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URBAN FARMING IN VACANT LANDS IN TERTIARY INSTITUTIONS: A STUDY OF GREENHOUSE FARMING IN AJAYI CROWTHER UNIVERSITY, OYO TOWN, NIGERIA

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Abstract
The paper highlights the role of urban farming in vacant spaces in tertiary institutions, the need to support the local food economy and contribute nutritious and fresh foods to needy students and staff. Materials for the study were gathered through secondary data from journals, books and personal interview which centred on a prepared schedule held with the farm manager of the greenhouse project as well as extensive viability analyses to prove worthwhileness of the project. The study revealed that many backyard farming activities are taking place in vacant spaces in various tertiary institutions by resident and non-resident staff households. The viability techniques of cash flow forecast, profit and loss account and discounted cash flow analyses carried out on the greenhouse project proved its viability as all the analyses gave positive results. For example, the cash flow forecast showed a surplus before tax of N39,394.16 from year 3 and a break even point at year 6 as the accumulated surplus of N275,346.11 surpassed the accumulated deficit of –N223,150.95. The profit and loss account of the project also showed an accrued surplus before tax of N490,969.67 from year 2 while the discounted cash flow analysis showed a net present value (NPV) of +N885,339.91 in life of the project. The paper, therefore, supports the activity as a positive measure in the use of idle spaces in tertiary institutions. It concludes that policies be put in place to officially enumerate and assign vacant spaces for proper farming activities to enhance food security among staff households and students in the tertiary institutions. It recommends that urban farming activities be formally recognized and land devoted for that purpose through policy making, planning and curriculum changes in the various tertiary institutions.

Key Words: *Urban farming, Land accessibility, Food security, Tertiary institution*

Introduction

Urban farming is a major contributor to food security in many towns and cities of both developing and developed countries. It is known to afford households self-sufficiency in food provision thereby enhancing food security, income and employment generation. In this paper, urban farming is used interchangeably with urban agriculture. The phenomenon pervades major cities of the world such as Havana

in Cuba, Dar es Saalam in Tanzania, Bombay in India, Bangkok in Thailand, New York, New Jersey, Akron and Philadelphia all in United States of America, Vancouver in Canada, Mexico City in Mexico and London in the United Kingdom. The importance of urban farming was re-affirmed by UN-Habitat (2008) when it reported that between 15 and 20% of the world's food is produced by some 800 million urban and peri-urban farmers and gardeners. Land, however, is quite critical to survival of the activity as the farmer is unable to afford the high costs of suitable lands. Thus, lack of access to land results in the farmer accessing land informally and usually marginal lands that may affect his/her productivity. Farming in various tertiary institutions is not new as it is as old as the institution itself but faces similar treatment as in towns and cities where there is no official recognition as a land use activity. It is, therefore, carried out by households in their backyards and vacant lands within the precincts of the institutions.

Farming inside higher institutions was not pronounced as bountiful harvest abound in the past. In recent times, however, with biting inflation and high cost of living, urban farming in the informal economy has become rampant to meet food security problems. Thus, due to high dependency on foods transported from other areas to the cities, often from several kilometres away, residents and workers in higher institutions show growing interests in local food production in backyard gardens and vacant lands. For a long time, food supplies of tertiary institutions (including institutions with faculties of agriculture) have largely depended on city food supplies to feed their own population. Supplies of food in the city or town also extend to the few urban farmers involved in fresh food production such as vegetables, other short-seasoned crops and small livestock holdings of poultry, pigs, sheep and goats. Emphasizing on the situation of Chicago City, Rosing and Block (2017) lamented that the city which is largely perceived as commercial, industrial and residential has had minimal support from neighbouring universities and colleges in the food supply chain. They added that higher education curriculum and research, technical assistance and capacity-building for growers has been virtually non-existent. Urban farming in Nigerian campuses will, therefore, enhance food security of staff and students as well as people in cities and towns where such institutions are located. The issue of food security is a burning one world-wide especially in the developing world. It is defined as where people at all times have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life (International Food Policy Research Institute, 2018).

Statement of Problem

Nigerian tertiary institutions are usually associated with vast lands which are envisaged for physical expansion, infrastructural and housing developments. This was also necessary for institutions with agriculture and forestry faculties. This was when food security issues and paucity of funds had not affected various institutions. The situation has since changed for worse as food security problems and paucity of funds have crawled into the institutions. Thus, owing to poor funding, the onus is now on individual institutions to enhance its internally generated revenue to boost its finances through various ventures such as

packaged water, bread baking, farming and other enterprises. As a consequence, it is imperative to devise strategies on effective use of vacant lands in the tertiary institutions. It is also necessary to carryout studies to prove the economic viability of these ventures in order to put up measures that will enhance their internally generated revenues. This paper will therefore tackle the following critical research question.

Research Question

What is the role of urban farming in vacant lands in tertiary institutions?

Specific Objective

To evaluate the role of greenhouse farming in vacant lands in tertiary institutions?

Broad Objective

The paper will evaluate the role of urban farming in vacant lands as well as analyze a case study of greenhouse farming in a tertiary institution.

Justification

The paper is important because of the growing popularity of enterprises in tertiary institutions. Many institutions are carried away with acquisition of vast lands (although a requirement of the Nigerian Universities Commission, 2010) with many of the land areas lying vacant. The institutions in a bid to generate funds internally, often embark on ventures without viability studies to determine their worthwhileness. Thus, data gathered in this paper will provide baseline information for policy makers in tertiary institutions to determine economic viability of proposed projects as well as gear them towards proper use of the vacant lands.

Table 1: Some Nigerian Universities and their Land Areas

S/N	Name	Land Area
1	University of Ilorin, Ilorin, Kwara State	5,000ha
2	Obafemi Awolowo University, Ile Ife, Osun State	13,000ha
3	University of Abuja, Abuja FCT	11,874ha
4	Federal University of Agriculture, Abeokuta, Ogun State	10,000ha
5	Ahmadu Bello University, Zaria, Kaduna State	10,000ha
6	Federal University of Technology, Owerri, Imo State	4,084ha
7	University of Benin, Benin City, Edo State	200,000ha
8	American University of Nigeria, Yola, Adamawa State	2,400 acres
9	Redeemer's University, Ede, Osun State	2,006acres
10	Landmark University, Omu-Aran, Kwara State	1,400 acres
11	Bowen University, Iwo, Osun State	1,300 acres
12	ECWA Bingham University, Karu, Abuja FCT	641 acres
13	Covenant University, Ota, Ogun State	560 acres
14	Afe Babalola University, Ado Ekiti, Ekiti State	321 acres
15	University of Ibadan, Ibadan, Oyo State	1,032ha
16	Ajayi Crowther University, Oyo Town	146.02 ha

Source: https//students.com.ng

The Study Area

The study is located in Ajayi Crowther University in Oyo Town which is within Oyo State. The latter has an area of about 28,454sq.km and a population of 6,532,844 (National Bureau of Statistics, 2016). It is largely a land-locked state in south-western Nigeria bounded by Kwara

State in the north, Osun State in the east, Ogun State in the south and a mix of Ogun State and Benin Republic in the west. It enjoys equatorial climate with dry and wet seasons and a relatively high humidity while its average daily temperature ranges between 25°C–35°C almost throughout the year. Similar to other southern states, its dry season runs from November to March while the wet season runs from April to October. The state houses the first university in Nigeria, the University of Ibadan which was established as a university college of London University in 1948. The town lies some 32 miles (51km) north of Ibadan or on the route to kwara State. It was founded as the capital of the old Oyo Kingdom in the 1830s and is the seat of the imperial majesty, the Alaafin of Oyo. The economy of modern Oyo Town is based largely on agriculture and handicraft such as leather works in goatskin and sheepskin, wood carvings and mat making. Agricultural produce are mainly yams, maize, sorghum, cassava, poultry, okra and beans (cow peas). Furthermore, Tiptopglobe.com (2018) puts the population of Oyo Town at 736,113, Latitude 7,8500 (750′60.00″N) and Longitude 3,9333 (355′59.98″E).

Ajayi Crowther University is faith-based and of the Anglican Communion that temporarily resides in the former campus of the old St. Andrews College in Oyo Town. The university was established in 2005 on the ever busy Oyo-Ogbomoso Road. The campus is on a gentle slope of land area of 37.02 hectares. The university also has an additional land holding about 2km from its present site bringing its total land area to 146.02 hectares (Ajayi Crowther University, 2009). The present campus is dotted with a few high rise buildings that serve as students' hostels and faculty buildings, several bungalows and well-tarred network of roads while work has not commenced in the new site. The school environment is made serene owing to the presence of numerous perennial trees of mangoes and dogonyaro (neem) species. An area of the school which is intermeshed between the Library Building, SACOBA Building and science laboratories is currently devoted to the greenhouse farming. The greenhouses are in a pair of 80m by 8m each. The walls and roof are made of cylindrical poles fixed to the ground to create a firm skeletal framework which is covered in its entirety with a toughened transparent polythene to effectively prevent negative effects of the environment. The farm manager hinted that each greenhouse is currently planted with 400 strands of tomato of Israeli species totaling 800 strands in both houses. That each strand of tomato can produce 10kg fruits or a total of about 8,000 kg fruits. He further confirmed that the species produced is similar to what is being retailed in the popular Shoprite shops where one kg sells for N1,500.00. This gives a face value of N12,000,000.00 for both houses at full harvest in one year of planting. He added that a full harvest could be done every four months and that the variety has a shelf life of 21 days. It is noteworthy that most of the values in the viability study were mere forecast and not actual figures as the project is still in its infant stage.

The greenhouse technology which Ajayi Crowther University recently deployed as part of its farming activities no doubt complements the aim of urban farming which is principally to solve food security problems. The greenhouse also called glasshouse is a covered structure of transparent polythene walls that protect plants from extensive external climatic

conditions and diseases. Thus, the environment is regulated to suit the plant's growth and can enhance all year-round cultivation. It is quite suitable for growth of short-seasoned crops particularly vegetables like tomato, sweet potato, sweet pepper, strawberry, broccoli, cauliflower, cucumber, green peas, and etc (Yusuf, 2018).

Fig. 1: Location of Oyo State, Nigeria
Source: https://en.wikipedia.org/wiki/Oyo_State#/media/File:Nigeria_-_Oyo.svg

Methodology

As a case study paper, an interview schedule was prepared to enable detailed information to be elicited from the respondent, the Farm Manager. Questions in the schedule centred on capital and recurrent expenditures in respect of the greenhouse project. Capital expenditure included construction costs of the greenhouses, water tanks and accessories, irrigation pipes, soil preparation and manure, and farm equipment while recurrent expenditure constituted purchase of tomato seedlings, fertilizer, pesticides and fungicides, cost of harvesting, cost of packaging sale packs, salaries and wages, loan repayment and interest thereto, insurance cover, contingency and outgoings (cost of regular maintenance). Questions were also extended to revenues expected from the project. Thus, apart from the loan income, there were questions on equity contribution, species of tomato, cost of procurement, quantity of tomatoes produced per house, duration till harvesting, quantum of harvest, shelf life, method of sales of harvest and comparable

sale prices. All these variables were put in place in analyzing viability of the greenhouse project. Three viability techniques of cash flow forecast, profit and loss account and discounted cash flow analysis (net present value) were used to determine viability of the greenhouse project.

Viability Techniques

Various methods are used in a viability analysis, viz, residual, development, breakeven, investment, cash flow and cost-benefit techniques. (Shapiro *et al.,* 2009; Ogunba and Ajayi, 2018). The cash flow forecast, profit and loss account and discounted cash flow (Net Present Value) techniques were, however, adopted for this study.

Cash Flow Forecast

This is a flow chart of the major items featuring in the proposed project and the amount of capital involved in each item. It involves forecasts of all likely future incomes and expenditures. Incomes are expected to accrue from the sale of tomato seeds after harvest. The projection also covers both capital and recurrent expenditures. Capital expenditures include expenses on construction of the green houses, water tanks, irrigation pipes, soil manure, farm tools and land preparation while recurrent expenditures cover items such as tomato seedlings, fertilizer procurement, pesticides/herbicides purchase, cost of harvesting, cost of packaging, salaries and wages, loan repayment, interest charges and other day-to-day expenses. Furthermore, the annual incomes and expenditures are projected into the future, say, for 10 years taking into account inflationary trends. Thereafter, the yearly surplus or deficit is obtained by deducting total income from total expenditure for each year.

Profit and Loss Account

This is quite similar to the cash flow forecast as it also deals with the major items in a viability study. It deals with incomes and expenditures in the course of executing the project but unlike the cash flow forecast, it covers only recurrent expenditures. Thus, the same incomes that are generated in the cash flow forecast are applied here but no account is taken of capital expenditure items. The difference between income and expenditure gives the profit and loss account for each year.

Discounted Cash Flow (Net Present Value-NPV)

Similar to cash flow forecast and profit and loss account, this technique also takes account of all future cash inflows and outflows projected for some years in the future. However, unlike both methods, the discounted cash flow discounts all the future cash inflows and outflows to today's value. The discounting factor is read from the Present Value of N1 Table (P.V. £1). See Davidson (2009) and Udechukwu (2018).

The discounted cash flow is based on an external or internal rate of return which is sifted from data collected from the market place based on assessment of various investment opportunities available to the entrepreneur. That is, it is a target rate the investor is desirous of achieving. It can be taken as the rate at which the investor borrows money for the investment or the rate of interest he would earn should the money be put in an alternative investment (Shapiro *et al.,* 2009). The entrepreneur in this study is, however, assumed to borrow money for the venture at a rate of 9% which is the interest rate paid on the loan content of the project. Bank loans are disbursed to farmers and agro-allied entrepreneurs at a single-digit interest rate of 8.0 percent

(Central Bank of Nigeria: Agricultural Credit Support Scheme, 2018). After computations, where the present value of all cash inflows exceeds the present value of all cash outflows, the project is said to have a positive NPV and is considered as being viable. The higher the positive NPV, the higher the degree of viability of the project. In this study, the cash flows are discounted to today's values at an external rate of return of 9%.

Results and Discussions

Land Accessibility by Urban Farmers

Odudu (2013) showed that public authorities owned most lands compared with corporate and individual holdings and that farmers were accessing land through squatting. The overall implication was that urban farmers were mainly squatters on available land. The lack of good access to suitable and usable land made them resort to marginal lands like wetlands, river banks, slopes and road buffers as earlier enumerated. This lack of access did not enable farmers to invest in permanent structures such as underground wells or boreholes and growing of permanent crops and trees. The study, thus, agreed with the findings of Hubbard and Onumah (2001), Asomani-Boateng (2002), Velez-Guerra (2004) and Akinmoladun and Adejumo (2011) on problems associated with land ownership and accessibility by urban farmers.

Viability Analysis

The projected cash flow forecast as shown in Table 3 showed that the project commenced in year zero with a bank loan of N6million and an equity contribution of N340,000.00 as was necessary to set up the investment. The funds were used to meet the capital and recurrent expenditures. Thus, incomes started coming into the project from year 1 with the sale of tomato seedlings. Harvesting was conducted from the 5th month with consequent yield of twice a year. The sales experienced an inflationary trend from a benchmark of N1,500.00/kg which saw an upward increase in sale price every two years. Recurrent expenditures included loan repayment, interest on loan taken, salaries and wages, contingency, insurance and other day-to-day expenses. The project, however, showed satisfactory surpluses before tax from year 3 while it broke even in year 6. The breakeven point was the point where all deficits (accumulated and non-accumulated) were completely eliminated in the project. This point was quite satisfactory considering that the project could run for several years even beyond the projected 10 years.

The projected profit and loss account is shown in Table 4. The analysis featured all the major items as contained in the cash flow forecast. That is, it dealt with incomes received and recurrent expenditures made during the course of the project. The difference in both entries for each year showed the profit or loss during the year. Thus, Table 4 indicated accrued surpluses before tax from year 2 which further confirmed the project as quite viable.

Table 3: Cash flow forecast for greenhouse tomato project

Year	0	1	2	3	4	5	6	7	8	9	10
INCOME											
Loan	6,000,000.00										
Equity	340,000.00										
Tomato Sales	0.00	1728000.00	1,728,000.00	1,872,000.00	1,872,000.00	2,160,000.00	2,160,000.00	2,304,000.00	2,304,000.00	2,592,000.00	2,592,000.00
Total Income	6340000.00	1728000.00	1,728,000.00	1,872,000.00	1,872,000.00	2,160,000.00	2,160,000.00	2,304,000.00	2,304,000.00	2,592,000.00	2,592,000.00
EXPENDITURE											
Capital Expenditure											
Greenhouses	5,000,000.00										
Water tanks	100,000.00	0.0	0.0	0.0	0.0	130,000.00	0.0	0.0	0.0	0.0	150,000.00
Irrigation Pipes	150,000.00	0.00	0.00	0.00	0.00	180,000.00	0.00	0.00	0.00	0.00	200,000.00
Soil (Manure)	50,000.00	0.00	50,000.00	50,000.00	50,000.00	70,000.00	70,000.00	70,000.00	70,000.00	70,000.00	80,000.00
Farm Tools	50000.00	0.00	0.00	0.00	0.00	75,000.00	0.00	0.00	0.00	0.00	80,000.00
Land preparation	70,000.00	0.00									
Recurrent Expenditure											
Tomato seedlings	0.00	100,000.00	100,000.00	120,000.00	120,000.00	140,000.00	140,000.00	150,000.00	150,000.00	180,000.00	180,000.00
Fertilizer	0.00	60,000.00	60,000.00	60,000.00	80,000.00	80,000.00	80,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Pesticides/Fungicides	0.00	6,000.00	6,000.00	10,000.00	10,000.00	10,000.00	12,000.00	12,000.00	12,000.00	15,000.00	15,000.00
Harvesting	0.00	20,000.00	20,000.00	20,000.00	25,000.00	25,000.00	25,000.00	30,000.00	30,000.00	30,000.00	30,000.00
Packaging	0.00	114,000.00	114,000.00	114,000.00	120,000.00	120,000.00	120,000.00	130,000.00	130,000.00	130,000.00	130,000.00
Salaries & Wages	30,000.00	80,000.00	80,000.00	80,000.00	80,000.00	80,000.00	80,000.00	96,000.00	96,000.00	96,000.00	96,000.00
Loan Repayment	0.00	857,143.00	857,143.00	857,143.00	857,143.00	857,143.00	857,143.00	85,7143.00			
Int. on Loan @ 9%	540,000.00	540,000.00	462,858.75	385,714.26	308,571.39	231,428.52	154,285.65	77,142.87			
Insurance Cover @ 3%	0.00	53,314.29	52,500.05	50,905.72	49,521.43	59,957.15	46,152.86	45,668.58	17,640.00	18,630.00	31,830.00
Contingency @3%	300,000.00	53,314.29	52,500.05	50,905.72	49,521.43	59,957.15	46,152.86	45,668.58	17,640.00	18,630.00	31,830.00
Outgoings @ 2%	0.00	35,542.86	35,000.04	33,937.15	33,014.29	39,971.43	30,768.57	30,445.72	11,760.00	12,420.00	21,220.00
Total Expenditure	6,340,000.00	1,919,314.44	1,890,001.89	1,832,605.84	1,782,771.54	2,158,457.24	1,661,502.94	1,644,068.74	635,040.00	670,680.00	1,145,880.00
Surplus (Deficit) Before Tax	0.00	-191,314.44	-162,001.89	39,394.16	89,228.46	1,542.76	498,497.06	659,931.26	1,668,960.00	1,921,320.00	1,446,120.00
Accumulated Surplus (Deficit) Before Tax	0.00	-191,314.44	-353,316.33	-313,922.17	-224,693.71	-223,150.95	275,346.11	935,277.37	1,102,173.37	3,023,493,37	4,469,613.37

Table 4: Projected Profit and Loss Account for Greenhouse Tomato Project

Year	0	1	2	3	4	5	6	7	8	9	10
Operational Income	0.00	1,728,000.00	1,728,000.00	1,872,000.00	1,872,000.00	2,160,000.00	2,160,000.00	2,304,000.00	2,304,000.00	2,592,000.00	2,592,000.00
RECURRENT EXPENDITURE											
Tomato seedlings	0.00	100,000.00	100,000.00	120,000.00	120,000.00	140,000.00	140,000.00	150,000.00	150,000.00	180,000.00	180,000.00
Fertilizer	0.00	60,000.00	60,000.00	60,000.00	80,000.00	80,000.00	80,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Pesticides/Fungicides	0.00	6,000.00	6,000.00	10,000.00	10,000.00	10,000.00	12,000.00	12,000.00	12,000.00	15,000.00	15,000.00
Harvesting	0.00	20,000.00	20,000.00	20,000.00	25,000.00	25,000.00	25,000.00	30,000.00	30,000.00	30,000.00	30,000.00
Packaging	0.00	114,000.00	114,000.00	114,000.00	120,000.00	120,000.00	120,000.00	130,000.00	130,000.00	130,000.00	130,000.00
Salaries & Wages	80000.00	80,000.00	80,000.00	80,000.00	80,000.00	80,000.00	80,000.00	96,000.00	96,000.00	96,000.00	96,000.00
Int. on Loan @ 9%	540000.00	540,000.00	462,858.75	385,714.26	308,571.39	231,428.52	154,285.65	77,142.87			
Insurance Cover @ 3%	0.00	53,314.29	52,500.05	50,905.72	49,521.43	59,957.15	46,152.86	45,668.58	17,640.00	18,630.00	31,830.00
Contingency @3%	300000.00	53,314.29	52,500.05	50,905.72	49,521.43	59,957.15	46,152.86	45,668.58	17,640.00	18,630.00	31,830.00
Outgoings @ 2%	0.00	35,542.86	35,000.04	33,937.15	33,014.29	39,971.43	30,768.57	30,445.72	11,760.00	12,420.00	21,220.00
TOTAL EXPENDITURE	920000.00	1,062,171.44	982,858.89	925,462.85	875,628.54	846,314.25	734,359.94	716,925.75	565,040.00	600,680.00	635,880.00
Profit (Loss) Before Tax	-920000.00	665,828.56	745,141.11	946,537.15	996,371.46	1,313,685.75	1,425,640.06	1,587,074.25	1,738,960.00	1,991,320.00	1,956,120.00
Accumulated Profit \ (Loss) Before Tax	-920000.00	-254,171.44	490,969.67	143,7506.82	243,3878.28	37,47564.03	517,3204.09	676,278.34	8,499,238.34	10,490,558.34	12,446,678.34

The discounted cash flow for the project is shown in Table 5. This is showing an array of cash inflows and outflows in the years of the project. The inflows were the incomes generated from year to year of the project while the outflows were the recurrent expenditures made during the project. The two cash flows were discounted to today's value at an external rate of return of 9% being the same rate paid on the bank loan. The present value figures were read from Parry's Table (Davidson, 2009; Udechukwu, 2018). Following the computations, the project showed a net present value (NPV) of +N885,339.91. The high positive NPV showed a high degree of viability of the project. Thus, the positive outcome of this final test re-confirmed the worthwhileness or viability of the project as proposed.

Table 5: Discounted Cash flow Analysis of Greenhouse Tomato Project

Year	Cash Outflow	Cash Inflow	P.V. of N @ 9%	Discounted Cash Outflow	Discounted Cash Inflow
	(N)	(N)		(N)	(N)
0	920000.00	0.00	1	920000.00	0.00
1	1062171.44	1728000.00	0.9238	981233.98	1596326.40
2	982858.89	1728000.00	0.8534	838771.78	1474675.20
3	925462.85	1872000.00	0.7885	729727.46	1476072.00
4	875628.54	1872000.00	0.7283	637720.27	1363377.60
5	846314.25	2160000.00	0.6723	568977.07	1452168.00
6	734359.94	2160000.00	0.6215	456404.70	1342440.00
7	716925.75	2304000.00	0.5741	411587.07	1322726.40
8	565040.00	2304000.00	0.5304	299697.22	1222041.60
9	600680.00	2592000.00	0.4900	294333.20	1270080.00
10	635880.00	2592000.00	0.4526	287799.29	1173139.20
				6426252.03	13693046.40
					885339.91

Conclusion and Recommendations

The paper highlighted the role of urban farming in vacant spaces in tertiary institutions and discussed issues that must be tackled to enhance food security problems among staff and students of these institutions. It opined that the enormous land sizes of old and new generation universities vis-à-vis their level of developments in terms of buildings, road network and other infrastructure could be put to urban farming. The study noted that most of these institutions had many vacant spaces that could be put to farming pending future developments. The paper, therefore, reiterated the importance of urban farming and the difficulties practitioners encounter in accessing land as a land use activity. It focused on the green house tomato project of Ajayi Crowther University, Oyo Town as a case study and thus, carried out a viability study of the project by conducting tests of cash flow forecast, profit and loss account and a discounted cash flow analysis. The paper reaffirmed that vacant spaces in the tertiary institutions could be put to urban farming for the overall benefit of staff and students of such institutions. It established the worthwhileness of the greenhouse project following the positive

outcomes of all the three viability tests that were carried out. It, therefore, recommended that policies be promoted by management of various tertiary institutions to include urban farming in teaching and practical curricula as a way of utilizing the vacant spaces of the institutions. It further recommended that the greenhouse type of urban farming be replicated in other tertiary institutions as a good measure of generating income and boosting food supplies to staff and students of these institutions.

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