Development of Conservation Agriculture (CA) based cropping system in West Africa

What is CA? "a concept for achieving sustainable and profitable agriculture"

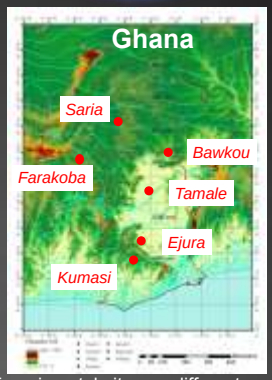
Three principles of CA (by FAO)

- Non-till or minimum tillage
- Mulching the soil surface with crop residue or organic materials
- Diversified cropping pattern such as intercropping, crop rotation, relay cropping.

Serious land degradation in the Central Plateau, Burkina Faso

Example of CA based cropping in Brazil (FAO)

Monitoring soil erosion and water runoff (Saria, Burkina Faso)



Experimental sites on different agro-ecological regions in West Africa together with Soil Research Institute (SRI; Ghana) and National Institute for Environment and Agricultural Research (INERA; Burkina Faso)

Hearing from farmers on existent cropping systems (8 regions in Ghana and Burkina Faso)

Pigeon pea (*Cajanus cajan*) alley cropping is expected to provide food, fodder and woods (Bawkou, Ghana)

After maize harvest, relayed Mucuna (*Mucuna pruriens*) grows continuously, which will be turned-over to the soil (Bawkou, Ghana)

Expected effects by CA

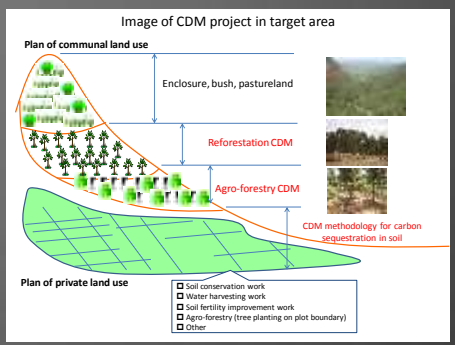
- Soil conservation
- Decrease in water runoff
- Soil fertility improvement
- Labor cost saved
- Low energy consumption

Establishment of a Rural Society with Low Emission in *Ethiopia*

Location of project area

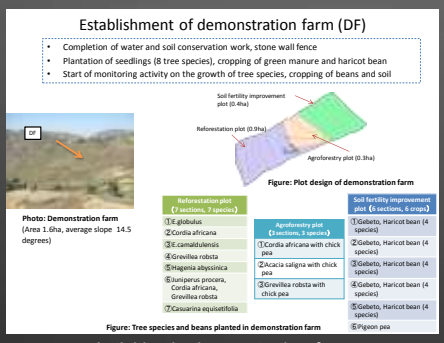
Tigray Region in the northern part of Ethiopia has been frequently plagued by droughts, exposing people to threats of starvation.

JIRCAS has undertaken a research project in Tigray and selected a low-income village with an area of 4,000 ha and population of 6,000 for studies.



Land use changes and CDM project activities at the project site

Workshop in a community



Activities in demonstration farm

Various surveys have been conducted to establish a technology platform to recover and enhance natural resources (land, water, soil and vegetation) in rural areas, and promote sequestration of greenhouse gases (GHGs) within trees and soil. It covers 400 farm households and 1,400 ha of communal lands as well as 44 sampling points for quarterly soil carbon analysis.

JIRCAS conducted workshops on all communities belonging to the village and established a demonstration farm in the project area and started experiments on water and soil conservation, reforestation, and agro-forestry for disseminating appropriate technologies, and developing a forest type CDM project.