The Weekly
Information Resource Bulletin

Climate change Focus

Small-scale farmers in Malawi are among the first to feel the impact of climate change because of their greater dependence on rain to nourish their crops.

Most farmers practice intensive farming which leads to land degradation, smaller crop yields and increased poverty.

Farmers in the country can mitigate some of the climate change effects by changing farming methods that currently generate greenhouse gases. They can also plant trees and other plants that take carbon dioxide out of the air and store it as carbon in roots or plant materials.
Farmers can also mitigate climate change effects by practicing conservation agriculture otherwise known as "ulimi wa mlera nthaka", in Malawi's national language, Chichewa.

The Goals of the Weekly Bulletin are:

- To promote conservation agriculture
- To clearly discuss the advantages of conservation agriculture
- To learn from other farmers about the advantages of conservation agriculture
- To describe how conservation agriculture can help reduce food shortages in a rapidly growing society

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The Problem: Benefits of Conservation Agriculture

As we mentioned last time, conservation agriculture involves soil management techniques that minimize the disruption of the soil's structure and composition.

There are a lot of benefits of conservation agriculture. For one thing, by adopting its practices, farmers can contribute to making agricultural systems more resilient to climate change.

Conservation agriculture systems are designed to: use mulch cover to reduce soil erosion and land degradation, reduce soil temperature and conserve moisture for plant growth, increase organic matter levels and improve soil structure and fertility. (FAO 2009)

The constant addition of crop residues, such as stalks and leaves and other matter, leads to an increase in the organic content of the soil.

In the beginning this is limited to the top layer of the soil, but with time this extends to deeper into the soil.

Organic matter plays an important role in the soil. It helps make fertilizer's work more effectively and efficiently and it contributes to water holding capacity and nutrient retention.

More water infiltrates into the soil with conservation agriculture rather than running off the soil surface.

Streams are then fed more by subsurface flow than by surface runoff. Thus, surface water is cleaner and more closely resembles groundwater in conservation agriculture than in areas where intensive tillage and accompanying erosion and runoff predominate.

Greater infiltration should reduce flooding, by causing more water storage in soil and slow release to streams. Infiltration also recharges groundwater, and thus increasing *well* supplies and refreshing dried - up springs.

Activities for Journalists

Use your radio station to help your community understand the advantages of conservation agriculture.

Remind your listeners that conservation agriculture aims at conserving soil and water by using surface cover (mulch) to minimize runoff and erosion and improve the conditions for plant establishment and growth. It involves planting crops and pastures directly into land which is protected by a mulch using minimum or no-tillage techniques.

Help listeners to understand that there are many good reasons for the adoption of conservation agriculture.

High energy raindrops dislodge soil particles which are carried away in runoff water. Mulch cover protects the soil by absorbing raindrop impact, increasing infiltration and slowing the speed at which water runs over the land, thereby reducing soil movement and erosion.

Moisture availability determines crop and pasture productivity. Crop failures can occur despite ample rain because much of the moisture is lost through runoff and evaporation. Mulch retention can halve runoff and will decrease evaporation, making more moisture available for plants.

Conservation farming provides more reliable yields than those achieved under intensive farming.

Have a vox pop with a number of people and ask them what they know about conservation agriculture.

Do you know any farmers who are using conservation farming techniques? Find out how they learned about conservation agriculture. Has it made a difference in their lives? Have they had bigger crop yields since adopting conservation agriculture practices?

If you don't know any farmers using conservation agriculture techniques, check with the local extension office or Ministry of Agriculture representative in your area.

Ask the farmers to explain the benefits they have seen since they started practicing conservation Agriculture.

Ask an agricultural officer from your area, to explain what his office is doing to promote conservation agriculture in the area. The officer should also explain clearly the benefits of practicing Conservation Agriculture, especially to small holder farmers.

Talk to an extension agent about how conservation practices can help reduce food shortages.

Useful Contacts

- PRB- Contact person; Sandra Mapemba: +265-99-921-9789
- Bunda Agriculture College: Mr Mpinganjira: 265-1-277-222
- www.fao.org/ag/ca/ca-publications/istro%202009.pdf
- www.sciencedirect.com/science/artice/pill/S037842900900701