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Mini-Dissertation

The Role of Traditional Leafy Vegetables in Informal Settlements

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DECLARATION OF ORIGINALITY

I declare that the mini-dissertation, The Role of Traditional Leafy Vegetables in Informal Settlements and Spatial Planning, which has been submitted in fulfilment of part of the requirements for the module of DIT 801 at the University of Pretoria, is my own work and has not previously been submitted by me for any degree at the University of Pretoria or any other tertiary institution.

I declare that I obtained the applicable research ethics approval in order to conduct the research that has been described in this dissertation.

I declare that I have observed the ethical standards required in terms of the University of Pretoria's ethic code for researchers and have followed the policy guidelines for responsible research.

Signature: ………J A Seeliger…………………………………

Date: ……2023/11/30……………………………

Abstract

The need for food security within informal settlements in South Africa and the world is crucial due to the increase of famine globally. Traditional leafy vegetables offer solutions towards food security in rural communities and informal settlements. This paper aims to understand the roles traditional leafy vegetables (TLVs) play and their importance in food security within the Plastic View low-income community. Using a mixed-method research design, this study involved fieldwork to gather primary data through semi-structured questionnaires administered by the researchers in an informal settlement called Plastic View. The data was statistically analysed by using basic spreadsheets and the bivariate Pearsons test in IBM SPSS Statistics software. Plastic View is an informal settlement situated on a large piece of open land, surrounded by residential properties in Pretoria-East. It is home to roughly fifteen-thousand residents. The site was originally living quarters for the construction workers who built the neighbouring church. Through a comprehensive understanding of the crucial roles that the daily intake of TLVs have on food security, encompassing aspects pertaining to nutrition, agriculture, economic value, and various social factors such as enjoyment, culture, and childhood memories, their promotion and implementation becomes increasingly pertinent. This study reveals that preferred TLVs of the Plastic View residents were mainly influenced by the ease of preparation, followed by accessibility, nutritional value, taste, and cultural factors. This study's findings suggest that factors related to convenience and practicality significantly impact food choices and preferences of the Plastic View residents. These results may have important implications for promoting healthy eating habits and improving overall health outcomes. Wild cultivation and marketing of TLVs in informal shops also contribute significantly to the economic value of these plants in food security. The study concludes that the accessibility to TLVs, their preparation methods and how informal shops supply TLVs play important roles in food security in Plastic View and can be implemented in rural communities across the global south.

Keywords: Traditional leafy vegetables, food security, food preferences, low-income communities.

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List of acronyms

TLV / **TLVs** – Traditional leafy vegetables.

SSA – Sub-Saharan Africa

CA – Conservation Agriculture

1. Introduction

To reduce the growing number hungry people on earth, agricultural production will have to rise by 70% (Sims, 2012). Satisfying the rapidly expanding population in Africa continues to pose a worldwide dilemma. While the need for nourishment is on the rise, climate variability, conversely, introduces further hurdles to agricultural efficiency, thereby endangering the assurance of an ample supply of both quantity and calibre of sustenance (Dube, 2018). Weeds are undesired and targeted for eradication. Despite this, some weeds are useful to humans as food or medicine (Maroyi, 2013). Indigenous vegetables are plants that form part of a community's culture due to their early and extended use as food (Ogoye-Ndegwa and Aagaard-Hansen, 2003). Schackleton et al. (2003) proposed the term Traditional Leafy Vegetables (TLV) to describe these "indigenous vegetables" or weeds. Research shows that rural households harvest TLVs to survive (Maroyi, 2013; Dube, 2018). They are versatile plants with ecological resilience, nutritional benefits, medicinal potential, and income-generating capabilities (Weinberger & Msuya, 2004; Abukutsa-Onyango, 2007).

Although TLVs form part of many South African diets and cultures (Shackleton, 2003; Vorster et al., 2007a), western diets are found to be more common. Due to industrialisation, workers have been drawn to urban areas with little to no agricultural activity or areas for wild harvesting. The decreasing use of TLVs and the promotion of exotic crops are also factors impacting the use of TLVs (Musinguzi et al., 2006; Vorster et al., 2007b). TLVs have been introduced to South Africa, growing in cultivated lands, fields, homesteads, or open spaces (Van Rensburg, 2007; Voster et al., 2007; Maroyi, 2013). They have played an important role in African survival strategies for centuries but have recently suffered a lack of importance and use worldwide. (Vorster et al., 2007a; Weinberger and Swai, 2006; Moore and Raymond, 2006).

Sub-Saharan Africa (SSA) has the largest percentage of urban residents residing in informal settlements, accounting for 56% in 2015, as the United Nations Human Settlements Programme (UN-Habitat, 2015) reported. The ongoing urbanization in this region, primarily driven by rural-to-urban migration and the natural growth of urban populations, results in heightened population density and entails the expansion of informal settlements in regions susceptible to hazards (Zerbo et al., 2019). Informal settlements face food security, crime, violence, and health risks (Zerbo et al., 2019). Limited research has been conducted on TLVs' significance within informal settlements (Maroyi, 2013).

This study conducted its research in Plastic View, an informal settlement of roughly 15000 inhabitants in Pretoria East, South Africa. The site was originally a destination for jobseekers in the surrounding high-developing area. Surrounded by vast open space and natural landscapes, the settlement is close to built-up urban areas but suffers from basic service delivery. Plastic View has a long history of vulnerability, poverty and crime, thus why the City of Tshwane Metropolitan Municipality plans to relocate the settlement. The attempted relocation and future planned relocation caused conflict in the community as spatial plans failed to incorporate social-ecological factors. The City of Tshwane plans to develop the surrounding natural areas, breaking all ties between Plastic View residents and their methods of wild harvesting TLVs. This influenced the choice of the research site to explore the roles of TLVs within the settlement.

To promote the use of TLVs in informal settlements, this paper will discuss the TLVs roles within the Plastic View settlement and the types of TLVs found across communities in South Africa. This has led to the following research question and sub-questions; 1) What value do TLVs have to the Plastic View low-income community? 1.1) How do TLVs contribute to food security in the Plastic View informal settlement? 1.2) What types of TLVs are preferred by the Plastic View community? This study looks at existing literature and research on the cultivation and consumption TLVs in the global south and discusses it in comparison to the findings in this study, based in Plastic View. This study aims to promote TLVs as a strategy for informal settlements to increase food security and reduce malnutrition.

2. Literature Review

The literature review focuses on the roles of TLVs through previous studies in low-income informal communities. The review looks at the awareness and uses of TLVs to understand how and in what ways TLVs are used, and their popularity among communities. Literature on nutritional and medicinal value of TLVs were reviewed to understand their importance in food security along with their economic value through agriculture. Cultivation techniques of TLVs were reviewed to see how accessible and economically viable these crops are in informal settlements. Along with the cultivation of TLVs, the review looks at conserving these vegetables and how communities could safeguard these vegetables for sustained food security. The types of TLVs are touched on throughout the review, but studies on TLV preferences are reviewed to understand what types of TLVs are vital in the global south.

2.1 Roles of TLV

2.1.1 TLV Awareness & Uses

Traditional leafy vegetables (TLVs) have decreased in popularity (Fox & Norwood-Young, 1982). Voster et al. (2007) proposed to re-create awareness of TLVs, and the findings of that study showed the loss of status of TLVs and the need for an increase in their awareness. The biggest concern of many women was the loss of TLV knowledge (Voster et al, 2007). The increase in awareness of TLVs has an increase in use of TLVs (Dube, 2018).

TLVs have gained increasing significance as staple crops in numerous Sub-Saharan African countries, owing to their diverse applications. For instance, the leaves of crops like cassava and sweet potato serve as rich sources of micronutrient-packed vegetables, while their tuberous components contribute essential energy (Dube, 2018). These crops hold a dual importance, addressing both social and socio-economic aspects across Africa. They are recognized as versatile vegetables with environmental adaptability and possess nutritional and medicinal properties, as highlighted by Weinberger and Msuya (2004), Abukutsa-Onyango (2007), and Maroyi (2013). Moreover, TLVs play a crucial role in generating income for individuals along the supply chain, particularly benefiting economically disadvantaged populations (Schippers, 2000). More than 75% of the population in Zimbabwe incorporate these resources into their diets when accessible (DFID project 2309, 2003). Likewise, in the rural households of Limpopo, South Africa, nearly two-thirds of families partake in them as a staple, consuming them at least twice daily (Faber et al., 2010). This underscores their critical role in enhancing food and nutrition security.

TLVs were reported as being important for family consumption with nutritional value, 21% for medicinal uses, fewer reported fighting poverty and the least as edible weeds being cultivated for economic reasons. They play an important role in the community’s daily food intakes and off-season consumption in the form of dried TLVs (Maroyi, 2013).

Dhewa (2017) mentioned that in urban areas, there was a discernible shift from the consumption of modernized foods, like the use of maize flour in staples, to a preference for traditional foods, exemplified by the rise of restaurants specialising in traditional cuisines that prominently feature traditional crops, including TLVs. The popularity and uses of TLVs in the global south have increased within the last decade.

2.1.2 Nutritional & Medicinal Value

The World Health Organization (WHO) promotes the intake of traditional vegetables in sub-Saharan Africa (WHO, 2003). This is due to the medicinal and healthy bioactive compounds and phytochemicals (Smith & Eyzaguirre, 2007). TLVs as an answer to nutrient deficiency and food security have been researched extensively in the Global South (Lewu & Mavengahama, 2010), and mentions certain dietary phytochemicals to be helpful against some infectious diseases and noncommunicable chronic diseases. Some TLVs possess higher protein content, namely *Amaranthus* spp. (Morogo) and other higher mineral concentrations, namely *Cucumis metuliferus* (African horned cucumber) (Odhav, Beekrum, Akula, & Baijnath, 2007).

Sivakumar et al., (2018) revealed a knowledge gap in TLVs' nutritional significance of dietary phytochemicals in Southern parts of Africa and reviewed available information on dietary phytochemicals in TLVs and to discuss the influences graphical location, postharvest storage, genotypes, and agronomy practices have on them. In the paper, there is also a comprehensive exploration of phytochemical volumes present in various vegetables, alongside an investigation into the impact of antinutritional elements. β-carotene is similar to Vitamin A but contains higher antioxidant values. These nutritional values protect us from cardiovascular diseases and reduces the risks of muscular degenerative diseases and cancer (Krinsky, 1993). Ibrahim et al., (2015) revealed that Amaranthus hybridus leaves contain approximately 1136mg/kg of total carotenoids, which function as protective antioxidants, along with 184 mg/kg of β-carotene. Other vegetables, commonly consumed in Southern Africa such as Spider flower and Jew's mallow, contain more than 50 mg/kg of β-carotene phytochemicals (Agea et al., 2014). Environmental factors, agronomic practices and geographical locations influence the bioavailability of phytochemicals in fresh produce (Tiwari & Cummins, 2013). Sivakumar et al. (2018) states that some TLVs contain non-nutrient bioactive phytochemicals that contain some level of toxicity when consumed in copious quantities, according to several research reports. Oxalate and oxalic acid are organic acids considered as non-nutrients and found in vegetables like Cowpea (Vigna unguiculata). Environmental conditions, for example the dryer seasons, stimulated the synthesis of oxalates and phytates in the plants resulting in an increase in these non-nutrients (Molina et al., 2016). Post-harvest handling is important as TLVs have a highly perishable nature. Adopting appropriate packaging techniques can reduce the loss of phytochemicals in freshly harvested TLVs at markets (Sivakumar et al., 2018).

2.1.2 Agriculture & Economic Value

TLVs play a pivotal role in generating income opportunities for marginalized communities throughout the entire supply chain (Schippers, 2000). The smallholder farm sector has grown in popularity due to rapid urbanisation and changes in food consumption patterns, increasing various crops products in markets (Livelihoods and Food Security Programme (LFSP), 2017). Crops such as TLVs can offer sustainable food security to vulnerable communities as the vegetables are mostly produced and marketed by women, allowing them to fight against gender vulnerability and dependence syndrome (Dube, 2018). The TLV market is also economically viable to many communities as it is estimated to be worth billions of US dollars (Weinberger and Pichop, 2009). Dube (2018) has analysed the supply chain of TLVs in Zimbabwe and discussed seed quality, the costs of TLVs and reasons for household consumption. He concluded that there is potential for TLVs to improve food security across Southern Africa.

TLVs may be an attractive crop to farmers if the margins are higher and the cost of production is lower. The unavailability of quality seeds threatens the production of TLVs. In contrast, farmers have limited choices due to these undeveloped seed systems as the supply chain for TLVs in Southern regions is not organised. This lack of seed production is due to seed by-laws regarding TLVs as weeds (Seeds Act, 1971). Dried TLVs are consumed less by households because the vegetables lose some nutritional quality after they have been dried, and at times, they are deemed unacceptable to consumers (Mosha et al., 1997; Jansen van Rensburg et al., 2004), but van der Hoeven et al. (2013) found the drying and preservation of TLVs was crucial to the availability of TLVs throughout the season to increase food security within communities. Dube (2018) concluded that the margins of TLVs can increase if the seed quality is known and packaged. Dried TLVs that are packaged and sold at the markets also result in higher prices, which in turn the farmers are willing to pay as they would have greater returns (Dube, 2018).

Sustainable crop production intensification is the conceptual ecosystems approach that the Food and Agriculture Organization of the United Nations has added to their vision. This means the production and cultivation of crops forms part of the delivery of ES (FAO 2011). Enhancing food security, lowering poverty, and fighting climate change are challenges the SCPI approach deals with using conservation agriculture (CA) as a solution. Conservation agriculture (CA), in practice, sustains soil quality and results to high crop yields to lower damage to ecosystems. (Sims, 2012) explores how mechanisation manufactured locally (South Africa) plays a role in CA and the opportunities along with it. Smallholder farmers produce 80% of the food produced in Africa and Asia, and mechanisation offers these farmers the chance to better production and livelihoods. In CA, there are three methods to its success. First is keeping soil covered by organic matter and crop residues, second is to not disturb the topsoil unnecessarily and only by the needed amount for seeds to be sown. Thirdly is the knowledge required of crop rotations and associations (Sims, 2012). An example of mechanisation that aids CA, is the treadle pump, as it assists irrigation from natural resources enabling smallholder farmers on small plots to grow high value agricultural products, especially effective in lower-income areas (Sims, 2012).

The use of TLVs by rural communities and the indigenous knowledge related to TLVs in what (Maroyi, 2013) documented in the Shurugwi District, Zimbabwe, with focus of people's livelihoods and food security. Semi-structured interviews with residents regarding ethnobotanical information were documented, namely demographical information of participants, the edible weeds they collect, the preparation of the weeds, the availability, the impact of edible weeds on food security and other benefits. Maroyi (2013) found that the villages in the Shurugwi District actively use twenty-one different types of edible weeds, 17 of them being TLVs. These TLVs grow naturally in abandoned gardens, farmlands or independently of direct human contact. They are harvested from the wild or through cultivation (Maroyi, 2013). Heywood (1995) found that the most common agricultural weed invasions are that of the families Asteraceae and Poaceae, both being of the same families, most of the edible weeds found and used in Shurugwi, are from. Participants perceived edible weeds important contributors to food security and perceived these two accessible as they grow in many places.

2.2 Socio-economic significant plants

The survival of TLVs is in the hands of community members namely the seed custodians, and more recently, informal seed trading systems within communities. Women, especially older women, are the main custodians of TLVs responsible for most of its aspects and being assigned the seed custodian in safeguarding the supply of seeds (Voster et al., 2007), which is crucial for future genetic diversity and survival of TLVs (Almekinders et al., 2000). Voster et al., 2007 found many women were not aware of a particular specie's extinction from the local village and once alerted, they orchestrated a conservancy plan to collect this specie's seed and distribute to only a few women in the village that could successfully introduce it back to the village (Vorster & Van Rensburg, 2004). More effective conservation could lead to higher food production in TLVs (Diversity and conservation ref.) Other literature on conservation of indigenous economic and medicinal plants could give insight to the safeguarding and management of TLVs in South Africa. Bello et al. (2019) studied the different economic and medicinal plants used in Katsina, Sudan; their conservation status and various threats affecting them. Interviews with specific groups of people were conducted, asking them to identify plants that they use, and their importance. Bello et al. (2019) found that the threats affecting the conservation of the identified plants were overexploitation, agriculture, desertification, invasive plants, urbanisation, erosion, and grazing, in descending order. Respondents dealing with ethnobotanical knowledge were mostly male, potentially because of their frequent interactions with the outdoors, and lacked formal education, threatening the safeguarding of indigenous knowledge. From the 169 plants identified, only twelve are globally recognised. Cunningham (1993) suggests that the conservation of the important plants and their socio-economic impact on communities should be addressed through local and international policy. Bello et al. (2019) concludes that the Savanna contained a great diversity of important economic and medicinal plants making it critical to conserve and promote their existence.

2.3 TLV Preferences

Voster et al., (2007) conducted awareness and training days, after which amaranth was greatly accepted due to its large leaf yield and taste. Other TLVs like cowpeas, pumpkins, jute mallow and spider plants are also being cultivated more than ever. Taste was the major criterion for the selection and cultivation of certain TLVs but during seasonal changes, the labour and space needed influenced their cultivation. Larger leaves and more compact bushy TLVs and less labour-intensive plants were preferred (Voster et al, 2007).

Geographical location, seasonal fluctuations, and precipitation levels exerted an impact on the accessibility and presence of TLVs. These TLVs were perceived as not only healthful and cost-effective but also delightful, thus gaining parental approval. Moreover, the youngsters evaluated dishes prepared with TLVs favourably concerning their appearance, aroma, and flavour. Swiss chard emerged as the preferred choice, likely attributable to the children's prior exposure to this vegetable. It was evident from the children's responses that they harboured a desire to incorporate these leafy greens into their diets twice weekly.

Maroyi (2013) and van der Hoeven et al. (2013) observed that Amaranthus spp. ranked among the most frequently utilized edible plants. Furthermore, Maroyi identified Chenopodium album, commonly referred to as senkgampapa, as a prevalent Traditional Leafy Vegetable (TLV). Notably, two plants, Momordica balsamina (known as Motangtang or Mistrikadika) and Physalis pyruviana (referred to as Sepatlapatla), were found to serve both medicinal and culinary purposes. The preference for specific TLVs appeared to be influenced by taste and their local availability. Van der Hoeven and colleagues (2013) reported that TLVs were predominantly located in natural habitats like bushes, farmlands, and areas with abundant water resources.

2.4 Concluding Reflections

Literature shows the importance of TLVs in South African rural communities' diets. Promoting TLVs as an answer to food security can be done by creating awareness and transferring knowledge. TLVs contain much needed nutrients that can replenish malnutritioned communities due to its availability from the natural environment. Smallholder agriculture propose great economic value by TLV cultivation and marketing of conserved or fresh produce. The conservation of TLVs is vital for its continued use. Different types of TLVs are more commonly used due to socio-economic reason like preference, availability and nutritional or medicinal value.

3. Methodology

3.1Study area and context

The study area selected was an informal settlement in Pretoria-East, South Africa. Just off Garsfontein Road and next to the Moraletta Park Church, Plastic View sits within a 220-hectare undeveloped site (Figure 1). The small, dense settlement is formally demarcated with narrow streets containing roughly 700 – 800 housing structures since the high court ordered the City of Tshwane to rebuild the settlement after unlawful eviction in 2006. Residents of the surrounding affluent areas claim that the undocumented residents of Plastic View make it a crime hotbed (Moatshe, 2020). Due to past conflicts with government agencies, the residents of Plastic View are defensive and vulnerable, having been exposed to xenophobic threats. This put us at risk of crime when entering the premises and encouraged us to communicate with community members as to what our purpose of entering the premises was.

Figure 3:Plastic View Locality Map (Author, 2023), (Google Earth Pro, 2023).

3.2 Study Theoretical Context

In landscape architecture, research and practice are shaped by a multitude of influences, guiding both inquiries and methodologies. This interdisciplinary approach frequently incorporates methods from other domains, such as the social and natural sciences (Bruns et al., 2017; Swaffield and Deming, 2011). As a result, the discipline often adopts a pragmatic orientation, enabling researchers to draw upon diverse paradigms and techniques to effectively address their inquiries and establish meaningful connections between their studies and human experiences (University of Nottingham, n.d.). Swaffield and Deming (2011) emphasize the pivotal significance of methodological integrity and fitness for purpose in landscape architectural research.

This research aligns with a pragmatic philosophy, following Swaffield and Deming's (2011) assertion that a pragmatic approach facilitates the generation of transferable knowledge that can be applied in practical, real-world scenarios. This study aims to understand and represent reality as accurately as possible using quantitative and qualitative methods. It follows an exploratory interpretive research approach, meaning the goal is to gain insights and an understanding the collected data (George, 2023).

3.3 Sample size

A total of 50 questionnaires were completed by participants in Plastic View on the 27th and 28th of March 2023. Plastic View had eight thousand to nine thousand documented residents in 2020 (BHons 2020), and roughly fifteen thousand presently, therefore having had the number of questionnaires increased, the results would be more accurate. Therefore, the data has lower reliability but is still deemed valid because of the data collection techniques used to broaden the sample size. These techniques involved entering the site via two separate entrances, the northern entrance on day one, and the north-western clinic entrance on day two. We proceeded to walk to different areas asking randomly selected participants to partake in the questionnaires. The sample size is large enough to determine correlations between variables relating to participants' relationship with TLVs and household scale uses of TLVs. The sample group consisted of randomly selected households.

3.4 Data Collection

As noted by Leedy and Ormrod (2015), survey research entails gathering information, including opinions, experiences, or traits of a specific group, through a series of meticulously crafted questions posed to a sample of the population. These responses are subsequently subjected to quantitative analysis. Additionally, their study incorporated correlational research methods to assess how the characteristics or patterns exhibited by the sample group influenced other variables (Leedy and Ormrod, 2015). This study's fieldwork involved gathering primary data through semi-structured questionnaires (Annexure 1) administered by us, the researchers, and the use of photo-eliciting. Community leaders were contacted to guide the researchers through the settlement spaces and assist with translation.

The design of the questionnaires (provided in Annexure C) aimed to ensure a completion time of approximately 20 to 30 minutes. This approach aligns with the guidance of Leedy and Ormrod (2015), who recommend brief, straightforward questions to enhance participant engagement, acknowledging the value individuals place on their time. The survey employed a 'yes or no' response format, along with predefined answer options. Additionally, participants had the opportunity to provide any supplementary responses not covered by the predefined options. This format was complemented by the inclusion of rating scale questions, as suggested by Leedy and Ormrod (2015) for capturing information on attitudes or preferences. The questionnaire featured response categories such as 'agree,' 'disagree,' and 'neither agree nor disagree' to address potential challenges in vegetable cultivation. Each response option was associated with numeric values to facilitate streamlined data analysis. For open-ended questions, numeric values were assigned based on the identified vegetables during data preparation. Qualitative analysis of open-ended questions involved grouping similar responses and assigning numeric values accordingly.

Inquiries about participants' knowledge of or experience with specific vegetables led to the creation of categories encompassing various types. These categories included TLVs (e.g., kale, rape, tsunga, or covo), mainstream leafy vegetables (e.g., lettuce, or cabbage), mainstream root vegetables (e.g., carrots, potato, or onions), mainstream vine plants (e.g., tomatoes, beans, or pumpkins), and maize.

The semi-structured questionnaires often became interviews as the participants preferred being spoken to or not having the ability to read. The pictures became launching pads for discussions and insights into their preferences. Most questions were multiple-choice, and some asked participants to specify if based on their previous answers, leaving the questions open-ended. The questionnaires had three main sections. This paper focuses on the TLV uses, preferences and characteristics of the site.

3.5 Data Analysis

Data from the questionnaires were set up in an Excel spreadsheet. Basic statistical data was calculated from the Excel spreadsheet to find demographical information relating to different variables and significant information on the uses, types, sources and preferences regarding vegetables and traditional vegetables (TLV). Each question had a value of 0-99 for each respondent. IBM SPSS Statistics Windows (Version 28.0.1.0) was chosen to statistically analyse the data with a 95% confidence (p=0.05) interval to evaluate statistically significant correlations of various themes using the bivariate Pearsons test (See Annexure 2). The researcher interpreted data and correlations to respond to the research questions through a quantitative analysis.

3.6 Ethical considerations

In the realm of research, it is essential to adhere to ethical procedures. Once the required ethical approval was granted by the Faculty of Engineering, Built Environment, and Information Technology (EBIT) at the University of Pretoria, the study implemented precise protocols following the approved guidelines, as detailed in Annexure 3. These protocols stipulated the necessity of obtaining consent from participants before conducting interviews or administering questionnaires and ensuring that participants were duly informed that their responses would be included in the study's findings. Once the application was accepted, community leaders created and filled in consent forms upon arrival. When approaching participants, researchers would introduce themselves and explain the reasons for their fieldwork. Once a consensus was reached, the participant was asked to help complete questionnaires regarding the study.

4. Results

4.1 Site Characteristics

The demographical data in Plastic View showed a high representation (62%) of female participants between the ages of 20 and 40 years (See Figure 2). This gave more insight into the roles women had within the community. Most (86%) participants were originally from a SADC country (Southern African Development Community Immigrant), 90% from Zimbabwe, and had resided in South Africa for over 10 years (Refer to Figure 6). Therefore, all the participants have African origins, meaning they are likely to possess traditional knowledge or preparation methods. Fifty-eight percent (58%) of participants were unemployed, while some partake in construction (16%) or handyman jobs (18%) (Refer to Figure 4). Only 4% of participants worked within the food industry (Refer to Figure 4). Although few participants indicated the food industry as being their source of income, the data on TLVs should provide insight to the roles food has in the participants' lives. Most participants (52%) preferred not to state their income category. Of the 48% that answered, 22% of participants earned below minimum wage and 20% earned below R10 000 per month (Refer to Figure 5). The lack of financial security strengthens the need for food security in survival. Only 2% indicated they earned between R10 000 and R20 000 monthly.

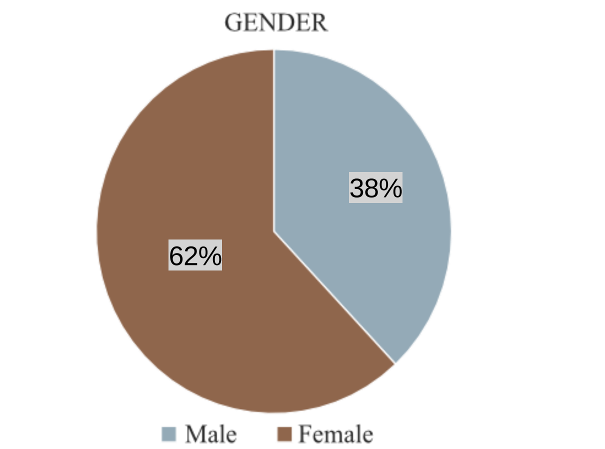


Figure 4: Pie chart showing gender data in Plastic View.

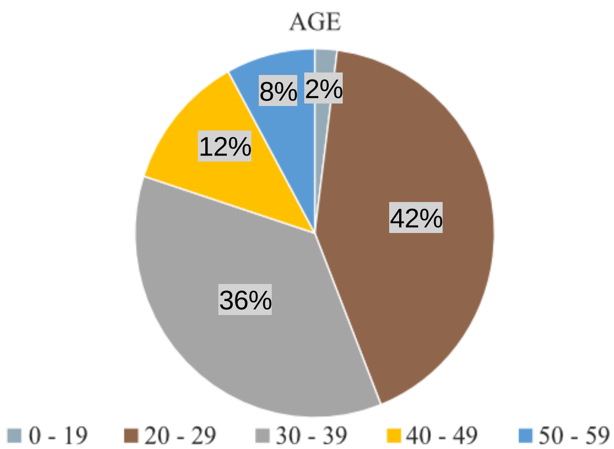


Figure 3: Pie chart showing age data in Plastic View.

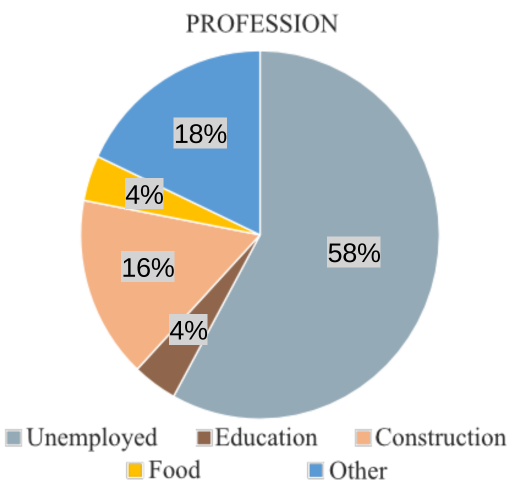


Figure 4: Pie chart showing profession data in Plastic View.

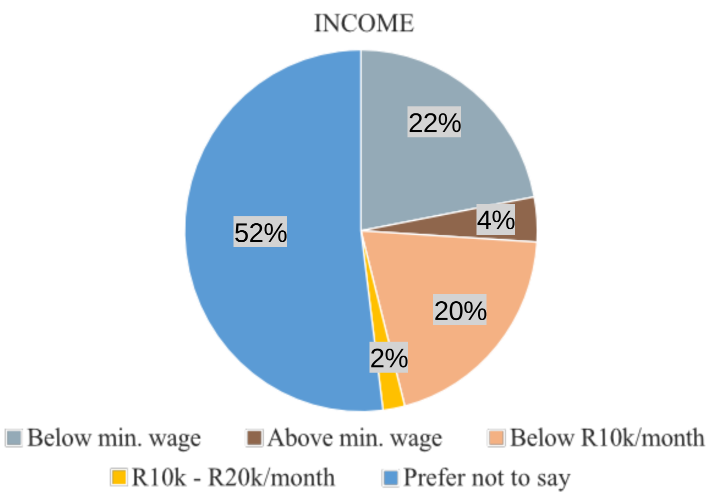


Figure 5: Pie chart showing income data in Plastic View.

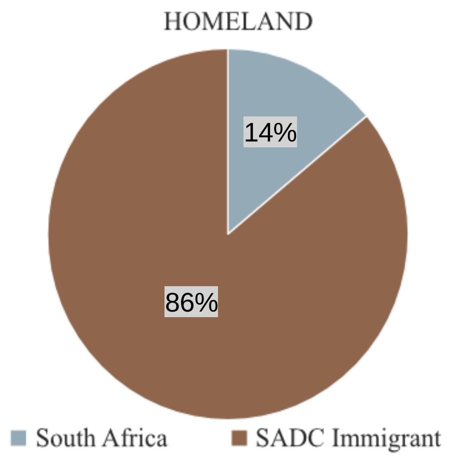


Figure 6: Pie chart showing nationality data in Plastic View.

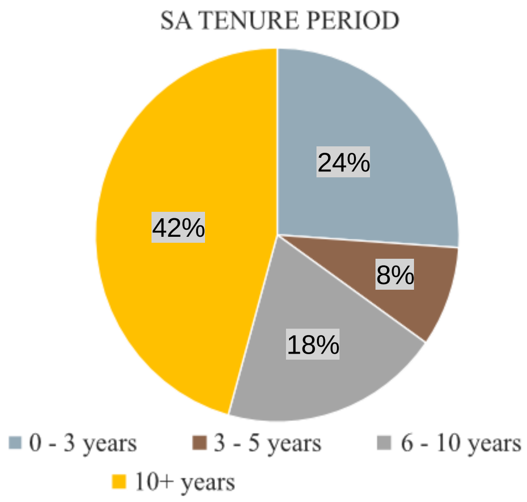


Figure 7: Pie chart showing South African tenure periods in Plastic View.

4.2 Traditional Leafy Vegetables

4.2.1 Uses & Preferences

All participants (100%) answered yes to eating vegetables. A total of 49 participants (98%) preferred TLVs, and a total of 41 participants (82%) preferred mainstream vegetables (See Figure 8). Eighteen percent (18%) of participants chose traditional vegetables over mainstream vegetables, and only 2% preferred mainstream vegetables over traditional vegetables (See Figure 9). The remaining 80% preferred both traditional and mainstream vegetables.

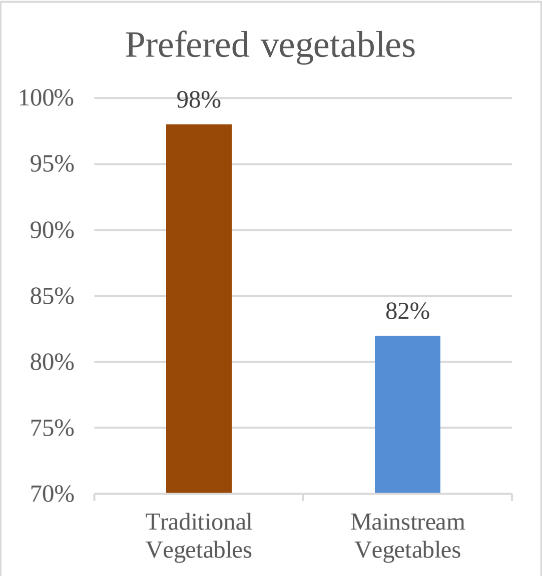


Figure 8: Graph showing percentage of participants preferring Traditional vs Mainstream vegetables.

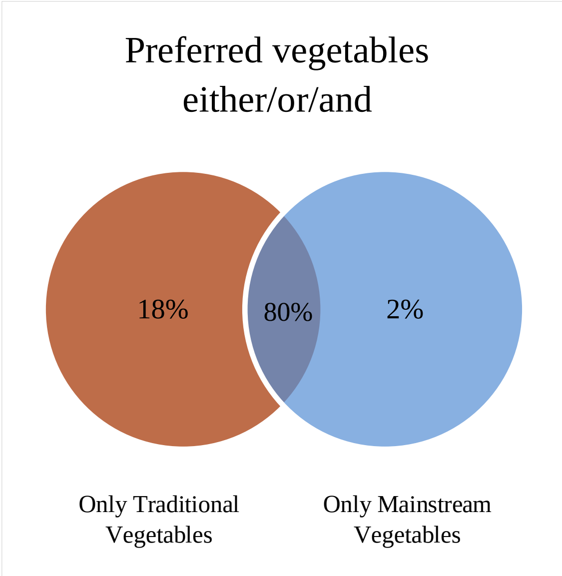
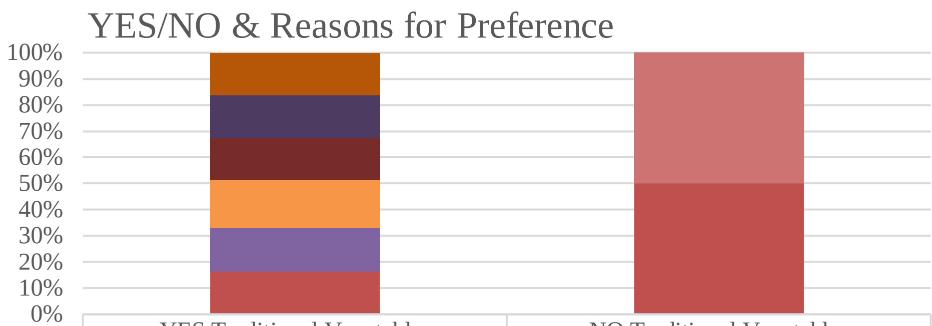


Figure 9: Venn diagram showing participants preferring Traditional and/or Mainstream vegetables.

Most participants (92%) indicated that the ease of preparing TLVs was a reason they preferred it. Furthermore, culture, childhood memories, medicinal value, availability and cost, and taste were selected as reasons for preferring TLVs (82%-84%). TLVs being viewed as a poverty crop along with its taste were the only two reasons selected for not preferring them (See Figure 10).



	YES Traditional Vegetables	NO Traditional Vegetables
Viewed as poverty crop	0	2
Culture/Tradition	82	0
Childhood Memories	82	0
Medicinal/Nutrional Value	82	0
Easy to Prepare	92	0
Availability & Cost	84	0
Taste	82	2

Figure 10: Graph and table representing the reasons for preferring TLVs and not preferring TLVs.

4.2.2 Agriculture & Economic Value

The types of vegetables identified when asked which vegetables were grown by the participants themselves were as follows, in descending order: Spinach, Cabbage, Covo, Rape, Onion, Tomatoes, Traditional Pumpkin, Carrot, Beans, Maize, Tsunga, Lettuce, Sweet potato, Soya, Wheat, Beet root, Gushe, Kale, Morogo, Pigweed, Spiderplant, Cowpea, Bitter melon and Okra (See Figure 11).

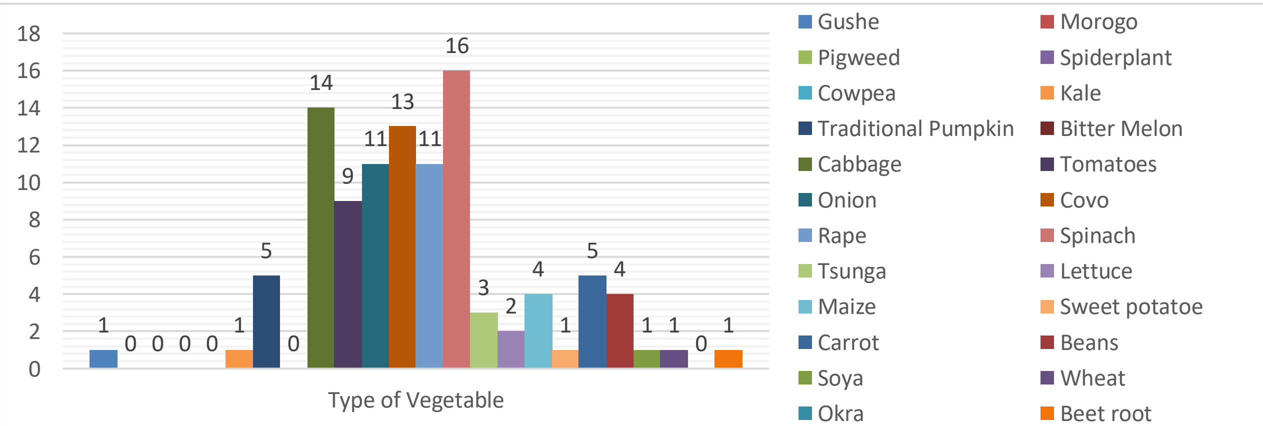


Figure 11: A graph showing the different types of vegetables identified by participants, grown by themselves at any time.

Most (62%) participants answered "yes" to having grown vegetable gardens for their own use (See Figure 12(a)). Twenty-seven percent (27%) of participants answered 'never' when asked when they grew vegetables, and 7% of participants were currently growing vegetables (See Figure 12(b)). Many participants (67%) mentioned mainstream vegetables when stating the types of vegetables they grow, and 33% of participants mentioned traditional vegetables (See Figure 12(c)). The strongest reason for the growing of vegetables was 'own consumption' at 27 (54%), second nutritional preference (19%), then economic reasons (34%) and personal enjoyment (32%). A small percentage (2%) indicated serving the community as an option (See Figure 12(d)).

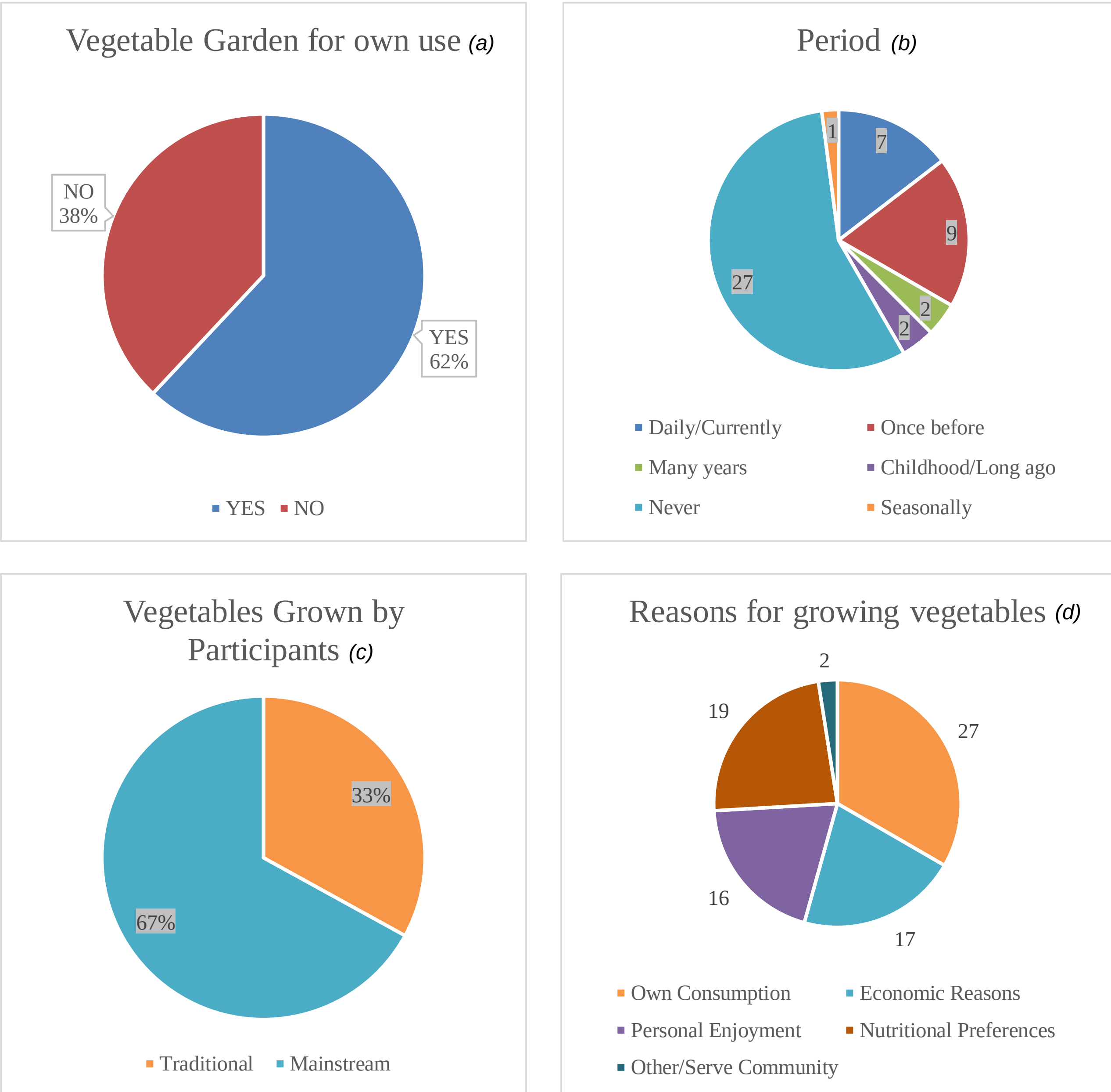


Figure 12:(a) Pie chart showing the percentage of participants that have grown their own vegetable gardens; (b)Pie chart showing the time frame in which the participants who have grown their own vegetable gardens; (c)Pie chart showing the percentage of Traditional or Mainstream vegetables are grown by participants themselves; (d)Pie chart showing the number of participants selected each reason for growing their own vegetables.

4.2.3 Consumption of TLV

Gushe, also known as 'Jute', was the most consumed traditional vegetable, followed by Spiderplant, Pigweed, Morogo, Traditional pumpkin, Cowpea, Kale, Bitter melon, Covo, Rape and Okra respectively (See Figure 13). Most participants (80%) said they got their vegetables from an informal shop, 20% from a shop and 28% said other, specifying 'from the bush' as an answer. This means that 28% of participants harvest TLVs from the natural environment around them (See Figure 14). These results offer insight into food security in urban-informal environments surrounded by wild terrain containing wild TLVs. Overall, participants were aware of TLVs due to the high number of TLVs mentioned compared to the mainstream vegetables when asked to list which vegetables they consumed.

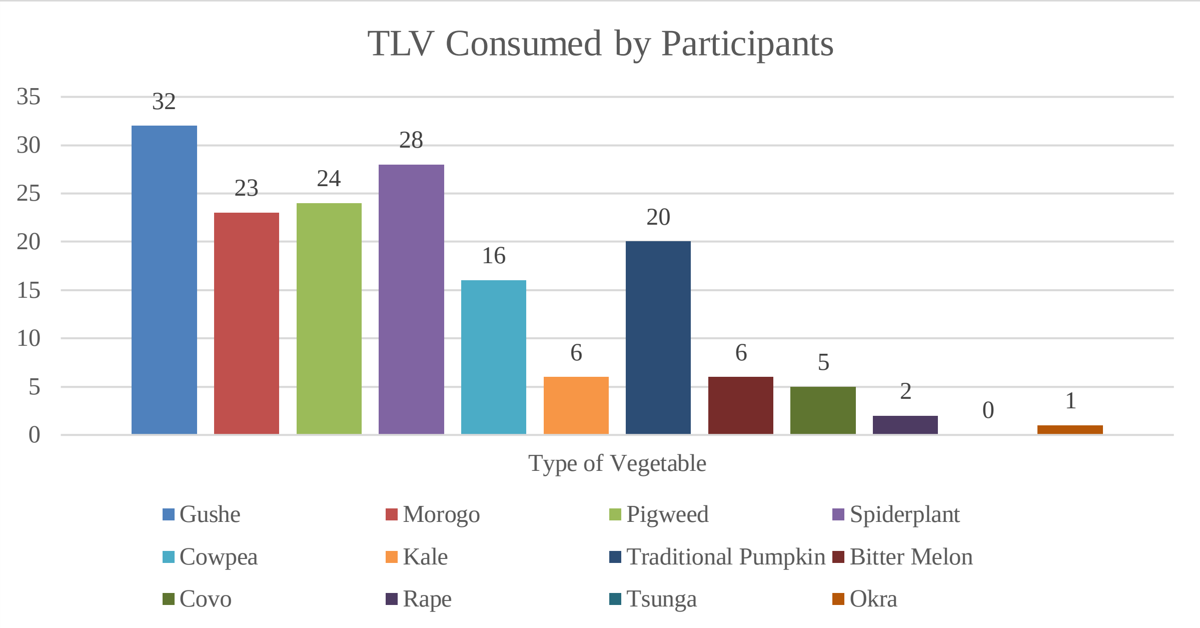


Figure 13: A graph showing the different types of traditional vegetables consumed by participants.

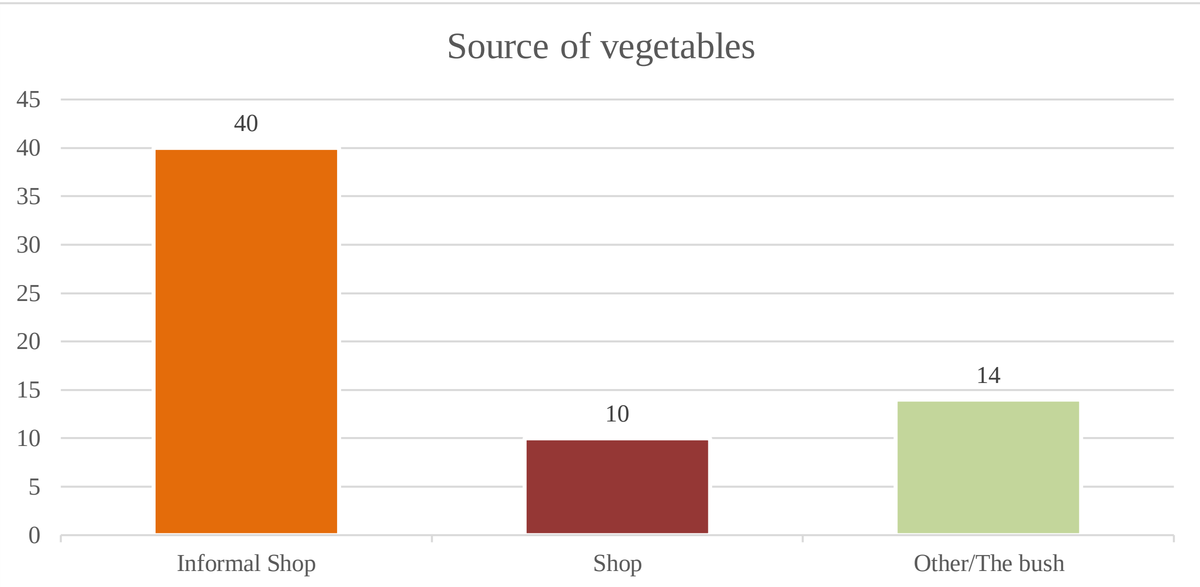


Figure 14: A graph showing the number of participants who source their vegetables from an Informal Shop, Shop or Other (specified "The Bush").

4.2.4 Socio-economic correlations

Table 1 shows the statistical correlations between gender, source, TLVs preferred, personal enjoyment and nutritional preference. Results from SPSS show a statistically significant ($p < 0.05$), moderate negative correlation (r= -0.381) between gender and source of TLVs. Males were more likely to get their TLVs from the bush than females. A significant moderate correlation (r=0.478) exists between the personal enjoyment of growing vegetables and the source of TLVs. Those who enjoyed growing vegetables sourced their vegetables from mostly everywhere (informal shop, shop, and the bush). Nutritional preference had a significant positive moderate relationship with the source of vegetables (r= 0.465). The participants who ate TLVs for nutritional reasons, also sourced their vegetables from mostly everywhere (informal shop, shop, and the bush).

Table 1: Statistical correlations between Gender, Source, TLVs preferred, Personal enjoyment and Nutritional preference.

Correlations

		Gender	Source	TLV preferred	Personal enjoyment	Nutritional preference
Gender	Pearson Correlation	--				
	N	50				
Source	Pearson Correlation	-.381**	--			
	Sig. (2-tailed)	.006				
	N	50	50			
TLV preferred	Pearson Correlation	.182	-.280*	--		
	Sig. (2-tailed)	.205	.049			
	N	50	50	50		
Personal enjoyment	Pearson Correlation	-.162	.478**	-.177	--	
	Sig. (2-tailed)	.382	.007	.341		
	N	31	31	31	31	
Nutritional preference	Pearson Correlation	-.372*	.465**	-.145	.423*	--
	Sig. (2-tailed)	.039	.008	.436	.018	
	N	31	31	31	31	31

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

4.2.5 TLV type correlations

Table 2 shows the statistical correlations between Gushe, Spiderplant, Okra, Ease of preparation and economic reasons for growing vegetables. Results from SPSS show that there is statistically significant ($p < 0.05$), moderate positive correlations between the ease of preparation with both Gushe (r=0,306) and Spiderplant (r=0.376). Participants that prefer to consume Gushe or Spiderplant, do so due to the ease of preparations needed to consume the leaves, while vegetables like Okra were negatively correlated (r= -0.429) to the ease of preparation and was not preferred due to its difficulty of preparation. Spiderplant had a significant negative correlation (r= -0.360) with economic reasons for growing vegetables. This was due to Spiderplant not being cultivated by many households (See Figure 11).

Table 2:Statistical correlations between Gushe, Spiderplant, Okra, Ease of preparation and Economic reasons for growing vegetables.

Correlations

		Gushe	Spiderplant	Okra	Easy Prep	Economic reasons
Gushe	Pearson Correlation	--				
	N	50				
Spiderplant	Pearson Correlation	.259	--			
	Sig. (2-tailed)	.070				
	N	50	50			
Okra	Pearson Correlation	-.190	-.161	--		
	Sig. (2-tailed)	.185	.264			
	N	50	50	50		
Easy Prep	Pearson Correlation	.306*	.376**	-.429**	--	
	Sig. (2-tailed)	.031	.007	.002		
	N	50	50	50	50	
Economic reasons	Pearson Correlation	.077	-.360*	.166	.037	--
	Sig. (2-tailed)	.679	.047	.373	.842	
	N	31	31	31	31	31

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

5. Discussion

TLVs were used by 98% of participants from Plastic View. Vegetables were part of all participants' diets, and the preference for traditional vegetables outweighed that of mainstream vegetables. These findings confirm their popularity. TLVs were mostly (80%) purchased from informal shops within Plastic View, indicating their economic significance for the residents. The heightened awareness of TLVs in Plastic View could be a result of the informal shops selling them, as Dhewa (2017) mentioned that TLVs increase in popularity when restaurants exemplify them in food menus. Most participants from Plastic View originate from Zimbabwe; therefore, other informal settlements with SADC immigrants could have similar uses and relationships with TLVs. When compared to existing statistics regarding Zimbabwean diets (DFID project 2309, 2003), TLVs are prominent components of their diets. There is no doubt that TLVs contain valuable nutritional value, and even more importantly, TLVs offer food security for the poor and vulnerable. The high number of participants who source TLVs from the bush or informal shops, explain why mostly mainstream vegetables are grown personally even though TLVs are consumed more. The informal shops that were the primary source for TLVs showed the significant economic value TLVs have in food industries in informal settlements and the probable existence of seed custodians and community TLV promoters.

The second-largest source of TLVs in Plastic View was the bush, aligning with the findings of Maroyi (2013) and van der Hoeven et al. (2013), who found that rural households harvest edible vegetables from their natural, wild surroundings. Plastic View is surrounded by large wild bushy areas of vegetation that have been 75% invaded by alien species (SANBI, 2010). TLVs form part of these alien species that grow wildly. The successful survival and easy access to TLVs near Plastic View make them a helpful solution to food security as they are cheap and accessible to the community. Thus, TLVs give the residents access to a supply of fresh produce from their natural environment to combat hunger.

Nutritional preference for growing one's vegetables was selected by 61% of participants, and a further 82% preferred TLVs due to their nutritional value. These findings differ from those of Sivakumar et al. (2018). Although the residents are likely to lack knowledge of carotenoids as antioxidants, they do, however, have inherited knowledge of the health benefits of TLVs in diets. Home-grown vegetables were mostly consumed by households and preferred for their nutritional values. Although the knowledge around growing and harvesting TLVs may seem low, purchasing them cheaply and processing is more attractive to most participants, even when many of the TLVs grow wildly around the settlement. This proves the large economic benefits TLVs have in agriculture and food security. The correct method of harvesting and finding good quality leaves seems too much of a hassle for most of the community members. In this study, nutritional and medicinal value was a strong reason for preferring TLVs. The ease of access and availability, together with nutritional value, confirms the role TLV plays in addressing micronutrient deficiencies in informal settlements.

The relationship between men and their vegetable sourcing habits reveals their strong connection to the natural world. Individuals who cultivated their own produce were inclined to acquire additional vegetables through both commercial and foraged means. As indicated by Figure 6(b), the primary motivation for growing one's vegetables was for personal consumption. Therefore, the accessibility of fresh produce in local shops and in the wild plays a crucial role in promoting food security within the Plastic View community. The continued supply of wild fresh produce gives participants who own informal shops the ability to create a source of income from cultivated TLVs. Most participants interviewed were women, and according to Voster (2007), it could be the reason for the high statistical evidence of TLV knowledge. Packaging and seed knowledge factors were not a part of this study but play a role in the success of these informal shops. The introduction of CA and low-tech mechanisation in Plastic View could leave informal shops thriving economically by increasing TLV production and therefore increasing food security.

Through the provision of collages featuring an equal mix of mainstream and traditional vegetables (six of each), participants were able to identify 24 distinct plant species, with 12 of them falling under the category of Traditional Leafy Vegetables (TLVs). This demonstrates a heightened awareness of these plants within the Plastic View community. The identification of numerous corresponding species by residents echoes the findings of Dube (2018), who noted the consumption of commonly consumed TLVs in Africa. This reinforces the community's profound understanding and relationship with these plants. Amaranthus (Morogo or Pigweed) was a highly favorable vegetable and can be found in the natural environment. Gushe, Spiderplant, Pigweed, Morogo, Traditional pumpkin, Cowpea, Kale, Bitter melon, Covo, Rape, and Okra were preferred and eaten by most participants. These TLVs are mentioned in numerous other studies but not grouped in the same manner. This shows the existing knowledge of TLVs and the geographical availability of the plants playing a role in what types of vegetables participants preferred. In our findings, Spiderplant was preferred due to its ease of preparation, while van der Hoeven et al. (2013) reported its bitter taste and the need for boiling to improve the taste. This indicates the existing preparation knowledge regarding this vegetable in Plastic View, a much younger settlement than those in van der Hoeven’s study.

Despite the large preference for traditional vegetables, the relationship between the types of vegetables grown by participants and reasons behind growing them themselves show a potential gap in traditional vegetable knowledge within this informal community. Results of TLV and where the participants source them from could give answers to the roles TLVs have in food security. The reasons given for preferring TLVs matched the needs of the community. The TLVs were said to be easy to cook, cheap and accessible, provide nutritional and medicinal value, taste good, and bring back childhood memories for the people in Plastic View. This gives the roles that TLVs have in Plastic View and confirms reasons of preference. Additional research on TLV awareness, TLV agriculture, and similar studies on different informal settlements in other regions are encouraged to promote TLVs and their ability to aid in food security within the global south.

6. Conclusion

The preferred TLVs in Plastic View were mainly influenced by the ease of preparation (92%), followed by accessibility (84%), nutritional value (82%), taste (82%), cultural factors (82%), and childhood memories (82%). The findings of this study suggest that factors related to convenience and practicality significantly impact the food choices and preferences of the residents, which may have important implications for promoting healthy eating habits and improving overall health outcomes. The economic value of wild cultivation and marketing of TLVs in informal shops were also pertinent to the importance of these plants in food security. The promotion of different types of TLVs, their cooking methods and how to successfully market the fresh or conserved produce, is what can be implemented in rural communities across the global south.

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Annexure 1 (a)

QUESTIONNAIRE

This project aims to understand the potential application of edible living wall systems for household food production in Gauteng informal settlements. The research objective is to understand the community's perceptions and utilisation of vertical food production and traditional African vegetables.

Please indicate your preference for each question below according to the response categories. Please mark the applicable categories with an "X".

SECTION A: BIOGRAPHICAL DETAILS

This section will assist the study in better understanding the background of the respondents participating in this questionnaire.

A1. With which gender do you associate?

Male	Female	Neither
1	2	3

A2. Please select the age group applicable to you.

0 to 19 years	1
20 to 29 years	2
30 to 39 years	3
40 to 49 years	4
50 to 59 years	5
60 years or over	6

A3. Where did you grow up?

South Africa	1
SADC (Angola, Botswana, DR Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe)	2
Other, please specify…………………………….	3

A4. How long have you been residing in South Africa?

0 to 3 years	1
3 - 5 years	2
6 - 10 years	3
more than 10 years	4

A5. What is your profession?

Unemployed	1
Energy/ oil/ gas	2
Retail	3
Education	4
Construction	5
Health	6
Food	7
Government	8
Other (please specify)	9

A6. Which category of income do you fall in?

Below minimum wage	1
Above minimum wage	2
Below R10000 per month	3
Between R10000 and R20000 per month	4
More than R20000 per month…………………………….	5

SECTION B: Applying living wall systems with food plants

		No	Yes
B1.1	Have you grown a vegetable garden for your use?	0	1
B1.2	Do you know a friend/ family member who grows vegetables for their use?	0	1
B1.3	If yes to B1.1/ B1.2, are the vegetables grown in the person's yard?	0	1
B1.4	If yes to B1.1/ B1.2, are the vegetables grown in a communal space?	0	1
B1.5	*(After showing a picture of a living wall and explaining what it is and the benefits)* Have you seen/ used a living wall for plant production?	0	1
B1.6	Would you grow vegetables in a living wall to use in your household?	0	1

B2. If yes to B1.6, what are the benefits of vertical plant production in your opinion?

Save space when there is limited land available.	1
Will assist with the cooling of the house/ shack and environment	2
The food garden is close-by for security and maintenance reasons.	3
Will beautify the living environment	4
It will be more affordable than traditional food production if recycled materials are used.	5
Other (specify)….	6

B3. If no to B1.6, what are the disadvantages of vertical plant production in your opinion?

Costly to build and maintain	1

Don't know how to build and maintain LWS with food plants	2
Other (specify)…	3

B4. If yes to B1.1,

B4.1. Where and when did you grow a vegetable garden?

Specify where…………
Specify when…………

B4.2. What vegetables do you grow?

Specify…………
Specify…………
Specify…………
Specify…………
Specify…………

B4.3 Why do you grow vegetables?

Own consumption
Economic reasons (selling)
Personal enjoyment
Nutritional preferences
Other (Specify)………….

B5 What is the biggest challenge in growing vegetables for your household?

Indicate whether you agree/ disagree with each of the following statements by selecting; 1=Disagree, 2=Neither disagree nor agree, or 3=Agree.

		Disagree	**Neither disagree nor**	**Agree**
B5.1	Installation costs	1	2	3
B5.2	Availability of space/ land	1	2	3
B5.3	Availability of plants/ seed	1	2	3
B5.4	Availability of/ access to clean water	1	2	3
B5.5	Cost of plants/ seed	1	2	3
B5.6	Maintenance costs related to pests and diseases	1	2	3
B5.7	Maintenance costs relating to watering crops	1	2	3
B5.8	Theft and security	1	2	3
B5.9	Contamination	1	2	3
B5.10	Cost of fertilisers	1	2	3
B5.11	Protection from the sun	1	2	3

B5.12	Other (please specify)……..	1	2	3

B6. If no to B1.1,

		No	Yes
B6.1	Do you eat vegetables?	0	1
B6.2	Do you buy vegetables from a shop?	0	1

SECTION C: Traditional African Vegetables

		No	Yes
C1.1	Do you eat vegetables?	0	1

C1.2 If yes, where do you get your vegetables?

Informal shop	1
Shop	2
Other (please specify)	3

C2. Do you prefer to eat;

		No	Yes
C2.1	Traditional African vegetables such as Amaranth, Kale, pumpkin, nightshade and Gushe	0	1
C2.2	Mainstream vegetables such as lettuce, cabbage and spinach	0	1

C3. If yes to C2.1, why do you prefer traditional African vegetables?

		No	Yes
C3.1	Taste	0	1
C3.2	Availability and cost	0	1
C3.3	Easy-to-use recipes and preparation	0	1
C3.4	Medicinal/ nutritional value	0	1
C3.5	Childhood memories	0	1
C3.6	Culture/ tradition	0	1
C3.7	Other (specify)………..	0	1

C4. If no to C2.1, why don't you prefer traditional African vegetables?

		No	Yes
C4.1	Taste	0	1
C4.2	Availability and cost	0	1
C4.3	No/ limited recipes	0	1
C4.4	Viewed as old fashioned/ poverty crop	0	1

C4.5	Other (Specify)………..	0	1

C5. If yes to C2.1, what traditional African vegetables do you eat?

Specify………….
Specify………….
Specify………….
Specify………….
Specify………….

C6. Why do you eat these vegetables in C5?

		No	**Yes**
C6.1	Taste	0	1
C6.2	Availability and cost	0	1
C6.3	Easy-to-use recipes and preparation	0	1
C6.4	Medicinal/ nutritional value	0	1
C6.5	Childhood memories	0	1
C6.6	Culture/ tradition	0	1
C6.7	Other (specify)………..	0	1

Thank you for taking the time to complete this survey.

Annexure 1 (b)

Informed consent form (Form for research participant's permission)

1. Project information
1.1 Title of the research project:
Analysing the barriers that exist in informal urban communities for applying/ using household-scale food production in the City of Tshwane
1.2 Researcher details:
Mr James Seeliger
Department of Architecture (University of Pretoria)
Email: u04506962@tuks.co.za
Tel: 076 081 2344
1.3 Research study description
i. Project and project objectives:
This project aims to determine the potential applications of edible living wall systems (LWSs) with traditional African vegetables (TAV) for household food production in informal settlements in Gauteng. The research objectives are to understand the community's perceptions and utilisation of vertical food production and TAV. A better understanding of social perceptions and factors hampering local communities using LWSs and TAV is necessary. The capturing of these perceptions and factors will guide future designs considering edible green infrastructure such as LWSs and TAV in informal urban communities.
ii. Participants will be required to:
View photos of LWSs and respond about their preferences, applications, needs and perceptions of food production of leafy vegetables in living walls.
iii. The risks to participants:
No psychological, physical, social, economic, or environmental risks are foreseen. The research entails collating and analysing community perceptions on growing vertical edible gardens and consumption of leafy vegetables and traditional African vegetables.
2. Informed consent
2.1 I, *(name of participant)* ________________________________, hereby voluntarily grant my permission for participation in the project as explained to me by *Mr James Seeliger*.
2.2 The nature, objective, possible safety and health implications have been explained to me, and I understand them.
2.3 I understand my right to choose whether to participate in the project and that the information furnished will be handled confidentially. I am aware that the investigation results may be used for publication.
2.4 Upon signing this form, the participant will be provided with a copy.
Signed: ________________________ Date: ______________
Witness: ________________________ Date: ______________
Researcher: ________________________ Date: ______________

Annexure 1 (c) – Community Consent Letter

Dear Sir/Madam,

I am a researcher in the Department of Architecture, University of Pretoria.
My research titled ***Analysing the barriers in informal urban communities for applying/ using household-scale food production in the City of Tshwane*** investigates the community's perceptions and utilisation of vertical food production and vegetables, specifically traditional African vegetables. The study aims to determine the potential applications of edible living wall systems (LWSs) with traditional African vegetables (TAV) for household food production in informal settlements in Gauteng.

This questionnaire aims to understand social perceptions and factors hampering local communities using living walls for urban food production in informal communities.
Your community were chosen as a respondent because you are an informal community in the City of Tshwane.

Your participation is voluntary, and you can withdraw at any time without penalty. Your privacy will be protected throughout the survey, and your participation will remain confidential. I do not wish to analyse data individually; all data will be transferred to a computer program to analyse the entire group. This means that you are assured of anonymity.
If you agree to participate, please complete the survey that follows this cover letter. By completing the survey, you indicate that you voluntarily participate in this research. It should take about 20 minutes of your time at the most. If you have any concerns, don't hesitate to contact me with the detail provided below.

Mr James Seeliger
Email: u04506962@tuks.co.za
Phone: 076 081 2344

By selecting the "Yes" option, I hereby voluntarily grant my permission for participation in this anonymous survey. The nature and the objective of this research have been explained to me, and I understand it.

I understand my right to choose whether to participate in the research project and that the information provided will be handled confidentially.

I am aware that the survey results may be used for academic publication.

□ Yes

□ No

Annexure 2

Correlations

Descriptive Statistics

	Mean	Std. Deviation	N
A1 Gender	1.62	.490	50
1 Gushe	.64	.485	50
2 Morogo	.46	.503	50
3 Pigweed	.52	.505	50
4 Spiderplant	.56	.501	50
5 Cowpea	.32	.471	50
6 Kale	.14	.351	50
7 Traditional Pumpkin	.56	1.053	50
8 Bitter Melon	.12	.328	50
9 Cabbage	.28	.454	50
10 Tomatoes	.20	.404	50
11 Onion	.20	.404	50
12 Covo	.30	.463	50
13 Rape	.22	.422	49
14 Spinach	.40	.496	47
15 Tsunga	.06	.240	50
16 Lettuce	.04	.198	50
17 Maize	.06	.240	50
18 Sweet potatoe	.02	.141	50
19 Carrot	.12	.328	50
20 Beans	.04	.198	50
21 Soya	.02	.141	50
22 Wheat	.02	.141	50
23 Okra	.02	.141	50
24 Beet root	.02	.141	50

Correlations

		A1 Gender	1 Gushe	2 Morogo	3 Pigweed	4 Spiderplant	5 Cowpea	6 Kale	7 Traditional Pumpkin	8 Bitter Melon	9 Cabbage	10 Tomatoes	11 Onion	12 Covo	13 Rape	14 Spinach
A1 Gender	Pearson Correlation	1	.271	.061	.320*	.053	.272	-.159	.025	-.345*	-.246	-.227	.082	-.027	-.174	-.154
	Sig. (2-tailed)		.057	.673	.023	.714	.056	.270	.862	.014	.085	.114	.569	.852	.231	.302
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	49	47
1 Gushe	Pearson Correlation	.271	1	.274	.197	.259	.336*	-.298*	-.197	.021	.004	-.042	-.042	.218	-.019	-.232
	Sig. (2-tailed)	.057		.054	.171	.070	.017	.036	.171	.888	.980	.774	.774	.128	.898	.117
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	49	47
2 Morogo	Pearson Correlation	.061	.274	1	.324*	.091	.141	-.257	-.226	.030	-.129	.241	.040	.009	-.092	.045
	Sig. (2-tailed)	.673	.054		.021	.532	.328	.072	.114	.838	.373	.092	.782	.952	.528	.766
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	49	47
3 Pigweed	Pearson Correlation	.320*	.197	.324*	1	.439**	.487**	-.305*	-.252	-.261	-.382**	-.220	-.020	-.245	-.180	-.234
	Sig. (2-tailed)	.023	.171	.021		.001	<,001	.032	.078	.067	.006	.124	.890	.087	.216	.113
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	49	47
4 Spiderplant	Pearson Correlation	.053	.259	.091	.439**	1	.263	-.339*	.012	-.169	-.075	-.161	-.161	.053	-.028	-.256
	Sig. (2-tailed)	.714	.070	.532	.001		.065	.016	.932	.242	.603	.264	.264	.716	.847	.083

	N	50	50	50	50	50	50	50	50	50	50	50	50	50	49	47
5 Cowpea	Pearson Correlation	.272	.336*	.141	.487**	.263	1	-.153	-.245	.011	-.237	-.236	-.021	-.168	-.166	-.285
	Sig. (2-tailed)	.056	.017	.328	<,001	.065		.288	.086	.942	.098	.099	.883	.242	.254	.052
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	49	47
6 Kale	Pearson Correlation	-.159	-.298*	-.257	-.305*	-.339*	-.153	1	.004	.206	-.123	.086	.231	-.013	.060	.205
	Sig. (2-tailed)	.270	.036	.072	.032	.016	.288		.976	.152	.394	.550	.107	.931	.683	.168
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	49	47
7 Traditional Pumpkin	Pearson Correlation	.025	-.197	-.226	-.252	.012	-.245	.004	1	-.080	-.036	.019	.019	.318*	-.049	-.094
	Sig. (2-tailed)	.862	.171	.114	.078	.932	.086	.976		.579	.805	.895	.895	.024	.736	.528
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	49	47
8 Bitter Melon	Pearson Correlation	-.345*	.021	.030	-.261	-.169	.011	.206	-.080	1	.181	.585**	.123	.027	-.052	.138
	Sig. (2-tailed)	.014	.888	.838	.067	.242	.942	.152	.579		.209	<,001	.394	.853	.724	.356
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	49	47
9 Cabbage	Pearson Correlation	-.246	.004	-.129	-.382**	-.075	-.237	-.123	-.036	.181	1	.245	.022	.175	-.015	.032
	Sig. (2-tailed)	.085	.980	.373	.006	.603	.098	.394	.805	.209		.086	.878	.224	.916	.829
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	49	47
10 Tomatoes	Pearson Correlation	-.227	-.042	.241	-.220	-.161	-.236	.086	.019	.585**	.245	1	.375**	.109	-.255	.260
	Sig. (2-tailed)	.114	.774	.092	.124	.264	.099	.550	.895	<,001	.086		.007	.451	.077	.077
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	49	47
11 Onion	Pearson Correlation	.082	-.042	.040	-.020	-.161	-.021	.231	.019	.123	.022	.375**	1	.109	-.129	.370*
	Sig. (2-tailed)	.569	.774	.782	.890	.264	.883	.107	.895	.394	.878	.007		.451	.377	.010
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	49	47
12 Covo	Pearson Correlation	-.027	.218	.009	-.245	.053	-.168	-.013	.318*	.027	.175	.109	.109	1	.526**	.087
	Sig. (2-tailed)	.852	.128	.952	.087	.716	.242	.931	.024	.853	.224	.451	.451		<,001	.561
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	49	47
13 Rape	Pearson Correlation	-.174	-.019	-.092	-.180	-.028	-.166	.060	-.049	-.052	-.015	-.255	-.129	.526**	1	.281
	Sig. (2-tailed)	.231	.898	.528	.216	.847	.254	.683	.736	.724	.916	.077	.377	<,001		.058
	N	49	49	49	49	49	49	49	49	49	49	49	49	49	49	46
14 Spinach	Pearson Correlation	-.154	-.232	.045	-.234	-.256	-.285	.205	-.094	.138	.032	.260	.370*	.087	.281	1
	Sig. (2-tailed)	.302	.117	.766	.113	.083	.052	.168	.528	.356	.829	.077	.010	.561	.058	
	N	47	47	47	47	47	47	47	47	47	47	47	47	47	46	47
15 Tsunga	Pearson Correlation	.198	.014	-.064	.243	.054	.007	.141	-.055	.166	-.158	-.126	.084	.202	.271	.140
	Sig. (2-tailed)	.169	.923	.658	.089	.708	.960	.330	.705	.250	.275	.382	.561	.159	.060	.349
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	49	47
16 Lettuce	Pearson Correlation	-.261	-.060	.016	-.008	-.230	-.140	-.082	.086	-.075	.100	-.102	-.102	.089	.383**	-.174

	Sig. (2-tailed)	.067	.681	.910	.955	.108	.332	.570	.552	.603	.490	.481	.481	.538	.007	.243
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	49	47
17 Maize	Pearson Correlation	-.323*	-.161	-.064	-.263	-.115	.007	.383**	-.055	.425**	.218	.295*	.084	-.165	-.137	.041
	Sig. (2-tailed)	.022	.263	.658	.065	.425	.960	.006	.705	.002	.129	.038	.561	.251	.346	.784
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	49	47
18 Sweet potatoe	Pearson Correlation	.112	.107	.155	.137	.127	.208	-.058	-.077	-.053	.229	-.071	.286*	.218	-.078	-.121
	Sig. (2-tailed)	.439	.459	.283	.342	.381	.147	.691	.596	.716	.110	.622	.044	.128	.596	.416
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	49	47
19 Carrot	Pearson Correlation	.036	.021	.030	-.261	-.293*	-.121	.028	.038	.053	.318*	.123	.431**	.161	-.052	.205
	Sig. (2-tailed)	.807	.888	.838	.067	.039	.401	.845	.794	.715	.024	.394	.002	.264	.724	.168
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	49	47
20 Beans	Pearson Correlation	.160	-.060	-.188	-.008	-.025	.079	-.082	-.012	-.075	.100	-.102	-.102	-.134	-.111	.041
	Sig. (2-tailed)	.268	.681	.190	.955	.865	.587	.570	.935	.603	.490	.481	.481	.355	.448	.784
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	49	47
21 Soya	Pearson Correlation	-.182	.107	-.132	-.149	.127	-.098	-.058	.060	-.053	.229	-.071	-.071	-.094	-.078	-.121
	Sig. (2-tailed)	.205	.459	.361	.303	.381	.498	.691	.677	.716	.110	.622	.622	.518	.596	.416
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	49	47
22 Wheat	Pearson Correlation	-.182	.107	-.132	-.149	.127	-.098	-.058	.060	-.053	.229	-.071	-.071	-.094	-.078	-.121
	Sig. (2-tailed)	.205	.459	.361	.303	.381	.498	.691	.677	.716	.110	.622	.622	.518	.596	.416
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	49	47
23 Okra	Pearson Correlation	-.182	-.190	-.132	.137	-.161	-.098	-.058	.060	-.053	.229	-.071	-.071	-.094	.268	-.121
	Sig. (2-tailed)	.205	.185	.361	.342	.264	.498	.691	.677	.716	.110	.622	.622	.518	.062	.416
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	49	47
24 Beet root	Pearson Correlation	.112	.107	.155	-.149	-.161	-.098	-.058	.060	-.053	.229	.286*	-.071	.218	-.078	-.121
	Sig. (2-tailed)	.439	.459	.283	.303	.264	.498	.691	.677	.716	.110	.044	.622	.128	.596	.416
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	49	47

Correlations

		15 Tsunga	16 Lettuce	17 Maize	18 Sweet potatoe	19 Carrot	20 Beans	21 Soya	22 Wheat	23 Okra	24 Beet root
A1 Gender	Pearson Correlation	.198	-.261	-.323*	.112	.036	.160	-.182	-.182	-.182	.112
	Sig. (2-tailed)	.169	.067	.022	.439	.807	.268	.205	.205	.205	.439
	N	50	50	50	50	50	50	50	50	50	50
1 Gushe	Pearson Correlation	.014	-.060	-.161	.107	.021	-.060	.107	.107	-.190	.107
	Sig. (2-tailed)	.923	.681	.263	.459	.888	.681	.459	.459	.185	.459
	N	50	50	50	50	50	50	50	50	50	50
2 Morogo	Pearson Correlation	-.064	.016	-.064	.155	.030	-.188	-.132	-.132	-.132	.155
	Sig. (2-tailed)	.658	.910	.658	.283	.838	.190	.361	.361	.361	.283
	N	50	50	50	50	50	50	50	50	50	50

3 Pigweed	Pearson Correlation	.243	-.008	-.263	.137	-.261	-.008	-.149	-.149	.137	-.149
	Sig. (2-tailed)	.089	.955	.065	.342	.067	.955	.303	.303	.342	.303
	N	50	50	50	50	50	50	50	50	50	50
4 Spiderplant	Pearson Correlation	.054	-.230	-.115	.127	-.293*	-.025	.127	.127	-.161	-.161
	Sig. (2-tailed)	.708	.108	.425	.381	.039	.865	.381	.381	.264	.264
	N	50	50	50	50	50	50	50	50	50	50
5 Cowpea	Pearson Correlation	.007	-.140	.007	.208	-.121	.079	-.098	-.098	-.098	-.098
	Sig. (2-tailed)	.960	.332	.960	.147	.401	.587	.498	.498	.498	.498
	N	50	50	50	50	50	50	50	50	50	50
6 Kale	Pearson Correlation	.141	-.082	.383**	-.058	.028	-.082	-.058	-.058	-.058	-.058
	Sig. (2-tailed)	.330	.570	.006	.691	.845	.570	.691	.691	.691	.691
	N	50	50	50	50	50	50	50	50	50	50
7 Traditional Pumpkin	Pearson Correlation	-.055	.086	-.055	-.077	.038	-.012	.060	.060	.060	.060
	Sig. (2-tailed)	.705	.552	.705	.596	.794	.935	.677	.677	.677	.677
	N	50	50	50	50	50	50	50	50	50	50
8 Bitter Melon	Pearson Correlation	.166	-.075	.425**	-.053	.053	-.075	-.053	-.053	-.053	-.053
	Sig. (2-tailed)	.250	.603	.002	.716	.715	.603	.716	.716	.716	.716
	N	50	50	50	50	50	50	50	50	50	50
9 Cabbage	Pearson Correlation	-.158	.100	.218	.229	.318*	.100	.229	.229	.229	.229
	Sig. (2-tailed)	.275	.490	.129	.110	.024	.490	.110	.110	.110	.110
	N	50	50	50	50	50	50	50	50	50	50
10 Tomatoes	Pearson Correlation	-.126	-.102	.295*	-.071	.123	-.102	-.071	-.071	-.071	.286*
	Sig. (2-tailed)	.382	.481	.038	.622	.394	.481	.622	.622	.622	.044
	N	50	50	50	50	50	50	50	50	50	50
11 Onion	Pearson Correlation	.084	-.102	.084	.286*	.431**	-.102	-.071	-.071	-.071	-.071
	Sig. (2-tailed)	.561	.481	.561	.044	.002	.481	.622	.622	.622	.622
	N	50	50	50	50	50	50	50	50	50	50
12 Covo	Pearson Correlation	.202	.089	-.165	.218	.161	-.134	-.094	-.094	-.094	.218
	Sig. (2-tailed)	.159	.538	.251	.128	.264	.355	.518	.518	.518	.128
	N	50	50	50	50	50	50	50	50	50	50
13 Rape	Pearson Correlation	.271	.383**	-.137	-.078	-.052	-.111	-.078	-.078	.268	-.078
	Sig. (2-tailed)	.060	.007	.346	.596	.724	.448	.596	.596	.062	.596
	N	49	49	49	49	49	49	49	49	49	49
14 Spinach	Pearson Correlation	.140	-.174	.041	-.121	.205	.041	-.121	-.121	-.121	-.121
	Sig. (2-tailed)	.349	.243	.784	.416	.168	.784	.416	.416	.416	.416
	N	47	47	47	47	47	47	47	47	47	47
15 Tsunga	Pearson Correlation	1	-.052	-.064	-.036	-.093	-.052	-.036	-.036	-.036	-.036
	Sig. (2-tailed)		.722	.660	.803	.519	.722	.803	.803	.803	.803
	N	50	50	50	50	50	50	50	50	50	50
16 Lettuce	Pearson Correlation	-.052	1	-.052	-.029	-.075	-.042	-.029	-.029	.700**	-.029
	Sig. (2-tailed)	.722		.722	.841	.603	.774	.841	.841	<,001	.841
	N	50	50	50	50	50	50	50	50	50	50
17 Maize	Pearson Correlation	-.064	-.052	1	-.036	-.093	-.052	.565**	.565**	-.036	-.036
	Sig. (2-tailed)	.660	.722		.803	.519	.722	<,001	<,001	.803	.803
	N	50	50	50	50	50	50	50	50	50	50
18 Sweet potatoe	Pearson Correlation	-.036	-.029	-.036	1	.387**	-.029	-.020	-.020	-.020	-.020
	Sig. (2-tailed)	.803	.841	.803		.006	.841	.888	.888	.888	.888
	N	50	50	50	50	50	50	50	50	50	50

19 Carrot	Pearson Correlation	-.093	-.075	-.093	.387**	1	.239	-.053	-.053	-.053	.387**
	Sig. (2-tailed)	.519	.603	.519	.006		.095	.716	.716	.716	.006
	N	50	50	50	50	50	50	50	50	50	50
20 Beans	Pearson Correlation	-.052	-.042	-.052	-.029	.239	1	-.029	-.029	-.029	-.029
	Sig. (2-tailed)	.722	.774	.722	.841	.095		.841	.841	.841	.841
	N	50	50	50	50	50	50	50	50	50	50
21 Soya	Pearson Correlation	-.036	-.029	.565**	-.020	-.053	-.029	1	1.000**	-.020	-.020
	Sig. (2-tailed)	.803	.841	<,001	.888	.716	.841		.000	.888	.888
	N	50	50	50	50	50	50	50	50	50	50
22 Wheat	Pearson Correlation	-.036	-.029	.565**	-.020	-.053	-.029	1.000**	1	-.020	-.020
	Sig. (2-tailed)	.803	.841	<,001	.888	.716	.841	.000		.888	.888
	N	50	50	50	50	50	50	50	50	50	50
23 Okra	Pearson Correlation	-.036	.700**	-.036	-.020	-.053	-.029	-.020	-.020	1	-.020
	Sig. (2-tailed)	.803	<,001	.803	.888	.716	.841	.888	.888		.888
	N	50	50	50	50	50	50	50	50	50	50
24 Beet root	Pearson Correlation	-.036	-.029	-.036	-.020	.387**	-.029	-.020	-.020	-.020	1
	Sig. (2-tailed)	.803	.841	.803	.888	.006	.841	.888	.888	.888	
	N	50	50	50	50	50	50	50	50	50	50

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

Descriptive Statistics

	Mean	Std. Deviation	N
A2 Age	2.82	.962	50
A3 Nationality	1.86	.351	50
A4 Resided in SA	10.54	26.378	50
A5 Profession	3.44	3.183	50
A6 Income	52.46	48.937	50
1 Gushe	.64	.485	50
2 Morogo	.46	.503	50
3 Pigweed	.52	.505	50
4 Spiderplant	.56	.501	50
5 Cowpea	.32	.471	50
6 Kale	.14	.351	50
7 Traditional Pumpkin	.56	1.053	50
8 Bitter Melon	.12	.328	50
9 Cabbage	.28	.454	50
10 Tomatoes	.20	.404	50
11 Onion	.20	.404	50
12 Covo	.30	.463	50
13 Rape	.22	.422	49

14 Spinach	.40	.496	47
15 Tsunga	.06	.240	50
16 Lettuce	.04	.198	50
17 Maize	.06	.240	50
18 Sweet potatoe	.02	.141	50
19 Carrot	.12	.328	50
20 Beans	.04	.198	50
21 Soya	.02	.141	50
22 Wheat	.02	.141	50
23 Okra	.02	.141	50
24 Beet root	.02	.141	50

Correlations

		A2 Age	A3 Nationality	A4 Resided in SA	A5 Profession	A6 Income	1 Gushe	2 Morogo	3 Pigweed	4 Spiderplant	5 Cowpea	6 Kale	7 Traditional Pumpkin	8 Bitter Melon	9 Cabbage	10 Tomatoes	11 Onion	12 Covo
A2 Age	Pearson Correlation	1	.045	-.151	.486**	-.345*	-.360*	.006	.071	-.041	-.050	.016	.081	-.124	-.022	-.063	.094	-.060
	Sig. (2-tailed)		.758	.294	<,001	.014	.010	.968	.626	.780	.728	.914	.574	.391	.877	.664	.514	.681
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
A3 Nationality	Pearson Correlation	.045	1	-.738**	-.053	-.045	.058	-.090	.189	-.009	.153	-.003	.106	-.206	-.134	-.231	-.375**	.264
	Sig. (2-tailed)	.758		<,001	.713	.757	.691	.533	.188	.949	.288	.982	.463	.152	.355	.107	.007	.064
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
A4 Resided in SA	Pearson Correlation	-.151	-.738**	1	-.026	.123	-.103	.035	-.156	.108	-.208	-.117	-.161	.115	.141	.223	.047	-.201
	Sig. (2-tailed)	.294	<,001		.858	.396	.478	.811	.278	.456	.147	.420	.264	.427	.330	.119	.745	.162
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
A5 Profession	Pearson Correlation	.486**	-.053	-.026	1	-.343*	-.279*	-.142	-.018	.047	.149	.127	.150	-.052	-.059	-.070	.025	-.188
	Sig. (2-tailed)	<,001	.713	.858		.015	.050	.327	.900	.746	.301	.381	.297	.722	.685	.630	.861	.190
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
A6 Income	Pearson Correlation	-.345*	-.045	.123	-.343*	1	.193	.163	.196	.362**	.141	-.074	.016	.111	-.023	.082	-.019	.103
	Sig. (2-tailed)	.014	.757	.396	.015		.180	.259	.173	.010	.328	.609	.911	.444	.872	.572	.895	.477
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
1 Gushe	Pearson Correlation	-.360*	.058	-.103	-.279*	.193	1	.274	.197	.259	.336*	-.298*	-.197	.021	.004	-.042	-.042	.218
	Sig. (2-tailed)	.010	.691	.478	.050	.180		.054	.171	.070	.017	.036	.171	.888	.980	.774	.774	.128
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
2 Morogo	Pearson Correlation	.006	-.090	.035	-.142	.163	.274	1	.324*	.091	.141	-.257	-.226	.030	-.129	.241	.040	.009
	Sig. (2-tailed)	.968	.533	.811	.327	.259	.054		.021	.532	.328	.072	.114	.838	.373	.092	.782	.952
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
3 Pigweed	Pearson Correlation	.071	.189	-.156	-.018	.196	.197	.324*	1	.439**	.487**	-.305*	-.252	-.261	-.382**	-.220	-.020	-.245
	Sig. (2-tailed)	.626	.188	.278	.900	.173	.171	.021		.001	<,001	.032	.078	.067	.006	.124	.890	.087
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
4 Spiderplant	Pearson Correlation	-.041	-.009	.108	.047	.362**	.259	.091	.439**	1	.263	-.339*	.012	-.169	-.075	-.161	-.161	.053
	Sig. (2-tailed)	.780	.949	.456	.746	.010	.070	.532	.001		.065	.016	.932	.242	.603	.264	.264	.716
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
5 Cowpea	Pearson Correlation	-.050	.153	-.208	.149	.141	.336*	.141	.487**	.263	1	-.153	-.245	.011	-.237	-.236	-.021	-.168

	Sig. (2-tailed)	.728	.288	.147	.301	.328	.017	.328	<,001	.065		.288	.086	.942	.098	.099	.883	.242
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
6 Kale	Pearson Correlation	.016	-.003	-.117	.127	-.074	-.298*	-.257	-.305*	-.339*	-.153	1	.004	.206	-.123	.086	.231	-.013
	Sig. (2-tailed)	.914	.982	.420	.381	.609	.036	.072	.032	.016	.288		.976	.152	.394	.550	.107	.931
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
7 Traditional Pumpkin	Pearson Correlation	.081	.106	-.161	.150	.016	-.197	-.226	-.252	.012	-.245	.004	1	-.080	-.036	.019	.019	.318*
	Sig. (2-tailed)	.574	.463	.264	.297	.911	.171	.114	.078	.932	.086	.976		.579	.805	.895	.895	.024
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
8 Bitter Melon	Pearson Correlation	-.124	-.206	.115	-.052	.111	.021	.030	-.261	-.169	.011	.206	-.080	1	.181	.585**	.123	.027
	Sig. (2-tailed)	.391	.152	.427	.722	.444	.888	.838	.067	.242	.942	.152	.579		.209	<,001	.394	.853
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
9 Cabbage	Pearson Correlation	-.022	-.134	.141	-.059	-.023	.004	-.129	-.382**	-.075	-.237	-.123	-.036	.181	1	.245	.022	.175
	Sig. (2-tailed)	.877	.355	.330	.685	.872	.980	.373	.006	.603	.098	.394	.805	.209		.086	.878	.224
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
10 Tomatoes	Pearson Correlation	-.063	-.231	.223	-.070	.082	-.042	.241	-.220	-.161	-.236	.086	.019	.585**	.245	1	.375**	.109
	Sig. (2-tailed)	.664	.107	.119	.630	.572	.774	.092	.124	.264	.099	.550	.895	<,001	.086		.007	.451
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
11 Onion	Pearson Correlation	.094	-.375**	.047	.025	-.019	-.042	.040	-.020	-.161	-.021	.231	.019	.123	.022	.375**	1	.109
	Sig. (2-tailed)	.514	.007	.745	.861	.895	.774	.782	.890	.264	.883	.107	.895	.394	.878	.007		.451
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
12 Covo	Pearson Correlation	-.060	.264	-.201	-.188	.103	.218	.009	-.245	.053	-.168	-.013	.318*	.027	.175	.109	.109	1
	Sig. (2-tailed)	.681	.064	.162	.190	.477	.128	.952	.087	.716	.242	.931	.024	.853	.224	.451	.451	
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
13 Rape	Pearson Correlation	-.050	.080	.016	-.021	-.256	-.019	-.092	-.180	-.028	-.166	.060	-.049	-.052	-.015	-.255	-.129	.526**
	Sig. (2-tailed)	.734	.585	.916	.884	.076	.898	.528	.216	.847	.254	.683	.736	.724	.916	.077	.377	<,001
	N	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49
14 Spinach	Pearson Correlation	-.044	-.386**	.231	.069	-.144	-.232	.045	-.234	-.256	-.285	.205	-.094	.138	.032	.260	.370*	.087
	Sig. (2-tailed)	.769	.007	.118	.647	.334	.117	.766	.113	.083	.052	.168	.528	.356	.829	.077	.010	.561
	N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
15 Tsunga	Pearson Correlation	-.129	.102	-.073	-.196	.072	.014	-.064	.243	.054	.007	.141	-.055	.166	-.158	-.126	.084	.202
	Sig. (2-tailed)	.372	.481	.615	.173	.618	.923	.658	.089	.708	.960	.330	.705	.250	.275	.382	.561	.159
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
16 Lettuce	Pearson Correlation	.146	.082	-.063	.069	-.215	-.060	.016	-.008	-.230	-.140	-.082	.086	-.075	.100	-.102	-.102	.089
	Sig. (2-tailed)	.313	.570	.665	.636	.134	.681	.910	.955	.108	.332	.570	.552	.603	.490	.481	.481	.538
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
17 Maize	Pearson Correlation	.048	.102	-.070	.125	-.089	-.161	-.064	-.263	-.115	.007	.383**	-.055	.425**	.218	.295*	.084	-.165
	Sig. (2-tailed)	.742	.481	.630	.387	.537	.263	.658	.065	.425	.960	.006	.705	.002	.129	.038	.561	.251
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
18 Sweet potatoe	Pearson Correlation	.327*	.058	-.036	.161	.137	.107	.155	.137	.127	.208	-.058	-.077	-.053	.229	-.071	.286*	.218
	Sig. (2-tailed)	.020	.691	.805	.263	.342	.459	.283	.342	.381	.147	.691	.596	.716	.110	.622	.044	.128

	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
19 Carrot	Pearson Correlation	.199	-.383**	.124	.066	-.138	.021	.030	-.261	-.293*	-.121	.028	.038	.053	.318*	.123	.431**	.161
	Sig. (2-tailed)	.166	.006	.390	.651	.339	.888	.838	.067	.039	.401	.845	.794	.715	.024	.394	.002	.264
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
20 Beans	Pearson Correlation	.253	-.212	.316*	.101	-.010	-.060	-.188	-.008	-.025	.079	-.082	-.012	-.075	.100	-.102	-.102	-.134
	Sig. (2-tailed)	.076	.140	.025	.485	.943	.681	.190	.955	.865	.587	.570	.935	.603	.490	.481	.481	.355
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
21 Soya	Pearson Correlation	.027	.058	-.041	.071	-.143	.107	-.132	-.149	.127	-.098	-.058	.060	-.053	.229	-.071	-.071	-.094
	Sig. (2-tailed)	.852	.691	.776	.625	.322	.459	.361	.303	.381	.498	.691	.677	.716	.110	.622	.622	.518
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
22 Wheat	Pearson Correlation	.027	.058	-.041	.071	-.143	.107	-.132	-.149	.127	-.098	-.058	.060	-.053	.229	-.071	-.071	-.094
	Sig. (2-tailed)	.852	.691	.776	.625	.322	.459	.361	.303	.381	.498	.691	.677	.716	.110	.622	.622	.518
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
23 Okra	Pearson Correlation	.027	.058	-.047	.071	-.152	-.190	-.132	.137	-.161	-.098	-.058	.060	-.053	.229	-.071	-.071	-.094
	Sig. (2-tailed)	.852	.691	.747	.625	.293	.185	.361	.342	.264	.498	.691	.677	.716	.110	.622	.622	.518
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
24 Beet root	Pearson Correlation	-.123	.058	-.041	-.111	-.152	.107	.155	-.149	-.161	-.098	-.058	.060	-.053	.229	.286*	-.071	.218
	Sig. (2-tailed)	.395	.691	.776	.444	.293	.459	.283	.303	.264	.498	.691	.677	.716	.110	.044	.622	.128
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50

Correlations

		13 Rape	14 Spinach	15 Tsunga	16 Lettuce	17 Maize	18 Sweet potatoe	19 Carrot	20 Beans	21 Soya	22 Wheat	23 Okra	24 Beet root
A2 Age	Pearson Correlation	-.050	-.044	-.129	.146	.048	.327*	.199	.253	.027	.027	.027	-.123
	Sig. (2-tailed)	.734	.769	.372	.313	.742	.020	.166	.076	.852	.852	.852	.395
	N	49	47	50	50	50	50	50	50	50	50	50	50
A3 Nationality	Pearson Correlation	.080	-.386**	.102	.082	.102	.058	-.383**	-.212	.058	.058	.058	.058
	Sig. (2-tailed)	.585	.007	.481	.570	.481	.691	.006	.140	.691	.691	.691	.691
	N	49	47	50	50	50	50	50	50	50	50	50	50
A4 Resided in SA	Pearson Correlation	.016	.231	-.073	-.063	-.070	-.036	.124	.316*	-.041	-.041	-.047	-.041
	Sig. (2-tailed)	.916	.118	.615	.665	.630	.805	.390	.025	.776	.776	.747	.776
	N	49	47	50	50	50	50	50	50	50	50	50	50
A5 Profession	Pearson Correlation	-.021	.069	-.196	.069	.125	.161	.066	.101	.071	.071	.071	-.111
	Sig. (2-tailed)	.884	.647	.173	.636	.387	.263	.651	.485	.625	.625	.625	.444
	N	49	47	50	50	50	50	50	50	50	50	50	50
A6 Income	Pearson Correlation	-.256	-.144	.072	-.215	-.089	.137	-.138	-.010	-.143	-.143	-.152	-.152
	Sig. (2-tailed)	.076	.334	.618	.134	.537	.342	.339	.943	.322	.322	.293	.293
	N	49	47	50	50	50	50	50	50	50	50	50	50
1 Gushe	Pearson Correlation	-.019	-.232	.014	-.060	-.161	.107	.021	-.060	.107	.107	-.190	.107
	Sig. (2-tailed)	.898	.117	.923	.681	.263	.459	.888	.681	.459	.459	.185	.459
	N	49	47	50	50	50	50	50	50	50	50	50	50
2 Morogo	Pearson Correlation	-.092	.045	-.064	.016	-.064	.155	.030	-.188	-.132	-.132	-.132	.155
	Sig. (2-tailed)	.528	.766	.658	.910	.658	.283	.838	.190	.361	.361	.361	.283
	N	49	47	50	50	50	50	50	50	50	50	50	50

3 Pigweed	Pearson Correlation	-.180	-.234	.243	-.008	-.263	.137	-.261	-.008	-.149	-.149	.137	-.149
	Sig. (2-tailed)	.216	.113	.089	.955	.065	.342	.067	.955	.303	.303	.342	.303
	N	49	47	50	50	50	50	50	50	50	50	50	50
4 Spiderplant	Pearson Correlation	-.028	-.256	.054	-.230	-.115	.127	-.293*	-.025	.127	.127	-.161	-.161
	Sig. (2-tailed)	.847	.083	.708	.108	.425	.381	.039	.865	.381	.381	.264	.264
	N	49	47	50	50	50	50	50	50	50	50	50	50
5 Cowpea	Pearson Correlation	-.166	-.285	.007	-.140	.007	.208	-.121	.079	-.098	-.098	-.098	-.098
	Sig. (2-tailed)	.254	.052	.960	.332	.960	.147	.401	.587	.498	.498	.498	.498
	N	49	47	50	50	50	50	50	50	50	50	50	50
6 Kale	Pearson Correlation	.060	.205	.141	-.082	.383**	-.058	.028	-.082	-.058	-.058	-.058	-.058
	Sig. (2-tailed)	.683	.168	.330	.570	.006	.691	.845	.570	.691	.691	.691	.691
	N	49	47	50	50	50	50	50	50	50	50	50	50
7 Traditional Pumpkin	Pearson Correlation	-.049	-.094	-.055	.086	-.055	-.077	.038	-.012	.060	.060	.060	.060
	Sig. (2-tailed)	.736	.528	.705	.552	.705	.596	.794	.935	.677	.677	.677	.677
	N	49	47	50	50	50	50	50	50	50	50	50	50
8 Bitter Melon	Pearson Correlation	-.052	.138	.166	-.075	.425**	-.053	.053	-.075	-.053	-.053	-.053	-.053
	Sig. (2-tailed)	.724	.356	.250	.603	.002	.716	.715	.603	.716	.716	.716	.716
	N	49	47	50	50	50	50	50	50	50	50	50	50
9 Cabbage	Pearson Correlation	-.015	.032	-.158	.100	.218	.229	.318*	.100	.229	.229	.229	.229
	Sig. (2-tailed)	.916	.829	.275	.490	.129	.110	.024	.490	.110	.110	.110	.110
	N	49	47	50	50	50	50	50	50	50	50	50	50
10 Tomatoes	Pearson Correlation	-.255	.260	-.126	-.102	.295*	-.071	.123	-.102	-.071	-.071	-.071	.286*
	Sig. (2-tailed)	.077	.077	.382	.481	.038	.622	.394	.481	.622	.622	.622	.044
	N	49	47	50	50	50	50	50	50	50	50	50	50
11 Onion	Pearson Correlation	-.129	.370*	.084	-.102	.084	.286*	.431**	-.102	-.071	-.071	-.071	-.071
	Sig. (2-tailed)	.377	.010	.561	.481	.561	.044	.002	.481	.622	.622	.622	.622
	N	49	47	50	50	50	50	50	50	50	50	50	50
12 Covo	Pearson Correlation	.526**	.087	.202	.089	-.165	.218	.161	-.134	-.094	-.094	-.094	.218
	Sig. (2-tailed)	<,001	.561	.159	.538	.251	.128	.264	.355	.518	.518	.518	.128
	N	49	47	50	50	50	50	50	50	50	50	50	50
13 Rape	Pearson Correlation	1	.281	.271	.383**	-.137	-.078	-.052	-.111	-.078	-.078	.268	-.078
	Sig. (2-tailed)		.058	.060	.007	.346	.596	.724	.448	.596	.596	.062	.596
	N	49	46	49	49	49	49	49	49	49	49	49	49
14 Spinach	Pearson Correlation	.281	1	.140	-.174	.041	-.121	.205	.041	-.121	-.121	-.121	-.121
	Sig. (2-tailed)	.058		.349	.243	.784	.416	.168	.784	.416	.416	.416	.416
	N	46	47	47	47	47	47	47	47	47	47	47	47
15 Tsunga	Pearson Correlation	.271	.140	1	-.052	-.064	-.036	-.093	-.052	-.036	-.036	-.036	-.036
	Sig. (2-tailed)	.060	.349		.722	.660	.803	.519	.722	.803	.803	.803	.803
	N	49	47	50	50	50	50	50	50	50	50	50	50
16 Lettuce	Pearson Correlation	.383**	-.174	-.052	1	-.052	-.029	-.075	-.042	-.029	-.029	.700**	-.029
	Sig. (2-tailed)	.007	.243	.722		.722	.841	.603	.774	.841	.841	<,001	.841
	N	49	47	50	50	50	50	50	50	50	50	50	50
17 Maize	Pearson Correlation	-.137	.041	-.064	-.052	1	-.036	-.093	-.052	.565**	.565**	-.036	-.036
	Sig. (2-tailed)	.346	.784	.660	.722		.803	.519	.722	<,001	<,001	.803	.803
	N	49	47	50	50	50	50	50	50	50	50	50	50
18 Sweet potatoe	Pearson Correlation	-.078	-.121	-.036	-.029	-.036	1	.387**	-.029	-.020	-.020	-.020	-.020
	Sig. (2-tailed)	.596	.416	.803	.841	.803		.006	.841	.888	.888	.888	.888

	N	49	47	50	50	50	50	50	50	50	50	50	50
19 Carrot	Pearson Correlation	-.052	.205	-.093	-.075	-.093	.387**	1	.239	-.053	-.053	-.053	.387**
	Sig. (2-tailed)	.724	.168	.519	.603	.519	.006		.095	.716	.716	.716	.006
	N	49	47	50	50	50	50	50	50	50	50	50	50
20 Beans	Pearson Correlation	-.111	.041	-.052	-.042	-.052	-.029	.239	1	-.029	-.029	-.029	-.029
	Sig. (2-tailed)	.448	.784	.722	.774	.722	.841	.095		.841	.841	.841	.841
	N	49	47	50	50	50	50	50	50	50	50	50	50
21 Soya	Pearson Correlation	-.078	-.121	-.036	-.029	.565**	-.020	-.053	-.029	1	1.000**	-.020	-.020
	Sig. (2-tailed)	.596	.416	.803	.841	<,001	.888	.716	.841		.000	.888	.888
	N	49	47	50	50	50	50	50	50	50	50	50	50
22 Wheat	Pearson Correlation	-.078	-.121	-.036	-.029	.565**	-.020	-.053	-.029	1.000**	1	-.020	-.020
	Sig. (2-tailed)	.596	.416	.803	.841	<,001	.888	.716	.841	.000		.888	.888
	N	49	47	50	50	50	50	50	50	50	50	50	50
23 Okra	Pearson Correlation	.268	-.121	-.036	.700**	-.036	-.020	-.053	-.029	-.020	-.020	1	-.020
	Sig. (2-tailed)	.062	.416	.803	<,001	.803	.888	.716	.841	.888	.888		.888
	N	49	47	50	50	50	50	50	50	50	50	50	50
24 Beet root	Pearson Correlation	-.078	-.121	-.036	-.029	-.036	-.020	.387**	-.029	-.020	-.020	-.020	1
	Sig. (2-tailed)	.596	.416	.803	.841	.803	.888	.006	.841	.888	.888	.888	
	N	49	47	50	50	50	50	50	50	50	50	50	50

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Correlations

Descriptive Statistics

	Mean	Std. Deviation	N
B4.1.1 Where did you grow veg garden	40.50	48.252	50
B4.1.2 When	56.78	48.126	50
B4.3.1 Own consumption	38.16	48.115	50
B4.3.2 Economic reasons	37.96	48.274	50
B4.3.3 Personal enjoyment	37.94	48.290	50
B4.3.4 Nutritionalpref	38.00	48.242	50
B4.3.5 Other	37.66	48.510	50
1 Gushe	.64	.485	50
2 Morogo	.46	.503	50
3 Pigweed	.52	.505	50
4 Spiderplant	.56	.501	50
5 Cowpea	.32	.471	50
6 Kale	.14	.351	50
7 Traditional Pumpkin	.56	1.053	50
8 Bitter Melon	.12	.328	50
9 Cabbage	.28	.454	50
10 Tomatoes	.20	.404	50

11 Onion	.20	.404	50
12 Covo	.30	.463	50
13 Rape	.22	.422	49
14 Spinach	.40	.496	47
15 Tsunga	.06	.240	50
16 Lettuce	.04	.198	50
17 Maize	.06	.240	50
18 Sweet potatoe	.02	.141	50
19 Carrot	.12	.328	50
20 Beans	.04	.198	50
21 Soya	.02	.141	50
22 Wheat	.02	.141	50
23 Okra	.02	.141	50
24 Beet root	.02	.141	50

Correlations

		B4.1.1 Where did you grow veg garden	B4.1.2 When	B4.3.1 Own consumption	B4.3.2 Economic reasons	B4.3.3 Personal enjoyment	B4.3.4 Nutritionalpref	B4.3.5 Other	1 Gushe	2 Morogo	3 Pigweed	4 Spider plant	5 Cowpea	6 Kale	7 Traditional Pumpkin	8 Bitter Melon	9 Cabbage	10 Tomatoes
B4.1.1 Where did you grow veg garden	Pearson Correlation	1	.725**	.958**	.959**	.958**	.958**	.959**	.015	.065	.214	.067	.140	-.212	-.283*	-.178	-.239	-.306*
	Sig. (2-tailed)		<,001	<,001	<,001	<,001	<,001	<,001	.919	.653	.136	.646	.332	.140	.046	.217	.095	.031
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
B4.1.2 When	Pearson Correlation	.725**	1	.691**	.693**	.691**	.691**	.693**	.092	.099	.362**	.270	.175	-.229	-.331*	-.168	-.342*	-.156
	Sig. (2-tailed)	<,001		<,001	<,001	<,001	<,001	<,001	.526	.492	.010	.058	.224	.109	.019	.245	.015	.279
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
B4.3.1 Own consumption	Pearson Correlation	.958**	.691**	1	1.000**	1.000**	1.000**	1.000**	.073	.104	.257	.113	.170	-.196	-.262	-.163	-.304*	-.289*
	Sig. (2-tailed)	<,001	<,001		<,001	<,001	<,001	<,001	.617	.473	.072	.435	.239	.172	.066	.259	.032	.042
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
B4.3.2 Economic reasons	Pearson Correlation	.959**	.693**	1.000**	1	1.000**	1.000**	1.000**	.073	.102	.256	.111	.167	-.196	-.263	-.161	-.301*	-.287*
	Sig. (2-tailed)	<,001	<,001	<,001		<,001	<,001	<,001	.616	.479	.073	.445	.245	.172	.065	.265	.033	.043
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
B4.3.3 Personal enjoyment	Pearson Correlation	.958**	.691**	1.000**	1.000**	1	1.000**	1.000**	.073	.104	.255	.111	.169	-.195	-.263	-.160	-.304*	-.287*
	Sig. (2-tailed)	<,001	<,001	<,001	<,001		<,001	<,001	.614	.474	.074	.443	.242	.175	.065	.266	.032	.043
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
B4.3.4 Nutritionalpref	Pearson Correlation	.958**	.691**	1.000**	1.000**	1.000**	1	1.000**	.073	.104	.257	.112	.169	-.197	-.263	-.162	-.303*	-.289*

	Sig. (2-tailed)	<,001	<,001	<,001	<,001	<,001		<,001	.613	.471	.072	.438	.241	.171	.065	.260	.032	.042
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
B4.3.5 Other	Pearson Correlation	.959**	.693**	1.000**	1.000**	1.000**	1.000**	1	.072	.104	.257	.113	.170	-.196	-.263	-.163	-.305*	-.289*
	Sig. (2-tailed)	<,001	<,001	<,001	<,001	<,001	<,001		.620	.471	.071	.435	.238	.172	.065	.259	.031	.042
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
1 Gushe	Pearson Correlation	.015	.092	.073	.073	.073	.073	.072	1	.274	.197	.259	.336*	-.298*	-.197	.021	.004	-.042
	Sig. (2-tailed)	.919	.526	.617	.616	.614	.613	.620		.054	.171	.070	.017	.036	.171	.888	.980	.774
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
2 Morogo	Pearson Correlation	.065	.099	.104	.102	.104	.104	.104	.274	1	.324*	.091	.141	-.257	-.226	.030	-.129	.241
	Sig. (2-tailed)	.653	.492	.473	.479	.474	.471	.471	.054		.021	.532	.328	.072	.114	.838	.373	.092
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
3 Pigweed	Pearson Correlation	.214	.362**	.257	.256	.255	.257	.257	.197	.324*	1	.439**	.487**	-.305*	-.252	-.261	-.382**	-.220
	Sig. (2-tailed)	.136	.010	.072	.073	.074	.072	.071	.171	.021		.001	<,001	.032	.078	.067	.006	.124
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
4 Spiderplant	Pearson Correlation	.067	.270	.113	.111	.111	.112	.113	.259	.091	.439**	1	.263	-.339*	.012	-.169	-.075	-.161
	Sig. (2-tailed)	.646	.058	.435	.445	.443	.438	.435	.070	.532	.001		.065	.016	.932	.242	.603	.264
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
5 Cowpea	Pearson Correlation	.140	.175	.170	.167	.169	.169	.170	.336*	.141	.487**	.263	1	-.153	-.245	.011	-.237	-.236
	Sig. (2-tailed)	.332	.224	.239	.245	.242	.241	.238	.017	.328	<,001	.065		.288	.086	.942	.098	.099
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
6 Kale	Pearson Correlation	-.212	-.229	-.196	-.196	-.195	-.197	-.196	-.298*	-.257	-.305*	-.339*	-.153	1	.004	.206	-.123	.086
	Sig. (2-tailed)	.140	.109	.172	.172	.175	.171	.172	.036	.072	.032	.016	.288		.976	.152	.394	.550
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
7 Traditional Pumpkin	Pearson Correlation	-.283*	-.331*	-.262	-.263	-.263	-.263	-.263	-.197	-.226	-.252	.012	-.245	.004	1	-.080	-.036	.019
	Sig. (2-tailed)	.046	.019	.066	.065	.065	.065	.065	.171	.114	.078	.932	.086	.976		.579	.805	.895
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
8 Bitter Melon	Pearson Correlation	-.178	-.168	-.163	-.161	-.160	-.162	-.163	.021	.030	-.261	-.169	.011	.206	-.080	1	.181	.585**
	Sig. (2-tailed)	.217	.245	.259	.265	.266	.260	.259	.888	.838	.067	.242	.942	.152	.579		.209	<,001
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
9 Cabbage	Pearson Correlation	-.239	-.342*	-.304*	-.301*	-.304*	-.303*	-.305*	.004	-.129	-.382**	-.075	-.237	-.123	-.036	.181	1	.245

	Sig. (2-tailed)	.095	.015	.032	.033	.032	.032	.031	.980	.373	.006	.603	.098	.394	.805	.209		.086
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
10 Tomatoes	Pearson Correlation	-.306*	-.156	-.289*	-.287*	-.287*	-.289*	-.289*	-.042	.241	-.220	-.161	-.236	.086	.019	.585**	.245	1
	Sig. (2-tailed)	.031	.279	.042	.043	.043	.042	.042	.774	.092	.124	.264	.099	.550	.895	<,001	.086	
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
11 Onion	Pearson Correlation	-.408**	-.161	-.392**	-.391**	-.390**	-.393**	-.391**	-.042	.040	-.020	-.161	-.021	.231	.019	.123	.022	.375**
	Sig. (2-tailed)	.003	.263	.005	.005	.005	.005	.005	.774	.782	.890	.264	.883	.107	.895	.394	.878	.007
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
12 Covo	Pearson Correlation	-.536**	-.294*	-.513**	-.512**	-.514**	-.514**	-.512**	.218	.009	-.245	.053	-.168	-.013	.318*	.027	.175	.109
	Sig. (2-tailed)	<,001	.038	<,001	<,001	<,001	<,001	<,001	.128	.952	.087	.716	.242	.931	.024	.853	.224	.451
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
13 Rape	Pearson Correlation	-.346*	-.203	-.328*	-.328*	-.330*	-.327*	-.327*	-.019	-.092	-.180	-.028	-.166	.060	-.049	-.052	-.015	-.255
	Sig. (2-tailed)	.015	.162	.021	.021	.021	.022	.022	.898	.528	.216	.847	.254	.683	.736	.724	.916	.077
	N	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49
14 Spinach	Pearson Correlation	-.470**	-.308*	-.530**	-.530**	-.528**	-.528**	-.529**	-.232	.045	-.234	-.256	-.285	.205	-.094	.138	.032	.260
	Sig. (2-tailed)	<,001	.035	<,001	<,001	<,001	<,001	<,001	.117	.766	.113	.083	.052	.168	.528	.356	.829	.077
	N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
15 Tsunga	Pearson Correlation	-.207	.054	-.199	-.197	-.199	-.199	-.198	.014	-.064	.243	.054	.007	.141	-.055	.166	-.158	-.126
	Sig. (2-tailed)	.149	.709	.166	.170	.166	.165	.168	.923	.658	.089	.708	.960	.330	.705	.250	.275	.382
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
16 Lettuce	Pearson Correlation	-.165	-.226	-.159	-.160	-.162	-.158	-.160	-.060	.016	-.008	-.230	-.140	-.082	.086	-.075	.100	-.102
	Sig. (2-tailed)	.254	.114	.269	.267	.261	.273	.267	.681	.910	.955	.108	.332	.570	.552	.603	.490	.481
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
17 Maize	Pearson Correlation	-.207	-.290*	-.197	-.197	-.195	-.198	-.198	-.161	-.064	-.263	-.115	.007	.383**	-.055	.425**	.218	.295*
	Sig. (2-tailed)	.149	.041	.170	.170	.174	.169	.168	.263	.658	.065	.425	.960	.006	.705	.002	.129	.038
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
18 Sweet potatoe	Pearson Correlation	-.118	-.155	-.111	-.113	-.113	-.114	-.112	.107	.155	.137	.127	.208	-.058	-.077	-.053	.229	-.071
	Sig. (2-tailed)	.414	.282	.441	.433	.433	.432	.439	.459	.283	.342	.381	.147	.691	.596	.716	.110	.622
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
19 Carrot	Pearson Correlation	-.178	-.289*	-.289*	-.287*	-.288*	-.289*	-.288*	.021	.030	-.261	-.293*	-.121	.028	.038	.053	.318*	.123

	Sig. (2-tailed)	.217	.042	.042	.043	.043	.042	.042	.888	.838	.067	.039	.401	.845	.794	.715	.024	.394
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
20 Beans	Pearson Correlation	.043	-.029	-.161	-.158	-.160	-.160	-.160	-.060	-.188	-.008	-.025	.079	-.082	-.012	-.075	.100	-.102
	Sig. (2-tailed)	.768	.841	.263	.274	.267	.266	.267	.681	.190	.955	.865	.587	.570	.935	.603	.490	.481
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
21 Soya	Pearson Correlation	-.118	-.167	-.111	-.110	-.110	-.111	-.112	.107	-.132	-.149	.127	-.098	-.058	.060	-.053	.229	-.071
	Sig. (2-tailed)	.414	.246	.441	.445	.445	.444	.439	.459	.361	.303	.381	.498	.691	.677	.716	.110	.622
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
22 Wheat	Pearson Correlation	-.118	-.167	-.111	-.110	-.110	-.111	-.112	.107	-.132	-.149	.127	-.098	-.058	.060	-.053	.229	-.071
	Sig. (2-tailed)	.414	.246	.441	.445	.445	.444	.439	.459	.361	.303	.381	.498	.691	.677	.716	.110	.622
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
23 Okra	Pearson Correlation	-.115	-.158	-.111	-.110	-.113	-.111	-.112	-.190	-.132	.137	-.161	-.098	-.058	.060	-.053	.229	-.071
	Sig. (2-tailed)	.426	.272	.441	.445	.433	.444	.439	.185	.361	.342	.264	.498	.691	.677	.716	.110	.622
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
24 Beet root	Pearson Correlation	-.118	-.158	-.111	-.110	-.110	-.111	-.112	.107	.155	-.149	-.161	-.098	-.058	.060	-.053	.229	.286*
	Sig. (2-tailed)	.414	.272	.441	.445	.445	.444	.439	.459	.283	.303	.264	.498	.691	.677	.716	.110	.044
	N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50

Correlations

		11 Onion	12 Covo	13 Rape	14 Spinach	15 Tsunga	16 Lettuce	17 Maize	18 Sweet potatoe	19 Carrot	20 Beans	21 Soya	22 Wheat	23 Okra	24 Beet root
B4.1.1 Where did you grow veg garden	Pearson Correlation	-.408**	-.536**	-.346*	-.470**	-.207	-.165	-.207	-.118	-.178	.043	-.118	-.118	-.115	-.118
	Sig. (2-tailed)	.003	<,001	.015	<,001	.149	.254	.149	.414	.217	.768	.414	.414	.426	.414
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
B4.1.2 When	Pearson Correlation	-.161	-.294*	-.203	-.308*	.054	-.226	-.290*	-.155	-.289*	-.029	-.167	-.167	-.158	-.158
	Sig. (2-tailed)	.263	.038	.162	.035	.709	.114	.041	.282	.042	.841	.246	.246	.272	.272
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
B4.3.1 Own consumption	Pearson Correlation	-.392**	-.513**	-.328*	-.530**	-.199	-.159	-.197	-.111	-.289*	-.161	-.111	-.111	-.111	-.111
	Sig. (2-tailed)	.005	<,001	.021	<,001	.166	.269	.170	.441	.042	.263	.441	.441	.441	.441
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
B4.3.2 Economic reasons	Pearson Correlation	-.391**	-.512**	-.328*	-.530**	-.197	-.160	-.197	-.113	-.287*	-.158	-.110	-.110	-.110	-.110
	Sig. (2-tailed)	.005	<,001	.021	<,001	.170	.267	.170	.433	.043	.274	.445	.445	.445	.445
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
B4.3.3 Personal enjoyment	Pearson Correlation	-.390**	-.514**	-.330*	-.528**	-.199	-.162	-.195	-.113	-.288*	-.160	-.110	-.110	-.113	-.110
	Sig. (2-tailed)	.005	<,001	.021	<,001	.166	.261	.174	.433	.043	.267	.445	.445	.433	.445
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50

B4.3.4 Nutritionalpref	Pearson Correlation	-.393**	-.514**	-.327*	-.528**	-.199	-.158	-.198	-.114	-.289*	-.160	-.111	-.111	-.111	-.111
	Sig. (2-tailed)	.005	<,001	.022	<,001	.165	.273	.169	.432	.042	.266	.444	.444	.444	.444
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
B4.3.5 Other	Pearson Correlation	-.391**	-.512**	-.327*	-.529**	-.198	-.160	-.198	-.112	-.288*	-.160	-.112	-.112	-.112	-.112
	Sig. (2-tailed)	.005	<,001	.022	<,001	.168	.267	.168	.439	.042	.267	.439	.439	.439	.439
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
1 Gushe	Pearson Correlation	-.042	.218	-.019	-.232	.014	-.060	-.161	.107	.021	-.060	.107	.107	-.190	.107
	Sig. (2-tailed)	.774	.128	.898	.117	.923	.681	.263	.459	.888	.681	.459	.459	.185	.459
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
2 Morogo	Pearson Correlation	.040	.009	-.092	.045	-.064	.016	-.064	.155	.030	-.188	-.132	-.132	-.132	.155
	Sig. (2-tailed)	.782	.952	.528	.766	.658	.910	.658	.283	.838	.190	.361	.361	.361	.283
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
3 Pigweed	Pearson Correlation	-.020	-.245	-.180	-.234	.243	-.008	-.263	.137	-.261	-.008	-.149	-.149	.137	-.149
	Sig. (2-tailed)	.890	.087	.216	.113	.089	.955	.065	.342	.067	.955	.303	.303	.342	.303
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
4 Spiderplant	Pearson Correlation	-.161	.053	-.028	-.256	.054	-.230	-.115	.127	-.293*	-.025	.127	.127	-.161	-.161
	Sig. (2-tailed)	.264	.716	.847	.083	.708	.108	.425	.381	.039	.865	.381	.381	.264	.264
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
5 Cowpea	Pearson Correlation	-.021	-.168	-.166	-.285	.007	-.140	.007	.208	-.121	.079	-.098	-.098	-.098	-.098
	Sig. (2-tailed)	.883	.242	.254	.052	.960	.332	.960	.147	.401	.587	.498	.498	.498	.498
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
6 Kale	Pearson Correlation	.231	-.013	.060	.205	.141	-.082	.383**	-.058	.028	-.082	-.058	-.058	-.058	-.058
	Sig. (2-tailed)	.107	.931	.683	.168	.330	.570	.006	.691	.845	.570	.691	.691	.691	.691
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
7 Traditional Pumpkin	Pearson Correlation	.019	.318*	-.049	-.094	-.055	.086	-.055	-.077	.038	-.012	.060	.060	.060	.060
	Sig. (2-tailed)	.895	.024	.736	.528	.705	.552	.705	.596	.794	.935	.677	.677	.677	.677
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
8 Bitter Melon	Pearson Correlation	.123	.027	-.052	.138	.166	-.075	.425**	-.053	.053	-.075	-.053	-.053	-.053	-.053
	Sig. (2-tailed)	.394	.853	.724	.356	.250	.603	.002	.716	.715	.603	.716	.716	.716	.716
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
9 Cabbage	Pearson Correlation	.022	.175	-.015	.032	-.158	.100	.218	.229	.318*	.100	.229	.229	.229	.229
	Sig. (2-tailed)	.878	.224	.916	.829	.275	.490	.129	.110	.024	.490	.110	.110	.110	.110
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
10 Tomatoes	Pearson Correlation	.375**	.109	-.255	.260	-.126	-.102	.295*	-.071	.123	-.102	-.071	-.071	-.071	.286*
	Sig. (2-tailed)	.007	.451	.077	.077	.382	.481	.038	.622	.394	.481	.622	.622	.622	.044
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
11 Onion	Pearson Correlation	1	.109	-.129	.370*	.084	-.102	.084	.286*	.431**	-.102	-.071	-.071	-.071	-.071
	Sig. (2-tailed)		.451	.377	.010	.561	.481	.561	.044	.002	.481	.622	.622	.622	.622
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
12 Covo	Pearson Correlation	.109	1	.526**	.087	.202	.089	-.165	.218	.161	-.134	-.094	-.094	-.094	.218
	Sig. (2-tailed)	.451		<,001	.561	.159	.538	.251	.128	.264	.355	.518	.518	.518	.128

	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
13 Rape	Pearson Correlation	-.129	.526**	1	.281	.271	.383**	-.137	-.078	-.052	-.111	-.078	-.078	.268	-.078
	Sig. (2-tailed)	.377	<,001		.058	.060	.007	.346	.596	.724	.448	.596	.596	.062	.596
	N	49	49	49	46	49	49	49	49	49	49	49	49	49	49
14 Spinach	Pearson Correlation	.370*	.087	.281	1	.140	-.174	.041	-.121	.205	.041	-.121	-.121	-.121	-.121
	Sig. (2-tailed)	.010	.561	.058		.349	.243	.784	.416	.168	.784	.416	.416	.416	.416
	N	47	47	46	47	47	47	47	47	47	47	47	47	47	47
15 Tsunga	Pearson Correlation	.084	.202	.271	.140	1	-.052	-.064	-.036	-.093	-.052	-.036	-.036	-.036	-.036
	Sig. (2-tailed)	.561	.159	.060	.349		.722	.660	.803	.519	.722	.803	.803	.803	.803
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
16 Lettuce	Pearson Correlation	-.102	.089	.383**	-.174	-.052	1	-.052	-.029	-.075	-.042	-.029	-.029	.700**	-.029
	Sig. (2-tailed)	.481	.538	.007	.243	.722		.722	.841	.603	.774	.841	.841	<,001	.841
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
17 Maize	Pearson Correlation	.084	-.165	-.137	.041	-.064	-.052	1	-.036	-.093	-.052	.565**	.565**	-.036	-.036
	Sig. (2-tailed)	.561	.251	.346	.784	.660	.722		.803	.519	.722	<,001	<,001	.803	.803
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
18 Sweet potatoe	Pearson Correlation	.286*	.218	-.078	-.121	-.036	-.029	-.036	1	.387**	-.029	-.020	-.020	-.020	-.020
	Sig. (2-tailed)	.044	.128	.596	.416	.803	.841	.803		.006	.841	.888	.888	.888	.888
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
19 Carrot	Pearson Correlation	.431**	.161	-.052	.205	-.093	-.075	-.093	.387**	1	.239	-.053	-.053	-.053	.387**
	Sig. (2-tailed)	.002	.264	.724	.168	.519	.603	.519	.006		.095	.716	.716	.716	.006
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
20 Beans	Pearson Correlation	-.102	-.134	-.111	.041	-.052	-.042	-.052	-.029	.239	1	-.029	-.029	-.029	-.029
	Sig. (2-tailed)	.481	.355	.448	.784	.722	.774	.722	.841	.095		.841	.841	.841	.841
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
21 Soya	Pearson Correlation	-.071	-.094	-.078	-.121	-.036	-.029	.565**	-.020	-.053	-.029	1	1.000**	-.020	-.020
	Sig. (2-tailed)	.622	.518	.596	.416	.803	.841	<,001	.888	.716	.841		.000	.888	.888
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
22 Wheat	Pearson Correlation	-.071	-.094	-.078	-.121	-.036	-.029	.565**	-.020	-.053	-.029	1.000**	1	-.020	-.020
	Sig. (2-tailed)	.622	.518	.596	.416	.803	.841	<,001	.888	.716	.841	.000		.888	.888
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
23 Okra	Pearson Correlation	-.071	-.094	.268	-.121	-.036	.700**	-.036	-.020	-.053	-.029	-.020	-.020	1	-.020
	Sig. (2-tailed)	.622	.518	.062	.416	.803	<,001	.803	.888	.716	.841	.888	.888		.888
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50
24 Beet root	Pearson Correlation	-.071	.218	-.078	-.121	-.036	-.029	-.036	-.020	.387**	-.029	-.020	-.020	-.020	1
	Sig. (2-tailed)	.622	.128	.596	.416	.803	.841	.803	.888	.006	.841	.888	.888	.888	
	N	50	50	49	47	50	50	50	50	50	50	50	50	50	50

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Correlations

Descriptive Statistics

	Mean	Std. Deviation	N
B4.1.1 Where did you grow veg garden	40.50	48.252	50
B4.1.2 When	56.78	48.126	50
B4.3.1 Own consumption	38.16	48.115	50
B4.3.2 Economic reasons	37.96	48.274	50
B4.3.3 Personal enjoyment	37.94	48.290	50
B4.3.4 Nutritionalpref	38.00	48.242	50
B4.3.5 Other	37.66	48.510	50
4 Spiderplant	.56	.501	50
11 Onion	.20	.404	50
12 Covo	.30	.463	50
13 Rape	.22	.422	49
14 Spinach	.40	.496	47
19 Carrot	.12	.328	50

Correlations

		B4.1.1 Where did you grow veg garden	B4.1.2 When	B4.3.1 Own consumption	B4.3.2 Economic reasons	B4.3.3 Personal enjoyment
B4.1.1 Where did you grow veg garden	Pearson Correlation	1	.725**	.958**	.959**	.958**
	Sig. (2-tailed)		<,001	<,001	<,001	<,001
	N	50	50	50	50	50
B4.1.2 When	Pearson Correlation	.725**	1	.691**	.693**	.691**
	Sig. (2-tailed)	<,001		<,001	<,001	<,001
	N	50	50	50	50	50
B4.3.1 Own consumption	Pearson Correlation	.958**	.691**	1	1.000**	1.000**
	Sig. (2-tailed)	<,001	<,001		<,001	<,001
	N	50	50	50	50	50
B4.3.2 Economic reasons	Pearson Correlation	.959**	.693**	1.000**	1	1.000**
	Sig. (2-tailed)	<,001	<,001	<,001		<,001
	N	50	50	50	50	50
B4.3.3 Personal enjoyment	Pearson Correlation	.958**	.691**	1.000**	1.000**	1
	Sig. (2-tailed)	<,001	<,001	<,001	<,001	
	N	50	50	50	50	50
B4.3.4 Nutritionalpref	Pearson Correlation	.958**	.691**	1.000**	1.000**	1.000**
	Sig. (2-tailed)	<,001	<,001	<,001	<,001	<,001
	N	50	50	50	50	50
B4.3.5 Other	Pearson Correlation	.959**	.693**	1.000**	1.000**	1.000**
	Sig. (2-tailed)	<,001	<,001	<,001	<,001	<,001
	N	50	50	50	50	50
4 Spiderplant	Pearson Correlation	.067	.270	.113	.111	.111

	Sig. (2-tailed)	.646	.058	.435	.445	.443
	N	50	50	50	50	50
11 Onion	Pearson Correlation	-.408**	-.161	-.392**	-.391**	-.390**
	Sig. (2-tailed)	.003	.263	.005	.005	.005
	N	50	50	50	50	50
12 Covo	Pearson Correlation	-.536**	-.294*	-.513**	-.512**	-.514**
	Sig. (2-tailed)	<,001	.038	<,001	<,001	<,001
	N	50	50	50	50	50
13 Rape	Pearson Correlation	-.346*	-.203	-.328*	-.328*	-.330*
	Sig. (2-tailed)	.015	.162	.021	.021	.021
	N	49	49	49	49	49
14 Spinach	Pearson Correlation	-.470**	-.308*	-.530**	-.530**	-.528**
	Sig. (2-tailed)	<,001	.035	<,001	<,001	<,001
	N	47	47	47	47	47
19 Carrot	Pearson Correlation	-.178	-.289*	-.289*	-.287*	-.288*
	Sig. (2-tailed)	.217	.042	.042	.043	.043
	N	50	50	50	50	50

Correlations

		B4.3.4 Nutritionalpref	B4.3.5 Other	4 Spiderplant	11 Onion	12 Covo	13 Rape
B4.1.1 Where did you grow veg garden	Pearson Correlation	.958**	.959**	.067	-.408**	-.536**	-.346*
	Sig. (2-tailed)	<,001	<,001	.646	.003	<,001	.015
	N	50	50	50	50	50	49
B4.1.2 When	Pearson Correlation	.691**	.693**	.270	-.161	-.294*	-.203
	Sig. (2-tailed)	<,001	<,001	.058	.263	.038	.162
	N	50	50	50	50	50	49
B4.3.1 Own consumption	Pearson Correlation	1.000**	1.000**	.113	-.392**	-.513**	-.328*
	Sig. (2-tailed)	<,001	<,001	.435	.005	<,001	.021
	N	50	50	50	50	50	49
B4.3.2 Economic reasons	Pearson Correlation	1.000**	1.000**	.111	-.391**	-.512**	-.328*
	Sig. (2-tailed)	<,001	<,001	.445	.005	<,001	.021
	N	50	50	50	50	50	49
B4.3.3 Personal enjoyment	Pearson Correlation	1.000**	1.000**	.111	-.390**	-.514**	-.330*
	Sig. (2-tailed)	<,001	<,001	.443	.005	<,001	.021
	N	50	50	50	50	50	49
B4.3.4 Nutritionalpref	Pearson Correlation	1	1.000**	.112	-.393**	-.514**	-.327*
	Sig. (2-tailed)		<,001	.438	.005	<,001	.022
	N	50	50	50	50	50	49
B4.3.5 Other	Pearson Correlation	1.000**	1	.113	-.391**	-.512**	-.327*
	Sig. (2-tailed)	<,001		.435	.005	<,001	.022
	N	50	50	50	50	50	49
4 Spiderplant	Pearson Correlation	.112	.113	1	-.161	.053	-.028
	Sig. (2-tailed)	.438	.435		.264	.716	.847
	N	50	50	50	50	50	49
11 Onion	Pearson Correlation	-.393**	-.391**	-.161	1	.109	-.129
	Sig. (2-tailed)	.005	.005	.264		.451	.377
	N	50	50	50	50	50	49
12 Covo	Pearson Correlation	-.514**	-.512**	.053	.109	1	.526**
	Sig. (2-tailed)	<,001	<,001	.716	.451		<,001
	N	50	50	50	50	50	49
13 Rape	Pearson Correlation	-.327*	-.327*	-.028	-.129	.526**	1
	Sig. (2-tailed)	.022	.022	.847	.377	<,001	
	N	49	49	49	49	49	49
14 Spinach	Pearson Correlation	-.528**	-.529**	-.256	.370*	.087	.281
	Sig. (2-tailed)	<,001	<,001	.083	.010	.561	.058

	N	47	47	47	47	47	46
19 Carrot	Pearson Correlation	-.289*	-.288*	-.293*	.431**	.161	-.052
	Sig. (2-tailed)	.042	.042	.039	.002	.264	.724
	N	50	50	50	50	50	49

Correlations

		14 Spinach	19 Carrot
B4.1.1 Where did you grow veg garden	Pearson Correlation	-.470**	-.178
	Sig. (2-tailed)	<,001	.217
	N	47	50
B4.1.2 When	Pearson Correlation	-.308*	-.289*
	Sig. (2-tailed)	.035	.042
	N	47	50
B4.3.1 Own consumption	Pearson Correlation	-.530**	-.289*
	Sig. (2-tailed)	<,001	.042
	N	47	50
B4.3.2 Economic reasons	Pearson Correlation	-.530**	-.287*
	Sig. (2-tailed)	<,001	.043
	N	47	50
B4.3.3 Personal enjoyment	Pearson Correlation	-.528**	-.288*
	Sig. (2-tailed)	<,001	.043
	N	47	50
B4.3.4 Nutritionalpref	Pearson Correlation	-.528**	-.289*
	Sig. (2-tailed)	<,001	.042
	N	47	50
B4.3.5 Other	Pearson Correlation	-.529**	-.288*
	Sig. (2-tailed)	<,001	.042
	N	47	50
4 Spiderplant	Pearson Correlation	-.256	-.293*
	Sig. (2-tailed)	.083	.039
	N	47	50
11 Onion	Pearson Correlation	.370*	.431**
	Sig. (2-tailed)	.010	.002
	N	47	50
12 Covo	Pearson Correlation	.087	.161
	Sig. (2-tailed)	.561	.264
	N	47	50
13 Rape	Pearson Correlation	.281	-.052
	Sig. (2-tailed)	.058	.724
	N	46	49
14 Spinach	Pearson Correlation	1	.205
	Sig. (2-tailed)		.168
	N	47	47
19 Carrot	Pearson Correlation	.205	1
	Sig. (2-tailed)	.168	
	N	47	50

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Correlations

Descriptive Statistics

	Mean	Std. Deviation	N
C1.1 Do you eat veg	1.00	.000	50
C1.2 Source	1.76	1.153	50
C2.1 TLV pref	.98	.141	50
C2.2 Mainstream veg pref	4.78	19.431	50
C3.1 Taste	.80	.404	50
C3.2 Availability and Cost	.82	.388	50
C3.3 Easy Prep	.90	.303	50
C3.4 Medicinal or Nutritional Value	.80	.404	50
C3.5 Childhood memories	.80	.404	50
C3.6 Culture	.80	.404	50
C3.7 Other	.02	.141	50
1 Gushe	.64	.485	50
2 Morogo	.46	.503	50
3 Pigweed	.52	.505	50
4 Spiderplant	.56	.501	50
5 Cowpea	.32	.471	50
6 Kale	.14	.351	50
7 Traditional Pumpkin	.56	1.053	50
8 Bitter Melon	.12	.328	50
12 Covo	.30	.463	50
13 Rape	.22	.422	49
15 Tsunga	.06	.240	50
23 Okra	.02	.141	50

Correlations

		C1.1 Do you eat veg	C1.2 Source	C2.1 TLV pref	C2.2 Mainstream veg pref	C3.1 Taste	C3.2 Availability and Cost	C3.3 Easy Prep	C3.4 Medicinal or Nutritional Value	C3.5 Childhood memories	C3.6 Culture	C3.7 Other	1 Gushe
C1.1 Do you eat veg	Pearson Correlation	.[a]	.[a]	.[a]	.[a]	.[a]	.[a]	.[a]	.[a]	.[a]	.[a]	.[a]	.[a]
	Sig. (2-tailed)		.	.	.	.	.	.	.	.	.	.	.
	N	50	50	50	50	50	50	50	50	50	50	50	50
C1.2 Source	Pearson Correlation	.[a]	1	-.280*	.044	.114	.175	.047	-.061	-.193	-.018	-.095	-.085
	Sig. (2-tailed)	.		.049	.761	.431	.224	.747	.672	.180	.904	.511	.559
	N	50	50	50	50	50	50	50	50	50	50	50	50
C2.1 TLV pref	Pearson Correlation	.[a]	-.280*	1	.028	.286*	-.067	-.048	.286*	.286*	-.071	.020	-.107
	Sig. (2-tailed)	.	.049		.847	.044	.644	.743	.044	.044	.622	.888	.459
	N	50	50	50	50	50	50	50	50	50	50	50	50
C2.2 Mainstream veg pref	Pearson Correlation	.[a]	.044	.028	1	.101	.092	.069	.101	-.149	-.406**	-.028	-.054
	Sig. (2-tailed)	.	.761	.847		.486	.525	.634	.486	.303	.003	.847	.709
	N	50	50	50	50	50	50	50	50	50	50	50	50
C3.1 Taste	Pearson Correlation	.[a]	.114	.286*	.101	1	.416**	.167	.375**	.125	.000	.071	-.063
	Sig. (2-tailed)	.	.431	.044	.486		.003	.247	.007	.387	1.000	.622	.666
	N	50	50	50	50	50	50	50	50	50	50	50	50
	Pearson Correlation	.[a]	.175	-.067	.092	.416**	1	.538**	.416**	.286*	.286*	.067	.082

C3.2 Availability and Cost	Sig. (2-tailed)	.	.224	.644	.525	.003		<,001	.003	.044	.044	.644	.569
	N	50	50	50	50	50	50	50	50	50	50	50	50
C3.3 Easy Prep	Pearson Correlation	.[a]	.047	-.048	.069	.167	.538**	1	.333*	.500**	.333*	.048	.306*
	Sig. (2-tailed)	.	.747	.743	.634	.247	<,001		.018	<,001	.018	.743	.031
	N	50	50	50	50	50	50	50	50	50	50	50	50
C3.4 Medicinal or Nutritional Value	Pearson Correlation	.[a]	-.061	.286*	.101	.375**	.416**	.333*	1	.375**	.000	.071	.250
	Sig. (2-tailed)	.	.672	.044	.486	.007	.003	.018		.007	1.000	.622	.080
	N	50	50	50	50	50	50	50	50	50	50	50	50
C3.5 Childhood memories	Pearson Correlation	.[a]	-.193	.286*	-.149	.125	.286*	.500**	.375**	1	.625**	.071	.250
	Sig. (2-tailed)	.	.180	.044	.303	.387	.044	<,001	.007		<,001	.622	.080
	N	50	50	50	50	50	50	50	50	50	50	50	50
C3.6 Culture	Pearson Correlation	.[a]	-.018	-.071	-.406**	.000	.286*	.333*	.000	.625**	1	.071	.146
	Sig. (2-tailed)	.	.904	.622	.003	1.000	.044	.018	1.000	<,001		.622	.312
	N	50	50	50	50	50	50	50	50	50	50	50	50
C3.7 Other	Pearson Correlation	.[a]	-.095	.020	-.028	.071	.067	.048	.071	.071	.071	1	.107
	Sig. (2-tailed)	.	.511	.888	.847	.622	.644	.743	.622	.622	.622		.459
	N	50	50	50	50	50	50	50	50	50	50	50	50
1 Gushe	Pearson Correlation	.[a]	-.085	-.107	-.054	-.063	.082	.306*	.250	.250	.146	.107	1
	Sig. (2-tailed)	.	.559	.459	.709	.666	.569	.031	.080	.080	.312	.459	
	N	50	50	50	50	50	50	50	50	50	50	50	50
2 Morogo	Pearson Correlation	.[a]	-.052	-.155	.019	-.040	.224	.174	.161	.161	.261	.155	.274
	Sig. (2-tailed)	.	.720	.283	.896	.782	.119	.227	.265	.265	.067	.283	.054
	N	50	50	50	50	50	50	50	50	50	50	50	50
3 Pigweed	Pearson Correlation	.[a]	-.272	.149	-.009	-.080	.071	.080	.220	.220	.120	.137	.197
	Sig. (2-tailed)	.	.056	.303	.951	.580	.625	.580	.124	.124	.406	.342	.171
	N	50	50	50	50	50	50	50	50	50	50	50	50
4 Spiderplant	Pearson Correlation	.[a]	-.151	-.127	.178	-.141	.109	.376**	.060	-.040	-.040	.127	.259
	Sig. (2-tailed)	.	.295	.381	.215	.329	.451	.007	.677	.781	.781	.381	.070
	N	50	50	50	50	50	50	50	50	50	50	50	50
5 Cowpea	Pearson Correlation	.[a]	-.194	.098	.077	.021	.098	.086	.343*	.129	.021	-.098	.336*
	Sig. (2-tailed)	.	.177	.498	.595	.883	.497	.554	.015	.373	.883	.498	.017
	N	50	50	50	50	50	50	50	50	50	50	50	50
6 Kale	Pearson Correlation	.[a]	.135	.058	-.085	.058	.189	.134	-.086	.058	.202	-.058	-.298*
	Sig. (2-tailed)	.	.349	.691	.556	.691	.189	.352	.550	.691	.160	.691	.036
	N	50	50	50	50	50	50	50	50	50	50	50	50
7 Traditional Pumpkin	Pearson Correlation	.[a]	.029	.077	.578**	.125	.052	.051	.029	.077	-.259	-.077	-.197
	Sig. (2-tailed)	.	.842	.596	<,001	.388	.720	.724	.843	.596	.069	.596	.171
	N	50	50	50	50	50	50	50	50	50	50	50	50
8 Bitter Melon	Pearson Correlation	.[a]	.239	.053	-.076	-.123	.013	.123	.031	.185	.185	-.053	.021
	Sig. (2-tailed)	.	.094	.716	.601	.394	.930	.394	.832	.199	.199	.716	.888
	N	50	50	50	50	50	50	50	50	50	50	50	50

12 Covo	Pearson Correlation	.[a]	.138	-.218	.312*	.109	.080	.218	.000	-.109	.000	-.094	.218
	Sig. (2-tailed)	.	.340	.128	.028	.451	.583	.128	1.000	.451	1.000	.518	.128
	N	50	50	50	50	50	50	50	50	50	50	50	50
13 Rape	Pearson Correlation	.[a]	.105	-.268	-.114	-.092	-.124	-.142	-.092	-.456**	-.092	-.078	-.019
	Sig. (2-tailed)	.	.472	.062	.434	.531	.397	.331	.531	<,001	.531	.596	.898
	N	49	49	49	49	49	49	49	49	49	49	49	49
15 Tsunga	Pearson Correlation	.[a]	-.021	.036	-.050	.126	.118	.084	-.084	.126	.126	-.036	.014
	Sig. (2-tailed)	.	.887	.803	.732	.382	.413	.561	.561	.382	.382	.803	.923
	N	50	50	50	50	50	50	50	50	50	50	50	50
23 Okra	Pearson Correlation	.[a]	-.095	.020	-.028	-.286*	-.305*	-.429**	.071	-.286*	-.286*	-.020	-.190
	Sig. (2-tailed)	.	.511	.888	.847	.044	.031	.002	.622	.044	.044	.888	.185
	N	50	50	50	50	50	50	50	50	50	50	50	50

Correlations

		2 Morogo	3 Pigweed	4 Spiderplant	5 Cowpea	6 Kale	7 Traditional Pumpkin	8 Bitter Melon	12 Covo	13 Rape	15 Tsunga	23 Okra
C1.1 Do you eat veg	Pearson Correlation	.[a]	.[a]	.[a]	.[a]	.[a]	.[a]	.[a]	.[a]	.[a]	.[a]	.[a]
	Sig. (2-tailed)	.	.	.	.	.	.	.	.	.	.	.
	N	50	50	50	50	50	50	50	50	49	50	50
C1.2 Source	Pearson Correlation	-.052	-.272	-.151	-.194	.135	.029	.239	.138	.105	-.021	-.095
	Sig. (2-tailed)	.720	.056	.295	.177	.349	.842	.094	.340	.472	.887	.511
	N	50	50	50	50	50	50	50	50	49	50	50
C2.1 TLV pref	Pearson Correlation	-.155	.149	-.127	.098	.058	.077	.053	-.218	-.268	.036	.020
	Sig. (2-tailed)	.283	.303	.381	.498	.691	.596	.716	.128	.062	.803	.888
	N	50	50	50	50	50	50	50	50	49	50	50
C2.2 Mainstream veg pref	Pearson Correlation	.019	-.009	.178	.077	-.085	.578**	-.076	.312*	-.114	-.050	-.028
	Sig. (2-tailed)	.896	.951	.215	.595	.556	<,001	.601	.028	.434	.732	.847
	N	50	50	50	50	50	50	50	50	49	50	50
C3.1 Taste	Pearson Correlation	-.040	-.080	-.141	.021	.058	.125	-.123	.109	-.092	.126	-.286*
	Sig. (2-tailed)	.782	.580	.329	.883	.691	.388	.394	.451	.531	.382	.044
	N	50	50	50	50	50	50	50	50	49	50	50
C3.2 Availability and Cost	Pearson Correlation	.224	.071	.109	.098	.189	.052	.013	.080	-.124	.118	-.305*
	Sig. (2-tailed)	.119	.625	.451	.497	.189	.720	.930	.583	.397	.413	.031
	N	50	50	50	50	50	50	50	50	49	50	50
C3.3 Easy Prep	Pearson Correlation	.174	.080	.376**	.086	.134	.051	.123	.218	-.142	.084	-.429**
	Sig. (2-tailed)	.227	.580	.007	.554	.352	.724	.394	.128	.331	.561	.002
	N	50	50	50	50	50	50	50	50	49	50	50
C3.4 Medicinal or Nutritional Value	Pearson Correlation	.161	.220	.060	.343*	-.086	.029	.031	.000	-.092	-.084	.071
	Sig. (2-tailed)	.265	.124	.677	.015	.550	.843	.832	1.000	.531	.561	.622
	N	50	50	50	50	50	50	50	50	49	50	50
C3.5 Childhood memories	Pearson Correlation	.161	.220	-.040	.129	.058	.077	.185	-.109	-.456**	.126	-.286*
	Sig. (2-tailed)	.265	.124	.781	.373	.691	.596	.199	.451	<,001	.382	.044
	N	50	50	50	50	50	50	50	50	49	50	50
C3.6 Culture	Pearson Correlation	.261	.120	-.040	.021	.202	-.259	.185	.000	-.092	.126	-.286*
	Sig. (2-tailed)	.067	.406	.781	.883	.160	.069	.199	1.000	.531	.382	.044
	N	50	50	50	50	50	50	50	50	49	50	50
C3.7 Other	Pearson Correlation	.155	.137	.127	-.098	-.058	-.077	-.053	-.094	-.078	-.036	-.020
	Sig. (2-tailed)	.283	.342	.381	.498	.691	.596	.716	.518	.596	.803	.888

	N	50	50	50	50	50	50	50	50	49	50	50
1 Gushe	Pearson Correlation	.274	.197	.259	.336*	-.298*	-.197	.021	.218	-.019	.014	-.190
	Sig. (2-tailed)	.054	.171	.070	.017	.036	.171	.888	.128	.898	.923	.185
	N	50	50	50	50	50	50	50	50	49	50	50
2 Morogo	Pearson Correlation	1	.324*	.091	.141	-.257	-.226	.030	.009	-.092	-.064	-.132
	Sig. (2-tailed)		.021	.532	.328	.072	.114	.838	.952	.528	.658	.361
	N	50	50	50	50	50	50	50	50	49	50	50
3 Pigweed	Pearson Correlation	.324*	1	.439**	.487**	-.305*	-.252	-.261	-.245	-.180	.243	.137
	Sig. (2-tailed)	.021		.001	<,001	.032	.078	.067	.087	.216	.089	.342
	N	50	50	50	50	50	50	50	50	49	50	50
4 Spiderplant	Pearson Correlation	.091	.439**	1	.263	-.339*	.012	-.169	.053	-.028	.054	-.161
	Sig. (2-tailed)	.532	.001		.065	.016	.932	.242	.716	.847	.708	.264
	N	50	50	50	50	50	50	50	50	49	50	50
5 Cowpea	Pearson Correlation	.141	.487**	.263	1	-.153	-.245	.011	-.168	-.166	.007	-.098
	Sig. (2-tailed)	.328	<,001	.065		.288	.086	.942	.242	.254	.960	.498
	N	50	50	50	50	50	50	50	50	49	50	50
6 Kale	Pearson Correlation	-.257	-.305*	-.339*	-.153	1	.004	.206	-.013	.060	.141	-.058
	Sig. (2-tailed)	.072	.032	.016	.288		.976	.152	.931	.683	.330	.691
	N	50	50	50	50	50	50	50	50	49	50	50
7 Traditional Pumpkin	Pearson Correlation	-.226	-.252	.012	-.245	.004	1	-.080	.318*	-.049	-.055	.060
	Sig. (2-tailed)	.114	.078	.932	.086	.976		.579	.024	.736	.705	.677
	N	50	50	50	50	50	50	50	50	49	50	50
8 Bitter Melon	Pearson Correlation	.030	-.261	-.169	.011	.206	-.080	1	.027	-.052	.166	-.053
	Sig. (2-tailed)	.838	.067	.242	.942	.152	.579		.853	.724	.250	.716
	N	50	50	50	50	50	50	50	50	49	50	50
12 Covo	Pearson Correlation	.009	-.245	.053	-.168	-.013	.318*	.027	1	.526**	.202	-.094
	Sig. (2-tailed)	.952	.087	.716	.242	.931	.024	.853		<,001	.159	.518
	N	50	50	50	50	50	50	50	50	49	50	50
13 Rape	Pearson Correlation	-.092	-.180	-.028	-.166	.060	-.049	-.052	.526**	1	.271	.268
	Sig. (2-tailed)	.528	.216	.847	.254	.683	.736	.724	<,001		.060	.062
	N	49	49	49	49	49	49	49	49	49	49	49
15 Tsunga	Pearson Correlation	-.064	.243	.054	.007	.141	-.055	.166	.202	.271	1	-.036
	Sig. (2-tailed)	.658	.089	.708	.960	.330	.705	.250	.159	.060		.803
	N	50	50	50	50	50	50	50	50	49	50	50
23 Okra	Pearson Correlation	-.132	.137	-.161	-.098	-.058	.060	-.053	-.094	.268	-.036	1
	Sig. (2-tailed)	.361	.342	.264	.498	.691	.677	.716	.518	.062	.803	
	N	50	50	50	50	50	50	50	50	49	50	50

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

a. Cannot be computed because at least one of the variables is constant.

Correlations

Descriptive Statistics

	Mean	Std. Deviation	N
C1.2 Source	1.76	1.153	50
C2.1 TLV pref	.98	.141	50
C2.2 Mainstream veg pref	4.78	19.431	50
C3.1 Taste	.80	.404	50
C3.2 Availability and Cost	.82	.388	50
C3.3 Easy Prep	.90	.303	50
C3.4 Medicinal or Nutritional Value	.80	.404	50
C3.5 Childhood memories	.80	.404	50
C3.6 Culture	.80	.404	50
C3.7 Other	.02	.141	50
9 Cabbage	.28	.454	50
10 Tomatoes	.20	.404	50
11 Onion	.20	.404	50
14 Spinach	.40	.496	47
16 Lettuce	.04	.198	50
17 Maize	.06	.240	50
18 Sweet potatoe	.02	.141	50
19 Carrot	.12	.328	50
20 Beans	.04	.198	50
21 Soya	.02	.141	50
22 Wheat	.02	.141	50
24 Beet root	.02	.141	50

Correlations

		C1.2 Source	C2.1 TLV pref	C2.2 Mainstream veg pref	C3.1 Taste	C3.2 Availability and Cost	C3.3 Easy Prep	C3.4 Medicinal or Nutritional Value	C3.5 Childhood memories	C3.6 Culture	C3.7 Other	9 Cabbage
C1.2 Source	Pearson Correlation	1	-.280*	.044	.114	.175	.047	-.061	-.193	-.018	-.095	.326*
	Sig. (2-tailed)		.049	.761	.431	.224	.747	.672	.180	.904	.511	.021
	N	50	50	50	50	50	50	50	50	50	50	50
C2.1 TLV pref	Pearson Correlation	-.280*	1	.028	.286*	-.067	-.048	.286*	.286*	-.071	.020	-.229
	Sig. (2-tailed)	.049		.847	.044	.644	.743	.044	.044	.622	.888	.110
	N	50	50	50	50	50	50	50	50	50	50	50
C2.2 Mainstream veg pref	Pearson Correlation	.044	.028	1	.101	.092	.069	.101	-.149	-.406**	-.028	.102
	Sig. (2-tailed)	.761	.847		.486	.525	.634	.486	.303	.003	.847	.481
	N	50	50	50	50	50	50	50	50	50	50	50
C3.1 Taste	Pearson Correlation	.114	.286*	.101	1	.416**	.167	.375**	.125	.000	.071	-.022
	Sig. (2-tailed)	.431	.044	.486		.003	.247	.007	.387	1.000	.622	.878
	N	50	50	50	50	50	50	50	50	50	50	50
	Pearson Correlation	.175	-.067	.092	.416**	1	.538**	.416**	.286*	.286*	.067	-.056

C3.2 Availability and Cost	Sig. (2-tailed)	.224	.644	.525	.003		<,001	.003	.044	.044	.644	.701
	N	50	50	50	50	50	50	50	50	50	50	50
C3.3 Easy Prep	Pearson Correlation	.047	-.048	.069	.167	.538**	1	.333*	.500**	.333*	.048	-.089
	Sig. (2-tailed)	.747	.743	.634	.247	<,001		.018	<,001	.018	.743	.538
	N	50	50	50	50	50	50	50	50	50	50	50
C3.4 Medicinal or Nutritional Value	Pearson Correlation	-.061	.286*	.101	.375**	.416**	.333*	1	.375**	.000	.071	-.134
	Sig. (2-tailed)	.672	.044	.486	.007	.003	.018		.007	1.000	.622	.355
	N	50	50	50	50	50	50	50	50	50	50	50
C3.5 Childhood memories	Pearson Correlation	-.193	.286*	-.149	.125	.286*	.500**	.375**	1	.625**	.071	-.356*
	Sig. (2-tailed)	.180	.044	.303	.387	.044	<,001	.007		<,001	.622	.011
	N	50	50	50	50	50	50	50	50	50	50	50
C3.6 Culture	Pearson Correlation	-.018	-.071	-.406**	.000	.286*	.333*	.000	.625**	1	.071	-.245
	Sig. (2-tailed)	.904	.622	.003	1.000	.044	.018	1.000	<,001		.622	.086
	N	50	50	50	50	50	50	50	50	50	50	50
C3.7 Other	Pearson Correlation	-.095	.020	-.028	.071	.067	.048	.071	.071	.071	1	-.089
	Sig. (2-tailed)	.511	.888	.847	.622	.644	.743	.622	.622	.622		.538
	N	50	50	50	50	50	50	50	50	50	50	50
9 Cabbage	Pearson Correlation	.326*	-.229	.102	-.022	-.056	-.089	-.134	-.356*	-.245	-.089	1
	Sig. (2-tailed)	.021	.110	.481	.878	.701	.538	.355	.011	.086	.538	
	N	50	50	50	50	50	50	50	50	50	50	50
10 Tomatoes	Pearson Correlation	.193	.071	-.101	-.250	-.026	.167	.000	.250	.250	-.071	.245
	Sig. (2-tailed)	.180	.622	.486	.080	.858	.247	1.000	.080	.080	.622	.086
	N	50	50	50	50	50	50	50	50	50	50	50
11 Onion	Pearson Correlation	.280*	.071	.154	-.125	.104	.167	.000	.125	.125	-.071	.022
	Sig. (2-tailed)	.049	.622	.286	.387	.472	.247	1.000	.387	.387	.622	.878
	N	50	50	50	50	50	50	50	50	50	50	50
14 Spinach	Pearson Correlation	.547**	-.179	-.172	.070	-.040	-.138	-.101	-.207	.005	.c	.032
	Sig. (2-tailed)	<,001	.229	.246	.639	.790	.356	.498	.162	.976	.	.829
	N	47	47	47	47	47	47	47	47	47	47	47
16 Lettuce	Pearson Correlation	-.136	.029	-.040	-.153	-.436**	-.272	.102	-.153	-.153	-.029	.100
	Sig. (2-tailed)	.347	.841	.782	.288	.002	.056	.481	.288	.288	.841	.490
	N	50	50	50	50	50	50	50	50	50	50	50
17 Maize	Pearson Correlation	.053	.036	-.054	-.084	.118	.084	.126	-.084	-.084	-.036	.218
	Sig. (2-tailed)	.714	.803	.709	.561	.413	.561	.382	.561	.561	.803	.129
	N	50	50	50	50	50	50	50	50	50	50	50
18 Sweet potatoe	Pearson Correlation	.155	.020	.700**	.071	.067	.048	.071	-.286*	-.286*	-.020	.229
	Sig. (2-tailed)	.282	.888	<,001	.622	.644	.743	.622	.044	.044	.888	.110
	N	50	50	50	50	50	50	50	50	50	50	50
19 Carrot	Pearson Correlation	.347*	.053	.241	.185	.013	-.082	.031	-.123	-.123	-.053	.318*
	Sig. (2-tailed)	.013	.716	.092	.199	.930	.571	.832	.394	.394	.716	.024
	N	50	50	50	50	50	50	50	50	50	50	50

20 Beans	Pearson Correlation	.132	.029	-.040	.102	-.170	-.272	-.153	-.153	-.153	-.029	.100
	Sig. (2-tailed)	.360	.841	.782	.481	.238	.056	.288	.288	.288	.841	.490
	N	50	50	50	50	50	50	50	50	50	50	50
21 Soya	Pearson Correlation	-.095	.020	-.028	.071	.067	.048	.071	-.286*	-.286*	-.020	.229
	Sig. (2-tailed)	.511	.888	.847	.622	.644	.743	.622	.044	.044	.888	.110
	N	50	50	50	50	50	50	50	50	50	50	50
22 Wheat	Pearson Correlation	-.095	.020	-.028	.071	.067	.048	.071	-.286*	-.286*	-.020	.229
	Sig. (2-tailed)	.511	.888	.847	.622	.644	.743	.622	.044	.044	.888	.110
	N	50	50	50	50	50	50	50	50	50	50	50
24 Beet root	Pearson Correlation	-.095	.020	-.028	.071	.067	.048	.071	.071	.071	-.020	.229
	Sig. (2-tailed)	.511	.888	.847	.622	.644	.743	.622	.622	.622	.888	.110
	N	50	50	50	50	50	50	50	50	50	50	50

Correlations

		10 Tomatoes	11 Onion	14 Spinach	16 Lettuce	17 Maize	18 Sweet potatoe	19 Carrot	20 Beans	21 Soya	22 Wheat	24 Beet root
C1.2 Source	Pearson Correlation	.193	.280*	.547**	-.136	.053	.155	.347*	.132	-.095	-.095	-.095
	Sig. (2-tailed)	.180	.049	<,001	.347	.714	.282	.013	.360	.511	.511	.511
	N	50	50	47	50	50	50	50	50	50	50	50
C2.1 TLV pref	Pearson Correlation	.071	.071	-.179	.029	.036	.020	.053	.029	.020	.020	.020
	Sig. (2-tailed)	.622	.622	.229	.841	.803	.888	.716	.841	.888	.888	.888
	N	50	50	47	50	50	50	50	50	50	50	50
C2.2 Mainstream veg pref	Pearson Correlation	-.101	.154	-.172	-.040	-.054	.700**	.241	-.040	-.028	-.028	-.028
	Sig. (2-tailed)	.486	.286	.246	.782	.709	<,001	.092	.782	.847	.847	.847
	N	50	50	47	50	50	50	50	50	50	50	50
C3.1 Taste	Pearson Correlation	-.250	-.125	.070	-.153	-.084	.071	.185	.102	.071	.071	.071
	Sig. (2-tailed)	.080	.387	.639	.288	.561	.622	.199	.481	.622	.622	.622
	N	50	50	47	50	50	50	50	50	50	50	50
C3.2 Availability and Cost	Pearson Correlation	-.026	.104	-.040	-.436**	.118	.067	.013	-.170	.067	.067	.067
	Sig. (2-tailed)	.858	.472	.790	.002	.413	.644	.930	.238	.644	.644	.644
	N	50	50	47	50	50	50	50	50	50	50	50
C3.3 Easy Prep	Pearson Correlation	.167	.167	-.138	-.272	.084	.048	-.082	-.272	.048	.048	.048
	Sig. (2-tailed)	.247	.247	.356	.056	.561	.743	.571	.056	.743	.743	.743
	N	50	50	47	50	50	50	50	50	50	50	50
C3.4 Medicinal or Nutritional Value	Pearson Correlation	.000	.000	-.101	.102	.126	.071	.031	-.153	.071	.071	.071
	Sig. (2-tailed)	1.000	1.000	.498	.481	.382	.622	.832	.288	.622	.622	.622
	N	50	50	47	50	50	50	50	50	50	50	50
C3.5 Childhood memories	Pearson Correlation	.250	.125	-.207	-.153	-.084	-.286*	-.123	-.153	-.286*	-.286*	.071
	Sig. (2-tailed)	.080	.387	.162	.288	.561	.044	.394	.288	.044	.044	.622
	N	50	50	47	50	50	50	50	50	50	50	50
C3.6 Culture	Pearson Correlation	.250	.125	.005	-.153	-.084	-.286*	-.123	-.153	-.286*	-.286*	.071
	Sig. (2-tailed)	.080	.387	.976	.288	.561	.044	.394	.288	.044	.044	.622
	N	50	50	47	50	50	50	50	50	50	50	50
C3.7 Other	Pearson Correlation	-.071	-.071	.c	-.029	-.036	-.020	-.053	-.029	-.020	-.020	-.020
	Sig. (2-tailed)	.622	.622	.	.841	.803	.888	.716	.841	.888	.888	.888
	N	50	50	47	50	50	50	50	50	50	50	50
9 Cabbage	Pearson Correlation	.245	.022	.032	.100	.218	.229	.318*	.100	.229	.229	.229
	Sig. (2-tailed)	.086	.878	.829	.490	.129	.110	.024	.490	.110	.110	.110

	N	50	50	47	50	50	50	50	50	50	50	50
10 Tomatoes	Pearson Correlation	1	.375**	.260	-.102	.295*	-.071	.123	-.102	-.071	-.071	.286*
	Sig. (2-tailed)		.007	.077	.481	.038	.622	.394	.481	.622	.622	.044
	N	50	50	47	50	50	50	50	50	50	50	50
11 Onion	Pearson Correlation	.375**	1	.370*	-.102	.084	.286*	.431**	-.102	-.071	-.071	-.071
	Sig. (2-tailed)	.007		.010	.481	.561	.044	.002	.481	.622	.622	.622
	N	50	50	47	50	50	50	50	50	50	50	50
14 Spinach	Pearson Correlation	.260	.370*	1	-.174	.041	-.121	.205	.041	-.121	-.121	-.121
	Sig. (2-tailed)	.077	.010		.243	.784	.416	.168	.784	.416	.416	.416
	N	47	47	47	47	47	47	47	47	47	47	47
16 Lettuce	Pearson Correlation	-.102	-.102	-.174	1	-.052	-.029	-.075	-.042	-.029	-.029	-.029
	Sig. (2-tailed)	.481	.481	.243		.722	.841	.603	.774	.841	.841	.841
	N	50	50	47	50	50	50	50	50	50	50	50
17 Maize	Pearson Correlation	.295*	.084	.041	-.052	1	-.036	-.093	-.052	.565**	.565**	-.036
	Sig. (2-tailed)	.038	.561	.784	.722		.803	.519	.722	<,001	<,001	.803
	N	50	50	47	50	50	50	50	50	50	50	50
18 Sweet potatoe	Pearson Correlation	-.071	.286*	-.121	-.029	-.036	1	.387**	-.029	-.020	-.020	-.020
	Sig. (2-tailed)	.622	.044	.416	.841	.803		.006	.841	.888	.888	.888
	N	50	50	47	50	50	50	50	50	50	50	50
19 Carrot	Pearson Correlation	.123	.431**	.205	-.075	-.093	.387**	1	.239	-.053	-.053	.387**
	Sig. (2-tailed)	.394	.002	.168	.603	.519	.006		.095	.716	.716	.006
	N	50	50	47	50	50	50	50	50	50	50	50
20 Beans	Pearson Correlation	-.102	-.102	.041	-.042	-.052	-.029	.239	1	-.029	-.029	-.029
	Sig. (2-tailed)	.481	.481	.784	.774	.722	.841	.095		.841	.841	.841
	N	50	50	47	50	50	50	50	50	50	50	50
21 Soya	Pearson Correlation	-.071	-.071	-.121	-.029	.565**	-.020	-.053	-.029	1	1.000**	-.020
	Sig. (2-tailed)	.622	.622	.416	.841	<,001	.888	.716	.841		.000	.888
	N	50	50	47	50	50	50	50	50	50	50	50
22 Wheat	Pearson Correlation	-.071	-.071	-.121	-.029	.565**	-.020	-.053	-.029	1.000**	1	-.020
	Sig. (2-tailed)	.622	.622	.416	.841	<,001	.888	.716	.841	.000		.888
	N	50	50	47	50	50	50	50	50	50	50	50
24 Beet root	Pearson Correlation	.286*	-.071	-.121	-.029	-.036	-.020	.387**	-.029	-.020	-.020	1
	Sig. (2-tailed)	.044	.622	.416	.841	.803	.888	.006	.841	.888	.888	
	N	50	50	47	50	50	50	50	50	50	50	50

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

c. Cannot be computed because at least one of the variables is constant.

Annexure 3

ETHICS APPROVAL - ETHIC APPLICATION: EBIT/30/2023

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Engineering, Built Environment and Information Technology
Fakulteit Ingenieurswese, Bou-omgewing en Inligtingtegnologie / Lefapha la Boetšenere, Tikologo ya Kago le Theknolotši ya Tshedimošo

16 March 2023

Reference number: EBIT/30/2023

Mr JA Seeliger
Department: Architecture
University of Pretoria
Pretoria
0083

Dear Mr JA Seeliger,

FACULTY COMMITTEE FOR RESEARCH ETHICS AND INTEGRITY

Your recent application to the EBIT Research Ethics Committee refers.

<u>Conditional approval</u> is granted.

This means that the research project entitled "Living Wall Systems for Household-scale Food Production" is approved under the strict conditions indicated below. If these conditions are not met, approval is withdrawn automatically.

Conditions for approval:

Contacts of the participants are to be sourced with compliance to POPIA.

This approval does not imply that the researcher, student or lecturer is relieved of any accountability in terms of the Code of Ethics for Scholarly Activities of the University of Pretoria, or the Policy and Procedures for Responsible Research of the University of Pretoria. These documents are available on the website of the EBIT Ethics Committee.

If action is taken beyond the approved application, approval is withdrawn automatically.

According to the regulations, any relevant problem arising from the study or research methodology as well as any amendments or changes, must be brought to the attention of the EBIT Research Ethics Office.

The Committee must be notified on completion of the project.

The Committee wishes you every success with the research project.

Prof K.-Y. Chan
Chair: Faculty Committee for Research Ethics and Integrity
FACULTY OF ENGINEERING, BUILT ENVIRONMENT AND INFORMATION TECHNOLOGY