

Trees boosting bean yields in Rwanda

By SOPHIE MBUGUA
Special Correspondent

AFRICAN FARMERS are not making much from climbing beans, despite having more than four million hectares of land under cultivation each year, due to poor practices.

Sixty per cent of this land is in Uganda, Kenya, Rwanda, Burundi, Tanzania and Congo.

Rwanda, for example, is the largest consumer of climbing beans globally at 29 kilogrammes per capita, according to HarvestPlus, — a CGIAR (Consultative Group for International Agricultural Research) programme dubbed Agriculture for Nutrition and Health. But some 500,000 kilogrammes of the climbing bean is lost every year due to poor sticking, that is, the use of sticks to support the plant.

The bean species grows upwards by wrapping itself around a support plant and yields up to three times more on the same area of land than bush beans.

An hectare of land for example, is estimated to produce about four tonnes of climbing beans annually, but due to poor sticking, soil erosion and diseases, the yield has declined to about 2.5 tonnes.

"Many times I am forced to use napier grass and maize stalks to support my beans because I cannot afford to buy strong sticks every season," said a farmer from Gishwati district, northwestern Rwanda.

"The beans rot easily when they fall and form a bush."

According to Speciose Katengwa, the country coordinator for the N2Africa programme at the International Institute of Tropical Agriculture, when the

beans fall and form a bush, it interferes with the air circulation, thereby exposing the crop to disease.

The N2Africa project helps smallholder farmers in the effective use of nitrogen.

"Poor sticking also affects photosynthesis resulting in poor yields," said Ms Katengwa, adding that one stick can support four bean plants.

According to Dr Athanase Mukuralinda, the World Agroforestry Centre country representative, farmers have about 0.6 hectares of land each which requires about 110,000 sticks each season.

Beneficiary farmers

The centre is now working with over 1,000 farmers in Bugesera and Gishwati districts to scale up the use of trees in farming.

The project, funded by the Australian Centre for International Agricultural Research, is also being implemented in Burundi, Ethiopia and Uganda.

Farmers have been planting different tree species including the leguminous *Alnus Acuminata* and *Acacia Angustissima* for soil and water management in both low and high altitude areas.

"I use the branches of the *Alnus* tree to support climbing beans, and then mix the leaves with ash and cow dung to produce good organic manure," said Nzaitulik Vestine, one of the beneficiary farmers in Mwiyanike village in Gishwati.

The trees are pruned once every six months to help sprout new branches. This also prevents them from growing taller. The branches help in improving the rooting system, which in turn holds the soil.



Nzaitulik Vestine on her bean farm in Mwiyanike village in Rwanda's Gishwati province. Picture: Sophie Mbugua