AN EMPIRICAL ANALYSIS ON DETERMINANTS OF FOOD SECURITY AMONG FEMALE-HEADED HOUSEHOLDS IN SOUTH AFRICA

Dr Hannah Mayamiko Dunga

Vaal University of Technology

E-mail: hannahd@vut.ac.za

Orcid ID: 0000-0001-9999-9245

–Abstract–

The importance of food security at household level has been identified as one of the important priorities globally. The second sustainable development goal (SDG2) involves dealing with hunger and food insecurity to the extent that no one goes to bed with an empty stomach. The literature shows that female-headed households, which in most cases are single-parent households - unless the de-facto head principle is, and a woman is a head with a man present- are the most vulnerable households in terms of both poverty and food security. The paper intends to investigate the extent of food insecurity among female-headed households in South Africa using the 2018 General Household Survey (GHS) that collected data from all the nine provinces in the country. The paper employs both descriptive statistics and inferential statistics with a regression model estimated to determine the household factors that are significant determinants of food security at household level among the female-headed household. The apriori expectation is that age, race, income and size of the household will be among the important determinants of food security. The study will also check if those that are receiving a grant are better off than those that do not receive one. The results of the paper will help policy makers to have a more focused approach in dealing with food insecurity at household level.

Key Words: Female-headed households; food insecurity; general household survey; SDGs

JEL Classification: A10 D10 D13

1. INTRODUCTION

The importance of food security at household level has been identified as one of the important priorities globally (The World Bank, 2018). The second sustainable development goal (SDG2) involves dealing with hunger and food insecurity to the extent that by 2030 there should be no person or child whether in developed or developing country that goes to bed with an empty stomach. The 2018 progress report for the zero-hunger goal, which is goal 2, reported some worrying statistics. The number of undernourished people globally increased from 777 million people in 2015 to 815 million in 2016, this in the face of a global initiative to end hunger (United Nations, 2018). The report also indicated that 151 million children under the age of five suffered from stunted growth, 51 million suffered from wasting or lower weight for their height and 38 million were overweight (United Nations, 2018). There was also a considerable drop in agricultural aid to developing countries, and that 26 countries experienced high or moderately high levels of general food prices, which all may affect global food security negatively. These statistics are an indication that the 2030 agenda may not be achievable if momentous changes do not occur on the global scene. The understanding of the importance of food security at household level goes a long way in dealing with global poverty as these are highly linked and have simultaneously led to related problems such as diseases, crime, early death among children, which hinders economic growth. The productivity of any individual is also highly compromised if they cannot afford a basic meal (Dunga & Grobler, 2017). The global approach to food security has taken a wide range of issues into account (United Nations, 2018). The plight of women and children in the poverty discourse is understood clearly and there are attempts in policy formulation that focus on these important segments of society (Alsan, Xing, Wise, Darmstadt, & Bendavid, 2017; Doke, 2015; Ngoma & Mayimbo, 2017; Psaki, McCarthy, & Mensch, 2018).

Food security at household level is more important than food security at national level. It is possible to have food security at national level as this alludes mostly to the availability of food. However, the availability of food at national level does not guarantee food security at household level. Food security at household may be considered in terms of both access and affordability besides availability in the broader society. The literature shows that female-headed households, which in most cases are single-parent households – unless the de-facto head principle is suspended and a woman is a head with a man present – are the most vulnerable household in terms of both poverty and food security (Arene, 2010; S. Chant, 2008; S. H. Chant, 2006). Chant (2008) eloquently pointed out in her discussion of the feminisation of poverty that "If the mounting range of policy interventions

aimed at women's 'economic empowerment' is anything to go by, the astoundingly rapid translation of the 'feminisation of poverty' from opportunistic shorthand to 'fact', has ostensibly been fortuitous" (Chant, 2008:166). The research into the different dimensions and the associated causes of the disadvantages of female households with reference to food insecurity and poverty cannot be overemphasised or exhausted if the problem persists.

It is against this backdrop that this paper attempts to explore the profile of food insecurity status and determinants of food insecurity in female-headed households in South Africa. The rest of the paper is organised as follows: section 2 presents the literature review on food security and pays special attention to the gender or feminisation of food security at household level; section 3 presents the methodology and data used in the analysis; section 4 presents the results; and section 5 the conclusion drawn from the results.

2. LITERATURE REVIEW

The term food security can be traced back to around the time of World War I and II, but it was only in 1974 when the concept of food security was fully conceptualised at the United Nations General Assembly summit on World Food Security Conference held in Rome (United Nations, 1975). The main agenda for the summit was to develop ways and means on how a global agreement could be reached to resolve the world food problem within the broader context of development as well as international economic corporation (UN, 1975). Amongst the discussions held on the day, governments reviewed the global problem of food production and consumption and proclaimed that every man or woman, whether young or old, had the right to be free from hunger and malnutrition in order to develop their physical and mental facilities. At the end of the conference, a universal declaration was signed by all countries on the eradication of hunger and malnutrition (UN, 1975). Another fruitful discussion towards food security was on the definition of the term Food Security. After so many revisions, it was finally defined as a term which exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life (FAO, 2006). As such, food security was categorised into three main dimensions, namely, food availability (availability of sufficient quantities of appropriate food), food access (adequate income or other resources to buy food), and food utilisation (adequate quality of food) (FAO, 2015). Just as the definitions of food security are complex, so is the measurement. The term being multidimensional, different types of measurements exist, which are in their capacity well recognised. Bickel *et al.*

(2000:8) argued that the full array of food insecurity and hunger cannot be captured by any single indicator. Instead, a household's level of food insecurity or hunger must be determined by obtaining information on a variety of specific conditions, experiences and behaviours that serve as indicators of the varying degrees of severity of the condition. The most common is the Household Dietary Diversity score, which measures how much households were able to access food – usually in the past 24 hours; and a score is later drawn whereby households found to have eaten less food items are regarded as food insecure. This indicator refers to a qualitative measure of different types of food or food groups consumed over a given reference period (Hodditt & Yohannes, 2002:11). Another indicator is the Coping strategy index, which captures how households cope in times of food shortages. A score is then drawn and calculated whereby those with a high score are regarded as food insecure.

The discourse of food insecurity is mostly seen in the broader discussion on poverty. Chant (2008) referred to it as the feminisation of poverty, which she argues was first coined in the 1970s when food security was popularised. Other numerous authors have described food insecurity in different contents (Akinloye, Putuma, & Adeyefa, 2016; FAO, 2013; Institute, 2016; Labadarios, Mchiza, Steyn, & Gericke, 2011; Ngema, Sibanda, & Musemwa, 2018; Walsh, Rooyen, & Walsh, 2015). Ngema *et al.* (2018) addressed the issue of food security in South Africa. Stats SA (2019) reported that food security problems in the country were most profound at the household level and that in 2017 over 20 percent of the population in the country were food insecure. Ibid further reported that Black African and Coloured headed households were the ones most likely to experience the problem of access to food compared to households headed by Indians/Asians and Whites. Considering the gender aspect, female-headed households in South Africa have not only been found to be food insecure but also distinguished and marred with other socio-economic mishaps. Mncayi and Dunga, (2017) looked at determinants of housing insecurity in South Africa and found that female-headed households were most likely to fall in the category of those being severely household insecure. Similarly, a female-headed household was also found to be poorer. This study, unlike the studies mentioned, investigates the determinants of food security in female-headed households in South Africa, giving emphasis to female-headed households which were selected for this study to achieve its main objective.

3. METHODOLOGY AND DATA ANALYSIS

This paper uses data collected by Statistics South Africa in the general household survey of 2018. The sample comprises all the nine provinces of South Africa, and close to 21000 households were interviewed. For this paper, selected variables fit for the study were employed for data analysis, and later only female-headed households were selected to form the final sample. After data cleaning of the selected variables and households, a total of 8947 female-headed households were found to be fit for the analysis.

3.1. Model specification

The main purpose of the study was to analyse the determinants of food security amongst female-headed households in South Africa. To achieve the main objective, it employed descriptive statistics, cross-tabulation, and a regression model. To measure the food security status of these households, a Household Dietary Diversity (HDD) score was calculated. Bilinsky and Swindale, (2006) describe the HDD as a qualitative measure of different types of unique foods or food groups consumed by a household over a given reference period (usually 24 hours). This measure has been validated to be a useful approach for measuring household food access, particularly when resources for undertaking such a measurement are scarce. Ibid further described the measure as one of the important indicators of food security for various reasons. One reason why the HDD is preferred is that a more diversified household diet is correlated with caloric and protein adequacy, percentage of protein from animal sources, and household income which measures the dietary intake can be a good proxy for measuring household food security status.

3.2. Calculation of Food security using HDDS

In this paper, the Household dietary diversity score was measured by adding the number of food and food groups consumed by households over 24 hours as a reference period using data from the South African 2018 General Household Data. To measure the HDDS the study adopted the scale formulated by Bilinsky and Swindale (2006). The questions asked in the questionnaire were whether, if and how many times the household had eaten any of the following food groups: cereals, roots, vegetables, fruits, meat, dairy products, eggs, oils, sugar, and pulses. To calculate the food security, all the responses given by the households on the number of times they ate a particular food item were added up, and the HDDS was then used as proxy of food security whereby the higher the diversity score, the more diversified the household, and thus more likely to be food secure.

The study further generated a four category variable to assess how diversified a household is as follows: one indicated severely food insecure; two being moderately food insecure; three being mildly food insecure, and four was food secure.

3.3. Regression model

To assess the determinants of food insecurity among female-headed households an ordinary least square regression model was employed. The household dietary diversity score being the dependent variable was calculated as a continuous variable. Other variables employed as independent variables were income, age, subsidy recipients, involvement in agriculture activities, population group (race), and household size.

The linear regression model is specified as follows:

$$Yi = \beta0 + \beta1X1i + \beta2X1i + \beta3X3i + \cdots \beta nXni \; \varepsilon i \ldots\ldots\ldots..1$$

Where Y is the outcome variable, β, is the coefficient of the first predictor (Xi), β2 is the coefficient of the second predictor (X2), βn is the coefficient of the nth predictor (Xn) and εi is the difference between the predicted and the observed value of Y for the ith participation Field (2009).

Applying the discussed model, the regression for the study will be as follows,

$$HDDSi = \beta_0 + \beta_1 LOGI_i + \beta_2 \, HA_i + \beta_3 \, SR_i + \beta_4 \, AA_i + \beta_5 PG_i + \beta_6 \, HS_{i\,+}\, \varepsilon_i$$

Where HDDS is the continuous dependent variable containing all dietary diversity scores employed in the study. And the independent variables described as follows:

Table 1: Variable description

Variable	Description
LOG I	Income of household changed to Log Income
HA	AGE of Household Head
SR	Subsidy recipient (1 receive 0 not receive)
AS	Agriculture activities Involvement (1 involved 0 not)
PG	Population group (1=African/black,2= coloured,3=Indian,4=White)
HS	Household Size

As indicated in Table 1, population group had four categories. In an OLS model or any categorical variable, n-1 dummy variables are needed for a categorical variable with n categories. In this case three dummy variables are used for population group with four categories. Therefore dummy variables were created where the White group was used as a reference point. The dummy variables are defined as follows; $DD1$ dummy variable for African/Black was defined as 1 for Black African and 0 all other values. $DD2$ dummy for Coloured was defined as 1 for Coloured and 0 all other values. $DD3$ dummy variable for Indian was defined as 1 for Indian and 0 all other values. The other categorical variables had two categories which were defined 1 for yes and 0 for no.

4. RESULTS AND DISCUSSION

This section discusses the results of the paper as follows. The first section discusses descriptive results followed by cross-tabulation results and finally the regression results.

4.1. Descriptive results

Table 2: Descriptive analysis results of continuous variables

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Household Income	8947	0.00	500000.00	8370.0178	15105.88
Household size	8947	1.00	22.00	3.4037	2.32510
Age head of household	8947	12.00	108.00	48.5570	15.82581
Total	8947				

Table 2 presents descriptive results for all the continuous variables in the study, which shows that with household income the minimum was zero, the maximum 500,000, and the average was 8370; as for household size the minimum was one person in the household and maximum were 22 people in the household. And lastly, age of household head, the youngest head of household was 12 years old and the oldest 108. It is quite shocking to find that a 12-year-old girl can be one taking care of the household, a question which could be asked further is how does she manage to fend for the household since at her age she cannot work.

Table 3: Distribution of head household by province

Province	Number of Households	Percentage
Western Cape	725	8.1
Eastern Cape	1404	15.7
Northern Cape	414	4.6
Free State	551	6.2
KwaZulu-Natal	1632	18.2
North West	578	6.5
Gauteng	1717	19.2
Mpumalanga	735	8.2
Limpopo	1191	13.3
Total	**8947**	**100.0**

Table 3 presents results of the distribution of head of household by province to which they belonged. It shows that the highest number (19%) of the female-headed household is from Gauteng province and the least (4.6%) is Northern Cape. Table 4 describes the female-headed households according to their population group, showing that 87.4% of the female-headed household were African/Black women and the least – 1% were Indian women.

Table 4: Distribution of head household by population group

Population group	Number of households	percentage
African/Black	7820	87.4
Coloured	659	7.4
Indian	89	1.0
White	379	4.2
Total	8947	100.0

Table 5 presents results of the distribution of household head by income categories, showing that the highest-paid White females who by having 53.6 percent are in the 10,001 bracket and above compared to the least in the same category of Black women who have only 15.6 percent. This indicates that even though the White female-headed households were very few within their category, the White women still surpass Black women in terms of their income levels. The question one would ask further is, could it be because these White females are better educated?

Table 5: Distribution of household head by Income categories

Income group	Race				
	African/Black	Coloured	Indian	White	Total
0-2000	28.00%	20.60%	10.10%	7.10%	26.40%
2001-5000	32.80%	34.60%	25.80%	14.20%	32.10%
5001-10000	23.60%	27.60%	27.00%	25.10%	24.00%
10001 above	15.60%	17.10%	37.10%	53.60%	17.50%
Total	100	100	100	100	100

Table 6 presents results of the food security status of female-headed households. As discussed earlier in Methodology HDDS was used as a proxy for the food security status by household and then the food security status was categorised into four categories. In that order it shows that 19% of the female-headed households were severely food insecure; only 6.2 percent were food secure while the rest of the households were in-between.

Table 6: Food security status of female-headed household

HDDS Food security status	Number of households	Percentage
severely food insecure	1696	19.0
moderately food insecure	3417	38.2
mildly food insecure	3276	36.6
food secure	558	6.2
Total	8947	100.0

4.2. Cross tabulation results

Table 6 presents cross tabulation results of the food security status of female-headed households and the province in which they resided. For those that were severely food insecure, the highest percentage was from Free State, being 34.3 percent, while those that were food secure, the highest percentage was from Eastern Cape at 12 percent.

Table 7: Cross tabulation between food security status and province

Province	Severely food insecure	Moderately food insecure	Mildly food insecure	Food secure	Total
Western Cape	13.1%	52.7%	33.1%	1.1%	100
Eastern Cape	14.2%	33.6%	40.1%	12.0%	100
Northern Cape	15.7%	46.9%	34.5%	2.9%	100
Free State	34.3%	29.9%	32.3%	3.4%	100
Kwazulu-Natal	22.3%	38.8%	33.0%	5.9%	100
North West	23.9%	34.6%	38.4%	3.1%	100
Gauteng	13.7%	32.7%	44.1%	9.5%	100
Mpumalanga	21.8%	39.0%	31.7%	7.5%	100
Limpopo	21.0%	43.8%	33.8%	1.4%	100
Total	19.0%	38.2%	36.6%	6.2%	100

Table 8 further describes the food security status of female-headed households by their population group. It shows that the highest percent of female-headed households that were severely food insecure were Black women at 20 percent.

This makes sense because earlier the study indicated that the same Black female group had the lowest income levels and also the largest household size.

Table 8: Cross tabulation between food security status and population group

Population group	severely food insecure	moderately food insecure	mildly food insecure	food secure	total
African/Black	20.1%	38.0%	35.8%	6.0%	100.0%
Coloured	13.2%	43.7%	36.1%	7.0%	100.0%
Indian	2.2%	38.2%	49.4%	10.1%	100.0%
White	8.4%	31.9%	50.4%	9.2%	100.0%
Total	19.0%	38.2%	36.6%	6.2%	100.0%

4.3. Regression results on determinants of food security in Female-headed household

This section presents regression results after testing for fitness of the model, showing F statistics was significant at 1%, and the R^2 was 0.36, meaning that the independent variables explains 36 percent of the variability of the dependent variable acceptable in social economics (Field, 2009). Collinearity diagnostics of the model shows an average VIF of 1.5 confirming that collinearity is negative (average VIF value near 1). Tolerance values in the model were all above 0.2 and no VIF values were greater than 10.

Table 9: Regression results of determinants of food security status amongst female-headed households

Model	B	Std.Error	B	T	Sig
Constant	13.966	0.896		15.589	0.000
Log-income	1.350	0.193	0.052	6.985	0.000*
Head Age	1.842	.186	.069	9.878	.000*
Sub.receive	-0.072	0.656	-0.001	-0.109	0.913
Agriculture activities	1.127	0.608	0.013	1.852	0.064***
Pop group Black	-1.782	0.934	-0.019	-1.909	0.050**
Pop group Coloured	-2.068	1.234	-0.016	-1.774	.094***
Pop group Indian	-0.140	1.897	-0.001	-0.0074	0.706
Household Size	0.241	0.104	0.016	2.326	0.020**

*Significant at 1%, **significant at 5% and *** significant at 10%.

F value sig 1%

R^2=0.36

Table 9 shows the results of the linear regression model. The first independent variable was income to make income usable in the model, converted to natural logs. In this case, income was denoted as log income, and the results indicated in the table shows that income had a positive coefficient value of 1.350 significant at 1%, meaning higher income increased the HDDS, which results in being food secure. The results are in line to what the study found in section 4.2, where female-headed households that had lower income levels were found to be relatively food insecure compared to their counterparts with higher income levels. The second variable was age of household head (p-value 0.000 and beta=.842), which shows that age was a positive predictor of food security whereby households with older mothers had a better chance of being food secure, which could be because in this study there are some households with mothers or household heads below the age of 18. As such, they cannot potentially fend for families due to other restrictions compared to older women who can work. Agricultural activities was the third variable found to be significant at 10% with a coefficient of 1.127, meaning that being involved in agricultural activities increased the probability of being food secure. This could be that because of being involved in agriculture the household could produce food for themselves and hence improve dietary diversity.

The sixth independent variable was population group, which had four categories: Black African, Coloured, Indian, and White. In this case, White was used as a reference point. The results show that Black African had a negative coefficient of -1.78 significant at 5% meaning that Black women scored less on the HDDS score compared to White women. This means that Black women households were more likely to be food insecure than those with a White female head. The other group were Coloured women, which had a negative coefficient of -2.068 significant at 10%, meaning that Coloured female households scored less on the HDDs compared to the White female household, which also implied that household headed by a Coloured female were more likely to be secure compared to their White counterparts. Indian female-headed households were not significant, hence were omitted; this could be because their representation in the sample was very small. The last independent variable was household size, the coefficient being 0.241 in the model, which is a positive value, indicating that any additional person in the households increases the dietary diversity and also increased the probability of food security. This is contrary to expectations as households with more people are more likely to be at risk of insecurity. However, this may be explained by the fact that the more people in the househoild, the more the contribution, especially if they are mostly of working age.

5. CONCLUSION

The main objective of the study was to analyse the determinants of food security among the female-headed household in South Africa. In order to achieve this, it employed the general household data of 2018. Only female-headed households were selected. In the analysis, descriptives analysis, cross-tabulation and a regression model were employed to achieve the main objective. Descriptives analysis results indicated that a total of 9847 households were selected, out of which the highest percent came from the African/Black population group (87%) and the least were from Indian population group at 1%. Results from analysing the female-headed household according to income levels within the population groups results showed that 50% of White female-headed households earned more than 10,000 Rand a month, which was the highest compared to the other races. The same results applied to the food security status of households where White women were found to be better off in terms of their food security status. Finally, in the regression results on the determinants of food security in female-headed households from the selected variables, income, age, agriculture activities, household size and population group were found to be determinants of food security status of female-headed households. In terms of income, it showed that households with less income had a higher probability of being food insecure.

Households that were involved in agricultural activities had a higher chance of being food secure, which showed also in the population group. It showed that households with a White female head of the household were better off than the other population groups. The results on grant recipients were found not to be significant, hence no interpretation was made towards this variable. The study further found that households from Black female-headed households were more likely to be food insecure compared to White female-headed households.

The study recommends policymakers on job creation and improvement of skills in Black female-headed households. Policymakers should also pay more attention to girls' education as they are the future mothers; they should make sure that no girl child should drop out of school under any circumstances. This can be done by providing more education bursaries to needy girls. Policymakers should also put into place programmes that would help women establish other means of making money, for example, entrepreneurship skills to help fend for their families by giving these women monetary capital to establish businesses instead of relying on subsidies from the government.

REFERENCES

Akinloye, O., Putuma, M., & Adeyefa, S. A. (2016). Determinants of Food Insecurity among the Urban Poor in the City of Tshwane , South Africa, *4*(2), 101–114. https://doi.org/10.15640/jeds.v4n2a9

Alsan, M., Xing, A., Wise, P., Darmstadt, G. L., & Bendavid, E. (2017). Childhood Illness and the Gender Gap in Adolescent Education in Low- and Middle-Income Countries. *Pediatrics*, *140*(1), e20163175. https://doi.org/10.1542/peds.2016-3175

Arene, C. J. (2010). Determinants of Food Security among Households in Nsukka Metropolis of Enugu State , Nigeria, *30*(1), 9–16.

Bilinsky, P., & Swindale, A. (2006). Household Dietary Diversity Score (HDDS) for Measurement of Household Food Access : Indicator Guide VERSION 2 Anne Swindale Household Dietary Diversity Score (HDDS) for Measurement of Household Food Access : Indicator Guide VERSION 2.

Chant, S. (2008). The "Feminisation of Poverty" and the "Feminisation" of Anti-Poverty Programmes: Room for Revision? *Journal of Development Studies*, *44*(2), 165–197. https://doi.org/10.1080/00220380701789810

Chant, S. H. (2006). LSE Research Online Working paper Female household headship and the feminisation of poverty : facts, fictions and forward strategies.

Doke, P. P. (2015). Gender issues in health sector. *Journal of Krishna Institute of Medical Sciences University*, *4*(2), 10–18.

Dunga, S. H. (2014). Determinants of Employment Status and Its Relationship to Poverty in Bophelong Township. *Mediterranean Journal of Social Sciences*, *5*(21), 215–220. https://doi.org/10.5901/mjss.2014.v5n21p215

Dunga, S. H., & Grobler, W. (2017). The nexus of food and housing insecurity in South Africa. *International Journal Of Social Sciences And Humanity Studies*, *9*(2), 95–108.

FAO. (2006). Food Security definition, (2), 1–4.

FAO. (2013). *Food security and Nutrition in the Southern and Eastern rim of the Mediterranean basin*. (M. Smulders, M. Aw-Dahir, K. Dunn, & R. Verduijn, Eds.).

Field, A. (2009). *Discovering Statistics using SPSS* (3RD EDITIO). CALIFORNIA: THOUSAND OAKS.

Hoddinott, J. & Yohannes, Y. (2002). Dietary diversity as a food security indicator. Washington, DC: International Food Policy Research Institute.

Institute, P. H. (2016). *Food Security, Climate Change, and Health*. *Public Health Institute*. Retrieved from http://climatehealthconnect.org/wp-content/uploads/2016/09/FoodSecurity.pdf

Labadarios, D., Mchiza, Z. J., Steyn, N., & Gericke, G. (2011). Food security in South Africa : a review of national surveys, (December). https://doi.org/10.1590/S0042-96862011001200012

Mncayi, N. P., & Dunga, S. H. (2017). Determinants of Housing Insecurity in a low income. *International Journal of Economics And Finance Studies*, *9*(2), 117–133.

Ngema, P. Z., Sibanda, M., & Musemwa, L. (2018). Household Food Security Status and Its Determinants in Maphumulo Local Municipality , South Africa, 1–23. https://doi.org/10.3390/su10093307

Ngoma, C., & Mayimbo, S. (2017). The Negative Impact of Poverty on the Health of Women and Children. *Annals of Medical and Health Sciences Research*, *7*, 442–446.

Psaki, S. R., McCarthy, K. J., & Mensch, B. S. (2018). Measuring Gender Equality in Education: Lessons from Trends in 43 Countries. *Population and*

Development Review, *44*(1), 117–142. https://doi.org/10.1111/padr.12121

STATS SA (2019) The extent of food security in South Africa. http://www.statssa.gov.za/ Accessed 7/22/2019

The World Bank. (2018). *Poverty and Shared ProsperityEMPIRICAL 2018: Piecing together the poverty puzzle*. https://doi.org/10.1596/978-1-4648-0958-3

United Nations. (1975). World Food Conference report, (November), 5–16.

United Nations. (2018). *The Sustainable Development Goals Report: 2018*. *United nations*. New York. https://doi.org/10.11260/kenkokyoiku.19.77

Walsh, C. M., Rooyen, F. C. Van, & Walsh, C. M. (2015). Household Food Security and Hunger in Rural and Urban Communities in the Free State Province , South Africa Household Food Security and Hunger in Rural and Urban Communities in the Free State Province , South Africa, *0244*. https://doi.org/10.1080/03670244.2014.964230

Annexure 1

number		African/Black	Coloured	Indian	White
1 to 3		52.0%	49.5%	69.7%	89.2%
4 to 6		35.0%	39.9%	28.1%	10.6%
7 above		13.0%	10.6%	2.2%	0.3%
		100.0%	100.0%	100.0%	100.0%