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Status and Potential of Fences in the Urban and Peri-Urban Agriculture Gardens of Khartoum, the Republic of the Sudan

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Abstract

Greater Khartoum, capital of the Republic of the Sudan, provides an example of a rapidly expanding Sub-Saharan Africa city where urban and peri-urban agriculture (UPA) plays an important role in the livelihoods of farm households and urban consumers. Greater Khartoum has a reported population of 6.2 million inhabitants, a current annual population growth rate of 4.2% and accounts for 16.7% of the national population. This study was conducted in 120 gardens, covering 160 ha at one peri-urban and two urban locations to determine the previously undocumented extent and composition of fences and to identify the role of living fences in the structure and function of the prevailing agricultural ecosystems.

Fences were recorded in 51% of the gardens, as external boundaries and internal subdivisions, with non-living fences and living fences of various types accounting for 66% and 34%, respectively, of the 14,279 m of fences recorded. The survey identified 22 plant species used in living fences, of which some species, such as Christ's thorn (*Ziziphus spina-christi* (L.) Willd.), were used to construct dead branch barrier fences that comprised 45% of all fences in the study areas. Fences played important roles in the protection of orchards, enclosure of livestock and residential compounds, and as barriers to sand encroachment along local roads. It was apparent that living fences were under-utilised as sources of food or non-food products, as windbreaks, or for the improvement of soil and garden environments.

Keywords: Agroforestry, hedges, homegardens, land demarcation, living fences, Sudan, sustainable cities, UPA, urban agriculture, peri-urban agriculture