

Technology Fact Sheet for Mitigation

Sector: AFOLU.

Subsector: Forestry

Technology: Afforestation Using Machines (Tractors) ⁱ

A.1 Introduction:

This technology is concerned with machine utilization like tractors in afforestation of extensive areas. This technology has the merits of fastness, time saving and minimization of labour cost.

A.2 Technology characteristics:

The technology is simple, not complicated and characterized by having more effective results than man power. The main challenge is to manage its scope and coverage. Main issues involve selection of the suitable machine grade and accessory to match the soil and the process.

A.3 The country specific applicability:

In Sudan this technology was applied in pilot scales (small scales) for carriage, pulling, road construction and fire lines clearing, seeding/planting, and transportation in difficult roads and during the rainy seasons in different mechanized agricultural schemes.

In Sudan the annual deforestation rate is estimated to be 2.4%. This gap could never be filled by labour work, especially under the rural – urban migration state. Additionally there is some difficult soil which could only be prepared through machines. The available technical Know-how available in the forestry sector and other sectors such as agriculture make its expansion a very feasible option.

A.4 Status of technology in country:

The technology is applied in limited forest areas in Sudan. Hence there is reasonable know how and experience. The main envisaged obstacle is to set up a solid maintenance program and to ensure the availability of spare part.

A.5 Barriers:

- High cost for the machine and high operation cost for fuel, maintenance etc.
- Carbon release, GHG emissions through Soil disturbance and Diesel fuel consumption.
- Limited know-how in some specific areas e.g. Advanced maintenance or computer based operation

A.6 Benefits to economic / social and environmental development:

- Increase of carbon stock through quicker afforestation rate
- It contributes to food security as it improves and protects soil, ameliorates climate, protects water sources and supports livestock and wildlife.
- Contribute to wood products satisfaction such as energy satisfaction (70% of energy in Sudan is forest dependent).

A.7 Costs

The cost of the tractor is approximately 31,000 USD

ⁱ This fact sheet has been extracted from TNA Report – Technology Needs Assessment for Climate Change Mitigation - Sudan. You can access the complete report from the TNA project website <http://tech-action.org/>