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- Sugarcane has become one of the three priority crops in the **National Export Strategy** to move away from reliance on tobacco for exports.
- The sugarcane cluster in Malawi is known of its high productivity & competitiveness even in global comparison.
- A number of value chains from from sugarcane (from production involving small farmers, processing e.g. independent & micro-processing plants & products-wide range)
- There is high demand for ethanol and ethanol products within the African region (SADC & COMESA)



# Bioenergy Potential in Malawi

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- Malawi has conducive ecological conditions for sugarcane production as shown by the high productivity.
  - Expansion potential including some 40,000 ha available land with potential for irrigation close to processing plants under a government initiative called the Greenbelt Initiative
  - The new land policy which will pave way for making land available for sugarcane expansion
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# Engineering Aspects of Biofuel

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- With support from Government, the Technical College has been doing some engineering work to modify some vehicle engines to accommodate ethanol



- This will further increase demand for fuel ethanol

# Potential Areas for Collaboration

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- Analysis of various ethanol production technologies
- Analysis of the socioeconomic & environmental impacts of sugarcane expansion
- Analysis of different value chain arrangements
- Analysis of alternative feedstocks for ethanol production.
- Design and testing of processing technologies
- Life cycle assessment of ethanol production
- Agronomic research to develop locally adapted varieties- currently imported from South Africa
- Attachment of students and staff between LUANAR and Brazilian institutions and companies

**Thank you for your attention!**

**Muito Obrigado!**

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