



CEPHaS³

Conservation Agriculture Perspectives



CEPHaS is interested in a broad perspective on conservation agriculture, in the context of the farming system, the constraints farmers face and the ways in which they are adapting to climate change. For this reason we have engaged with a range of partners, and in this series we invite them to respond to some questions.

Foundations for Farming is based at Glenforest near Harare in Zimbabwe, not far from Domboshava where the Zimbabwe CEPHaS field measurements are made. They work elsewhere in Africa, and also in India, the USA and Canada. Foundations for Farming promotes the principles of conservation agriculture through demonstrations and the work of a large training team. Their website can be found here <https://foundationsforfarming.org/new/>. Dr Matthew Mbanga, pictured above, is CEO of the FfF Trust, and he answered our questions.



1. What are the main ways in which you have seen smallholder farmers adapting to climate change in southern and central Africa in recent years?

Very few smallholder farmers in Southern Africa are adapting adequately to climate change. The only innovation most seem to think is available is the use of shorter-season varieties.



2. In what sets of circumstances (biophysical, socio-economic etc) are conservation agriculture practices most likely to be beneficial to rural communities, and in what circumstances are they least likely to be useful?

CA practices are universally applicable and the benefits are realized across the agro-ecological regions. Everyone benefits from their implementation. Socially CA seems to be most readily implemented by the most vulnerable members of society such as widows and those with limited access to draught power, large labour or mechanization. The wealthier, more established farmers consider CA practices to be prehistoric and so skip over the basic, good agronomic principles to their own detriment.





3. What components of conservation agriculture systems are most problematic from the perspective of farmers?

By far the greatest challenge that farmers face is the collection of mulch that is traditionally burnt or eaten by unsupervised livestock. The solution is to collect mulch early in the year before the 'burning season' arrives and to store mulch on roof-tops or in barns and storerooms where communal livestock cannot access it.

4. What do you think are the main research questions that need to be addressed to support food security in sub-Saharan Africa under climate change?

Research needs to be conducted to demonstrate the different amounts of soil and moisture lost or retained in ploughed and unploughed and mulched and unmulched fields, to assess the actual labour requirement for conventional and conservation agricultural practices, and to compare the return on investment between the systems.



To find out more, visit our webpages at <https://www2.bgs.ac.uk/CEPHaS> and follow us on twitter @CEPHaS_Soil

Photographs kindly supplied by Foundations for Farming



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