Name: Caleb Wangira Mbayaki (MSc)	MSc in Land and Water Management
	Title of thesis: *Performance and water productivity of selected sweet potato (ipomoea batatas l) varieties intercropped with common beans in Katumani – Kenya* *Supervisors: Prof. Karuku G.N. and Dr. Kinama J.* Summary The main deterrent factors for achieving sustainable agricultural production in Eastern Kenya are irregular rainfall and low available water capacity. Knowledge on crop performance, water needs and optimization of deficit irrigation schedules would therefore help to minimize water stress and thus increase ASALs' achievable yields. Treatments were two sweet potato varieties (Bungoma and Kabode) and cropping system, either sole crop or intercrop with common beans (Miezi miwili) gron for two short rain seasons of 2018 and 2019. Results showed that: Intercropping significantly reduced sweet potato yields of Kabode and Bungoma varieties by 19.3 and 44%, respectively. Yield analysis showed that orange-fleshed Kabode was the most stable variety grown in Katumani since it yielded 31.4tha^{-1} as to white fleshed Bungoma variety that 23.9 tha^{-1}. Aridity Indices experieed during the production period contributed to shortening and lengthening of the humid periods. Modelled prediction on sweetpotato water needs for 2039 using CROPWAT 8.0 model showed that the crop will require 634.1mm which will; be a 30% increase from the current sweet potato water needs which stands at 339.5mm and hence demand 449.7mm of irrigation water for optimal yield. Hence developing appropriate crop and site-specific irrigation schedules will aid in increasing crop yields, thus to improve on the principle of “more crop per drop” in the phase of climate change.
Take home message Since most arid and semi-arid regions receive little annual rainfall, it is crucial to adopt drought tolerant such as sweet potato as well as use available water resources for agricultural purposes via irrigation in order to avert the food insecurity situation in Kenya	  
Most interesting part about MSc in Land and water management Dangerous is a man who has nothing to loose especially when it comes to land and water resources. The cancer this world faces is the ability to manage these resources and therefore a realtime solution is needed.	