

Baseline Characterization of Urban and Peri-urban Agriculture (UPA) in Khartoum City

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Introduction

- Khartoum, the capital city of Sudan with 7 million inhabitants (including 2 million refugees), is located at the confluence of the Blue Nile and White Nile (Fig. 1), in the semi-arid savanna belt.
- The dry season occurs from September to June (100 – 200 mm of mean annual rainfall), but there are abundant water resources through rivers, seasonal streams and the Nubian Sandstone aquifer.
- Only 11% of the 0.75 million hectares of land potentially suitable for cultivation is currently allocated to agriculture. Livestock population is estimated at 0.8 million head, poultry at 9 million head.
- Soils are of alluvial origin, ranging in texture from heavy clays to lighter silty and sandy loams.
- Given that little is known about the structure and productivity of UPA in Khartoum, the main objective of the first part of the UPA project is baseline mapping and socio-economic analysis of agricultural activities.

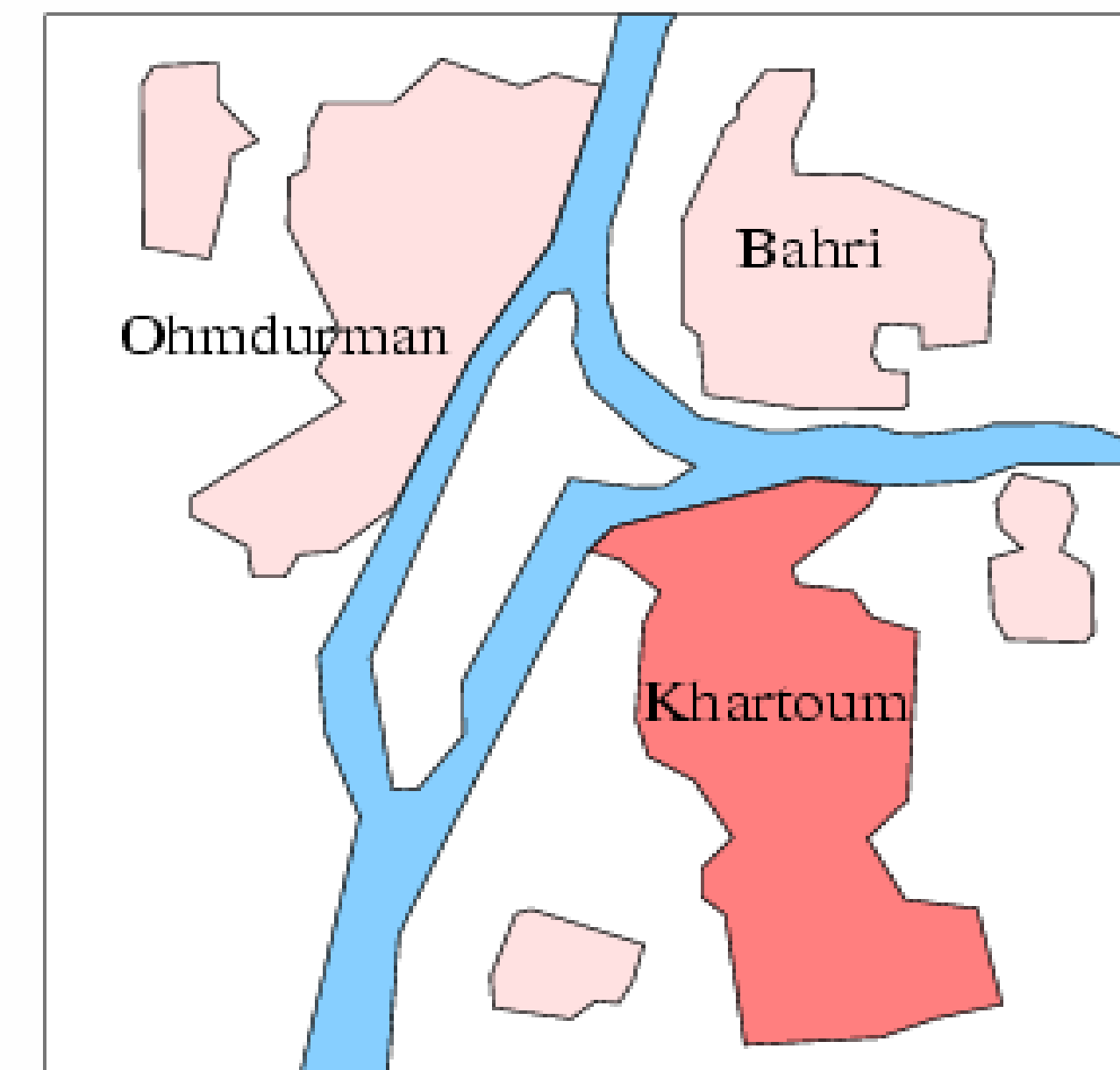


Figure 1. Sudan's triple capital (Khartoum, Bahri and Omdurman)

Methodology

- Urban farming takes place within the city on Jirouf land (Fig. 2) along the River Nile, Blue Nile and White Nile.
- Peri-urban farming is practiced on lands surrounding the boundaries of the city (Fig. 3).
- 40 urban cultivators and 38 per-urban cultivators were randomly selected and interviewed in the period from March 25th to June 6th 2007.
- A questionnaire was used to collect information on: demographic, socio-economic and migratory characteristics of the household members, their involvement in urban agriculture, the type and extent of involvement; the farming systems practiced and problems encountered in urban farming.



Figure 2. Jirouf Land lies along the White Nile in Khartoum State



Figure 3. Flood irrigation utilizing ditches to divert water from the river to cultivated land.



Figure 4. A vegetable farmer transplanting eggplant on a peri-urban farm

Table 1. Cropping calendar for peri-urban farmers in Khartoum

crop	months											
	J	J	A	S	O	N	D	J	F	M	A	M
Rocket												
Onion												
Radish												
Purslane												
Jewsmallow												
Eggplant												
Cucumber												
Squash												
Tomato												
Cowpea												
Carrot												
Fennel												
Pepper												
Lettuce												
Maize												
Sorghum												
Alfalfa												
Sweet potato												
Potato												
Okra												
Green bean												

Results

- In urban agriculture 60% and in peri-urban agriculture 80% of household heads had formal schooling.
- The major income in urban areas is derived from vegetable production (Fig. 4, Table 1) and about 30% of the households keep animals for home use and as a source of draught power (Table 2). In peri-urban areas, two-thirds of the farmers practice mixed/cropping livestock farming. Livestock includes not only cattle (54%), sheep (32%) and goats (11%), but also other animals like donkeys (0.9%), camels (0.3%) horses (0.2%) and others (1.6%).
- Farm yard manure (FYM) was only used by 7.5% of the urban farmers and 24 % of peri-urban farmers to supplement chemical fertilizers.
- The majority of urban farmers (78%) cultivate the landowners' fields in return for shared products, while 10% were renters and 12% were land owners. The land used by most peri-urban farmers either belongs to the public sector (41%) or to cooperative agricultural societies (33%).

Table 2. Farming characteristics of the households

	Urban		Peri-urban	
	Number	%	Number	%
Livestock keeping				
Yes	12	30	24	63.1
No	28	70	14	36.9
Crops grown				
Single	2	5	3	8
More than one	38	95	35	92
Fields cultivated				
Single	34	85	0	0
More than one	6	15	40	100
Fodder growing				
Yes	23	58	37	97
No	17	42	1	3
Fertilizer used				
Chemical	37	93	29	76
Chemical + FYM	3	7	9	24

Conclusions

- Farmers face marketing problems, low output prices, high input cost, lack of capital, lack of labour, land shortage and pest attacks.
- Urban farmers face competition by the brick industry for manure and by city development for space.
- Urban and peri-urban agriculture in Khartoum State secures livelihoods of farmers given adequate support from government institutions.

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