Rural Land Utilization and Commercial Agriculture among Female arable Crop Farmers in South West Nigeria

By
Idowu FASAKIN and Oluwatosin ADEGBOYEGA
Department of Agricultural Economics, University of Ibadan, Nigeria

Abstract

The utilization of agricultural land for non-agricultural purposes has been on increasing trends in Nigeria, and is gradually becoming a barrier to agriculture commercialization. Acquisition and utilization of land for non-agricultural purposes can affect the rural households and exposed the rural household to hunger, malnutrition among others. Hence, this study examines rural land utilization and the factors influencing commercial agriculture among Female Arable Crop Farmers in South West Nigeria. Primary data was collected through the use of well-structured questionnaires with a multistage sampling procedures. Three hundred and seventy (370) questionnaires were retrieved and found useful for analysis. Findings showed that 71.62% of the women had land market index of 0, indicating that they obtained their land through non-transaction based method and 28.38% acquired their land through transaction based method. The crops that drive commercialization most in the study area was maize 65% and cassava 41%. The probit regression analysis shows that land market index ($p<0.01$), age ($p>0.05$), households size ($p<0.10$) and access to credit ($p<0.01$) were the major variables influencing commercialization in the study area. It is recommended that there should be provision of micro credit schemes for the rural female crop farmers through establishing of microfinance banks in the study area, and policy formulation to allow land redistribution among female crop farmers so that non-indigenous female crop farmers can access more farmland.

Keywords: *Commercialization index, Female Crop Farmers, Land market utilization Nigeria.*

Introduction

Land is the most important factor of production, where all production activities take place and has an essential role to play in sustaining agricultural productivity as well as increasing farmer's income (Enwelu *et al*., 2014). It is also a very important instrument in any economic manipulation which makes it important for speculations. About 54 million out of Nigeria's 78 million women make their living from the land and are based in rural areas (BCN, 2012). Land market according to Mahoney *et al.* (2007), involve any land transfer process that is done on transaction basis or in which money is exchanged. It is generally regulated through land tenure and land administration systems. The basic role of any land market is to allow for permanent or temporary transfers of land between potential land users. Land market in developing countries are still characterized by the existence of significant transaction cost in the rural land market thereby constraining access to land for crop farmers willing to start up or enlarge their farm and reinforcing the persistence and dominance of large scale farms (Vranken, 2006). The dominance of agriculture in most African economies suggests the importance of land as a basic tool of development and a significant determinant of

income earning power. Hence, transformation of the agriculture sector through commercialization is inevitable.

Agricultural commercialization has long been considered an essential part of agricultural transformation in developing economies and an important means of ensuring food security and improved livelihood (Kurosaki, 2003). There is agricultural commercialization when there is an increase in the quantity of agricultural output sold by farmers (Pradhan*et al.,* 2010). Commercialization can take place in four dimensions i.e., production of marketable surplus of traditional crops and livestock, increase in post-harvest activities and transformation of produce at household level (adding value to traditional crops/livestock before selling them), production of new crops and livestock especially for the market, and introduction of new income generating enterprise (Kunze 2003). Agricultural commercialization has been viewed as a rise in the share of marketed output or of purchased inputs per unit of output (Jaleta *et al*, 2009), and can take place with output when there is increase in proportion of output offered for sale or with input when there is increased use of purchased inputs. It also involves scaling up of agricultural production from subsistence level to become market based (Manyong *et al*., 2002), and is characterized by expansion in sales of output which raises cash earnings of small-scale agriculture. Agriculture production in Nigeria is gradually shifting from subsistence to commercial agriculture in recent time (Dahiru*et al.,* 2011).

Rural women contributions to agricultural development is an established fact, as they are equal partners to men in all chains of agricultural production. They are at the core of the economies of Sub-Saharan Africa, comprising about 60% of the informal sector and providing about 70% of total agricultural labour (Blackden and Bhanu, 1998) Their involvement in agricultural production goes beyond decision-making and labour input alone. They are also important in other agricultural activities such as food processing, marketing, cash crop production, and livestock (Owolabi *et al*., 2011). Women are genuine tools in the development of any economy as they take part in important economic activities for the benefit of their families and the entire nation (Ekesionye and Okolo 2012). Recounting the successful stories of women in different cultures, women are the farmers on whom families and communities depend for food production. They are the productive partners in agriculture and played various roles such as farmers, farmer's wives and agricultural professionals besides their traditional role of child bearing, procreation and home management (Jiriko, 1999).

Recently, there is an increase in the rate of acquisition and utilization of land for non-agricultural purposes which has affected rural crop production by exposing them into hunger, malnutrition and food insecurity. Also, as cities continue to grow and expand, water; a key resource for agricultural production is becoming scarcer and often wasted because of excessive domestic and industrial use, thereby endangering food supplies (Szabo, 2016). Judging from the above problem, this study examines various types of transaction carried out on agricultural land, rural land utilization and the factors influencing commercial agriculture among Female Crop Farmers in South West Nigeria.

The study will help in formulate policies that will help in land allocation and redistributions among rural farmers especially the female arable crop farmers. Also, the study will help in identify food crops that drives commercialization in south/west Nigeria.

2.0. Methodology

The study was carried out in Southwest Nigeria, comprising of six States; Lagos, Ogun, Ondo, Ekiti, Osun and Oyo States. The region represents an agricultural zone spreading between Lat 5 and 9^0N of the equator with a total population of about 38,257,260, land area of 114,271 km^2 (NBS, 2016 and Egbetokun *et al.,* 2014). Agriculture is a major occupation in the region and the climate highly favours crop cultivation. Oyo and Ondo states were selected because Oyo state is the commercial and agriculture headquarter of the south western states, with a large market for many arable crops, while Ondo State is prominent in arable crop production and is a rapidly becoming an urbanized state, with many investors acquiring land for various industrial and commercial purposes (Szabo, 2016, Ololade and Olagunju, 2013).

Primary data was collected with a multi-stage random sampling technique. The first stage was the purposive selection of Oyo and Ondo States out of the Six(6) states in the South west Nigeria. The second stage was probability proportional to size sampling of Local Government Areas (LGAs) from the selected states. Five(5) Local Government Areas from Oyo; Akinyele, Lagelu, Iddo, Egbeda and Afijio , and five (5) from Ondo state Akure-North, Akure-South, Ifedore, Idanre and Owo local government were selected for this study.

2.1. Analytical Techniques

Crop Commercialization Index (CCI)

Von Braun (1994) suggested that the most common approach used in measuring the degree of commercialization at the household level is the using of proportion of sales from the total value of agricultural production. The CCI is conceptualized in this study as a ratio of the gross value of all crop sales per household per year to the gross value of all crop production and it is given as:

CCI for different crops is given as;

$$CCI_y = \frac{\text{Grossvalueofcropsales}_{inyearj}}{\text{Grossvalueofcropproduction}_{inyearj}} x100 \qquad (1)$$

Where;

$CCI_c =$ Crop commercialization index for Crop sales

For different crops used in this study, commercialization index for each crops is defined as;

$$CCI_y = \frac{\text{Grossvalueofyamsales}_{inyearj}}{\text{Grossvalueofyamproduction}_{inyearj}} x100 \qquad (2)$$

$$CCI_m = \frac{\text{Grossvalueofmaizesales}_{inyearj}}{\text{Grossvalueofmaizeproduction}_{inyearj}} x100 \qquad (3)$$

$$CCI_c = \frac{\text{Grossvalueofcassavasales}_{inyearj}}{\text{Grossvalueofcassavaproduction}_{inyearj}} x100 \qquad (4)$$

$$CCI_r = \frac{\text{Grossvalueofricesales}_{inyearj}}{\text{Grossvalueofriceproduction}_{inyearj}} x100 \quad (5)$$

$$CCI_y = \frac{\text{Grossvalueofplantainsales}_{inyearj}}{\text{Grossvalueofplantainproduction}_{inyearj}} x100 \quad (6)$$

Where;
CCI_y = Crop commercialization index for yam sales
CCI_m = Crop commercialization index for maize sales
CCI_r = Crop commercialization index for rice sales
CCI_c = Crop commercialization index for cassava sales
CCI_p = Crop commercialization index for plantain sales
The Crop Commercialization Index (CCI) ranges between 0 and 100.
Where
CCI = 100 if farmer sells all her output,
CCI = 0 if farmer consumed all her output.
The index measures the ratio of the gross value of crop sales in year (j) to the gross value of all crops produced by the farmers in the same year (j) expressed as a percentage (Alawode *et al.*, 2018, Govereh *et al.,* 1999).

Probit Model
Probit Model was used to assess factors that affect the extent of Female crop farmers' commercialization in the study area. Probit model is appropriate for this analysis because the dependent variable (crop commercialization) was grouped into dichotomous variable of (0= commercialized and 1=non-commercialized). In statistics, Probit model is a type of regression where the dependent variable can only take two values. The explanatory variables used in this study include socio-economic characteristics; age, marital status, household size, education status, level of income, size of farm land and primary occupation. The explanatory variables were selected based on the adoption of the works of Alawode *et al*., (2018), Egbetokun *et al*., (2014), Okoruwa *et al.* (2008) and Joshi *et al*. (2007).
Following the specification according to Greene (1993),

$$y_i^* = X_i\beta + \varepsilon \quad (7)$$

$$y_i = \begin{cases} 1 if X_j > 0 \\ 0 if X_j \leq 0 \end{cases} \quad (8)$$

The two equations above gives the following;

Where
Y =Commercialization Index (commercialized =1, no = Non-commercialized)
X= Set of explanatory variables which includes;
X_1 = Age (years)
X_2= Marital Status
X_3= Education level
X_4= Household size (number)
X_5= Farm income (Naira)
X_6= Access credit (yes =1, no = 0)
X_7= Years of Education (Years)
X_8= Membership of cooperative Association(yes=1, no =0)
X_9=Size of the farm land (hectares)

ε_0 = Error term

Land Market Index

Land market index (LMI) was used to assess the extent to which crop farmers participated in land market. LMI is defined as;

$$LMI_{cfi} = \frac{Areaoflandobtainedthroughmarketbycropfarmeri}{Totalareaoflandsizeheldbycropfarmeri} \qquad (9)$$

LMI ranges from 0 to 1,

Where;

LMI=1, if all plots of land held by crop farmers is acquired through transaction based method, LMI=0, if none of the plots of land is acquired through transaction based method (Alawode *et., al*, 2018).

3.0. Empirical Results and Discussion

Table 1 below shows the mean age of the female crop farmers to be 46.54, with 41-60 having the highest percentage of 46,49%. Majority of the female crop farmers are married 76.49% with 41.62% having 6-10years of education. Farming experience shows that 79.46% of the respondent have less than 10years experience with mean of 10.61years. Only 20.54% of the female crop farmers have access to credit, with 81.08% belongs to one members of cooperative association or others. The mean household size is 5.38 with 64.86% having members within 5-8, mean farm size is 3.52hectares with 78.11% cultivating farm size between 0-4hectares. Distance of their farm to market has a mean of 23.12km with 54.86% covering distance between 5-10km. The mean income is ₦51092.43 with 88.11% having income of less than ₦100,00.00. As indicated in **Table 2** below, there are main five (5) modes of land acquisition, which are divided to transaction (lease, rent and purchase) and non-transaction (gift and inheritance). Majority 71.62% of the farmers acquired their farm plots through inheritance followed by 15.41% that acquired theirs by rent, 9.46% by lease, 2.16% by purchase and only by gift 1.35%. The high level of land acquisition by inheritance could be attributed to the fact that majority of the female crop farmers were natives of the study area. Acquisition of land through gift has the lowest percentage 1.35%, this shows that gifting of land is not embraced among the respondents. From the transaction based land acquisition, it was found out that 15.41% and 2.16% got their land through rent and purchase respectively. In **Table 3,** majority of the Female crop farmers 71.62% had land market index of 0, indicating that 71.62% of the Female crops farmers acquired land through non-transaction based method i.e. gift and inheritance. On the other hand, 28.38% of the female crops farmers acquired land through transaction based methods (lease, purchase and rent). The availability of land for cultivation of crops is expected to lead to increased production, thereby encourage increased commercialization and land utilization. This is line with Alawode *et al*., (2018), where land market index for crop farmers among households had a similar result. **Table 4** shows that Maize is the most commercialized crop 65%, followed by cassava 41%, yam 38%, rice 33% and plantain 15% in the study area. This is in line with Alawode *et al.,* (2019) and Egbetokun *et al.*,

(2014), where maize was found to be the most commercialized crop among farmers in South west Nigeria.

Table 5, shows the result of the probit regression analysis with a log likelihood of -216.099 and a chi-square of 0.000, indicating the fitness of the model at ($p<0.10$) significant level. Pseudo R-Square of (0.55) implying that the model has a good fit to the data The result s further shows that participation in land market by respondents had a significant positive effect on crop commercialization at ($p>0.1$), implying an increased level of crop commercialization will lead to 11% participation in land market. This result agrees with Alawode *et al*., (2018), where land market positively influence commercialization among households in South west Nigeria. Also, age was significant at ($p<0.10$) and was positively related with the commercialization index. This implies that an increase in the farmer's age will lead to 6% increase in degree of commercialization among the female crop farmers in the study area. This is in tandem with Alawode *et al*., (2018), where age of the farmers was a significant variable in determining the commercialization index in South west Nigeria. Household size was significant at ($p<0.01$), indicating that a slight increase in household size among the farmers will lead to 7% increase in the level of commercialization of their crop produce. This is in line with Egbetokun *et al.,* (2014), where they found that household size had a positive relationship with commercialization among crop farming in South west Nigeria. Also, access to credit was significant at ($p<0.10$) with positive coefficient, indicating a positive relationship with commercialization index among female crop farmers in the study area. An increase in credit access among female crop farmers will lead to 39% increase in degree of commercialization among the female crop farmers in the study area. This underscores the importance of credit among rural farmers, especially the female sex. This findings corroborates the study of Ololade and Olaguju, (2014), Ekwere and Edem (2014) where access to credit was a main determinants driving crop production among rural farmers in Nigeria. Also, Awotide *et al*., (2015) emphasized the importance of credit access among cassava farmers in Southwest Nigeria.

4. Conclusion and Policy Recommendations

From the empirical evidence of this study, it can be concluded that majority of the female arable crop farming households in the study area acquired their farmland through inheritance. Maize and Cassava was found to be the major driver of crop commercialization in the study area. The relationship between commercialization and land market shows that crop commercialization increases with participation in land market. Factors that influence crop commercialization among female farmers in the study area are land market index, age, household size and access to credit.

The study therefore recommended the provision of micro credit schemes for the rural female crop farmers through establishment of microfinance banks, also there should be policy formulation to allow land redistribution so that non-indigenous female crop farmers can access farmland. This will increase arable crop production and drive crop commercialization among crop farmers and possibly increase their income in the study area.

Table 1: Socio-economic Characteristics of the Respondents

Socio-economic Characteristics	Frequency (n=370)	Percentage (%)	Mean
Age (Years)			
≤ 20	08	2.16	
21-40	131	35.41	46.54
41-60	172	46.49	
≥ 60	59	15.95	
Marital Status			
Single	41	11.08	
Married	283	76.49	
Divorced	31	8.38	
Separated	15	4.05	
Years of Education			7.47
≤ 5	127	34.32	
6-10	154	41.62	
11-15	57	15.41	
≥ 16	32	8.65	
Farming Experience (Years)			
≤ 10	294	79.46	
11-20	57	15.41	10.61
≥ 20	19	5.14	
Access to Credit			
Yes	76	20.54	
No	294	79.46	
Association Membership			
Yes	300	81.08	
No	70	18.92	
Household Size			
≤ 4	127	34.32	5.38
5-8	240	64.86	
≥ 9	03	0.81	
Farm Size (hectares)			
≤ 4	289	78.11	3.52
5-8	53	14.32	
8-12	23	6.22	
≥ 12	05	1.35	
Distance to Market (km)			
≤ 5	65	17.57	
5-10	203	54.86	
11-15	55	14.86	23.12
16-20	30	8.11	
≥ 20	17	4.59	
Total Income (Naira)			
≤ 100,000	326	88.11	
100,001-200,000	40	10.81	51092.43
≥ 200,000	04	1.08	
Mode of Land Acquisition			
Inheritance	265	71.62	
Lease	35	9.46	
Purchase	08	2.16	
Gift	05	1.35	
Rent	57	15.41	

Source: Field Survey, 2019

Table 2: Methods of Land Acquisition

Modes of Land Acquisition	Frequency	Percentage
Inheritance	265	71.62
Lease	35	9.46
Purchase	08	2.16
Gift	05	1.35
Rent	57	15.41
Total	**370**	**100**
Transaction based Method	**Frequency**	**Percentage**
Lease	35	33.33
Purchase	08	7.62
Gift	05	4.76
Rent	57	54.29
Total	**105**	**100**

Source: Author's Computation, 2019

Table 3: Land Market Index

Land Market Index	Frequency (n=370)	Percentage (%)
0	265	71.62
$0 < LMI \leq 1$	105	28.38

Source: Author's Computation, 2019

Table 4: Crop Commercialization Index

S/N	Crops (%)	CCI
1.	Yam	38
2.	Maize	65
3.	Cassava	41
4.	Rice	33
5.	Plantain	15

Source: Author's Computation, 2019

Table 5: Probit Regression Estimates of Factors affecting Crop Commercialization among Female Food Crop Farmers in South West Nigeria

Variables	Marginal Effects	Coefficient	z-values	p>/z/
Land Market Index	0.119	0.303	1.87	0.061*
Age	0.006	0.016	2.50	0.013*
Marital Status	0.069	0.173	1.39	0.165
Education Level	-0.017	-0.430	-1.39	0.564
Households size	-0.068	-0.170	-3.94	0.000***
Farming experience	-0.003	-0.009	-1.07	0.287
Access to credit	0.392	1.027	6.88	0.000***
Association Membership	-0.067	-0.170	-0.90	0.366
Farm size	-0.013	-0.033	-1.06	0.289
Income	-9.87e-7	-2.48e-06	-1.38	0.167
Constant		0.449	-1.12	0.261
No of observation	370			
Log likelihood	-216.09942			
Chi-square	0.000			
LR Chi-Square	79.42			
Pseudo R-Square	0.5552			

*Source: Stata 14 Output, 2019 *,**, *** rep Sig at 10%, 5% and 1% respectively.*

References

Abebe, G. A. 2013. Quantifying urban growth pattern in developing countries using remote sensing and spatial metrics: a case study in Kampala, Uganda.

Adenegan K. O 2014, Smallholder Cassava Commercialization: Implication for Household Income Among Farmers in Oyo State, Nigeria**.** A publication of the School of Agriculture Technology, The Federal University of Technology, Akure, Nigeria. 121-127

Alawode O.O., Abegunde V.O. and Abdullahi A.O. (2018) Rural Land Market and Commercialization Among Crop Farming Households In Southwestern Nigeria. *International Journal of Innovative Food, Nutrition & Sustainable Agriculture* 6(3):54-62*.*

Awotide B. A, Abdoulaye T , Alene A , and Manyong V. M (2015) Impact of Access to Credit on Agricultural Productivity: Evidence from Smallholder Cassava Farmers in Nigeria. An Oral Presentation at the International Conference of Agricultural Economists (ICAE) Milan, Italy August 9-14, 2015.

Blackden, C. M; Bhanu, C. (1999). Gender, growth, and poverty reduction : special program of assistance for Africa, 1998 status report on poverty in Sub-Saharan Africa. World Bank technical paper ; no. WTP 428. Washington, D.C.

Bhatta, B. 2010.Causes and consequences of urban growth and sprawl *Analysis of urban growth and sprawl from remote sensing Data*. Berlin Heidelberg: Springer-Verlag

British Council Nigeria (2012). Gender in Nigeria report: Improving the lives of girls and women in Nigeria. Issues, Policies, Actions.

Ekesionye E.N and Okolo, A.N (2012) women empowerment and participation in economic activities. Indispensable tools for self-reliance and development of Nigerian society. Educational research and review. (1) 10 -18

Ekwere G. E and Edem I. D (2014)Evaluation of Agricultural Credit Facility in Agricultural Production and Rural Development. *Global Journal of Human-Social Science:* 14 (3) 1 2014

Cohen, B. 2004. Urban growth in developing countries: a review of current trends and a caution regarding existing forecasts. *World Development, 32*, 23-51.

De Jong, S. M., Bagre, A., van Teeffelen, P. B. M., and van Deursen, W. P. A. 2000. Monitoring trends in urban growth and surveying city quarters in Ouagadougou,Burkina Faso using SPOT-XS. *Geocarto International, 15*(2), 63-69.

Dutta, V. 2012.*War on the dream - how land use dynamics and peri-urban growth characteristics of a sprawling city devour the master plan and urban suitability?: A fuzzy multi-criteria decision making approach.* Paper presented at the13th annual global development conference, Budapest, Hungary.

Egbetokun O. A., Omonona B. T., Yusuf S. A., and Oni O. A. (2014) Determinants of Output Commercialization among Crop Farming Households in South Western Nigeria. *American Journal of Food Science and Nutrition Research.* 1(4): 23-27.

Enaruvbe, G. O. and Atedhor, G. O (2015)Spatial Analysis Of Agricultural Land use Change In Asaba, Southern Nigeria. *Ife Journal of Science* 17(1): 65-74

Enwelu, I. A., Morah, U.L., Dimelu, M. U. and Ezeano, C. I. (2014)Women Farmers' Access and Use of Land For Agriculture in Selected Communities of Anambra State, Nigeria. *Mediterranean Journal of Social Sciences MCSER Publishing, Rome-Italy* 5:(26) 14-20

Govereh, J., Jayne, T.S. and Nyoro, J. (1999).Smallholder commercialization, interlinked markets and food crop productivity: Cross-country evidence in eastern and southern Africa.

Green (1993) Econometric Analysis, 6th edition. Prentice-Hall, New Jersey.

Jaleta, M., Gebremedhin, B. and Hoekstra, D. (2009). Smallholder commercialization: processes, determinants and impact. Discussion Paper No. 18. Improving Productivity and Market Success (IPMS) of Ethiopian Farmers Project, ILRI (International Livestock Research Institute), Nairobi, Kenya

Jiriko, R.K. (1999). Socio-Economic Factors Affecting the Performance of Women In Food Security In Chikun Local Government Area of Kaduna State. An Unpublished Project Proposal, The Department of Agricultural Economics. and Rural Sociology. Ahamadu Bello University, Zaria, Nigeria.1-23.

Kawagoe T. (1994): Income and employment generation from agricultural processing and marketing at the village level: A study in Upland Java, Indonesia. In: von Braun J and Kennedy E (eds). Agricultural commercialization, economic development, and nutrition. Johns Hopkins University Press, Baltimore, Maryland, USA., pp. 176–186

Kunze, D. (2003). Challenges and critical issues of small farm Commercialization of agriculture. Proceedings of the International Workshop on Gender Impacts of Commercialization of Smallholder Agriculture.14-16 May 2003, IITA, Ibadan.

Kurosaki, T. (2003). Specialization and diversification in agricultural transformation: The case of West Punjab, 1903-92. *American Journal of Agricultural Economics* 85(2): 372-386

Manyong, V.M., Ikpi, A., Olayemi, J.K., Yusuf, S.A., Omonona, B.T., Okoruwa, V. and Mathijs, E. and Noev, N. (2002). Commercialization and subsistence in transition

agriculture: Empirical evidence from Albania, Bulgaria and Hungaria and Romania. Paper presented at the 10th EAAE Congress "Exploring diversity in the European Agri-food System" Zaragoza, Spain, August 28-31, 2002.

Moti, J., Berhanu, G. and Hoekstra, D. (2009). Smallholder commercialization: Processes, determinants and impact. Discussion Paper No. 18. Improving Productivity and Market Success (IPMS) of Ethiopian Farmers Project, ILRI (International Livestock Research Institute), Nairobi, Kenya. pp55

National Bureau of Statistics (NBS) (2016).www.nigerianstat.gov.ng. Retrieved 10 August, 2018.

Pradhan, K., Dewina.R. and Minsten, B. (2010). Agricultural commercialization and diversification in Bhutan. IFPRI (International Food Policy Research Institute), Washington, DC, USA. 56(4): 305-314.

Okoruwa V. O, Onwurah B. C and J. O. Saka (2008): Food Demand among HIV Households in North Central, Nigeria. *European Journal of Social Sciences 5: (4)* 91-98

Ololade R. A and Olagunju F. I (2015)Determinants of Access to Credit among Rural Farmers in Oyo State, Nigeria. *Global Journal of Science Frontier Research Agriculture and Veterinary Sciences* 13 (2) 1 2013

Owolabi J. O, Abubakar Z.B and Amodu M. Y (2011) Assessment of Farmers (Women)' Access to Agricultural Extension, Inputs and Credit facility in Sabon-Gari Local Government Area of Kaduna State. *Nigerian Journal of Basic and Applied Science* 19 (1): 87- 92

Sylvia Szabo (2016) Urbanisation and Food Insecurity Risks: Assessing the Role of Hum'an Development, Oxford Development Studies, 44(1): 28-48

Von Braun, J. (1995): Agricultural Commercialization: Impacts on Income and Nutrition and Implication for Policy. *Food Policy* 20(3):187 – 202

Vranken, L. (2006). Land Rental Markets in Transition. Theory and Evidence from Hungary, *World development.*34(3): 481-500.