Kano is a city with a population of between 2.5 and 3 million, which makes it the largest city in Northern Nigeria. Several studies have shown the significance of urban and periurban agriculture in the area and its contributions to improved nutrition, household food security, employment, etc. of city dwellers.



Vegetables are grown for the urban market

Optimising Agricultural Land Use in Kano

rban agriculture is not a new phenomenon in Kano (Olofin et al., 1997). It began long before the 1960s in some parts of the city, and became widespread after the general economic downturn in the late 1980s, when the urban poor struggled to improve their livelihoods. However, despite the obvious gains of this practice, it has not been officially recognised. Rather, it is merely tolerated as a response to the socioeconomic conditions faced by many poor individuals (Binns et al., op cit.). Yet, as Lynch et al. (2001) suggest, the promotion of an 'enabling environment' in which agriculture in the city is encouraged and

This contribution summarises the findings of a sequence of research studies in which the authors have been involved. In particular, the findings consist of the 1996 collaborative research by Natural Resources Institute, Chatham, England, and the Department of Geography, Bayero University, Kano, Nigeria that was commissioned by the DFID (Olofin 1996, and Olofin et al., 1997); the report of three scientists on a re-visit to one site in 2001 (Lynch et al, 2001); the report of three other scientists to more sites in 2002 (Binns et al., 2003) and the author's current (2003) field observations in four sites.

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supported remains crucial. Of primary concern in this context is a land tenure arrangement that would encourage full participation of the urban resource poor.

Three sub-systems of field production have always been present in the urban and periurban fringes of Kano: dry season production of market gardening crops, wet season production of staple food crops and permanent fruit orchards. Of these, the permanent orchards usually belong to well-to-do individuals. Also, animal rearing (poultry, fish, cattle etc.) is undertaken by the middle and upper classes of the society who have larger compounds. Thus, dry season horticultural crop production and wet season production of staples, actively pursued by the urban resource poor, are discussed in this article.

CROP PRODUCTION

A study by Olofin (1996) established that especially men, between 30 to 70 years of age, undertake urban crop production during both the dry and wet seasons. These men live in simple traditional houses and most have received Islamic instructions. Nearly 98% of the 109 men interviewed during this study were urban resource-poor. Less than 5% are migrants from other parts of Nigeria. The agricultural inputs are rudimentary – hoes, machetes and sickles as implements,

and seed from their own stocks or bought on the open market. A few had access to improved seeds, fertilizers and pesticides. Many relied on household refuse, animal droppings and ash for manure.

Vegetable production by irrigation during the dry season is undertaken on flood plains, floodable low terraces and depressed, seasonally flooded upland areas, subject to the availability of water either on the surface or in dug up ditches. Highly polluted urban waste streams are used for irrigation throughout the year in several sites, supplemented by a few tube wells. Flooded low terraces and upland depressions are irrigated with available water usually at the beginning of the dry season. Depending on water availability they may be irrigated towards the end of the dry season, after which the crops are left to mature with the onset of the rains. Otherwise, the plots are left fallow after the first crop for the cultivation of staples during the wet season.

Plot sizes are very small, averaging 0.2 ha per plot in the intra-urban areas and 0.5 ha in suburban areas. However, about half of the respondents had more than one plot. Some of these urban sites are vacant lands belonging to Government. It was clear in 1996 that in five of the seven vegetable production sites investigated the access to land was insecure, and the report

expressed the fear that: "indeed, urban sprawl may soon catch up with the other sites ... if appropriate steps are not taken" (Olofin 1996: 2).

A study of one of the risky sites in 2001 (Lynch, et al., 2001) confirmed that about a quarter to a third of the land that was available for cultivation in 1996 was no longer available for that purpose in 2001. Current observation at that site has shown that more than half of the 1996 space is no longer available for urban cultivation. Indeed, the two most extensive sites at the edge of the urban area where tenure appeared to be private and safe in 1996 are now under great threat. About half of the area at these sites has now gone.

ACCESS TO LAND AND TENURE ARRANGEMENTS

A variety of land tenure arrangements for urban agriculture are common in Kano. These range from individual or family ownership (where tenure is secure) to permitted and illegal squatting (where

More than half of the 1996 space is no longer available for urban cultivation

tenure is insecure). In some locations. farmers utilise open spaces adjacent to government undertakings such as railway lines and offices. Most of the farmers feel that they 'own' their plots in the sense of having user rights over them. This view, one believes, is borrowed from the precolonial (and pre-Islamic) times when land tenure in Northern Nigeria was purely communal, and individual community members had the right of use to any land. Thus, once an individual used a particular piece of land, he had the right of occupancy that excluded any other member of the community. The land would revert to the community only when the individual ceased to use it. This is why Ega (1987) argues that the rights to use land at that time was at two levels. The community had rights over all unclaimed land, and the individual had complete control over his holdings. It is also a fact that in this period entitlement to land was exclusively through kinship and membership of the community. This Northern Nigerian land tenure arrangement is what the Land Use Decree (No. 6) of 1978 (enacted into law in 1979), more or less, extended to the whole of

Nigeria. By the provisions of this Act, access to land, particularly in the urban area, is vested with the State Governor and the decree makes no provisions for the use of urban land for crop production.

Agriculture is associated only with rural land use, and urban land development means the construction of urban structures.

This policy (as presented in the Act) has encouraged governors to deprive urban cultivators of access to land through compulsory acquisition of land and ejection, without compensation (except for mature crops), of urban cultivators from acquired/occupied sites. Indeed, some of these governors have no regard for the many functions of green belts within the urban environment because they allocate them for urban construction.

Unfortunately, the permission given for cultivation of vacant parcels of land that are unsuitable for urban construction (such as in areas of aviation installations, aprons of railway tracks, etc.) is not formal. It has not been written in any legal document, or authorised by any government gazette. But, it was part of a speech that ushered in "Operation Feed the Nation" in 1976 and re-echoed during the launching of the "Green Revolution" in 1980, encouraging Nigerians to cultivate all available land in the cities and in their backyards. Thus, the cultivators of such public vacant lands are mere squatters whose tenure is very insecure. Yet mutual benefits have been established by such use. The cultivators improve their livelihood and the relevant government establishments agree that they have saved money by not having to do periodic clearing. The anxiety that such unused places could become suitable hideouts for criminals and other undesirable elements has also been removed.

ACCESS TO WATER

Both cultural and Islamic beliefs state that water belongs to God. Thus, a man has access to any source of water on the land he cultivates. The problem here is that many sites in Kano depend on urban waste streams for irrigation. The urban resource poor cannot afford to construct tube wells or wash bores to obtain better-quality water. They operate on an individual basis, and the insecure nature of their tenure precludes the formation of cooperative groups that could assist them

in obtaining agricultural loans and other inputs from governmental sources.

BETTER ACCESS TO LAND AND SECURED TENURE

The issue of access to and security of cultivated land in an urban environment is controversial. Urban developers would not be pleased to leave large urban spaces vacant while millions of urban dwellers crave for decent shelter. However, it would be useful to identify urban areas that are not suitable for urban construction and reserve such areas for urban cultivation. Flood plains and floodable depressions come first to mind because urban constructions that block natural channels and artificial drains have resulted in devastating floods within urban areas in recent years, particularly in the site re-visited by Lynch et al. (2001).

In view of the mutual benefits cultivators and relevant government establishments have derived from the informal agreement allowing the cultivation of urban public vacant lands, this should be made formal and the occupants assured of their tenure for a reasonable period of time. It is certain that with assured tenure the farmers would be encouraged to form cooperative groups that would qualify them to obtain government assistance, which in turn would give them financial strength to construct tube wells and buy water pumps to source groundwater for their production. They would also use their plots in a more sustainable way.

As things stand in Kano, the urban poor farmer would only become poorer in the near future unless policies and strategies, such as the ones suggested, are put in place to secure better access to land and to assure security of tenure.

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