

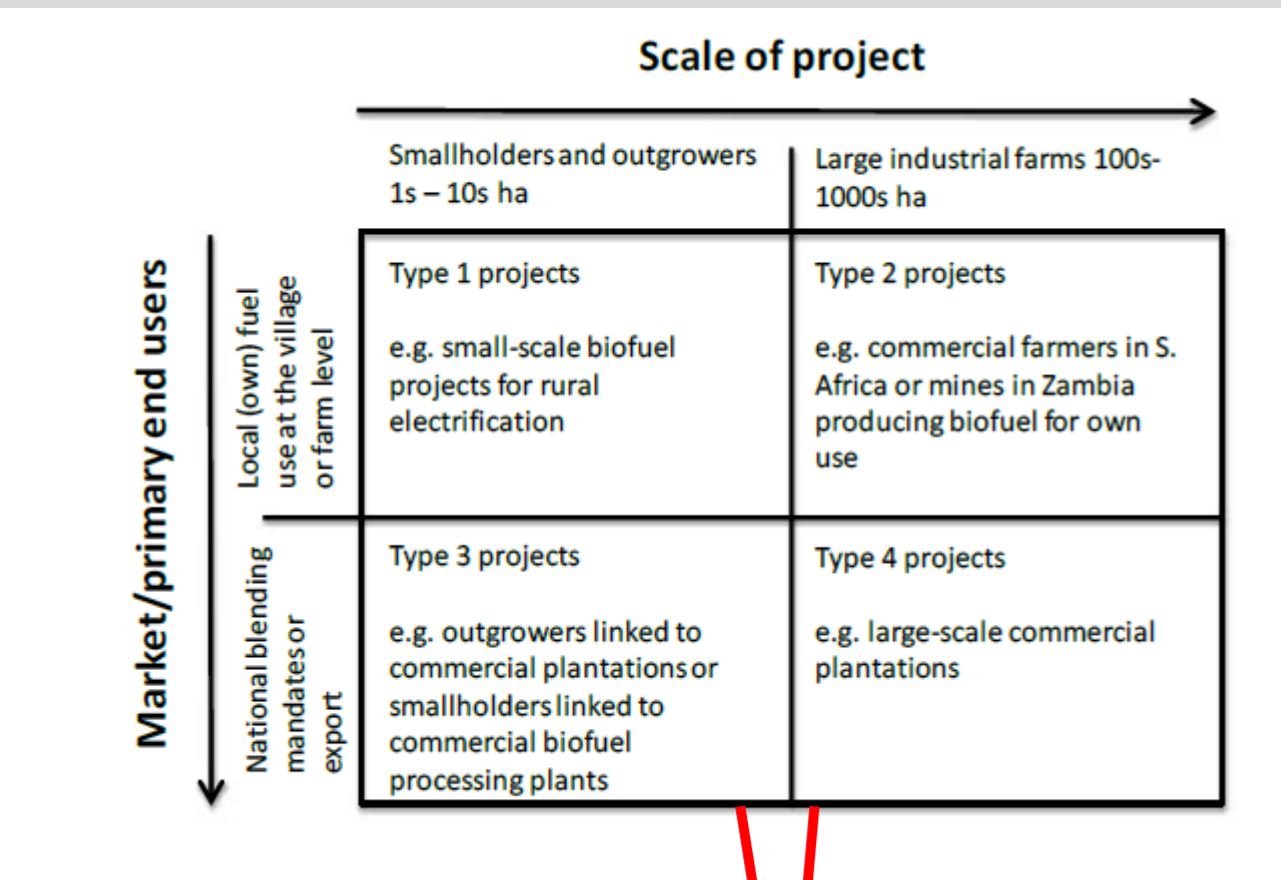
Biofuels production models for the Southern Africa region.



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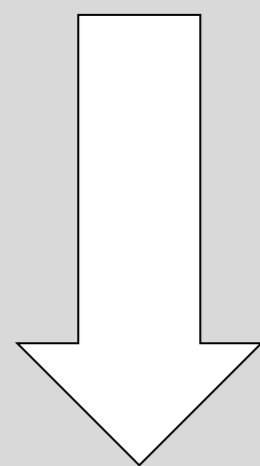
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Current Africa biofuel production models based on Gasparatos et al 2015



How to fill the missing middle?

Von Maltitz and Setzkorn (2012) found large biofuel projects and micro-growers (outgrowers) but not the in-between size. The sugar industry has some unique examples where the benefit of scale is being archived, even with small-scale farmers



Private farms

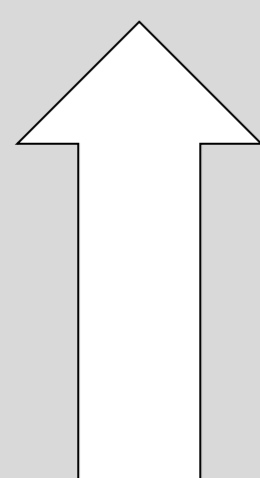
This is the common South African model and the simplest model. However, outside of South Africa few national citizens have the large scale farms needed for this model, and this model provides limited equity.

Community run corporations

The SWADE Swaziland scheme has small scale farmers cede their land to a business entity in which they are the sole shareholders, profit is split by shareholding and the business is run as a standard corporation with paid managers and labour (which is largely outsourced). Biggest problem is model for allocating shares to participants. Could this concept be taken further with vertical integration and ownership in the processing? . These farmers exceed the yields from the mills plantations.

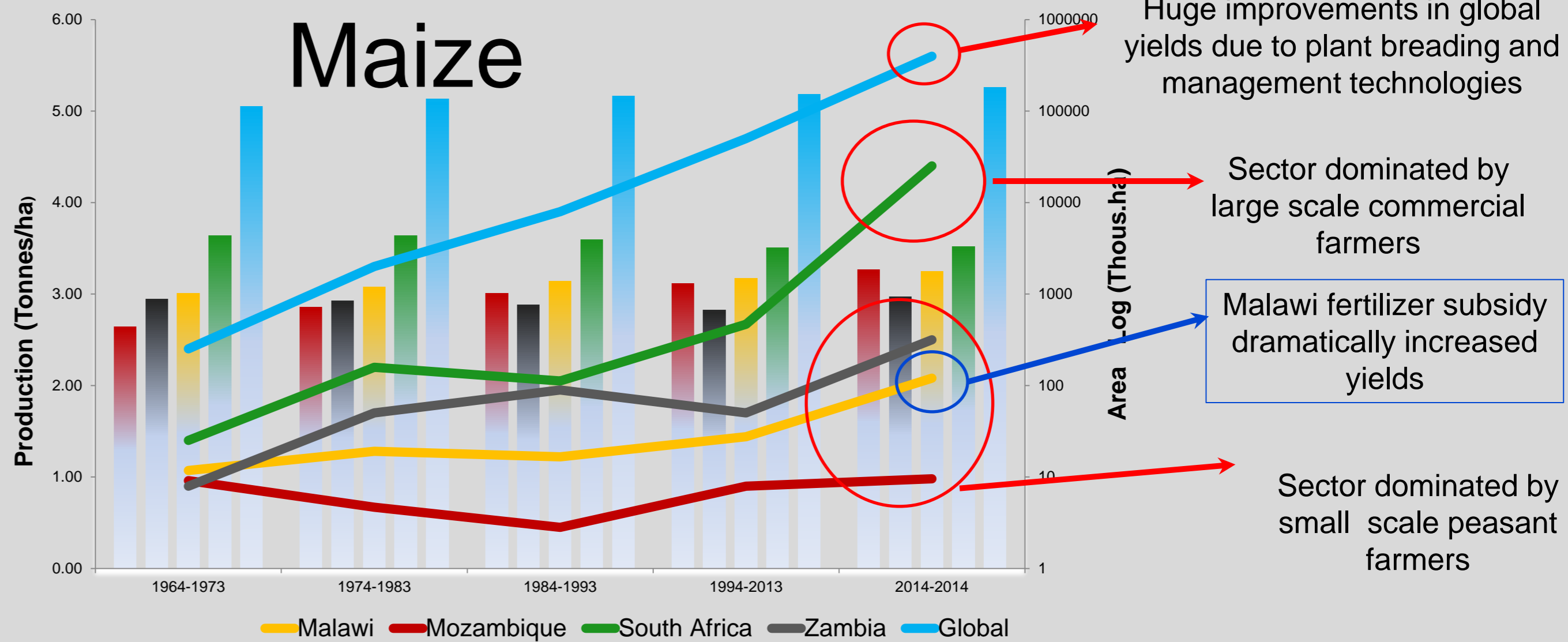
Group structures

A number of structures have been tried to allow groups of farmers to farm as a unit to gain scale advantages. These have included cooperatives, trusts and other legal entities. There are big differences in the way work and profit is allocated to members. The model can be both successful and problematic dependent in part on the details of how the system is set up. True cooperative farming (where labour and profit is shared) almost never works. .

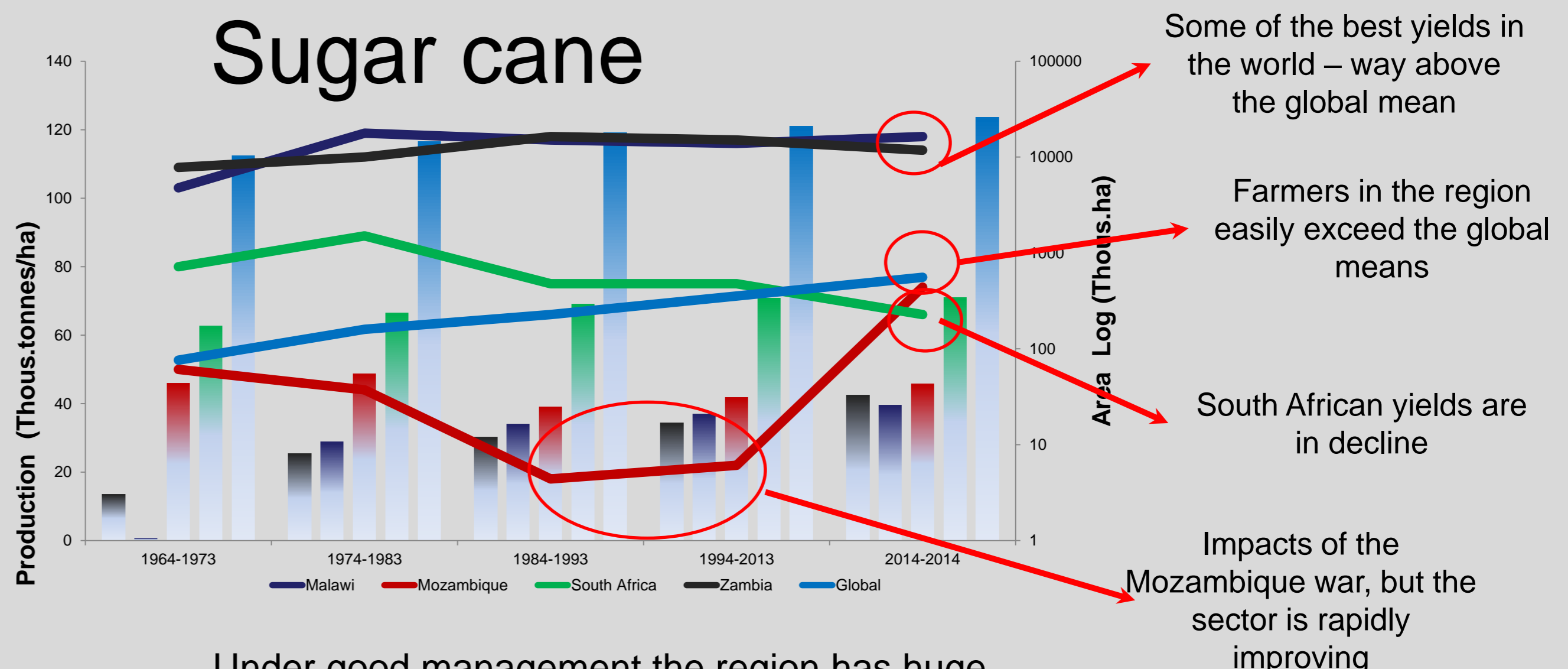


Can we grow biofuels without negative social consequences?

One of the biggest concerns around biofuel projects in Africa is that the projects are set up as large plantations that are owned by foreigners, The original local farmers (whose land is now transferred to the estate) only being lowly paid labour.



South Africa is good at producing maize, but poor at producing Sugarcane. Zambia, Malawi and Mozambique are the opposite



Under good management the region has huge potential, but small scale farmers struggle to reach this potential when growing food crops. However, even smallholders can reach these yields when supported by government and industries when growing industrial crops

Small scale slash and burn agriculture gives low yields and high poverty



SWADE farmers have formed a company to do the farming and therefore get the benefits of scale – most labour is outsourced