

LandCare addresses the issues of bush encroachment



Grazing camp in Thulamahashe (before the LandCare intervention)

Bush encroachment affects the agricultural productivity and biodiversity of 10 to 20 million ha of South Africa. Many people believe that we understand the causes of bush encroachment. We do not. Many people believe that either fire or heavy grazing by domestic livestock is the sole cause of bush encroachment. This is wrong. Bush encroachment occurs in many arid regions where fuel loads are insufficient for fires to be an important causal factor. Belief in grazing as the sole cause of bush encroachment stems from Walter's two-layer model. This model states that grasses typically outcompete trees in open savannahs by growing fast and intercepting moisture from the upper soil layers, thereby preventing trees from gaining access to precipitation in the lower soil layers where their roots are mostly found. When heavy grazing occurs, grass is removed and soil moisture then becomes available to the trees, allowing them to recruit, which means neither that grazing causes encroachment nor that Walter's model is correct. Bush encroachment is widespread in areas where there is a single soil layer and where grazing is infrequent and light. We need to move away from observational studies and these single-factor explanations.

If we are to understand the causes of bush encroach-

ment, mechanistic models are needed to guide us and multifactorial experiments to tease out the interactions among the causal factors. Current disturbance-based models have many of the right elements necessary to make mechanistic predictions but need to be appropriately parameterised. Some patch dynamic models also appear to hold great promise in this regard. Field experiments carried out to date, show that support for factors conventionally claimed to cause bush encroachment is underwhelming, and that rainfall volume and frequency, coupled with specific soil nutrient levels, may drive this phenomenon (D Ward). It is clear from the abovementioned statement that bush encroachment is the result of various factors. Bush encroachment is a significant phenomenon in savannah environments as it affects wildlife and local livelihoods by preventing new pasture generation (Graciela Gil-Romera et al.).

The impact of bush encroachment on rural livelihoods

Bush encroachment can also be defined as "the invasion and/or thickening of aggressive undesired woody species, resulting in an imbalance of the grass: bush ratio, a decrease in biodiversity, and a decrease in the carry-

ing capacity" causing severe economic loss. The decrease in the carrying capacity forces the livestock farmers to reduce their livestock numbers, which in most cases, does not happen and as a result soil degradation occurs. The shortage of palatable grasses to livestock because of bush encroachment forces the livestock to look for other things to feed on, which is not good for their development. In most areas where bush encroachment has occurred, most farmers face a problem of underdeveloped stock, which, in turn, hits them hard when it comes to pricing during selling. Most smallholder farmers do not have the funds to buy feeds for their livestock and in cases where bush encroachment occurs in their grazing camps they find themselves powerless to fight it.

The intervention of landcare towards bush encroachment

The Department of Agriculture, Forestry and Fisheries through the LandCare Programme has managed to assist many smallholder farmers who were powerless to fight bush encroachment because of a lack of finance and knowledge. Over the past 12 years, the LandCare Programme has embarked upon the implementation of the LandCare projects with the aim of clearing the graz-

ing camps in rural areas to increase the grazing potential and the number of livestock units per community. Provinces through this initiative managed to clear a total of 1 382 ha. In provinces where the programme manages to clear the grazing camps in fighting bush encroachment, a significant improvement in livestock has been realised. In most of the grazing camps that have been cleared, the programme managed to create temporary jobs for community members as a part of the Programme Poverty Alleviation Strategy. LandCare Programme has tailored its projects to address the unemployment rate within the country. LandCare-funded projects are listed within the EPWP. This programme ensures that the household incomes within the communities are increased by providing beneficiaries the opportunity to earn stipends. When addressing the issues of bush encroachment the programme does not only benefit smallholder farmers who are directly affected by bush encroachment but the programme goes further by employing community members who do not have livestock by providing temporary jobs and skills to them. The skills provided through the LandCare Programme help community members to provide for their families even after the project has ended.



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