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"World Food System —
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Nutreint Flows in Upa Gardens of Khartoum

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Abstract

The studay area lies in Khartoum State, the capital of Sudan which is located at the conflux of the Blue Nile and White Nile (15° 40´ N, 32° 30´ E, 382 m a.s.l), at the semi-arid savannah belt of the Sudan, with an average annual rainfall of 100–200 mm and a long dry season from September to June. Thus, crop production is completely irrigated. The 'Jirouf' land which represents the most fertile areas on urban site is renewed annually every year with rich silt deposits laid down during the flooding. This area is utilised extensively all the year around, unless it covered by flood. According to the results of the household survey conducted at the first stage of this project. The farmers use mineral fertiliser routinely, almost exclusively urea. Organic fertilisers are used to small extent only, the amount of urea applied per unit area, on average, was 230 kg ha^{-1} which is relatively high, but insufficient to compensate for plant uptake. The objective of the study at this stage is to give comprehensive overview to soil fertility status in UPA of Khartoum State and a nutrient balance approach was used to quantify the nutrients inputs (urea, rainfall, irrigation water and sedimentation) and outputs (farm products and leaching process) in term of nutrients content N, P and K. Geographic positioning system (GPS) was used to establish baseline maps for farms with different size and location to collect bio-physical and economical data.

The knowledge obtained form this project will allow for efficient and integrated use for nutrients resource utilised by farmers and also gives a suggestion of how to improve soil management by giving solid data on nutrients flows and balances in irrigated urban agriculture.

Keywords: Khartoum, nutrent flows, Urban agriculture

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