

IWMI West Africa (Ghana)

Urban and Peri-urban Agriculture (UPA) Studies

**General overview of Urban and Peri-urban Agriculture in the Cape Coast and
Takoradi Municipalities**

**Studies conducted by
Emmanuel Obuobie and Eric Sarpong**

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1. Study Background

Most of IWMI's research activities on urban and peri-urban irrigated vegetable production in Ghana, otherwise known as urban and peri-urban agriculture (UPA) have been based in the three major cities of Accra, Kumasi and Tamale. Often, IWMI considers UPA practices in Accra as representing the southern section of Ghana, to which Cape Coast and Takoradi belong, without any study in a second city to confirm the veracity of this assumption. It is against this background that an informal study was conducted in November 2004 in the urban and peri-urban areas of Cape Coast and Takoradi to give an overview of irrigated vegetable production going on there and to observe any deviation in practice from what is known in Accra. This report summarizes the outcome of the studies.

In this report urban and peri-urban agriculture (UPA) refers to the production of exotic vegetables mainly in open spaces in urban and peri-urban areas. Examples of exotic vegetables are cabbage, carrot, cucumber, lettuce, and spring onion.

2. UPA in Cape Coast

The Cape Coast municipality is known to have a high tourist potential. Because of this, a number of hotels and guest lodges have been built and more are still being built to meet the high number of tourists thronging this area. This high number of hotels and guest lodges, undeniably, warrants a high and unceasing demand for vegetables within the municipality. This offers a good opportunity for year round vegetable production in and around Cape Coast. However, the study revealed that there is almost no irrigated vegetable farming taking place within Cape Coast except for the premises of Cape Coast University (University farms and the backyard of a lecturer-see box 1) where almost a hectare of exotic vegetables is cultivated year round. The bulk (over 90 %) of the vegetables consumed in and around the Cape Coast municipality comes from as far as Togo, areas along the Ghana-Togo border and Kumasi. The rest comes from rural areas surrounding the Cape Coast District (e.g. Nsawir) (*personal communication: Akuamoah-Boateng--Lecturer, school of Agriculture, UCC*).

Based on interviews and observations, reasons assigned to the insignificant level of vegetable production in and around the Cape Coast municipalities include: (1) unsuitable topography and flood-prone flat lands; (2) saline nature of soils (3) scarcity of fresh water and (4) preference for fishing.

The Cape coast municipality is characterized by undulating topography, which makes farming in general very difficult. The municipality has limited suitable open spaces that could be used for farming purposes; the few flat lands are subject to floods. Having just a few rivers, which are even ephemeral, the cape coast area is one of the water scarce areas in Ghana, particularly during the dry season (October-March). Therefore, the potential for irrigated agriculture is very low. Being a coastal area, the soils in and around the municipality are salty in nature, which naturally eliminates the possibility of growing low salt tolerant vegetables. Coupled with scarcity of fresh water, the potential of cultivating even high salt tolerant vegetables is still very low. The inhabitants of Cape Coast are mostly into fishing. This has been their major income generating activity since time immemorial and therefore the interest to go into other areas that might even generate higher income is low.

Though irrigated vegetable production possibility was close to nil, one would occasionally find areas cultivated to food staples such as plantain and cassava that are predominantly rain fed.

Box 1: The experience of an irrigated vegetable farmer (Mr. Odame)

Mr. Odame is a technician at the Animal Science Department of UCC. He has been cultivating exotic vegetable like cabbage, green pepper, lettuce, cauliflower, etc just beside his residence for about 4-5 years now. His only source of water has been pipe-borne water. On the average, he realizes about ₵2.5m as total gross margin per planting season. To him his produce is on high demand because buyers prefer vegetables cultivated through organic means of farming. He does not use chemical fertilizers. Both the University community and outsiders patronize his vegetables. According to Mr. Odame, the salty nature of coastlands (referring to cape coast) pose difficulty to irrigated vegetable production especially in the dry seasons when irrigation is of paramount importance and cost of water is high.

3. UPA in Takoradi

In the Takoradi municipality, there exist a number of urban and peri-urban irrigated vegetable production sites where considerable amount of vegetables are produced. These are located in areas commonly known as (1) Air force; (2) Airport Ridge; (3) PTC; and (4) Kwesimintsim (near Obiri lotteries). The estimated number of farmers at each location and the cultivated total land size are provided in table 1.

Table 1. Number of farmers and landsize cultivated in Takoradi

Farm location	Total cultivated area (ha)	Number of farmers
Airport ridge	2.01	11
Kwesimintsim	0.24	7
Airforce	0.77	7
Total	3.02	25

Average farm size = 0.12 ha

3.1 *Social characteristics*

The age category of the farmers is 28-45 yrs. Their level of education ranges from no formal education through primary to middle level. Almost all the farmers hail from the Northern Region, though most of them were born and bred in Takoradi, with Moslem background.

3.2 *Years of farming experience*

From interaction with the farmers, it was ascertained that almost all the farmers have had at least five years of farming experience with one farmer having farmed for close to twenty years now.

3.3 *Gender dimensions*

All the farmers encountered were men, which could mean that at least men dominated the practice. In all of the sites, females spotted were involved in harvesting of produce for market. Through interaction with the farmers, it was apparent that while the males do the bulk of the energy draining on-farm activities, the females specialize in harvesting and marketing of farm produce. This is similar to the cases of Accra, Kumasi and Tamale.

3.4 *Land Tenure System*

Farm sites at both the Air force and Airport ridge are all located on lands that belong to the Air force. Farmers acquired land from their fathers and relatives who used to pay a cultivating fee of ¢5000/annum to the Air force authorities. Currently this arrangement is not enforced, as some farmers have not paid anything for about two years now. However as indicated by one, the new arrangement is ¢10000/annum though also not strictly enforced.

For some farmers at Kwesimintsim, the tenural arrangement is in terms of payment of an amount, the value of which is determined by the profit made from sales of produce after harvest ('discretionary' payment arrangement). For other farmers, land was acquired free for vegetable farming in order to keep the area cleared of bushes.

3.5 *Vegetables cultivated and Cycle of production*

Farmers cultivated more of cabbage, cauliflower, lettuce, carrot, green paper and spring onions. Other vegetables cultivated but not as intense as those listed above include tomatoes, okro, long beans and black beat.

Almost every farmer cultivates year round. The average cycle of production per crop per year is provided below:

Cabbage--- thrice (3)

Cauliflower--- once (1)

Lettuce--- five (5)

Carrot--- twice (2)

Green paper--- twice (2)

Spring onions--- four (4)

3.6 *Source of irrigation*

A few farmers crop only in the major season. In the minor and dry seasons, producers rely heavily on irrigation and the source of irrigation water is stream, some of which have been superimposed with drains. This source guarantees water availability throughout the year. Others resort to shallow wells as source of irrigation water. Irrigation is achieved by means of a watering can and pouring water directly over the crop. Normally the farmers create earthen dug-outs in which they store do is to

3.7 *Finance and Marketing*

Farming happens to be the major occupation and income-generating source for most farmers. Few of them have taken on second occupation like carpentry, repair works, security, etc. Financing of farming activities is from their own resources.

Most farmers have customers who come to buy from the farm gate. At times the customers, who are mostly women, do the harvesting and sorting on the farm before taking the vegetables to the market. Some farmers indicated that sometimes they produce on contract. At other times however,

they have to look for buyers themselves especially when there is a high influx of produce, from other producing regions, on the municipal markets.

3.8 *Marketing and Production constraints*

The following constraints in marketing were outlined by farmers:

- Supply of produce from other areas outside the urban and peri-urban centers of Takoradi sometimes results in so much glut on market such that producers within the municipality faces low demand for their produce.
- Low avenue for pesticides acquisition
- In the peak seasons because of lack of urban storage systems, farmers face the problem of perishability for their produce.

3.9 *Extension Advice*

Though most areas of urban vegetable production may fall under the jurisdiction of certain extension agents, it was clear that for a lot of the producers no extension advice or guidance concerning production or consumer health concerns are provided.

3.10 *Total revenue and cost*

Information on the total revenue and variable cost per year was sought. Since revenue is closely linked to output, it is only necessary to have prior knowledge of annual output levels. However, for a study of this nature it would have been pretty difficult to get accurate data. Information sought on cost of production covers only variable cost since gross margin is to be used as an indication of profitability (considers only variable costs). The components of the variable cost included:

- Seeds/seedlings
- Chemical sprays
- Fertilizer/ammonia

It was indicated that there is no use of casual labour. A great deal of permanent self or family labour is employed.

Only five farmers could provide information on revenue and cost of production. The total revenue and cost of production with the associated gross margins are summarized in Table 2. The average gross margin (GM) is about ₦2,043,000 per year.

Table 2. Total revenue, cost and gross margin

Farmer No.	Total revenue per year (Cedis)	Total variable cost per year (Cedis)
1	4,000,000	500,000
2	1,000,000	500,000
3	3,800,000	585,000
4	1,500,000	500,000
5	3,000,000	1,000,000
Total	13,300,000	3,085,000
Average	2,660,000	617,000
Average GM = 2,043,000		

4. Comparison, Conclusions and Recommendations

The level of UPA in Cape Coast and Takoradi combined can be described as insignificant compared to that in Accra, with the level in Cape Coast municipality being close to non-existence due to the unsuitability of the topography of the land, saline nature of soils, and scarcity of fresh water among others. With the current high tourist activities in the Cape Coast municipality, which undeniably warrants a high and unceasing demand for vegetables, the reasons for non-existence of UPA in Cape Coast should be addressed to encourage many of the youth in particular to earn a living out of this.

In terms of irrigation water source, majority of farmers in Takoradi use streams, few of which are superimposed with natural drains whiles in Accra the most frequently used water is domestic effluent from drains. Therefore, the level of wastewater irrigation taking place in the Takoradi municipality could be considered as insignificant compared to that in Accra.

The study did not find any deviation in the pattern of UPA practices in Takoradi as done in Accra and elsewhere in Ghana. The constraints faced by farmers are the same in both cities.

Based on the above, it can be concluded, conservatively, that UPA practices in Accra sufficiently represent UPA practices in the southern section of Ghana but the extent differs from city to city, with that in Accra being the largest.

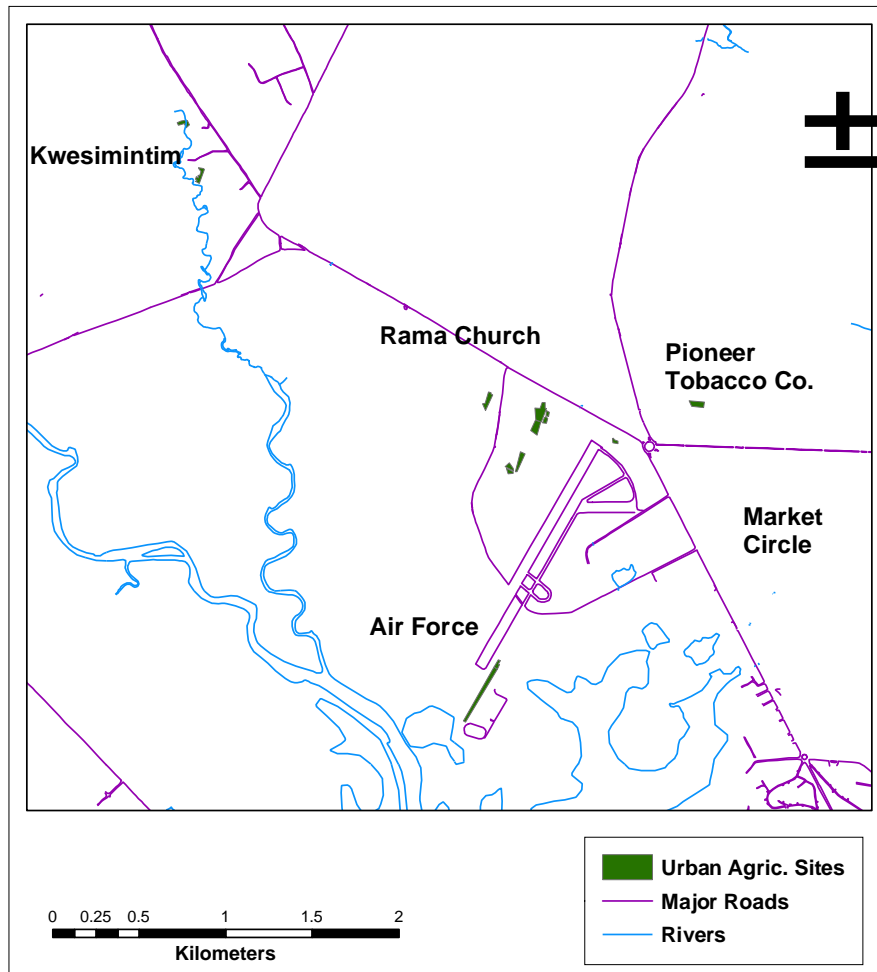


Figure 1. UPA sites in Takoradi