


- 2.2.4  Kasha, Keotshephile. (2002). Morphological and biochemical characterisation of bambarra groundnut (*Vigna subterranean* (L.) Verdc.) germplasm from Botswana and Zambia. (Supervisors: Dr. D. M. N. Mbewe and Dr. D. M. Lungu).

Identification and utilization of useful plant traits in germplasm collections can help meet future demands for improved cultivars. This study was done to characterize 40 accessions of bambarra groundnut germplasm, 10 from Botswana and 30 from Zambia, using morphological and seed storage protein markers. Morphological data on 15 characters were collected following bambarra groundnut descriptor (1987) and analysed using principle component and cluster analysis. Seeds of bambarra groundnut were analysed for seed storage proteins markers by Sodium Dodecyl Sulphate Polyacrylamide Gel Electrophoresis (SDS-PAGE) and were also analysed using principle component and cluster analysis. Morphological markers identified 4 groups and 5 of the Botswana accessions belonged to one group, while the others shared the same group with Zambian accessions. Seed storage protein markers divided the accessions into 4 clusters with Botswana accessions grouped into different clusters. The results from the study revealed that storage protein characters were more accurate than the morphological markers as it was able to distinguish accessions which were closely related.