

Full Length Research Paper

Impact of Land Use Change on the Agrarian Land and Livelihood of Suburb Dwellers of Ilorin, Nigeria

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ABSTRACT: Land-use change in Ilorin's suburb appears to be increasing at an unprecedented rate, altering the existing land-use pattern and transforming the livelihood of suburb dwellers as agricultural land in the suburb continues to decline. This land use change has varying effects on agriculture and the livelihoods of the residents. This study looks into the impact of land use change on agricultural land and the livelihoods of Ilorin's suburban dwellers. Ganmo and Eyenkorin were specifically chosen for the study due to their proximity to Ilorin and the intensity of land-use change they have witnessed over the years. The 366 questionnaires were distributed using a simple random sampling method. The study's findings revealed that agricultural land is being lost in the suburbs, with 86.1% of respondents losing their land due to urban-suburb migration and land-use change, affecting their livelihood. The regression analysis yielded $R^2 = 71.5\%$, indicating that land-use change has a significant impact on the livelihood of suburb dwellers. The study comes to the conclusion that increased urban-suburban migration, a disregard for suburban planning, and a lack of emphasis on agriculture is to blame for the majority of the issues caused by land-use change in the suburb. Therefore, the study suggests that all interested parties be involved in the administration and planning of land use in the suburb. This will stop urban sprawl toward the suburbs and protect agricultural land and endangered land uses.

Keywords: Land-use, livelihood, Agrarian, suburb

INTRODUCTION

Land use change is still a subject of discuss among scholars, especially scholars in the built environment and agriculture. This is because land is very important to man and all professionals in the built environment and agriculture, professionals in the built environment and agriculture carry out their activities on land. Suburb is an area not too far from the urban centre where bulk of urban food comes from, suburb is very important as it serve as food supply to the urban centres, thus, agricultural land in the suburbs must be protected.

The concept holds that land is believed to sustain all human activities on earth. The simplest concept of land in land law is land (Asinofu, 2001), Even so, by land, it meant not merely the earth crust only, it extended to the soil, water and things fixed on the ground like trees and houses. It may be extended further to embrace rights in land. Man lives on land and from the land and to the land our bodies and ashes are committed when we die. The availability of land is important for human existence, and its distribution and use are of vital importance.

Land is therefore referred to as an economic commodity, often demanded, for the purpose it can serve. Hence, the land must be well managed and the use must be guided. From the aforementioned it is believed that land provide food, wealth and shelter for people, therefore any alteration to land will resulted in land use change which may affect the livelihood of the affected area in terms of wealth, food and shelter. It is against this background that this study analyses the impact of land use change in the selected suburbs of Ilorin and the effect of the changes on agrarian land and livelihood of suburb dwellers.

Conceptual review

Researchers have made a lot of effort in various aspect of land use change, this is evident in the available literatures in land use change. According to Erle (2017) land use change is the general term for the human modification of plot, piece or parcel of land; this modification is to obtain food and other essentials (housing, road, etc.), driving unprecedented changes in the ecosystem and environmental processes at local, regional and global scales. This suggests that land use change will have impact in many areas such as development, livelihood, Agriculture and the environment. Many scholars have worked on the land-use change in various countries in their respective areas, Mesfin *et al.* (2016) discovered the effect of land use change in the Gumara as expansion in settlement and cultivated land and decline in forest land, shrub land, grass land and wetland decline greatly. They also discovered that population pressure, demand for fuel wood and construction material, agricultural extension and policy and tenure insecurity were the major driving forces behind land use change. Biswajit *et al.* (2018) in their finding in Dujiangyan city show that built-up, agricultural area, and forest cover are the prime categories that had been changed by the natural and anthropogenic activities. Javaid *et al.* (2013) reported that population growth has changed the land use pattern of the city. Agricultural land is being gradually changed into built-up land such as industrial, residential, commercial and other urban uses without any development or master plan that will guide the development. Nzunda *et al.* (2013) in their study in and around Kogama forest revealed that there has been significant land use and vegetation cover transformation from one class to another. In the period of 12 years (1988-1999) the changes are not too significant but between 1999-2010 period, woodland decreased by 22.97% and forest by 2.5%, while cultivated land increased by 6.07% and settlement increased by 9.14%. These previous researched either focuses on the urban area or on the factor that led to land use change with little or no effort on the suburbans and the agrarian land in the suburb which is the source of livelihood of many

suburban dwellers.

Despite the effort of these researchers, the implication of urban-suburban migration on land use change, particularly on the suburb dwellers that felt the impact the most remain a major challenge, particularly in the area of agricultural land lost and livelihood transformation. Flint (2006), described "suburban as spread-out, drive-through, car-dependent, newer the better suburbia." This simple definition combines the dimension of density, newness, and dominant transportation mode. For the purpose of this research, the suburb is defined as an area that is located at the outskirts of a city, characterized with residential density and have felt the impact of urban expansion over the years.

Livelihood, according to Daramola (2017), provides a framework for understanding the complex mix of issues that affect people to determine their wellbeing or poverty status. This mix of livelihood is referred to as livelihood assets. It includes Human Capital (including health and nutrition), Social Capital (leadership and collective representation), Financial Capital (wages and credit facilities), Natural Capital (such as environmental quality and land) and Physical Capital (this includes infrastructure such as transport infrastructure, vehicle, water supply, and sanitation, energy, communication as well as secure shelter and buildings).

The wellbeing of the society depends mainly on the quality and conditions of these livelihood assets, and individual access to these assets. These two factors determine how vulnerable the individual members of a society are to poverty. It implies that if the quality and condition of the land is poor or if people lack access to land in the suburb, the livelihood of the suburb dwellers will be affected.

MATERIALS AND METHODS

Ganmo and Eyenkorin were purposively selected for this study base on the fact that they are the two closest suburbs that have witness intensive land use changes out of all the suburbs around Ilorin. They witness direct effect of development and expansion of Ilorin. Google Earth application was used to capture the imageries of the buildings in Ganmo and Eyenkorin, and counting was done to ascertain the number of buildings in the study area. Ground truthing was equally adopted to confirm the data extracted from Google earth. There are a total of Two thousand six hundred and sixty-two (2,662) buildings in Ganmo and one thousand seven hundred and eighty-four (1,784) buildings in Eyenkorin, making a total of four thousand, four hundred and forty-six (4,446) buildings in the selected suburbs. The number of buildings in each of the selected suburb and the questionnaire administered are summarized in (Table 1).

Tarro Yamane statistical formula was employed to

Table 1: Sample size.

Urban Suburbs	Number of buildings	Sample size
Ganmo	2,662	219
Eyenkorin	1,784	147
Total	4,446	366

Source: Authors' field work (2022)

determine the copies of the questionnaire administered in each of the suburbs. Thus, the number of buildings in each zone was determined and adopted for questionnaire administration, as presented in (Table 1). This proportion is justified because of its appropriateness in reducing a larger population that cannot all be sampled and has been adopted by many scholars, including Asadu and Ayuwo (2018).

$$n = N / (1 + N(e)^2)$$

n the sample size
 N the population under study
 e the margin error
 $n = 4446 / (1 + 4446(0.05)^2)$
 $n = 4446 / (1 + 4446(0.0025))$
 $n = 4446(1 + 11.115)$
 $n = 4446 / 12.115$
 $n = 366$

Simple random sampling method was used for the research, houses from the Google earth imageries were identified, inventory was taken, then table of random numbers was used to select the buildings based on the sample size, copy of the questionnaire was administered on the eldest person in the selected buildings, who served as a representative of the people in each selected building to get all the important information for this study. Information obtained was subjected to both descriptive and inferential statistic. Descriptive statistics utilized for the study includes frequency count as well as generation of weighted indices by introducing 5 point likert scale for measuring impact of land use change on suburb residents. Multiple linear regression was used to test the influence of land use change on livelihood of suburb dwellers. Tables and charts were used to summarise and present the result

Study area

Ilorin is the capital of Kwara State and one of the largest cities in Nigeria. It lies between longitude 4032'00" and 5000'00" East of Greenwich meridian and between Latitude 8020'00" and 8044'00" North of Equator as shown in (Figure 1). It is bounded in the North by Moro L.G.A; in the East by some villages within Ilorin LGA itself, and Ifelodun L.G.A; while in the South and to the

West, by Asa LGA as shown in (Figure 1). The city of Ilorin is also the headquarters of Ilorin West LGA. Therefore, the city plays a dual administrative roles-as the capital of Kwara State and as the headquarters of Ilorin West LGA. Hence, Ilorin West, East, and South, as well as Asa and Moro LGAs, constitute what is known as Ilorin emirate. At the same time, the Ilorin metropolis comprises of Ilorin West, East, and South (Iroye and Abejirin, 2012). According to Olanrewaju (2009) Ilorin City serves as a gate between the South and the North. In other words, Ilorin is a frontier settlement between the Northern Hausa culture and the Southern Yoruba Culture.

The climate is tropical according to Koppen classification characterized by raining and dry seasons. The rainy season often occurs between March and November. The annual rainfall varies from 1000mm to 1500mm with a peak in September to early October. The average monthly temperature is generally high throughout the year (Ajibade, 2002). The minimum temperature range from 21.1°C to 25°C with an average maximum temperature of 38°C, while relative humidity is about 77.50% and daily sunshine of about 7.1h (Olanrewaju, 2009) Vegetation and climatic condition viz-a-viz. other factor dictates the vegetation type found in the area, the favourable climate is also a factor that attracts residents to reside in the Ilorin thus leading to quest for more land and also resulted to land-use changes.

The rapid expansion of the built-up area of Ilorin in recent years has been associated with remarkable changes in the structure and types of land use within the town. During the pre-colonial period, urban land use in Ilorin was largely dominated by residential uses but the changes in the socio-economic structures of the town after the establishment of the British Colonial administration coupled with post-independence structure have caused great changes in its function types. These include Residential, Commercial, Industrial, Public and semi-public uses, Recreational, Infrastructure, and Circulation; (Onokerhoraye and Omuta, 1986). The socio-economic change in Ilorin attracted people to Ilorin, making the population of Ilorin to increase leading to overcrowding and congestion, forcing people to migrate to the nearby suburb like Ganmo, Eyenkorin, Afon, Amoyo, among others. The land in the suburb is relatively cheap and accessible; transportation fee to Ilorin from the suburbs is also affordable to the suburb dwellers.

RESULTS AND DISCUSSION

Age and occupation

The result of the analysis as summarized in (Table 2) reveals that the majority (68.6%) of the respondents are

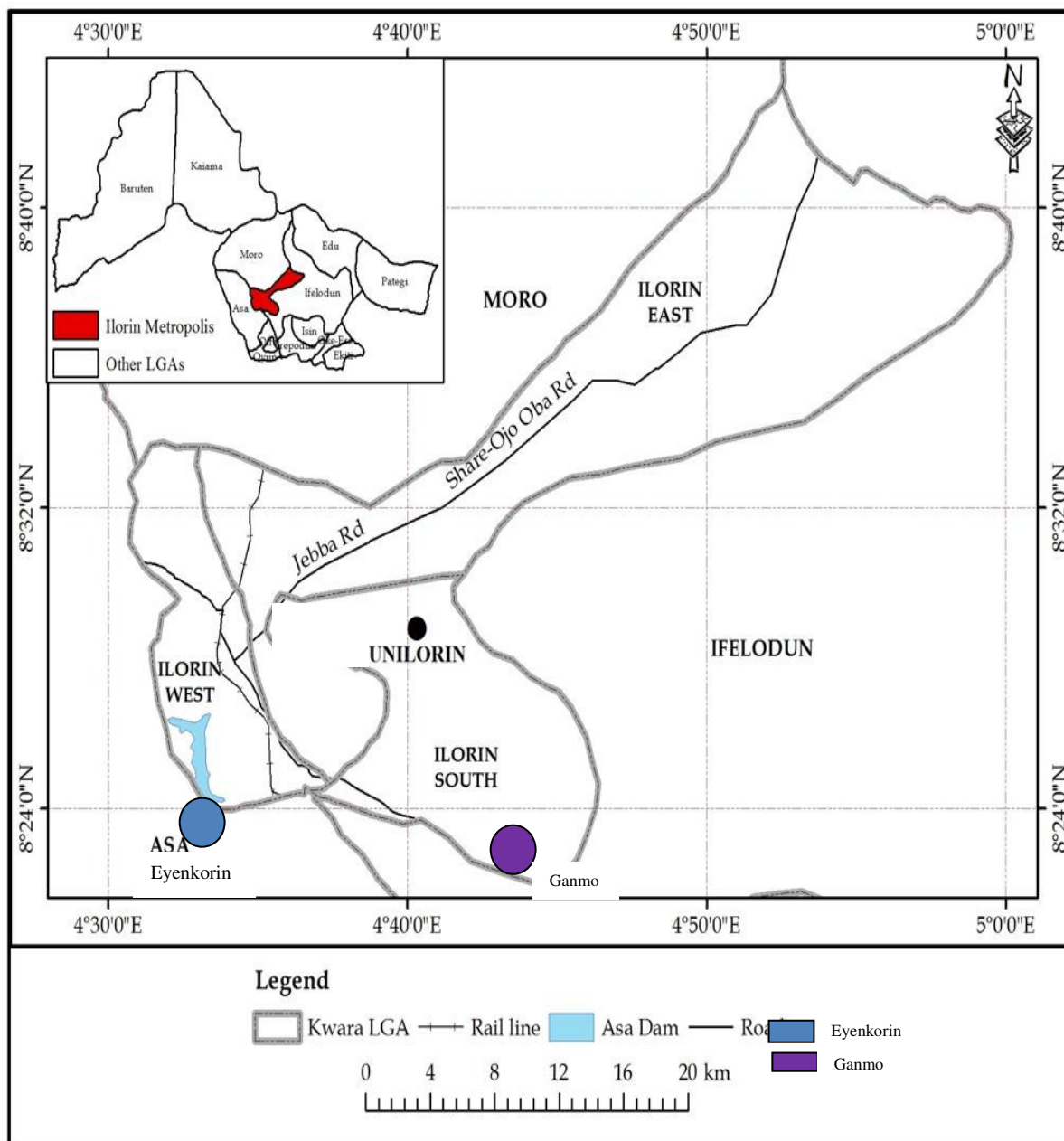


Figure 1: Ilorin and the selected suburbs within the context of Kwara State

Source: Author's work (2022).

farmers. Although, some of the respondents are civil servants (13.9%), while some combine two occupations such as artisan/farming (10.7%) and trading/farming (6.8%). The dominant age group of the respondents is 61-70 years (48.9%), while other age groups are; 41- 60 years (35.0%), 18 – 40 years (15.8%) and above 71 years (0.3%). Concrete investigation into the relationship between age group and occupation reveals that a higher percentage of the age group 61-70 (69.3%) are farmers, followed by age group 41-60 (29.9%). The result further

revealed that majority of the respondent within the age group of 18– 40 (52.9%) and 41- 60 (47.1%) fall under civil servant, while 41 – 60 years (52.0%) dominated trading/farming and age 18 – 40 years (59.0%) dominated artisan/farming. This implies that farming dominates the occupation in the study area (Plate 1). This may not be unconnected to the fact that the occupation of the indigene of the suburb area is farming and primary related occupation. The civil servants are the new residents that occupied the suburb as a result of urban-

Table 2: Relationship between age and occupation.

Age group	Occupation				Total
	Farming	Civil Servant	Trading/Farming	Artisan/Farming	
18 - 40	1	27	7	23	58
R%	1.7%	46.6%	12.1%	39.7%	
C%	0.4%	52.9%	28.0%	59.0%	15.8%
41 - 60	75	24	13	16	128
R%	58.6%	18.8%	10.2%	12.5%	
C%	29.9%	47.1%	52.0%	41.0%	35.0%
61 - 70	174	0	5	0	179
R%	97.2%	0.0%	2.8%	0.0%	
C%	69.3%	0.0%	20.0%	0.0%	48.9%
71 - Above	1	0	0	0	1
R%	100.0%	0.0%	0.0%	0.0%	
C%	0.4%	0.0%	0.0%	0.0%	0.3%
Total	251	51	25	39	366
C%	68.6%	13.9%	6.8%	10.7%	100.0%

Sources: Author's Field Work (2022) ; $\chi^2=206.798$, $P=0.001$



Plate 1: Vegetable Farm at Gado Area Ganmo
Source: Author's Field Survey (2022).

suburb migration and land-use changes. This is similar to the finding of Lee-Smith (2010) that rapid urbanization threatens agriculture, which is the main source of livelihood of suburb dwellers, resulting in problems of land scarcity for agricultural purposes. It was also discovered that the majority of farmers fall within the old age group, while civil servant, artisan/farming and trading/farming fall under the young age group. This implies that younger people are no longer involved in farming, the few that are involved in farming have other occupation, they only engage in it as a backup leaving farming to older people. This aligns with the finding of Mubarak *et al.*, (2014) that farming was the predominant activity in the suburb, but many had a secondary source of livelihood, most especially young people. The chi-square shows that there is a strong relationship between

occupation and age group with (χ^2 value=206.789 and $P=0.001$).

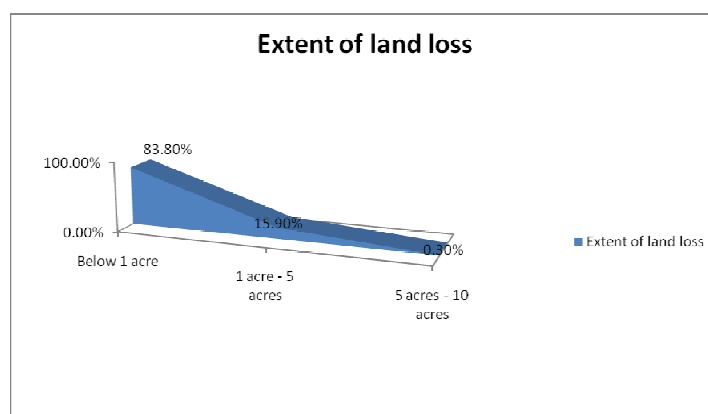
Impact of Land Use Change on Agricultural Land Loss in the Study Area

Table 3 reveals that the majority of respondents (86.1%) lost their agricultural land to urban-suburb migration and land-use changes, while some (13.9%) lost no land. This corroborates the findings of Asamoah (2010) that unplanned expansion of cities and encroachment by people for various purposes has contributed more to land-use changes towards the suburb. Further investigation revealed that 86.3% of respondents in Ganmo lost their land, while 85.7% of respondents in

Table 3: Agricultural land loss in the study area.

Change status	Suburb Areas		Total
	Ganmo	Eyenkorin	
Yes	189	126	315
R%	60.0%	40.0%	
C%	86.3%	85.7%	86.1%
No	30	21	51
R%	58.8%	41.2%	
C%	13.7%	14.3%	13.9%
Total	219	147	366
C%	58.8%	40.2%	100.0%

Sources: Author's Field Work (2022).

**Figure 2:** The Extent Land Loss by each Respondent

Sources: Author's Field Work (2022)

Eyenkorin loss their land. This implies that the suburbs of Ilorin are witnessing rapid urban encroachment, land-use changes and agricultural land loss.

Extent of agricultural land loss by suburban residents

The result on the extent of agricultural land lost by respondents as illustrated in (Figure 2) reveals that majority (83.80%) of the respondents lost land below one acre, while some (15.9%) lost land between 1 to 5 acres and respondent that lost between 5 to 10 acres (0.3%) are scarce. This implies that most of the agricultural lands lost by the respondents are not too large. Notwithstanding, it has an impact on them as most of them generate income from the lost land. The extent of lost lands in the study area is minimal because lost lands are used for residential purposes which does not need a bigger expanse of lands compared to industrial or heavy commercial use. This supports the findings of Gardner (2006), that farmers are often tempted by the prospect of selling rather than continuing the risky business of farming on the edge of residential developments.

Current use of lost land

The result of the current use of lost land as revealed in (Figure 3) shows that majority (73.0%) of the lost land were used for residential purposes, while some were used for commercial purposes (18.4%), road construction (7.30%) and educational purposes (1.30%). This implies that land uses are been changed from agricultural use to other uses (Plates 2 and 3). This agrees with Matuschke (2009), who reported that sprawling cities may hinder the ability to meet new demand patterns due to the expansion of cities on prime agricultural land being converted into residential, commercial and industrial uses leading to the crowding out of suburban agriculture. The dominant use to which land loss is put to is residential while the remaining uses are minimal.

Impact of agricultural land loss in the study area

As revealed in (Figure 4), the majority (40.30%) of agricultural land loss at the suburb leads to joblessness at the suburb as farmers lose their farmlands. Also, agricultural land loss reduces the income (28.30%) of the suburb dwellers, it increases the cost of living of dwellers

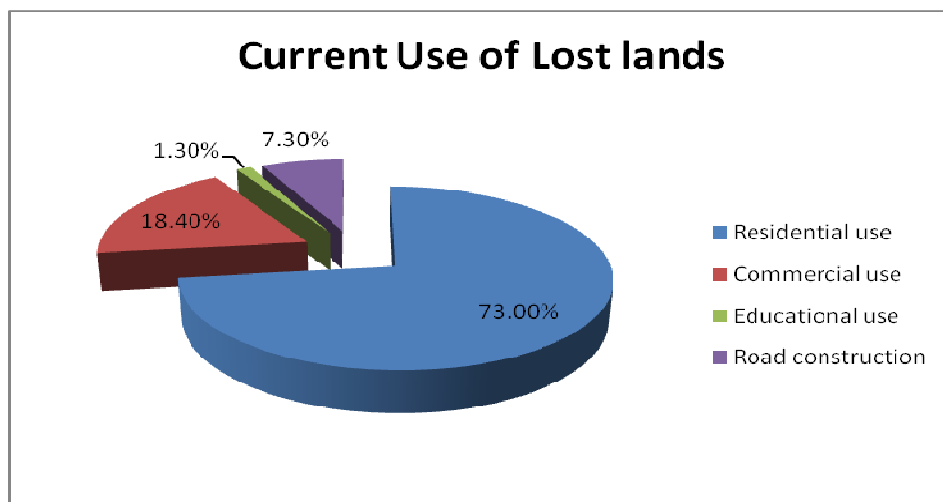


Figure 3: Use of Lost Land
Sources: Author's Field Work (2022).

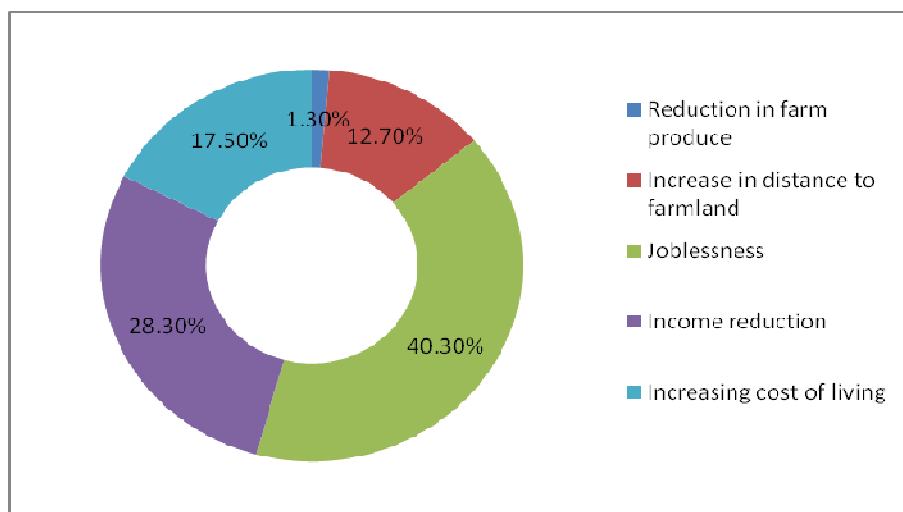


Figure 4: Impact of Agricultural Land Loss on Suburb Dwellers
Sources: Author's Field Work (2022).



Plate 2: Agricultural Land Use Converted to Residential Land Uses at Ganmo



Plate 3: Agricultural Land Use to Residential Land Uses at Eyenkorin

Source: Author's Field Survey (2022)

Table 4: Difference in Income before and after land loss.

Occupation	Income	Land loss			
		Before		After	
		Freq	%	Freq	%
Farming	Below # 18,000	24	9.6%	204	81.3%
	# 18,001 -# 50,000	180	71.7%	47	18.7%
	# 50,001 -# 100,000	46	18.3%	0	0.0%
	# 100,001 -# 150,000	1	0.4%	0	0.0%
	Total	251	100%	251	100%
Trading/Farming	Below # 18,000	10	40.0%	17	68.0%
	# 18,001 -# 50,000	15	60.0%	8	32.0%
	# 50,001 -# 100,000	0	0.0%	0	0.0%
	# 100,001 -# 150,000	0	0.0%	0	0.0%
	Total	25	100%	25	100%
Artisan /Farming	Below # 18,000	1	2.6%	24	61.5%
	# 18,001 -# 50,000	36	92.3%	15	38.5%
	# 50,001 -# 100,000	2	5.1%	0	0.0%
	# 100,001 -# 150,000	0	0.0%	0	0.0%
	Total	39	100%	39	100%

Sources: Author's Field Work (2022).

(17.50%) as they now have to buy the food they get from their farm before losing their lands while it increases the stress of farmers (12.70%) as they have to go far for their farming activities and it reduces the farm produce of some farmers (1.30%). The implication of these is that land loss is very significant to job loss at the suburb and at the same time affects the income of the dwellers negatively as most of them engage in farming activities. This agrees with Naab (2012), who reported that urban encroachment has therefore led to the inaccessibility of land, land fragmentation, loss of land fertility, among many others. This does not create a favorable environment for the development of agriculture at the suburb.

Occupation and income before and after land loss

The result of occupation and income before and after land loss in the selected suburbs is presented in (Table 4). This result revealed the difference in income before and after land loss. For farming occupation alone, the income before land loss shows that 71.7% farmers earn between ₦18,001 - ₦50,000, (18.3%) farmers earn between ₦50,001 - ₦100,000, while 9.6% earn below ₦18,000 and 0.4% earn ₦100,001 – 150,000. After the land loss, the money earned by farmers reduced drastically with the majority (81.3%) of farmers earning below ₦18,000 and while 18.7% of farmers earn between ₦18,001 - ₦50,000.

As for those that combine trading with farming, before land loss majority (60.0%) earn between ₦18,001 - ₦50,000, this was followed by those that earn below ₦18,000 (40.0%). After land loss, about 68.0% earn below ₦18,000 and while 32% earn between ₦18,001 -

₦50,000. Mean while, most (92.3%) of those that combine artisan with farming, before land loss earn between ₦18,001 - ₦50,000, this was followed by those that earn between ₦50,001 - ₦100,000 (5.1%) and those earning below ₦18,000 (2.6%). However, after the land loss majority (61.5%) earn below ₦18,000, while 38.5% of them earn between ₦18,001- ₦50,000.

This implies that those that chose farming as their occupation or combined farming with their occupation now earn lower income after losing their land compared to before the loss of their lands. Certainly, land loss harms income generation in the study area. This result aligns with the finding of Barbara (2016) that declining agricultural land contributed to low economic return received by farmers. This is further buttressed by Masika *et al.*, (2002), that land deficiencies within the urban land-use component increase the index of livelihood vulnerability of suburban poor who are mostly farmers (Olima, 2003). Farmers have responded by either diversifying their farming or selling their land as a way of protecting themselves from the urban encroachment on their farmlands.

This supports the findings of Abdissa (2005) that land-use change consequently results in social and economic problems to the society, which will affect the income of those that depend on land as their source of livelihood negatively when their land is lost to urban activities.

Impact of land use change on suburb residents

Table 5 presents the summary of the opinion of respondents on the impact of land-use change on the residents. The variables on the impact of land-use change on the residents revealed a negative impact on

Table 5: Opinion of Respondents on the Impact of Land Use Change on the Residents.

Impact of Land Use change at the Suburb on the dwellers	NAA		NA		SA		A		VA		TWV	Total	RAI (x)= TWV/Total	(x-x̄)	(x-x̄) ²
	f ₍₁₎	W ₍₁₎	f ₍₂₎	W ₍₂₎	f ₍₃₎	W ₍₃₎	f ₍₄₎	W ₍₄₎	f ₍₅₎	W ₍₅₎					
Negative impact on Income as farm land is lost	2	2	3	6	5	15	31	124	274	1370	1517	315	4.82	1.64	2.6896
Loss of relatives as many relocated to search for job in city after land loss	0	0	0	0	2	6	55	220	258	1290	1516	315	4.81	1.63	2.6569
Increase in crime rate as migrants now occupy the area	1	1	3	6	5	15	101	404	205	1025	1451	315	4.61	1.43	2.0449
Increase in price of land as demand increases	0	0	0	0	31	93	273	1092	11	55	1240	315	3.94	0.76	0.5776
Loss of Job as farm loss land use for farming	11	11	21	42	32	96	201	804	50	250	1203	315	3.82	0.64	0.4096
Increase in transport cost to the city as population exceed transportation facilities	93	93	103	206	115	345	4	16	0	0	660	315	2.09	-1.09	1.1881
Land Conflict arising from sales of lands	210	210	47	94	25	75	33	132	0	0	511	315	1.62	-1.56	2.4336
Positive impact on Income as money from rent increases as population increases	196	196	87	174	28	84	4	16	0	0	470	315	1.49	-1.69	2.8561
Death as some conflict leads to killing	251	251	23	46	47	141	0	0	0	0	438	315	1.39	-1.79	3.2041
Total													28.59		
Mean									3.18						18.0605

Sources: Author's Field Work (2022). Where TWV means Total weight value, Total = Total number of respondents , RAI(X) = Resident Agreed Index, F=Frequency of different reply, W= Weighted Index, Mean = $\Sigma RAI/N = 28.59/9=3.18$, Variance = $\Sigma (x-x̄)^2/9 = 18.06/9 = 2.00$, Standard Deviation = $\sqrt{\text{Variance}} = \sqrt{2.00} = 1.41$, Co-efficient of Variation (CV) = $S.D \times 100/\text{Mean RAI} = 1.41 \times 100/3.18 = 44.34\%$

income as farmland is lost and reduces income from farming with resident agreed index (RAI 4.82), loss of relatives as many relocated to search for a job in the city after land loss (RAI 4.81) and increase in crime rate (RAI 4.61) as migrants now occupy the area, are the variable that has a strong impact on the residents of suburb area. This is because they recorded the highest positive deviation about the mean. This is followed by an increase in the price of land as demand increases (RAI 3.94), loss of Job as farm loss land use for farming (RAI 3.82). These two variables also have a significant impact as they are above the mean value. Variables with lower RAI than the mean include increase in transport cost to the city (RAI 2.09) as population exceed transportation facilities, land conflict arising from sales of lands (RAI 1.62), positive impact on income as money from rent increases as population increases (RAI 1.49) and death as some conflict leads to killing (RAI 1.39). These three variables with low RAI have little impact on the residents of the suburban area. The result is

supported by the observation carried out, as it was observed that some agricultural lands have been converted to residential use (Plates 2 and 3). This result is also in agreement with the finding of Musa and Odera (2014), that rapid urbanization experienced in the city has attracted many people to settle in the suburb resulting in the clearing of agricultural land to pave way for urban development's and its attributes. The standard deviation was 1.41 while the variance was 2.00 and the coefficient standard deviation was 44.34%, implying that the distribution about the mean value is scattered. Adebeyejo and Abolade (2006) reported that built-up area is expanding at an unprecedented rate harming the vegetation at the urban suburb. This study agrees with their finding as many vegetative and agricultural lands were seen converted to residential land uses as shown in (Plates 2 and 3).

Influence of land use change on livelihood in the study area

One hypothesis was tested for this study as stated

below:

H₁: Land-use change has an influence on the livelihood of the people living in the suburbs of Ilorin.

The R-square value as shown in (Table 6) is 71.5%. This implies that land-use changes significantly influence the livelihood of the suburb dwellers. In other words, the identified six impact variables (i.e impact of land-use change on income, agriculture, employment, price of land, land accessibility and land dispute) combined to explain 71.5% variability of the influence of land-use change on livelihood in the study area.

The influence of land use change on livelihood

Table 7 shows the relationship of each of the parameters used in rating the livelihood of the suburb dwellers and land-use changes. The variables are; the impact of land-use change on income, agriculture,

Table 6: Summary of the regression analysis.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.846 ^a	0.715	0.711	0.18675

Source: Author's Field Work (2022).

Table 7: Result of regression on the influence of land use change on livelihood.

Model	Unstandardized coefficients		Standardized coefficients	T	Sig	95.0% confidence interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
Constant	0.972	0.368		2.644	0.009	0.249	1.696
	0.031	0.155	0.007	0.197	0.844	-0.274	0.336
Impact of land use change on income							
	-0.015	0.153	-0.003	-0.100	0.920	-0.316	0.286
Impact of land use change on agriculture							
	-0.002	0.189	0.000	-0.008	0.994	-0.374	0.371
Impact of land use change on employment							
	-0.951	0.268	-0.143	-3.554	0.001	-1.477	-0.425
Impact of land use change on price of land							
	0.914	0.031	0.850	29.517	0.001	0.853	0.975
Impact of land use change on land accessibility							
	0.037	0.033	0.032	1.104	0.270	-0.029	0.102
Impact of land use change on land dispute							

Source: Author's Field Work (2022)

employment, price of land, land accessibility and land dispute. The significant or insignificant of the relationship is judged at 0.05 level of significance. The result shows that land-use change significantly influences the price of land and land accessibility in the study area. The probability values are 0.001 and 0.001 respectively. Furthermore, the influence of land-use change is not too significant on agriculture, income, employment and land dispute since their significant level is above 0.05. Therefore, agriculture, income, employment, and land dispute are not directly influenced by land-use changes, land-use changes first influences the high cost of land and create difficulty in accessing the land which later have a negative influence on agriculture, income, employment and causes land dispute. This study largely corroborates with other studies on the impact of land use change on agrarian land in the suburb. Sunday and Umar, (2013); Muhammed, (2007) agree that urban

expansion and migration to the suburb influences land use change causing the land at the suburb to be expensive and inaccessible to farmers and low income earners, as land are been purchased for residential and commercial uses. This implies that agricultural land at the suburb where urban residents are moving to is endangered, therefore, land use in this area need to be guided, controlled and well managed to prevent agricultural land loss and inaccessibility to potential farmers who do not have huge capital to purchase land for farming purposes.

Conclusion

The study has established that land use change in the suburb as a result of urban-suburb migration do not only lead to agricultural land loss but also have negative impact on the livelihood of the suburb dwellers.

It is therefore concluded that the relevant stakeholders in land use planning and management should make suburb land use planning their priority especially in the suburb and rural areas. Also, and more importantly agriculture should be given necessary attention to protect the livelihood of those that depend on agriculture, at the same time improve food production. This study contributes to the existing literature on land-use change and its relation with suburb and agricultural land loss, previous studies has been focusing on urban land use and agricultural land use in the rural area. This study addresses the issues pertaining to suburban agricultural land use, one of the major suppliers of food (especially perishable foods) to the urban areas because of its closeness to the urban area. The findings of this result will help to formulate policies that will help ameliorate agricultural land loss at the suburb and control land uses in such a way that will promote pleasant and sustainable environment.

Recommendations

Based on the findings of this study, the following recommendations were made and if they are implemented it will help address the challenges of urban-suburb migration, uncontrolled land use change and agricultural land loss.

- a. It was revealed from the study that urban-suburban migration is happening at an unprecedented rate leading to land use change and agricultural land loss in the suburban areas. Therefore, government and relevant agencies like Town Planning Authority and Kwara State Ministry of Housing and Urban Development should come up with a master plan that will guide development in the suburban areas. This plan must not just be designed; it should be fully implemented.
- b. It is evidenced in the study area that the land-use change is affecting the socio-economic life of the suburban dwellers and also affecting the livelihood negatively. The majority of them are farmers and many have lost their land which is their source of income, hence, there is a need for government intervention by assisting the affected farmers, either by empowerment through vocational training or opening of more lands for them to continue their farming.

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