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Factors Affecting Vegetable Business Incomes of Vegetable Vendors: A Case of Kindondoni District, Tanzania

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Abstract

Vegetables are one of the cornerstones of human nutrition, vital for a healthy and balanced diet and generation of income. However, in most developing countries especially in Africa, vegetable businesses frequently face problems such as highly skewed production, untrained labor, shortage of standardized products, and absence of processing and packing facilities. This study examined the performance of vegetable market vendors at Kawe market in Kinondoni District, Dar es salaam. Specifically, the study intended to assess the factors affecting vegetable vendor incomes generated from vegetable business. The study therefore sought to establish whether sex, age, education level, experience and cash from other sources of income have effects on the incomes generated from vegetable business. Simple random and purposive sampling techniques were used to get a total of 75 respondents. A regression analysis was performed using statistics and data programmer (stata) for the analysis of quantitative data. Findings revealed that sex, age, years of experience and income from other sources of income had a low p-value (< 0.05) implying that, these factors had impact in the vendors' total income from the vegetable business, except the education level of vendors (p-value > 0.05). Government agencies should provide education and loan guarantees to vegetable business vendors to help them grow.

Key words: Vegetables, business, vendors, Incomes, Kawe

1. Introduction

1.1 Background information

Vegetables are one of the cornerstones of human nutrition, vital for a healthy and balanced diet (Al-Weshahy and Rao, 2012; Vitiello, *et al.*, 2016). The total vegetable production in the world has been estimated 486 (Singh *et al.*, 2014). Over three quarters of this production volume is generated in Asia (Silva Dias, 2010). Worldwide different countries participate in the production of vegetables ensuring a continuous supply of raw materials for industries, the main source of food, and providing income to the traders (Hailu, 2016). Countries which are the main producer of vegetables are Indonesia, Philippines, Sweden, Bangladesh, South Africa, Kenya, Tanzania, Congo, China, India, and U.S.A (Kane, 2005). There is different type of vegetables which are produced in different part of the world includes; Mushrooms, creamy white or light tan mushrooms, discolored or sweaty ones. Onions are available throughout the year. Tomatoes are excellent source of vitamin C and available all year (Hunde, 2017). Okra commonly known as lady's fingers are grown in warm tropical regions and are available in the market all year. Cabbage has outer leaves of a fresh green or red color depending on the variety. Lettuce the numerous varieties of this salad plant namely, butter heads, crisp heads, loose heads, little gem and lettuce. Carrots are rich in carotene substance that converts to vitamin A. available all year round in the market. Celery is a plant of many uses and little leaves and dried seeds make flavorful seasonings, the outer ribs are best cooked the inner ribs or heart can be eaten raw material (Ateng, 2009; Khalil *et al.*, 2015; Hunde, 2017).

Worldwide different countries participate in the production of vegetables, and it ensures a continuous supply of raw materials for industries, is the main source of food, and it provide income to the traders (Eigenbrod and Gruda, 2015). Countries which are the main producer of vegetables are Indonesia, Philippines, Sweden, Bangladesh, South Africa, Kenya, Tanzania, Congo, China, India, and U.S.A (Kane, 2005; Silva Dias, 2010). In most developing countries especially African countries, vegetable businesses frequently face problems such as highly skewed production, untrained labor, shortage of standardized products, and absence of processing and packing facilities Example smallholder traders in South Saharan Africa face a range of marketing and exchange problems, among which informational constraints are much cited but little researched results into poor performance of vegetable in the market (Gebru *et al.*, 2019; Lynch, 2010).

In Tanzania many regions participate in vegetable production and trade (Ochieng *et al.*, 2022). The famous regions are Dar-es-salaam, Mbeya, Mwanza, Kagera,

Morogoro, Iringa, Rukwa, Kilimanjaro, Pwani and Dodoma. Most of these vegetables are transported to Dabaga vegetable and fruit canning company in Dar-es-salaam which export to different countries in the world (Srinivasulu *et al.*, 2015). There has been a growing demand for vegetable in hotels and at the family level because people are shifting trends from animal product to plant protein.

The demand of vegetables now is on the increase both in urban and rural areas. Due to this, the business in vegetables is also growing in many areas in the country. However, this increase in business has not translated directly into immediate effect in changing the livelihoods of vegetable business dealers. Consequently, Vegetable vendors at Kawe market have for a long time been engaged in this business. However, their incomes from vegetable business seem to be subsistence. This study therefore aims at establishing the factors affecting the vegetable vendors' incomes by focusing on their personal characteristics.

1.2 Problem Statement

Kawe market is one of the potential areas for vegetable trade. Over quite a number of years now, vegetable vendors at Kawe market have been engaged in this business. However, the performance of the business to vegetable vendors seems to be poor. Despite their persistence in the business, the incomes of vegetable vendors at Kawe are low, there is growing evidence to show that government and non-government support for small scale business entrepreneurs has not always led to viable Vegetable vendor groups (Gramzow *et.al.*, 2018) resulting to poor performance of vegetable vendors at Kawe Market. Despite Vegetable vendors indulgence in the business for some years, their business performance has been low. Little is known whether the Personal characteristics of vegetable vendors has influence in their incomes. This study therefore focusses on establishing the factors that influence the vegetable vendors' incomes in Tanzania by considering the personal characteristics on vegetable vendors at Kawe market in Kinondoni District.

1.3 Objectives

1.3.1 General objective

The study aimed assessing the performance of vegetable Vendors at Kawe market at Kinondoni District.

1.3.2 Specific objectives

Specifically, the study sought to:

- i. examine vegetables vendors' daily income accrued from varieties of vegetables sold at the market
- ii. evaluate the profitability of vegetable market vendors as compared to other sources of income and
- iii. determine the effect of personal characteristics (age, education level, sex, years of experience of the respondents and cash from non-vegetable business) on the total income from vegetable business.

2. Materials and Methods

2.1 Materials

This study was conducted at Kawe market (Figure 1) which is found in Kinondoni district. Kinondoni is a district in north-west of Dar-es-salaam's central business district. The district, just north of Selander Bridge is close to the city Centre. Kawe market is found at Kawe which is located at the junction of the New Bagamoyo and Old Bagamoyo roads. Kawe market is a large market in Kawe and is busy with people going in and out of the market to buy and sell also there are plenty of small shops. The study was limited to small vegetable trade only. Hence, the study adopted a cross sectional research design



Figure 1: Map of Kinondoni District

2.2 Methods

The target population of this study were individuals who are small vegetable traders, non-vegetable traders, market chairperson and Kawe market officers. The total sample sizes of 75 people were picked randomly in a market involving 150 vegetable vendors within the market and those in the vicinity surrounding the market building. Selection of this sample size was based on Gay & Diehl (1992), who asserted that, for descriptive research the sample should be 10% of

population. But if the population is small then 20% may be required. Hence, we took 20% of the population to obtain the sample size of 75 respondents who were randomly selected. This study used both primary data which was collected through questionnaires and the secondary data that was collected through desk review of relevant literature. The quantitative data was descriptively and inferentially analyzed using a statistical data programmer (STATA).

In determining profit margin, the net profit margin was used to compares the total earnings to expenses using three steps:

1. Determining the net income (Revenue -Expenses)
2. Dividing the net income by revenue (net income/revenue)
3. Multiplying the results by 100 to arrive at percentage (result × 100%)

Therefore, in comparing profitability of vegetable business with other source of income the profit margin of small vegetable trade was compared with profit margin of other sources of income using equation (i) as follows:

$$\text{Profit margin} = \frac{(R_i - E_i)}{R_i} \times 100 \quad \text{and} \quad \text{Profit margin} = \frac{(R_{ij} - E_{ij})}{R_{ij}} \times 100\% \dots\dots\dots i$$

Where

- R_i Revenue from vegetable business
- E_i Expenses from vegetable business
- R_{ij} Revenue from other source of income
- E_{ij} Expenses from other source of income

The regression analysis was done to check the relationship between the variables as specified in the following model:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 \dots\dots\dots ii$$

Where:

- Y = represents the total income from vegetable business.
- β₀ = constant
- β₁ = estimated coefficients of the explanatory variables
- X₁ = explanatory variables (age)
- X₂ = explanatory variable sex
- X₃ = explanatory variable experience
- X₄ = explanatory variable educational level
- X₅ = explanatory variable cash from other sources of income
- e_i = disturbance term

3. Results and Discussion

3.1 Social demographic characteristics of the respondents

The first respondent characteristic was sex, it was structured in order to learn gender participation in vegetable business, this helped the research to understand whether it's male or female who mostly engage in vegetable business. Figure 2 shows that most of the respondents were female, 46 (65%) of all respondents. men counted only 24 (34%) of the total respondents. Findings from the figure suggest that majority of female are engaged in vegetable market vending, especially leafy vegetables which are very cheap in terms of capital. While, most of the male were engaged in selling of onions, tomatoes, sweet potatoes and cabbages.

It was also observed that a smaller number of the male engaged in vegetable vending is for the purpose of business while majority of women are engaging in vegetable vending for the purpose of ensuring income for food security at home. However, during the interviewing, it was revealed that the rationale for female being the biggest group interested in vegetable production was due to the fact that women are able to comply with the challenges concerning vegetable vending at the market.

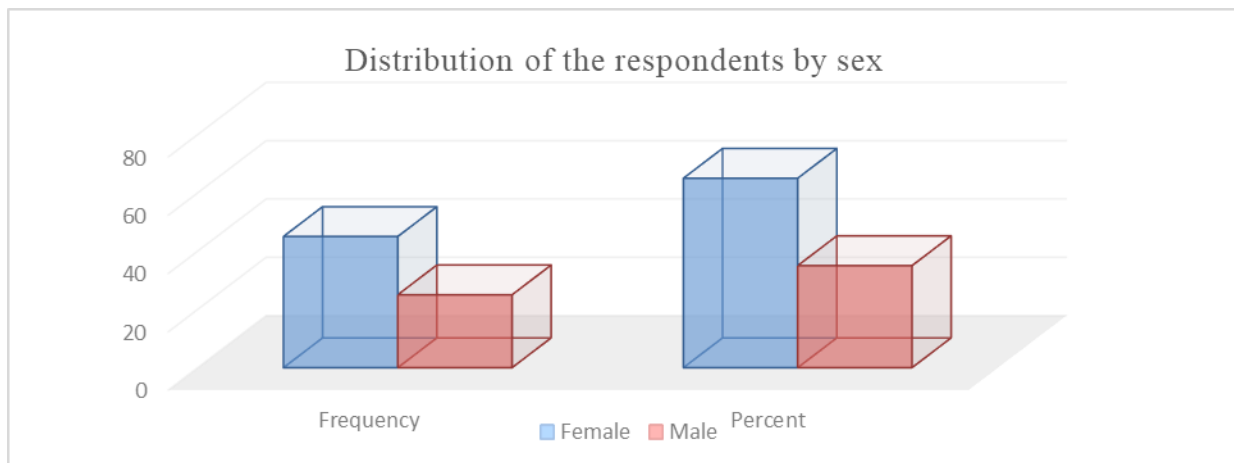


Figure 2: Distribution of the respondents by sex

Source: Field data 2019

The scrutiny of respondent's age under this study simply aimed at finding out the age group that was most interested in vegetable market vending. This helped to determine whether older or younger people are the ones engaging in vegetable market vending at the study area.

The age group of the respondents included in the study ranged between 18 years old and above (Figure 3). This shows that the majority of the respondents were in the middle age 18 – 40 which is suitable age for conducting any economic activities.

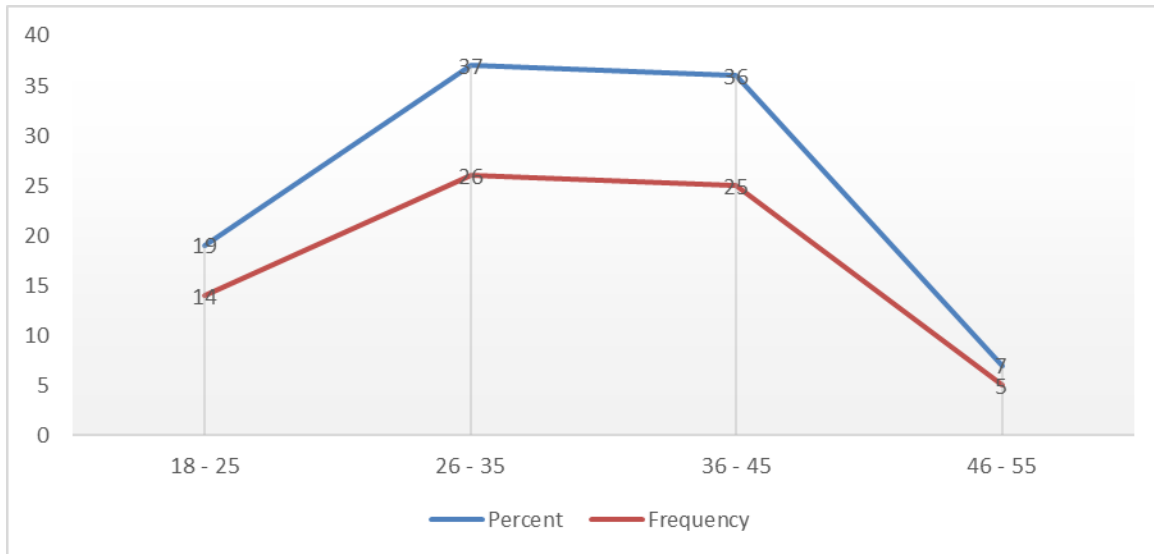


Figure 3: Distribution of respondents by age

Source: Field data 2019

In this study, 6% of respondents had informal education, 32% had primary education while 57% had secondary level. No respondent (0%) had attained higher education (Figure 4). Findings revealed that, majority of vegetable market vendors had attained secondary education as their highest level of education implying that, most individuals after completion of secondary studies opt to engage in small business to earn a living.

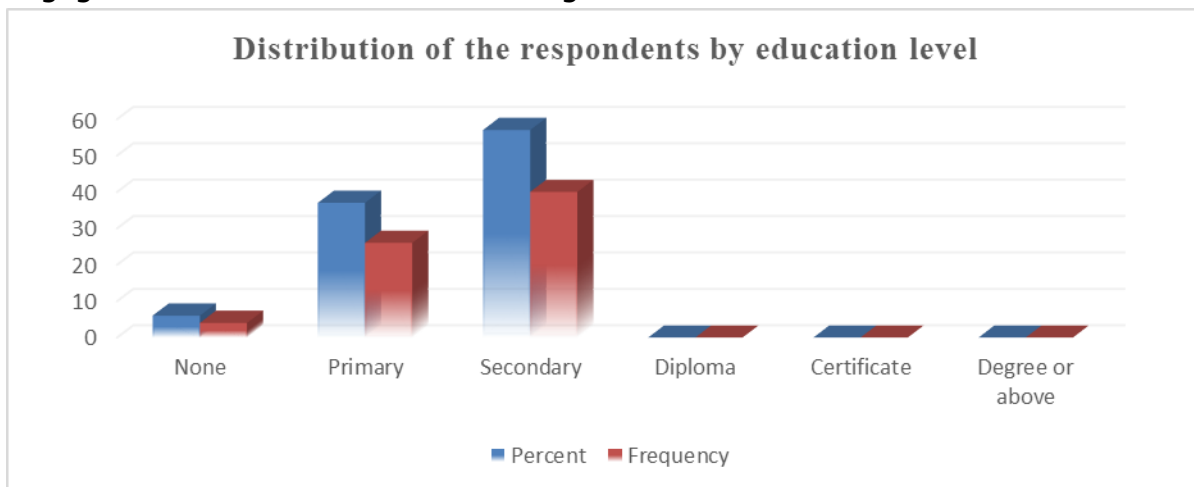


Figure 4: Distribution of respondents by education

Source: Field data 2019

Respondents had different range of experience in terms of years in vegetable business (Figure 5). Findings revealed that, 7% of respondents had engaged in business for less than one year, 14% between one to three years, 31% between three to four years and the rest 33% had engaged in vegetable selling business at Kawe Market from five years and above. This indicates that due to the nature of the economic activities, majority had been engaged in selling vegetables at Kawe for at least three and above years continuously.

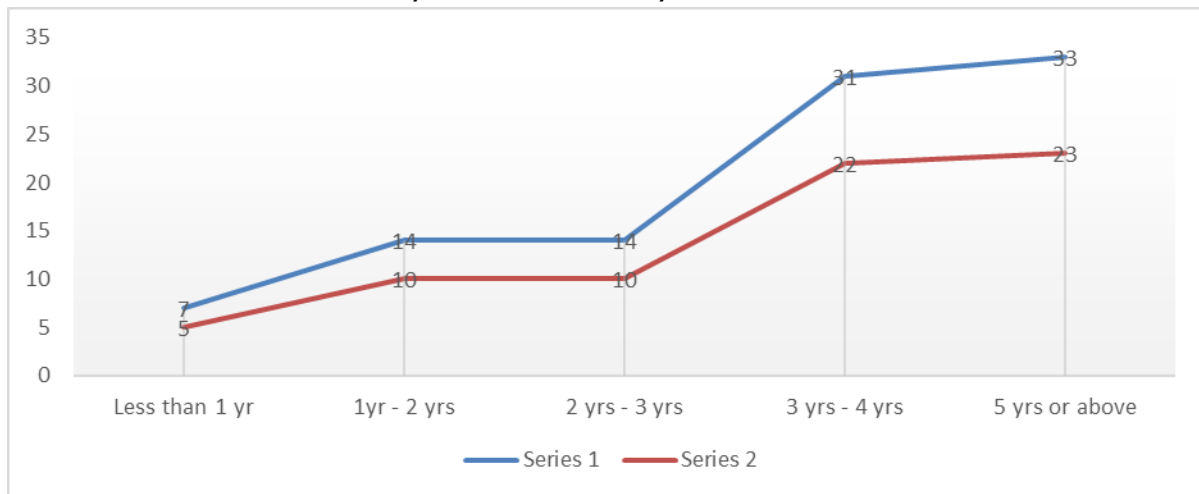


Figure 5: Distribution of respondents by experience in years in vegetable business

Source: Field data 2019

In order to know the household size of the respondents, a question was asked to give mention the total number of people residing in the respondent's household. The results as presented in figure 6 revealed that 9% of the respondents admitted to have 0-3 family members, 61% had 4-7, and 30% had 8 to 11 family members. These results findings indicate that majority of the respondents had a family size of 4 – 7 members. The findings is in line with Meyer and Nishimwe-Niyimbanira (2016) who stated that, the family size in most developing countries is large and range from 4 and above with has a positive association to poverty.

Study of respondents implies that most of them are youths their marriages are still new. Married individuals with the dependents at the family level have greater probability of engaging in social economic activities live vegetable market vending for the sake of responding to different family challenges. These findings also

indicate that 61% of the respondents claimed to have 4 – 7 family size, which implies that individuals in this age tend to become weak and opt to do other activities rather than engaging in vegetable vending which consume a lot of time at the market.

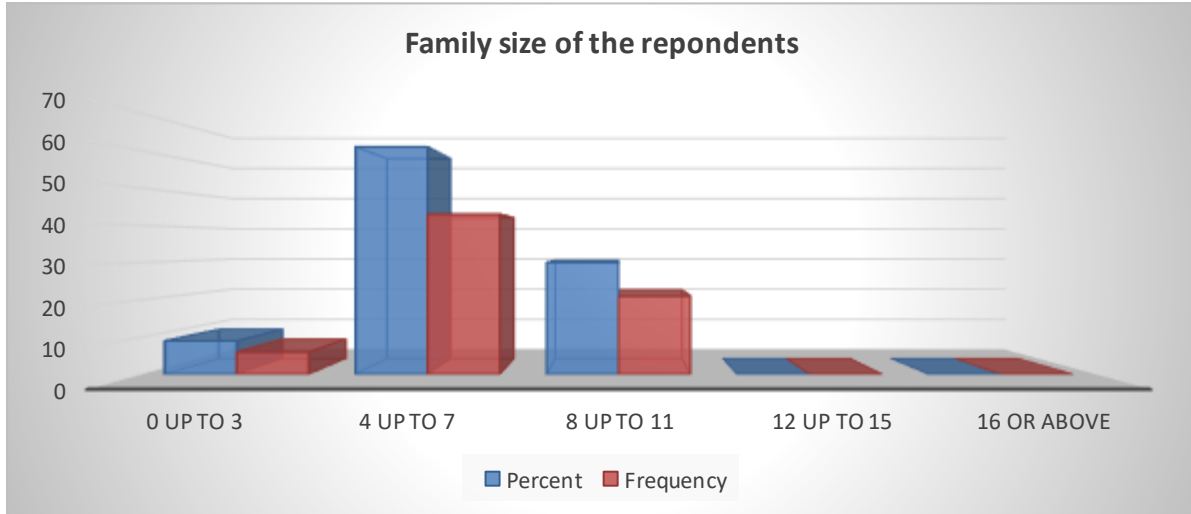


Figure 6: Family size of respondent

Source: Field data 2019

3.2 Vegetables vendors' daily income accrued from varieties of vegetables sold at the markert

The different varities of vegetable products sold by the small market vendors in the study area as shown in figure 7 are onions, Tomatoes, Amaratha grain, Pumpkins, Potatoes, cow pea, Eggplant, Cabbage, pumpkin leaves, Cowpea leaves, Night shade, Okra, Cassava leaves, Chinese and others. Findings revealed that cowpea leaves were sold by majority 42 (60%) of the respondents. This is followed by tomatoes 36 (51%), onions 35 (50%), okra and sweet potato leaves 34 (49%) and followed by other types of vegetables which are below 40%. It was revealed that many vendors choose to sell vegetable products which have high profitability and high availability of customers. That is market vendors preferred to sell vegetables with high profit, good number of customers and which are easily to manage. These vegetables include cowpea leaves, tomatoes, onions, okra, sweet potato leaves and amaranth as compared to cowpea, eggplant and pumpkin which have low profit and low number of customers.

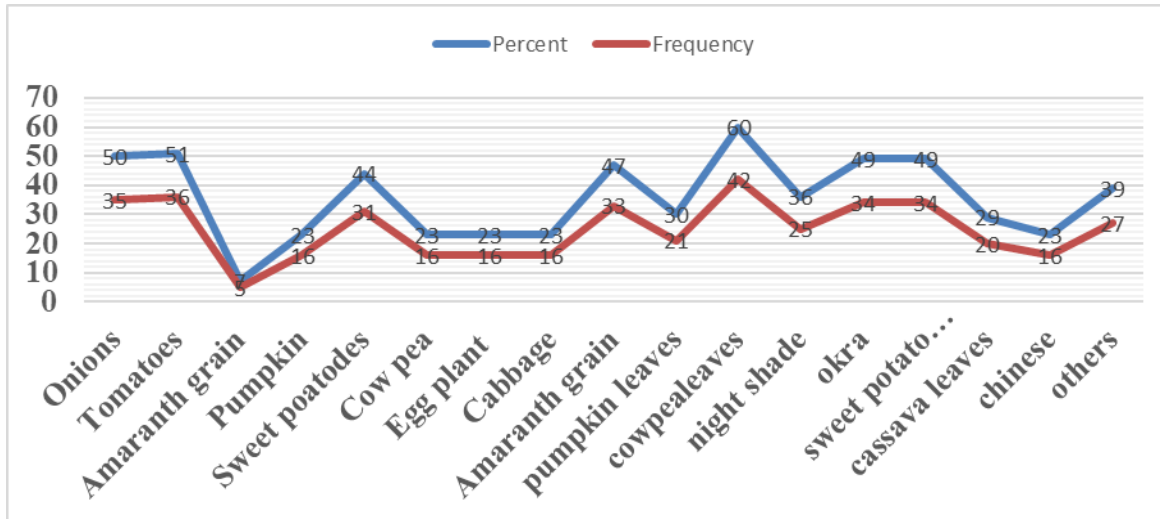


Figure 7: Distribution of types of vegetables sold at the market

Source: Field data 2019

The daily incomes obtained from vegetable business at Kawe market were placed in groups of four (Figure 8). Majority (40%) of the respondents had daily income obtained from vegetable business that ranged between TSH 0 to 20,000 followed by 35% of respondents who had daily vegetable incomes ranging from 20,000 to 40,000, 20% from 40,000 to 60,000 and very few (5%) had their daily incomes obtained from vegetable business ranging from 60,000 and above.

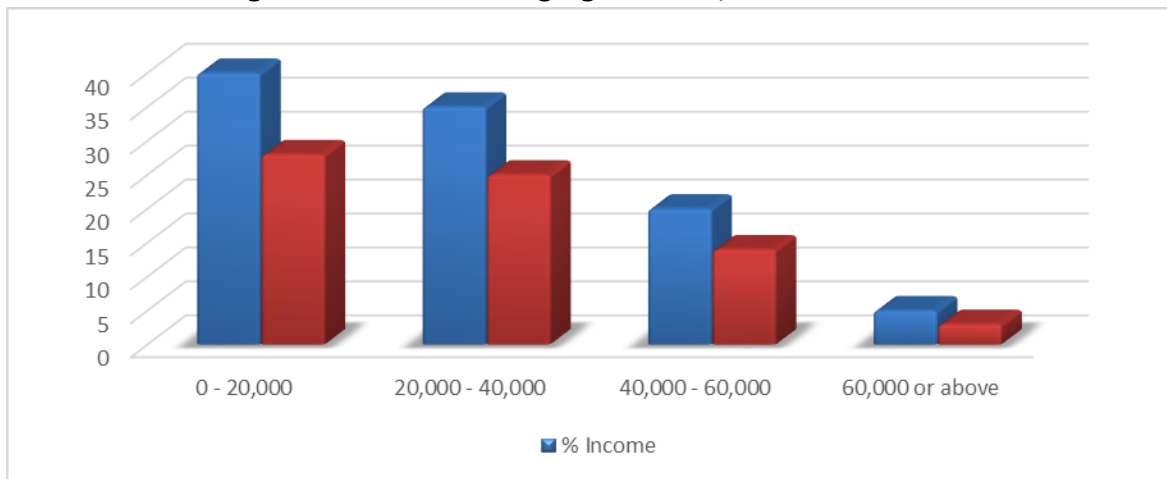


Figure 8: Daily Amount of money obtained from vegetable vendor business at Kawe market

Source: Field data 2019

This implies that most of the vegetable market vendors obtained small incomes from this activity which compelled most of vegetable vendors as observed from the field to engage in other sources of income generation. The findings are in line with

Eneyew and Bekele (2012) who did a study in Ethiopia and observed that, the contribution made by non-agricultural sector to rural households is significant for the poor, although it is not meant for accumulation but for survival.

3.3 Profitability of vegetable market vendors as compared to other sources of income

Findings as displayed on Table 1 revealed that, vegetable business at Kawe market had a low profitability of 8% compared to non-vegetable business which had a profit margin of 11% implying that, vegetable vendors had not been able to exploit the profits from the vegetable business despite having been routinely doing the business for years. This is most likely because of inability vegetable vendors had in understanding and satisfying customer as asserted by Day (1994) who affirmed that, superior business performance is the result of superior skills in understanding and satisfying customers. But since all vegetable vendors were working individually, inability to exploit profit from the business may have been due to the fact that, vendors are not working in groups or organizations. This is in line with Peña (1999) who established that, street vendor organizations are vendors' negotiators or deal-makers; that serve as means to overcome red tape or complex bureaucracies. Onumah *et.al.* (2007) established also that Producer Organizations (PO) offer a means by which financial constraints can be reduced.

Table 1: Profit margin from vegetable business and non-vegetable business at Kawe vegetable market.

Variable	Vegetable business	Non vegetable business
Total sales (Tsh)	82,152.00	153,600.00
Operating cost (Tsh)	141,266.00	72,614.00
Net income (Tsh)	12,333.33	9,538.00
Profit margin	8%	11%

Source: Field data 2019

3.4 Effect of personal characteristics (age, education level, sex and experience of vegetable sellers at the market) to the total daily income of vegetable vendors.

Table 2 shows the regression analysis of the model " $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5$ ". The variable names stand for total income of vegetable business, sex, age, education level, experience and cash from other sources of income respectively. This association was modelled to see the relationship between the income from vegetable business (dependent variables) and age, sex, experience

and education level of the respondents (independent variables). The results of regression which was analyzed through statistics and data program (stata).

Table 2: Regression analysis of Vegetable income on age, sex, years of experience, education level of the respondents and Non-vegetable income

V income	Coef	std. Err	t	P> t 	(95% Coef. Interval)
Sex	32002.27	6415.288	4.99	0.000	45761.69
Age	8724.054	2650.192	3.29	0.005	14408.15
Ed level	-6845.453	-5298.135	-1.29	0.217	-18208.82
Yrs.' of experience	7077.126	2764.145	2.56	0.023	1148.624
N income	-1.087575	-3470546	-3.13	0.007	-1.831933
Cons	97783.45	27343.41	3.58	0.003	39137.67

Source: Field data 2019

The p-value for each term tests the null hypothesis, but when the null hypothesis rejected the alternative hypothesis is accepted.

H₀: the coefficient is equal to zero (no effect).

H₁: the coefficients is not equal to zero

From the findings sex, age, years of experience and income from other sources had low p-value (< 0.05) but education level had larger (insignificant) p-value (> 0.05) implying that the null hypothesis was rejected and the alternative hypothesis accepted. In other words, independent variables sex, age, years of experience and income from other sources had meaningful addition to the model because changes in the total income from the vegetable business was related to changes in the age, sex, years of experience but negatively related to Education level and income from other sources. However, the education background of the respondent had a negative influence and insignificant (p>0.05) implying that, the education background of the sample in the study area is not sufficient to influence the incomes of vegetable vendors at Kawe Market and educated vegetable vendors at Kawe do not find skill demanding undertaking in the vegetable business. This finding is in line with Eneyew and Bekele (2012) who did an econometric analysis of determinants of rural household's choice of livelihood strategies in Wolaita, Southern Ethiopia and found out that had negative association with agriculture plus off farm livelihood strategy.

4. Conclusion and Recommendations

4.1 Conclusion

Vegetable business at Kawe market had a low profitability compared to vendors non-vegetable business. Vegetable Vendors at Kawe market have not been able to exploit the profits from the vegetable business despite having been routinely doing the business for some years. If well managed, Vegetable business at Kawe market is still Profitable. Personal characteristics of vegetable vendors at Kawe market had influence on the incomes earnings of vegetable vendors at Kawe, except their education background.

4.2 Recommendations

Vegetable-based agribusiness should be expanded by making farm credit and market information. This will help Vendors increase their market niche. Vegetable vendors should be integrated into actively formal vegetable vendor organizations that operate under the same economic and social constraints of vendors which has the potential to increase their access to credits.

References

- Adam, J. and F. Kamuzora, (2008). Research methods for Business and social studies, Mzumbe. Morogoro: Mzumbe book project.
- Al-Weshahy, A., & Rao, V. A. (2012). *Potato peel as a source of important phytochemical antioxidant nutraceuticals and their role in human health-A review*. IntechOpen.
- Anonymous. (2002). Swaziland Special Report. FAO/WFP crop and food supply assessment mission to Swaziland. Mbabane, Swaziland.
- Burke, M., & Brown, A. L. (2007). Distances people walk for transport. http://www98.griffith.edu.au/dspace/bitstream/handle/10072/17867/49100_1.pdf?sequence=1
- Day, G. S. (1994). The capabilities of market-driven organizations. *Journal of marketing*, 58(4), 37-52.
- Eigenbrod, C., & Gruda, N. (2015). Urban vegetable for food security in cities. A review. *Agronomy for Sustainable Development*, 35(2), 483-498.
- Eneyew, A., & Bekele, W. (2012). Determinants of livelihood strategies in Wolaita, southern Ethiopia. *Agricultural Research and Reviews*, 1(5), 153-161.

- Engle, LM and Altovero, N. (2000). Collection, Conservation and Utilization of Indigenous
- FAO and WHO. (2001). Human Vitamin and Mineral Requirements. Report of a joint
- FAO. (2004). Tables of Food Composition for Use in Africa. FAO and U.S Department of Health. Accessed through the Internet website (on 20th July 2012): www.fao.org/docrep/003/X6877E/X6877E01.htm.
- FAO. 2001. Principles and practices of small and medium scale fruit juice processing, by R. P. Bates et al, Agricultural Services Bulletin No. 146, Rome.
- FAO/WHO expert consultation Bangkok, Thailand. Rome: Food and Agriculture Organization of the United Nations.
- Gay, L.R. & Diehl, P.L. (1992). Research Methods for Business and Management. New York: Macmillan.
- Geburu, K. M., Leung, M., Rammelt, C., Zoomers, A., & van Westen, G. (2019). Vegetable business and smallholders' food security: empirical findings from Northern Ethiopia. *Sustainability*, 11(3), 743.
- Geoff, H. Kate, H. (2009). Poverty and Poverty Reduction in Sub Saharan Africa: An overview issues, Overseas Development Institute, Westminster ridge Road, London
- Gershon, F., T.Onchan and T.Raparl (1988) collateral, guarantees and rural credit in developing countries evidence from Asia. *Agricultural economics*, Vol. 2:231-245
- Gramzow, A., Batt, P. J., Afari-Sefa, V., Petrick, M., & Roothaert, R. (2018). Linking smallholder vegetable producers to markets-A comparison of a vegetable producer group and a contract-farming arrangement in the Lushoto District of Tanzania. *Journal of Rural Studies*, 63, 168-179.
- Grivetti, LE. (2000) Food Diversity and Drought Survival the Hausa Example. *International Journal of Food Sciences and Nutrition* 44(1):1– 16.
- Grubben, G. J. H. 1978. Vegetable seeds for tropics. Department of agriculture research bulletin 301, Amsterdam. pp.40

- Hailu, A. (2016). *Value chain analysis of vegetables: The case of Ejere district, West Shoa zone, Oromia national regional state of Ethiopia* (Doctoral dissertation, Haramaya University).
- Humphry, C. Clegg, MS; Keen, C and Grivetti, LE. (1993). Food Diversity and Drought Survival. The Hausa Example. *International Journal of Food Sciences and Nutrition* 44(1):1–16.
- Hunde, N. F. (2017). Opportunity, problems and production status of vegetables in Ethiopia: a review. *J Plant Sci Res*, 4(2), 172.
- International Fund for Agricultural Development (IFAD). (2007). Rural poverty portal: Dimensions of rural poverty.
- IOM. (2002). Dietary Reference Intakes for Vitamin A, Vitamin K, Arsenic, Boron, Chromium, Copper, Iodine, Iron, Manganese, Molybdenum,
- Isaac, S. & Michael, W.B. (1995). *Handbook in Research and Evaluation*. San Diego: EdITS.
- Jejekins, (1989). *Water resources research*, vol 25, no 11 p 2367, 1989 Australia
- Keller, GB. (2004). African Nightshade, eggplant, spiderflower et al– production and consumption aspects of traditional vegetables in Tanzania from the farmers point of view. Goettingen: Georg-August Universitaet. (MSc Thesis).
- Khalil, A., Nawaz, H., Ghania, J. B., Rehman, R., & Nadeem, F. (2015). Value added products, chemical constituents and medicinal uses of celery (*Apium graveolens L.*)–A review. *International Journal of Chemical and Biochemical Sciences*, 8(2015), 40-48.
- Kinabo, J, Mnkeni, A, Nyaruhucha, CNM, Msuya, J and Ishengoma, J. (2004). Nutrients content of foods commonly consumed in Iringa and Morogoro regions. Proceedings of the 2nd Collaborative Research Workshop on Food
- Kothari, CR. (1990) *Research methodology, methods and techniques*. NewDelh: K.K Gupta for New Age International
- Kothari, CR. (2004) *Research methodology, methods and techniques*. NewDelh: K.K Gupta for New Age International

- Lyimo, M; Temu, RPC and Mugula, JK. (2003). Identification and nutrient composition of indigenous vegetables of Tanzania. *Plant Foods for Human Nutrition* 58:85–92
- Makombe, I.A.M. (2006). A thesis on Women Entrepreneurship Development and Empowerment in Tanzania: The Case of SIDO/UNIDO- Supported Women Microentrepreneurs in The Food
- Mbelwa, R. (2000) The cut flower industry in Tanzania, Issue 152 work paper International labor organization, sectorial activities program
- Meela, E. E. (1998) Progress on vegetables research and Development in the southern highlands zone, Tanzania in AVDRC, 2000.
- Meyer, D. F., & Nishimwe-Niyimbanira, R. (2016). The impact of household size on poverty: An analysis of various low-income townships in the Northern Free State region, South Africa. *African population studies*, 30(2).
- Mundy, P. Gladbach, B. (1999). Reducing Poverty through agricultural sector strategies in Eastern and Southern Africa. Summary report of a workshop, 23-25 November, (1998). 50pp. Wageningen: the Netherlands.
- Mwinjaka, S., A.E Temu, and Chalamila, B., (2002). The impact of lethal disease in Tanzania coconut based Farming systems: Technical pp. no.1/2002
- Ndunguru, P.C. (2007). Research met hodology for social Sciences: Mzumbe University Morogoro: Mzumbe book project.
- Nickel, Silicon, Vanadium, and Zinc. Institute of Medicine.WashingtonDC: National Academy Press.
- Ochieng, J., Afari-Sefa, V., Muthoni, F., Kansiiime, M., Hoeschle-Zeledon, I., Bekunda, M., & Thomas, D. (2022). Adoption of sustainable agricultural technologies for vegetable production in rural Tanzania: Trade-offs, complementarities and diffusion. *International Journal of Agricultural Sustainability*, 20(4), 478-496.
- Onumah, G., Davis, J., Kleih, U., & Proctor, F. (2007). Empowering smallholder farmers in markets: Changing agricultural marketing systems and innovative responses by producer organizations.
- Peña, S. (1999). Informal markets: street vendors in Mexico City. *Habitat International*, 23(3), 363-372.

Pingali, P., (2004). Westernization of Asian Diets and the transformation of food systems: Implications for policy and research. ESA Working Paper No. 04-17. Available from www.fao.org/esa.

Hawkes, C., (2008). Dietary Implications of Supermarket Development: A Global Perspective. *Development Policy Review*, 26(6), p. 657-692.

Processing Sector. Submitted in accordance with the requirements for the degree of Doctorate of Literature and Philosophy in the subject Development Studies at the University of South Africa.

Shafaat Ahned (2010) <https://m.khaleejtimes.com>

Silva Dias, J. (2010, August). World importance, marketing and trading of vegetables. In *XXVIII International Horticultural Congress on Science and Horticulture for People (IHC2010): International Symposium on 921* (pp. 153-169).

Singh, V., Hedayetullah, M., Zaman, P., & Meher, J. (2014). Postharvest technology of fruits and vegetables: an overview. *Journal of Postharvest Technology*, 2(2), 124-135.

Skjott-Larsen, Tage; Philip B. Schary; Juliana H. Mikkola; Herbert Kotzab (2007). *Managing the Global Supply Chain*. Copenhagen Business School Press DK. p. 20. ISBN 87-630-0171-3.

Srinivasulu, R., Victor, A. S., Daniel, K. K., Richard, M., Dannie, R., Magesa, A. M., ... & Radegunda, F. K. (2015). Technical efficiency of traditional African vegetable production: A case study of smallholders in Tanzania. *Journal of Development and Agricultural Economics*, 7(3), 92-99.

Terry, Leon (2011). *Health-Promoting Properties of Fruits and Vegetables*. CABI. pp. 2-4. ISBN 978-1-84593-529-0

Vegetables and Fruits". Harvard School of Public Health. 2012-09-18. Retrieved 2015-09-14.

Vegetables". InfoTech Portal. Kerala Agricultural University. Retrieved 2015-03-24.

Vegetables. Proceedings of a Workshop AVRDC, Shanhua, Tainan, Taiwan, 16-18. August 1999. Shanhua: Asian Vegetable Research and Development Center.

Vitiello, V., Germani, A., Capuzzo Dolcetta, E., Donini, L. M., & Del Balzo, V. (2016). The new modern mediterranean diet italian pyramid. *Ann Ig, 28*(3), 179-186.