

# MAXIMIZING LAND USE FOR URBAN AGRICULTURE IN AFRICA

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### **Introduction**

Seventy-two million of the people who live in urban cities in Africa are in extreme poverty (IFAD, 2001); this is the population of entire South Africa three-fold. The urban poverty in Africa can be expected to increase because the rising rural-urban drift only transfers rural poverty to the urban areas. If the continent hopes to half its poverty by 2015, there is need to intensify agricultural production in the urban areas as well. It has been pointed out in this conference that scarcity of land is the bane of urban farming. While some government policies may make more land available to urban dwellers, pressure on land will still continue to hamper urban farming because land supply is finite. Thus, I want to look at enhancing urban farming from the perspective of maximizing the use of the land that is **currently** available, focusing on raising livestock.

### **Large-scale versus small-scale livestock production in Africa**

The most abundant livestock in Africa is poultry standing at 700 million (FAOSTAT, 2000). Usually, the concept of poultry in the urban areas has focused on commercial poultry – all-in-all-out broiler and egg production (UNDP, 1996). However, I am not discussing large-scale commercial agriculture because it has not solved the problem of poverty in Africa. The following are possible reasons why large-scale commercial farming has failed to reduce widespread poverty in Africa:

- Commercial production is “mass production” as opposed to “production by the masses”; and mass production tend to be concentrated in the hands of very few (usually the wealthy), the poor (who are the majority) do not have the means to purchase the produce from these farms, and hence are not benefited as much as the wealthy, or not at all
- Commercial production necessitates buying large pieces of land to establish the farm/s. Usually, the former owners of the land become tenants on their “own land”, and they and their children have little choice but become paid laborers to commercial farmers; and their earnings are usually not sufficient to lift them from poverty
- Large-scale commercial production has made African countries to depend on industrialized nations for input supplies and has not led to self-sustainable development. Foreign exchange is needed for the purchase of production inputs, thus the sale price of the output from the farms are prohibitive and out of the reach of the poor people

Large-scale production is actually not pro-poor, at least in Africa. If the aim is to help the Africa poor, focus should be on “production by the masses” in which the wealth is spread more in the populace. In Bangladesh, such “small-scale” poultry enterprises

have been used successfully to alleviate poverty among the hard-core poor and even the landless (Alam, 1997); and the review of Sonaiya and Olukosi (2001) shows that poverty alleviation in some cases was up to 33%. A similar approach has been used successfully in Burkina-Faso. The idea was embodied in an outreach program that is reported briefly below:

***The NULGE Experience***

In November 2002, members of a cooperative society of the Nigerian Union of Local Government Employees (NULGE) were trained in poultry production at Obafemi Awolowo University Teaching and Research Farm. The training was part of the outreach of the “Family Poultry Research Project” led by Dr E. Babafunso Sonaiya a Professor of Animal Science in the University. An integral part of the package was that each individual is allowed to own, using the soft loan made available, **60 birds only** (Sonaiya, *et al*, 2002). The objective was production by the masses in order to be able to accommodate more beneficiaries in the program. The daily gross income from the enterprise was estimated at 6.00 US\$ daily. Progress reports from the beneficiaries in the outreach have been encouraging. Following the success recorded, similar initiatives was developed in two other states of Nigeria (Sonaiya and Olukosi, 2003)

**Small-scale urban livestock farming in Africa**

Urban livestock is not new in Africa as the following data shows:

Table 1. Countries and proportions of the urban population raising livestock

Country	Proportion	Source
Burkina Faso	36%	UNDP, 1996
Mozambique	29%	UNDP, 1996
Tanzania	39 %	UNDP, 1996
Zambia	45%	UNDP, 1996
Kenya	17%	Lee-Smith and Memon, 1994

Livestock kept in urban farms is mainly poultry, followed by cattle, small ruminants, pigs, rabbits, and microlivestock (IDRC, 1996). Lee-Smith and Memon (1994) shows that in Nairobi, livestock is mainly kept for subsistence purpose, especially the eggs are meant for family consumption, and secondarily for sale, 50% of the milk and 25% of eggs produced are consumed in the family, a small proportion is for sale. In Nairobi, it is the poorer households that keep chicken and rabbits (Lee-Smith and Memon 1994), this is not necessarily the case in all situations as the following case study shows.

***Small-scale poultry production in the backyard – A Case Study*** (UNDP, 1996)

“...Professors living at Sokoine University of Agriculture, Morogoro, Tanzania for several years have been raising chickens in their backyard using

coops; some farms have as many as 100 birds. Two-third of faculty families are in the field raising chickens...in the backyards...”

***A schoolteacher counts his blessings – the beauty of small-scale livestock in Africa***

Benson Hyuga is a teacher (and farmer) who lives in Kenya and keeps only 10 layers and two cocks in his poultry. He enumerated the following as the benefits he derives from his farm:

- There are eggs all the time for breakfast or lunch (all-the-year animal protein supply) and for sale (extra income)
- The manure serves as fertilizers for his garden

In smaller towns, livestock keepers let their animals roam freely, and where there are no laws against this, the practice is economical as it enables the livestock to make use of the feed materials in the environment which is otherwise a waste and constitute disposal problems. The scavenging livestock do a great job of cleaning the environment and converting the “wastes” to high-quality animal proteins, so sorely needed in Africa. In Sudan, up to 27% of all garbage is consumed by goats, sheep and cattle (UNDP, 1996).

All over Africa, scavenging chickens (both in the rural and urban areas, and especially peri-urban towns) are known to use this “free” feed resources to produce eggs and meat at almost no cost to their owners (Picture 1 and 2). The practice of allowing livestock to scavenge can hardly be eliminated in Africa; and instead of attempting to eliminate it, focus should be on optimizing the system just as it is being done with the scavenging chickens.



Picture 1:  
Chickens roaming freely in Ipetumodu, a small town in south-western Nigeria



Picture 2:  
Chickens and goats scavenge together in Ipetumodu, a small town in south-western Nigeria

In bigger cities and core-urban areas, scavenging may not be an option, and so livestock keepers may, out of necessity, have to confine the animals. Sometimes simple shelter/shed could be used (Picture 3). Such shed can be in the front or backyard, beside the house or at any other convenient place.



Picture 3:  
A simple shed for chicken by the side of a house in Yakooyo, a small town in southwestern Nigeria

When existing space in buildings are used, the following recommendations are given as the space requirement for the livestock species listed.

Table 2: Space requirement different livestock species

Species	Space Requirement
Rabbit	Hutches are used. The hutch could stand outside, inside a house or backyard. Dimensions of the hutch: 1.6m high (including the 1m stand), 2 m long and 60cm wide
Pig	*Weaner – 1 boar, 2 sows, 30 piglets – 30m <sup>2</sup>
Poultry	**Cockerel – 100 birds require 6.5m <sup>2</sup>
	Layers – 100 birds on deep litter – 15m <sup>2</sup> , house is 2.1m high
	Layers – 240 birds in battery cage – house is 9m×6m
Goats and sheep	1 male, 2 females, 4 kids/lambs – 7.8m <sup>2</sup>
#Snails	Stocking density is 25-40 snails per square meter

*Notes on Table 2:*

\* There are many options in pig production. The “weaner pig production” involves producing baby pigs for sale at 6-8 weeks of age, to be fattened

\*\*Cockerel production is an option in poultry, where day-old cockerel chicks are grown to four weeks to be sold to fatteners

#Snails can also be raised in boxes designed with locally available materials. This makes the enterprise possible just about anywhere.

In order to maximize the land use in the urban areas, the following recommendations are made:

- Encourage small-scale livestock production using, especially, small bodied livestock
- Small-scale livestock production could be combined with gardening so that the animals are able to make use of garden gleanings
- Integrated livestock production, e.g. fish-duck is encouraged so that the land is used maximally

*NOTE - The issues and cases discussed in this paper are based on experiences from Africa. Some of the situations discussed in the paper might not be applicable in some continents. Hence, it will be appreciated if conference participants who are from Africa will share their experiences in this regard.*

## References

- Alam, J. 1997. Impact of smallholder livestock development project in some selected areas of rural Bangladesh. [www.cipav.org.co/lrrd/lrrd9/3/bang932.htm](http://www.cipav.org.co/lrrd/lrrd9/3/bang932.htm)
- FAOSTAT, 2000. Food and Agriculture Organization of the United Nations. <http://apps.fao.org/default.htm>
- IFAD (2001). The Rural Poverty Report 2001 – The Challenge of Ending Rural Poverty. International Fund for Agricultural Development. <http://www.ifad.org/poverty/>
- Lee-Smith, D and P.A. Memon. 1994. Urban Agriculture in Kenya. In Cities Feeding People – An Examination of Urban Agriculture in East Africa. International Development Research Centre, Canada. Pages 67-84.
- Sonaiya, E.B. and O.A. Olukosi. 2001. Family poultry: A tool for poverty alleviation and sustainable agriculture Presented at Nigerian Institute for Freshwater Fisheries Research, New Bussa, Niger State, Nigeria. May 23, 2001\
- Sonaiya, E.B. and O.A. Olukosi. 2003. Economic Empowerment through Livestock, Poultry and Forestry. Presented at Workshop on Conflict Resolution, crisis management and harmonious relationship between union leaders and local government. Organized by Brightlight Management Consult in Collaboration with Ondo State Local Government Service Commission and NULGE, Ondo State Branch, University of Ibadan Conference Centre, March 26-29, 2003
- Sonaiya, E.B., O. Matanmi, J.O. Adedeji, B. Adesina, R.O. Omosibi, T.A. Adepoju, and O.A. Olukosi, 2002. Poultry Production – A Training Manual. Prepared for the One-Day training for members of National Union of Local Government Employees, Osun State. Poultry Unit, Obafemi Awolowo University Teaching and Research Farm, Ile-Ife, Osun State, Nigeria. November 21, 2002.
- UNDP 1996. Urban Agriculture – Foods, Jobs and Sustainable Cities. United Nations Development Programme Publications Series for Habitat II, Volume I.

See Also: IDRC 1999. For Hunger-proof Cities. Sustainable Urban Food Systems. Koc, M, Macrae R., Mougeot, J.A. and Welsh, J. (eds). International Development Research Centre. 239 pp.

For information on various aspects of family poultry in Africa, Asia and Latin America, please visit Professor E.B. Sonaiya's website (Look up the section of "Family Poultry Toolbox"): [www.geocities.com/ebsonaiya/index.htm](http://www.geocities.com/ebsonaiya/index.htm)