

**THE CONTRIBUTION OF RURAL SMALL-HOLDER- FARMING LANDSCAPES
TOWARDS CARBON SEQUESTRATION: A CASE STUDY OF MALEKA PARISH,
MAYUGE DISTRICT**

BY

HAJARA NAKIBERU

B. EVS (MAK)

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ABSTRACT

Uganda's landscape is dominated by Small scale farmers who maintain trees on-farm to satisfy their basic needs. On-farm trees contribute to reduction of carbon dioxide from the atmosphere and in this way contribute climate change mitigation. It has been observed that some farms are not managing trees appropriately. In order to motivate farmers to conserve and manage trees it is important that they are compensated for their stewardship. One way to compensate them is by involving them in carbon markets and other payments for ecosystem services initiatives such as Reducing Emissions from Deforestation and Degradation. Before farmers can participate in these markets, their contribution towards carbon sequestration needs to be determined. This study was carried out in Maleka Parish to (1) determine farmer's willingness to maintain and plant trees on-farm if given incentives, (2) quantify the above ground carbon stored in trees on farm, (3) determine the land use unit that contributes most to above ground carbon sequestration. Guided interviews were carried out with 115 respondents to generate data for the first objective. Sixty (60) farms were surveyed for above ground biomass. In the Survey, a census of all trees with DBH greater than 3 cm was made taking diameter, height and crown width. These measurements were converted into biomass using allometric equations. Results show that, all respondents are willing to plant and maintain trees on their farms if given incentives. On average farmers maintain 90 trees per hectare on their land. The dominant tree species that farmers maintain are multipurpose trees. The above ground carbon stock ranged from 0.01 to 47.7 tCha⁻¹. An average farm in Maleka parish sequesters 7.8 t C ha⁻¹ as above ground tree carbon .Most of the on-farm carbon was found in farm lands land use unit .There is high potential for carbon sequestration in Maleka Parish by planting trees on farm. Therefore involving these farmers with carbon markets will motivate them to increase carbon sequestered on their farms as well as improving their livelihood.

KEY WORDS

Agroforestry, Climate change, Carbon, Attitudes