ESTIMATION OF CARBON STOCK OF TREE SPECIES IN SAU CAMPUS AND DOCUMENTATION OF TREE SPECIES OF AGROFORESTRY IMPORTANCE

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Extended Summary

Urban forests play an important role in mitigating hazards evolved due to climate change through sequestering atmospheric carbon dioxide. The study was conducted at three plantation systems in Sher-e-Bangla Agricultural University Campus (SAU) aiming at exploring floristic composition, stand characteristics and biomass carbon stocks. Both purposive (Woodlot and homegarden) and systematic sampling method were followed. A total of 35 genera and 41 tree species that were belonged to 25 families were recorded in SAU campus. Among the three plantation systems, homegarden was found rich in species composition followed by woodlot and roadside. *Mangifera indica* was found dominant species in SAU (IVI = 17.25%). Stem density and Mean DBH were significantly varied among the three plantation systems ($p<0.05$), while basal area and biomass carbon (Above – and below ground) was exhibited with insignificant difference ($P>0.05$). The average biomass carbon stocks for roadside, homegardens and woodlot were 159.18±36 $Mgha^{-1}$, 169.37 ± 34 $Mgha^{-1}$ and 206.19 ± 42 $Mgha^{-1}$ respectively. When three plantation systems considered as whole, the mean biomass carbon, basal area, stem density, mean DBH were 174.24±21 $Mgha^{-1}$, 34.16 ±3.51 m^2ha^{-1}, 1096.87 ± 121.10, 19.83 ± 1.63 cm, respectively. This study reveals that the urban institutional forest is rich in terms of plant species and carbon stocks and similar work should be extended to other urban green space in order to know the overall carbon stocks in Dhaka City.

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