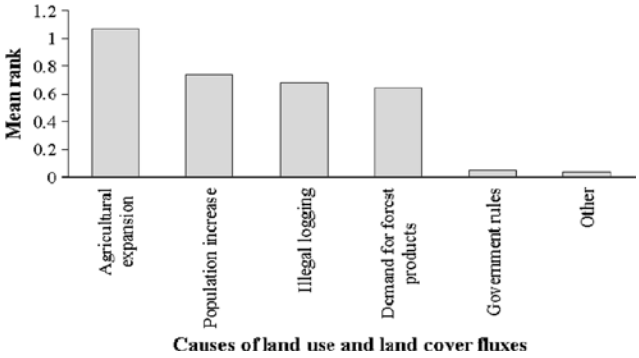
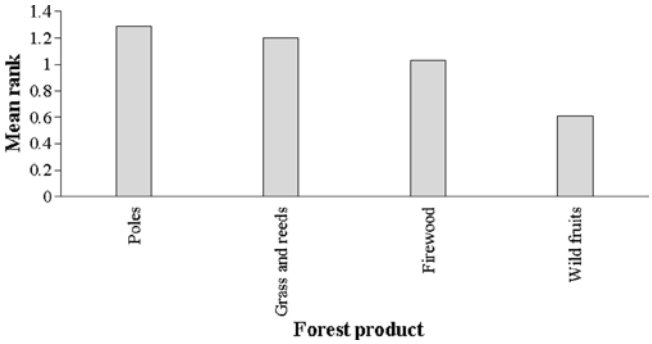
Task 33: Develop a national forest monitoring program for Namibia

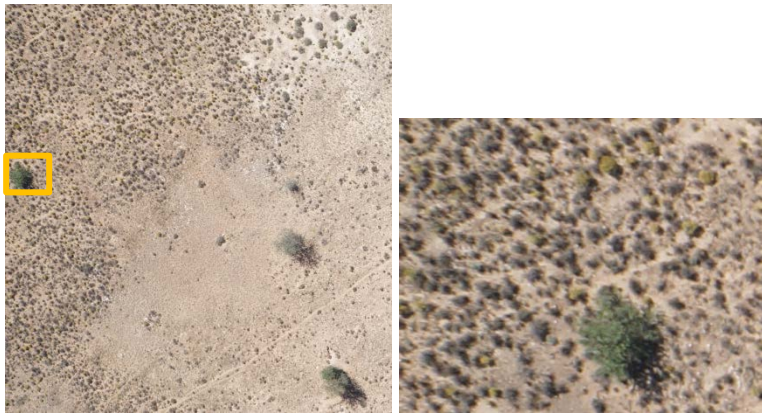
To develop a national forest monitoring program for Namibia it is necessary to obtain reliable information that will enable a quantification of the available forest resources, and gain an understanding into what are the socio-economic drivers within the country that result in impacts on the forest resources. To achieve this this task has focussed on two trains of study:

- The first of these has looked at current and past deforestation rates to ascertain to what extent these rates are linked to socio-economic development indicators. This work has been conducted by a PhD student whom has focused his research in understanding the socio-economic drivers of forest change within the Zambezi region of Namibia. Figures taken below are from research conducted within the project by Kamwi, J.M. , Chirwa, P.W.C., Manda, S.O.M, Graz, P.F., Katsch, C. 2015. Livelihoods, land use and land cover change in the Zambezi Region, Namibia. *Population & Environment*, 36(3).





- The second of these is to quantify the forest resources currently available, and quantify the change in forest resources over time. Quantification of resources will be captured by two means. Firstly through the quantification of above and below ground carbon along a rainfall gradient. This study will feed into the second larger scale continuous monitoring approach through remote sensing over time at both low and high resolution scales. This work is to be conducted by two MSc students whom will be starting their projects within the latter part of 2015. Local scale monitoring of specific events can be studied through the use of high resolution imagery. Making use of UAV's enable one to capture an overview of detailed changes. Current experiments with the hexacopter are evaluating its use in high resolution surveys which will then be extended to the monitoring of forest change sites.



UAV image (with a zoomed in inset on the right) acquired from a monitoring plot registered under Task 62.