Dependency of Urban Poor Food Expenditures on Household's Social Dynamics; The Situation of Low-Income Households in City of Kigali, Rwanda

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*Abstract:-*Households often depend on income from relatives working abroad or in other cities. Similarly, issues related to access to credit and loans, membership to Rotating Savings and Credit Associations (ROSCAS) may have great influence on incomes, which determine food access during emergencies (Maluku et al, 2014). Baiyegunhi and Fraser (2010) emphatically stated that households are more vulnerable to poverty when the household head's education is low.

This paper analyzes how social characteristics in the low-income Households in City of Kigali influence their level of food security. Our research has focused on three key factors; i) Size of the low-income households, ii) The level of education for the Head of Households and iii) Household membership to various social associations with the objective of getting and accessing resources to improve their livelihoods.

The research has revealed that majority 64.3% low-income households in city of Kigali have confirmed that they don't belong to any social networks, only 35.7% the low-income households in City of Kigali have confirmed that they belong to social networks, a big number of them 91.6% they belong to "Saving Groups" with the main purpose for "Saving" (82%) and 9 % to access loans, very few of the low-income households 5.6% belong to Cooperatives.

The results from the Multiple Linear Regression Model have revealed positive and statistically significant relationship at (p<0.01) between level of education of the head of household and Household Size with the low-income households' food expenditure in the City of Kigali.

Keywords: Dependency, Urban Poor, Food Security, Low-income households

I. INTRODUCTION

To lift the poor from poverty, programs and policies should concentrate on creating jobs and on increasing the capacity of the poor to find and hold more-secure, higher-paying jobs or to expand their own businesses and generate new jobs. Programs should work to strengthen the poor's ability to organize, make demands, and affect local authorities and to strengthen the municipality's understanding of its responsibility to respond (J.L. Garett, 2000).

The poor are characterized by finding it difficult to save, which means that they are often without bank accounts and, moreover, may face discrimination in financial markets.

Accordingly, to reduce asset poverty, one could consider the implementation of the so-called Individual Development Accounts as proposed in the US (i.e., matched savings accounts available to the poor) (Johnson and Mason, 2012). The poor would also benefit from having access to the range of ancillary services that the availability of banking offers, such as lower energy prices with direct debit "Basic" bank accounts are ways in which these benefits might be achieved. Then the poor need facilitation of access to low-cost credit markets, which can protect against income shocks and in the longer term enable them to start a self-reinforcing asset accumulation process that can eventually lead to a sufficient level of wealth so as to counteract the effects of income fluctuations (E. Philip Davis et Al, 2014).

Sachs (2005) emphasizes the role of low levels of capital instead of income in perpetuating poverty particularly in a developing country context. The poor lack capital needed to "get a foot on the ladder of development". They lack human capital (health, skills and education); business capital (machinery and buildings); infrastructure (transport, power and sanitation); natural capital (viable land); institutional capital (rule of law and security) and knowledge capital (technical know-how needed to raise productivity).

Besley and Burgess (2003) suggest that the role played by access to credit in making people escape poverty may need to be qualified if it may also be difficult for poorer individuals to exploit these opportunities, due to a lower level of education in basic financial concepts and the sound management of financial instruments These authors nonetheless argue that these shortcomings do not nullify the advantages of expanding access to credit for the poor, which, as with education, may not only increase the (positive) elasticity between economic growth and the reduction of poverty (by making them more likely to reap the returns to the opportunities that economic growth offers), but also act as a form of redistribution (thereby lowering inequality) in terms of business opportunities and ownership of financial resources. Furthermore, it can be argued that, despite typically lower levels of education, low income households have to be excellent money managers, not least because every penny counts when they have no access to flexible and low cost credit lines.

II. LITERATURE REVIEW

Windyanti et al., (2009) states that the relationship between poverty and household size can either be positive or negative, depending on the level of modernization in the country. In less developed countries, where agriculture is the powerhouse of the economy, larger households tend to have less poverty. Nevertheless, in modernized countries, where there is limited access to subsistence farming, larger households tend to experience poverty. Schwabe (2004) stated that the large households require large income to keep family members out of poverty.

Social capital is used to describe relational resources embedded in personal ties, which are useful in the development of individuals in community social organizations and has been conceptualized either as a set of social resources embedded in relationships or more broadly as including, in addition to social relationships, the norms and values associated with them (Tsai & Ghoshal, 1998). Burt's (1992) who defined social capital as "friends, colleagues, and more general contacts through whom you receive opportunities to use your financial and human capital".

Normally urban families keep relationship with relatives and families back in rural areas, also they build networks of mutual support with other families in their neighborhood; extended family, and communities, through which theycan join associations that can help them to mobilize to access resources needed for their survival, for example, loans, medical care/mutual health care, food, accommodation and information about employment and business opportunities.

Through this research, we will assess how resources from some components of the "Social Capital" namely through "Self-help" practices like groups for mutual saving and lending affect the food security for low income households. Bourdieu &Wacquant (1992) had gone a step further in defining the concept of "social capital" as the sum of the resources, actual or virtual, that accrues to an individual or a group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition.

Education is the most commonly used indicator of household and social economic status (Miech and Hauser, 2001). Minot and Baulch (2005) stated that the number of years spent in schooling significantly reduce the probability of becoming poor. Moreover, Baiyegunhi and Fraser (2010) emphatically stated that households are more vulnerable to poverty when the household head's education is low. The human capital of a household, as measured by schooling, is expected to generally be linked to a shift to non-agricultural activities since this is where the returns to education are most likely to be highest (Taylor &Yunez-Naude, 2000).

The human capital theory explains the positive relationship between an individual's educational attainment and income (World Bank, 1998). Tilak (2002) mentioned that there is a relationship between household income and education, and this is more highlighted in rich households compare to the middle and low-income families (Tilak, 2002).

III. RESEARCH METHODOLOGY

This study was carried out to investigate the social and demographic determinants of the low-income household's food security in the City of Kigali Rwanda, the survey was conducted in 3 districts of the City of Kigali namely; Nyarugenge, Gasabo and Kicukiro districts in their 35 Sectors which are distributed by 10 Sectors in Nyarugenge, 15 Sectors in Gasabo and 10 Sectors in Kicukiro.

This paper focuses on how HH's Social Characteristics, defined by i) Household size, ii) Social capital and ii) education level of Head of household influences food security for the low-income households in City of Kigali.

The respondents (Heads of household) were selected using simple random sampling. Data on household food expenditure and HHs' perception on of food security using HFIAS were provided by household heads using a memory recall method. A total of four hundred and forty five copies of the questionnaires were administered but 407 were found useful for the analysis. The data gathered were analyzed using SPSS for descriptive statistics and a Multiple Linear Regression Model.

Model specification:

$$Y_\square = \alpha + \sum_0^n \beta Xi + \varepsilon$$

$$Y_\square = \beta_0 + \beta_1 X_1 + \beta_1 X_1 + \ldots \ldots \beta_n X_n$$

Where

- $Y_\square$ refers to Household Food Expenditure
- α is a constant term.
- β: Refers to parameter estimates
- X_i: Refers to a latent of explanatory variables assumed to affect household food expenditure.
- ε: Error term

Table 1: Description of Variables

Variables	Description of variable
HH_Food Security	- HH food expenditure - HH perception on Quality & Quantity of Food (Sufficiency & Affordability) - Number of meals taken a day
HH_Income	- Wages & salaries - Remittances - Income generating activities
HH_DemoCharact	- Age of Head of HH - Dependency Ratio - Gender of HH Head
HH_EconCharact	- HH owned assets (Shelter and land) - Employment status of HH head - HH access to financial services (Loan)
HH_SocCharact	- Household Size - Social capital - Education level of HH head

IV. RESULTS AND DISCUSSIONS

4.1 Descriptive statistics

Table 2: Respondents Demographic Characteristics

I. Age range	Frequency	Percent
20-30 Years	104	25.6
31-40 Years	131	32.2
41-50 Years	78	19.2
51-65 Years	66	16.2
> 65 Years	28	6.9
Total	407	100
II. Gender		
Male	186	45.7
Female	221	54.3
Total	407	100
II. Monthly income		
0-10,000 Rwf	112	27.5
10,001-30,000 Rwf	145	35.6
30,001-50,000 Rwf	77	18.9
50,001-80,000 Rwf	42	10.3
80,001-100,000 Rwf	18	4.4
100,001-150,000 Rwf	9	2.2
> 150,000 Rwf	4	1
Total	407	100
III. Received support		
None	366	89.9
1-10,000 Rwf	9	2.2
10,001-20,000 Rwf	15	3.7
20,001-40,000 Rwf	11	2.7
40,001-60,000 Rwf	6	1.5
Total	407	100
IV. Owned Assets		
House	118	29.2
Land	10	2.5
TV	8	2
Sofa set	34	8.4
Telephone	90	22.3
Radio	30	7.4
Bicycle	10	2.5
Moto	1	0.2
None	97	23.3
Other	10	2.5
Total	407	100
V. Employment status		
Unemployed	254	62.4
Self employed	70	17.2
By Government	10	2.5
By the private sector	71	17.4
By Civil society	2	0.5
Total	407	100
VI. Profession		
Agriculture/Agribusiness	62	15.2
Plumber	2	0.5
Masson	18	4.4
Carpenter	1	0.25
Teacher	1	0.25
Other	72	17.7
None	251	61.7
Total	407	100
VII. Access to Finance		
SACCO	81	19.9
MFI	7	1.7
Commercial banks	26	6.4
None	284	69.8
Others	9	2.2
Total	407	100

Source: Author's field study, 2019

4.1.1 Age

The survey sought to study demographic characteristics of the Low Income Households in City of Kigali with focus on the households' heads; age, gender, marital status, gender ratio and dependency ratio at household level. The survey revealed that majority of the households (**93 %**),are headed by people in the working age range between **15** and **64 years old**, and the age average for the heads of the low-income households in City of Kigali is around 41 years old (Table 2).

4.1.2 Gender and Sex ratio

The research has also revealed that 35% of the low-income HHs in City of Kigali counts between 2 to 3 females members while the household that has minimum of male has is 0 and household with maximum of males has 7 males. The sex ratio Male/Female is 99.1% as per the table 3 below, meaning that there are 99 males for every 100 females. NISR (2014) defines Sex ratio as an indicator that shows the balance between sexes within a given population in relation to a given time period. It is calculated as the number of males divided by the number of females, thus providing the number of males per 100 females within a given population.

Table 3: Ratio Statistics for total male / total female

Minimum	Maximum	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
.000	7.000	1.306	.670	99.1%

Source: Author's field study, 2019

4.1.3 Marital status

The research also revealed that the majority of the low-income households **68%** are headed by married people and **15%** of the households are headed by widows while only **9 %** of households are headed by single people and **8%** headed by divorced people. The research has revealed also that the majority of low-income households in City of Kigali 71% count between 3 and 6 members and the average number of members is 4 members (Table 4).

Table 4: Marital statuses and Size of Households

Marital Status			Household Size		
Status	Frequency	Percent	# Of HH Members	Frequency	Percent
Single	37	9.1	1-2 Members	60	14.7
Married	277	68.1	3-6 Members	289	71.0
Divorced	32	7.9	7-10 Members	49	12.0
Widow	61	15.0	>10 Members	9	2.2
Total	**407**	**100.0**	**Total**	**407**	**100.0**

Source: Author's field study, 2019

4.1.4 Salaries and wages

The research revealed that the majority 82 % of the low income-households in City of Kigali earns a monthly income between 10,000 and 50,000 Rwf, with an average income of

34,646 Rwf (Figure 4.4). The majority of the head of low income-households are involved in informal and non skilled types of labor; they mentioned street vendors and other informal businesses which occupy 4.9%, those involved in man power category are 2.7%, cleaners are 1.3%, aid-masons are 1.3% and those involved in security employments are 1.1 %, the reason of the low earnings.

The 63% of the low income HHs who earn between 10,000 and 30,000 Rwf they can spend up to **23%** of their earning {Max 7,000 Rwf} on food. The second group of HHs that earn between 30,001 and 50,000 Rwf they seem to have tendency as they can spend up to **60%** of their earning on food {Max 30,000 Rwf}. Therefore, we can say that the low income HHs in City of Kigali spends between **23 to 60 %** of their income on food. This research has revealed that, the low-income households in City of Kigali spend on average **60.5%** of their income on food.

4.1.5 Income Generating Activities (IGA)

The research has reveled that a very small portion 23.1% of the low income households in City of Kigali are involved in income generating activities while the majority 76.9% do not have any income generating activities. Among the few who own income-generating activities; 4.4% are involved in agribusiness, 1.7% involved in small animals rearing and 17% in micro-enterprises (Table 5).

Table 5: Income generating activities

Income generating activities	Frequency	Percent
Agriculture produces retailing	18	4.4
Animal rearing {small ruminants}	7	1.7
Micro-enterprise	69	17.0
None	313	76.9
Total	407	100.0

Source: Author's field study, 2019

The above situation of only 17% of the poor families involved in income generating activities within the City of Kigali reveals certainly the absence of purchasing power for these families and uncertainty on their capacities to feed their family members. Small businesses and entrepreneurial spirit should be among sources of income for the poor families who depends on purchased food.

4.1.6 Remittances

According to National Institute of Statistics of Rwanda (NISR, 2015), the Government of Rwanda considers that social protection provides income support to poor households or those at risk of falling into poverty, as well as interventions to help them overcome financial barriers to accessing public services such as health care and education, and also provide associated in-kind assistance essential in contribution to the achievement of its development goals.

The Rwanda's main National Social Protection Programme is the Vision 2020 Umurenge Program (VUP), which began, in mid 2008, run by MINALOC. It contains three components: a regular cash transfer for very poor households with no labour capacity ('VUP Direct Support'), a public works programme for very poor households who are able to work ('VUP Public Works') and a microcredit scheme that provides small loans at low interest rates to individuals or groups ('VUP Financial Services'). Only households classified as ubudehe categories 1 and 2- the two poorest categories in the six-point ranking determined by local communities in their own neighborhood are eligible for Direct Support or Public Works.

The research has revealed that only 12.5% of the low-income households in city of Kigali receives support under Government social protection programs. Among the surveyed households 4.9% receive "food support" while 7.6% receive "cash support" (Table 6).

Table 6: Access and Types of remittances in low income HHs

HH receiving remittances			Types of Remittances		
	Frequency	Percent	Type	Frequency	Percent
No	356	87.5	No	356	87.5
Yes	51	12.5	Cash	31	7.6
			Food	20	4.9
Total	407	100	Total	407	100

Source: Author's field study, 2019

Among those who confirmed that they receive food and cash support, 30% said that the provider is the Government, 30% they receive the supports from other providers, 25% they receive the support from friends while 15% they receive them from relatives. The low income HHs in City of Kigali who receives special support from Governments project like Vision 2020 Umurenge Project (VUP[1]) and Ubudehe[2] they spend between 40 and 60% of the support buying the food for their households.

The Vision 2020 Umurenge Project/VUP as most of its approach is "Cash for work" it the mostly found within some areas of the City because of projects; construction of infrastructures like roads etc… that are implemented within the City which give employment opportunities to members in poor families. 41 households confirmed that they benefited from the VUP program and they have received from it on average the income of 26,707 Rwf (Figure 4.8) and only 7 households confirmed to benefits from Ubudehe Government support.

4.1.7 Employment Status of Heads of HH

The findings of the research reveal that only 39.8% of the heads of low-income households are employed: 19.4%do have permanent employment while 80.6% they do casual work

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[1] VUP: Govt program targeting poor families {Food and work}.
[2]Ubudehe: Govt program targeting to finance IGA for the poorest of the poor.

(Table 7). 45.8% have confirmed that they are self-employed and 30% that are employed in the private sector. In regards to who employ them; 45.8% said to be self-employed, 46.4% are employed by in the private sector while only 6.5% are employed by government and 1.3% employed by the civil society.

Table 7: Employers for the Heads of HH

Employment status	Frequency	Percent
Have a Job	156	39.8
Unemployed	236	60.2
Total	**392**	**100.0**

Source: Author's field study, 2019

According to UN-HABITAT (2008), when urban growth combined with limited employment opportunities in cities it leads to a more rapid increase in poverty in urban areas than in rural areas. A massive 43 percent of African's urban populations live below the poverty line. In several Sub-Saharan nations that share even exceeds 50 percent and Africa's urban slum populations continue to grow: 69% of all households in Addis Ababa, 65% in Dar es Salaam and 50% in Kampala and Nairobi are slum households.

Table 8: Types of Employments

Type	Frequency	Percent
Casual work	125	80.1
Permanent job	31	19.9
Total	156	100.0

Source: Author's field study, 2019

Table 9: Sector of Employment

Profession	Frequency	Percent
Agriculture/Agribusiness	62	39.7
Plumber	2	1.3
Masson	18	11.5
Carpenter	1	.6
Teacher	1	.6
Other	72	46.2
Total	156	100.0

Source: Author's field study, 2019

According to the research, the majority 89.7% of low-income households they earn daily wages and only 10.3% earn monthly salaries, only 29.5% they have confirmed that their salaries/wages are regular while 70.5% said that it is irregular (Table 10). Apart from the listed skilled employments categories that were given as options for respondents, from the survey it was observed that the majority of respondents said that they are employed in the category of "Other types" of employments. The provided details show that other

occupations that heads of households are involved in cut across all various informal and non-skilled categories of employment in City of Kigali; they mentioned street vendors and other informal businesses which occupy 4.9%, those involved in man power category are 2.7%, cleaners are 1.3%, aid-masons are 1.3% and those involved in security employments are 1.1 %.

Table 10: Type of Remunerations

Type of remuneration			Regularity		
Received	Frequency	Percent	Regular	Frequency	Percent
Daily	140	89.7	No	110	70.5
Monthly	16	10.3	Yes	46	29.5
Total	**156**	**100.0**		**156**	**100.0**

Source: Author's field study, 2019

4.1.8 Household Access to Finance

According to the findings of the research, majority of the HHs 66% they have bank accounts with SACCOs, 6% they have accounts with MFIs and 21% they have bank accounts with commercial banks On the types of the services, 87.8% of the households the relate with FSPs for only cash deposit and withdrawal operations, while only 10.6% have confirmed that they even do request for loans (Table 11).

Table 11: Low income HHs access to FSPs[3]& Types of Services

		Type of services received				
		Loans	Deposit & Money Withdrawal	Others	Total	%
Accessed FSPs in Last 12 Months	SACCO	4	75	2	81	66%
	MFI	3	4	0	7	6%
	Commercial Banks	3	23	0	26	21%
	Others	3	6	0	9	7%
	Total	**13**	**108**	**2**	**123**	**100**

Source: Author's field study, 2019

4.2. Research results on HH Social Characteristics

4.2.1 Size of the Low income HHs

The research has revealed that the majority of households, **60%** have between 1 and 4 members in their households, **35%** counts between 5 and 8 members while **5%** have between 17 and 20 members. Majority of households **50%** have between 2 and 3 children while **15%** of the HHs have only one child (Table 12) and that the average of the size of the low-income households membership in City of Kigali is 4.4 Members (Figure 1).
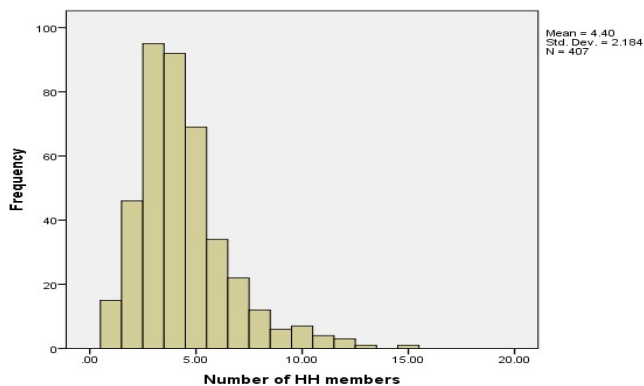
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[3] FSPs: Financial Service Providers

Table 12: Number of HH Member

HH Members	Frequency	Percent	Percent
1-2 Members	60	13.5	14.7
3-6 Members	255	57.3	62.7
7-10 Members	83	18.7	20.4
> 10 Members	9	2.0	2.2
Total	407	91.5	100.0

Source: Author's field study, 2019

Figure 1: Average of the HH size

Source: Author's field study, 2019

4.2.3 Education Situation

Education has been demonstrated to play a paramount role in both food access and utilization Sekhampu (2013) showed households with more educated and skilled members to have a higher likelihood of attaining resources and hence less food secure. Burchi & De Muro (2016) argued that education improves the nutritional capabilities of households and hence indirectly important for household dietary qualities.

The survey has revealed that majority of Heads of Households, 46.7% they have primary level of education, 13.5% have secondary level and 1.7% and 3.7% have TVET level; 5 and 3 years respectively. Only 6.2% have University levels, generally 24% are not educated at all.

Table 13: Education level for the Heads of HHs

Years	Primary		Secondary		TVETs		University	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
0 year	87	24.0	225	74.0	240	81.6	267	92.1
6 Months	4	1.1	1	.3	13	4.4	-	-
1 Years	6	1.7	1	.3	15	5.1	1	.3
2 Years	8	2.2	9	3.0	7	2.4	2	.7
3 Years	26	7.2	19	6.3	11	3.7	2	.7
4 Years	29	8.0	2	.7	3	1.0	5	1.7
5Years	33	9.1	6	2.0	5	1.7	13	4.5
6 Years	169	46.7	41	13.5	-	-	-	
Total	362	100.0	304	100.0	294	100.0	290	100.0

Source: Author's field study, 2019

According to this research, majority (46.7%) of the heads of low-income households in City of Kigali they have completed 6 years of Primary, 13.5% they have completed 6 years of Secondary Education, 1.7% they have completed 5 years of TVETs and only 4.5% they have completed University Education.

In terms of frequentation; 24% of the Heads of low-income households they have never been to school (0 year Primary), 74% they have never attended Secondary education (0 year in Secondary) while, 92.1% they have never been to University (0 year University).

4.2.4. Social Capital in Low income HHs

Social capital is conceived as reciprocity and trust, embedded in social structures, societies institutional arrangements and member ship which enable its members to achieve their individual and community objectives (Rakodi & Lloyd-Jones, 2002). According to Maluku et al (2014), households often depend on income from relatives working abroad or in other cities. Similarly, issues related to access to credit and loans, membership to Rotating Savings and Credit Associations (ROSCAS) may have great influence on incomes, which determine food access during emergencies.

Social capital for this research focused on active membership of the low-income households in City of Kigali in various social associations with the objective of getting and accessing resources to improve their livelihoods. The majority 64.3% have confirmed that they don't belong to any of those social networks, only 35.7% they have confirmed, a big number 91.6% of those who confirmed to belongs to social Networks, they belong to **"Saving Groups"** with the main purpose for "Saving" (82%) and 9 % to access loans. Few of the low-income households 5.6% belong to various Cooperatives, (Table 14).

Table 14: Households' access to social networks & Reason for joining

		Reasons for joining					Total	%
		Employment	Business	Saving	Loan	Other reason		
Membership In Community Networks	Cooperatives	2	1	5	0	0	8	5.6%
	Saving group/VSLs	0	0	118	13	0	131	91.6%
	Others	0	0	3	0	1	4	2.8%
	Total	2	1	126	13	1	143	100

Source: Author's field study, 2019

This research has revealed also that low-income households in City of Kigali get most of opportunities for job/employment from friends and neighbors rather than from relatives: 19.5 % and 18.8% get job opportunities from neighbors and friends respectively while only 2.9% can get them from relatives. Most (19.9%) of food supports come from relatives while only 12.8% and 12.4% come from friends and neighbors respectively (Table 14).

Table 15: Opportunities from social networks

Opportunities	From relatives		From friends		From neighbors	
	Frequency	Valid %	Frequency	Valid %	Frequency	Valid %
Job/employment	11	2.9	72	18.8	74	19.5
Business	6	1.6	14	3.6	15	3.9
Borrowing money	35	9.3	71	18.5	52	13.7
Food support for HH	75	19.9	49	12.8	47	12.4
None	249	66.2	178	46.4	192	50.5
Total	376	100.0	384	100.0	380	100.0

Source: Author's field study, 2019

When it comes to borrowing money, most of the supports come from friends and neighbors rather than relatives; 18.5% get the money from friends and 13.7% get it from neighbors while only 9.3% can access it from relatives (Table 15).

4.3 Descriptive Analysis on Effect of Inflation on Food Security

According to Granville and Mallick (2006), when the nominal wages on which low earners depend stagnate or grow at a lower rate than prices, inflation can depress workers' real income and generate poverty. This will also be more likely the more the prices of basic goods are affected. On the other hand, the often-cited "inflation tax" reducing the purchasing power of monetary assets may not affect those already below the poverty line, since these individuals hold few liquid balances to begin with.

In urban areas, higher food prices may substantially hurt the poor because, typically, little food is produced in such areas and because food typically accounts for a large share of expenditures for the poor. In order to cope with the reduction in disposable income resulting from higher food prices, households will engage in new economic activities, sell assets or borrow in order to mitigate the decline in consumption. They also commonly reduce expenditures on health and education and shift dietary patterns towards cheaper (starchy) foods and away from micronutrient-rich foods such as milk, meat, and fruits and vegetables (FAO, 2009).

The findings of the research reveal that majority **95.4 %** of low income HHs adjust to raise in markets prices by cutting down household's expenses including food and this meaning reducing quality and quantity of the food consumed by household members, in other words compromising food security for the households member. Only **32.1%** of thehouseholdslook for alternatives to keep the quality & quantity of food consumed at household.

Table 15: HHs adjusting to the rise in prices and rent by cutting down HHs expenses including food and relocating to cheap houses

	HHs adjusting to the rise in prices by cutting down HHs expenses including food		HHs moving to cheaper houses adjusting to the raise of rent	
	Frequency	Percent	Frequency	Percent
Sometimes	133	34.1	47	19.9
Rarely	62	15.9	21	8.9
Frequently	177	45.4	93	39.4
Never	18	4.6	75	31.8
Total	390	100.0	236	100.0

Source: Author's field study, 2019

Majority of low income households, **75%** said they do **never borrow money from friends** to cater for feeding families when the prices go up, the majority **95%** said also they **never borrow from the Financial Service Providers** (FSPs) to cater for food when prices go up, and **85%** said they never borrow from **saving groups**.

According to table 8 above, majority **(68.2%)** of the low-income households in City of Kigali, they opt moving looking

for cheaper houses as a strategy of dealing with the increase in rent which means in other words that low-income households attribute less priority to quality of houses they stay in. This also explains the mobility of this category of City inhabitants from the deep city location towards the city outskirts developed as the city expands.

4.4 Regression Results for determinants of Households Food Expenditure

The research aimed to study among other objectives how HH's Social Characteristics influences food security for the low-income households in City of Kigali. The studied factors include; i) Household Size, ii) Social capital and iii) Education level of Head of household. The results from themultiple linear regression model (Table 16) have reveled positive correlation and significant relationships at (p<0.01) between low-income households' food expenditure in City of Kigali with the Household Size and the level of Education of the Head of Households; a unit increase in Households Size will increase household food expenditure by 0.07while a unit increasein the level of Education of the Head of Household will increase household's food expenditure by 0.03.

Table 16: Regression of the Social Factors with HH food Expenditure

(A) Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.229[a]	.052	.044	.77414

a. Predictors: (Constant), (1) Educ_HH_Head, (2) HH_Access_SocCap, (3) HH_Size

(B) ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.820	3	3.607	6.018	.001[b]
	Residual	195.371	326	.599		
	Total	206.191	329			

a. Dependent Variable: HH Food Expenditure

b. Predictors: (Constant), (1) Educ_HH_Head, (2) HH_Access_SocCap, (3) HH_Size

(C) Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	9.486	.115		82.302	.000
	HH_Size	.070	.021	.183	3.372	.001
	HH_Access_Soc Cap	.000	.004	-.004	-.081	.936
	Educ_HH_Head	.030	.011	.151	2.787	.006

a. Dependent Variable: HH Food Expenditure

Source: Author's field study, 2019

Based on the table 16, the Multiple Linear Regression model is summarized by the equation below:

$$Y_i = 9.4 + 0.07X_1 + 0.03X_3 + \square$$

Where,

Y: HH Food Expenditure

X_1: Household size {HH_Size}

X_2: Household access to social capital {HH_Access_SocCap}

X_3: Education level of the head of household {Educ_HH_Head}

$\square$: Error term

V. CONCLUSION AND RECOMMENDATIONS

This section is aimed at giving conclusion and recommendations on the major findings of this study; it gives in a summarized manner the research findings in regards with the research and conclusions on study hypotheses. This section includes also recommendations on how best to address issue of food security in the low-income households in City of Kigali, Rwanda and provide indication on issues for further investigation. The study has revealed that social factors have strong influences on low-income households food security in City of Kigali.

5.1 Summary of Key Findings

The overall objective of this study was to determine how the socio-economic and demographic determinants affect household's food expenditure for the low-income households in City of Kigali. In particular, the specific objective covered under this paper is to study how HH's Social Characteristics influences food security for the low-income households in City of Kigali. The study collected data through a survey; data were analyzed and presented, for this paper specific attention is given to the objective mentioned above of studying how social characteristics determine the level of food security in low income HHs in City of Kigali. Theoretical and empirical literatures were used to compare the results of the study with previous studies.

As the objective of the study sought To investigate how HH's Social Characteristics influences food security for the low income households in City of Kigaliwith focus on following indicators; i) Household Size, ii) Social capital and iii) Education level of Head of household.

The multi-linear regression model results has revealed positive correlation and significant relationships at (p<0.01) between low-income households' food expenditure in City of Kigali with the Household Size and the level of Education of the Head of Households; a unit increase in Households Size will increase household food expenditure by 0.07 while a unit increase in the level of Education of the Head of Household will increase household's food expenditure by 0.03. We therefore, **rejectH₀**, which says that HH's Social

Characteristics do not influence food security for the low-income households in City of Kigali.

5.2. Recommendations

The situation of economic capacity and Food security and of the low-income households in City of Kigali can be addressed for a better and more improvement livelihoods. The most important factor to be addressed is the economic capabilities through the social economic empowerment of the low-income households and also increasing food accessibility for the low-income earners within the city of Kigali.

5.2.1 Social-Economic Empowerment for improved livelihood

The research results have revealed a low level of engagement of the low-income households in income generating activities within the City of Kigali, which normally should be one of the key sources of income for this segment of population. Looking at the factor that the majority of heads of households belongs to the working age range, this can allow for long term socio-economic behavioral transformational and support programs.

The City of Kigali should invest more effort to improve **entrepreneurship and financial literacy** among the low-income households, which will increase the skills of the low-income category (Ubudehe 1 & 2 Categories) and help them to improve their level of engagement into income generating activities, join the formal sector from the inform and increase their level of working with financial services providers as it was observed as an issue from the research results.

Dependingon theCity priority areas and competitive advantages; the City of Kigali should attract or initiate more programs that target for social –economic empowerment for the poor people within the City with an assumption that currently, fewer of the development partners put their focus and interventions in City of Kigali to benefit the low-income population. The low income/poor people within the cities tend to be forgotten in most programs targeting to improve livelihood of the poor yet they are more disadvantaged compared to the other poor persons in rural areas.

5.2.2. Explore potentials for Urban Agriculture

With the aim for jobs creation and improving food security for the poor families within the City of Kigali, the urban agriculture should be given much more priorities and be explored as a sector that can trigger the creation of employments and generate on and off farm businesses for a big number of City inhabitants especially the poor people.

FAO defines urban agriculture as the growing of crops, vegetables, fruits and livestock keeping as well as non-food products (Orsini et al., 2013).Maxwell et al. (1998) argued that urban agriculture increases household food and nutrition. Other scholars have explained how urban agriculture enhances livelihoods of the urban poor. For example, asserts that urban agriculture brings additional income.

According to NISR (2016), in total, 74 percent of Rwandan households practice agriculture, including 88% of rural

households and 34% of urban households among households practicing agriculture. Based on the study findings, the study recommends that the City of Kigali give much more priority to urban agricultural practices, it is important that the City acknowledges the situation of the low-income households within the City and through Ministry of Agriculture formulates policies that govern and promote urban agricultural practices.

Also, the City of Kigali in collaboration with the Ministry of Agriculture together with Rwanda Cooperative Agency, should be at the fore front in empowering and organizing the city low-income households in strong cooperatives to benefit and turn into economically viable the available non exploited swamps in the suburbs of the City of Kigali.

5.3. Areas for further research

- The low involvement of City of Kigali low-income household in income generating activities requires further studies to understand the reasons behind for further recommendations;
- There is a need for further researches in the area of Urban and Peri-Urban Agriculture development in City of Kigali;
- There is a need to investigate further the phenomenon and impact of low-income households' mobility searching for affordable shelters within the City of Kigali.

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