International Migration and Food Insecurity in Urban Namibia

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Abstract

Food security and migration have emerged as key development challenges in Namibia. Internal migration, where people move from rural areas to urban centres such as the capital, Windhoek, has been given a great deal of research and policy attention. However, there is a dearth of research on the relationship between international migration and food security in the country. This paper aims to fill this gap by investigating the nexus between international migration and household food security in Windhoek. Drawing on data from a city-wide household food security survey of the city, the paper compares the food security status of international migrant and non-migrant local households. The data show that the migrant households were more food insecure, with less diverse diets, than their local counterparts. Within the migrant group, differences in food security were associated with length of residence in Namibia , type of housing, employment status of the household head, household income, and lived poverty.

Keywords

South-South migration, food insecurity, lived poverty

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Introduction

Although many Africans migrate to other regions, primarily Europe and North America, even more move within the continent itself, with around 21 million documented Africans living in another African country in 2021 (ACSS 2021). South-South migration is thus one of the most significant migration trends on the continent. These movements are triggered by many factors, including poverty, economic marginalisation, food insecurity, and the desire to improve livelihoods (Mixed Migration Centre 2021). However, people who are driven out of their countries of origin by unemployment, poverty, hunger, and general insecurity may find themselves in exactly the same or even worse conditions, particularly in unpredictable foreign urban environments where they are stripped of familiar coping mechanisms and social support systems. Thus, hunger and food insecurity can become both a cause and a consequence of migration (Hammond 2021).

Orjuela-Grimm et al (2021) point out that international migrants are vulnerable from the point they leave their homes up to and including the period of settlement in their destination. Failure to understand this ongoing vulnerability precludes effective guarantee of their access to food security, health, and an adequate standard of living. In the already strained African urban context, which is characterized by slow economic growth, incoming migrants can struggle to adjust and find viable livelihood activities, thus increasing their vulnerability to poverty and food insecurity (Napier, Oldewage-Theron, and Makhaye 2018, Tawodzera and Crush 2017). The COVID-19 pandemic has only worsened urban livelihoods on the continent (UN-Habitat 2022). Given this situation, the need for research that investigates the food security of international migrants living in urban areas in host countries in Africa becomes more urgent. This is particularly true for Namibia that hosts a significant number of international migrants from many other African countries who are fleeing wars and general insecurity. As well as searching for better economic opportunities.

A recurring theme in international migration is the prevalence and persistence of food insecurity among socioeconomically marginalized migrants, but also persistency of food insecurity as reflected through the monthly inadequate food provisioning and the diversity of food consumed. While it is evident that food insecurity accelerates international migration, food access and stability, as well as diversity at destination cities and countries, are important aspects to consider as well. However, little research has been done in these areas in line with international migration. An important question to ask is whether migration improves food security outcomes (Crush and Caesar 2017). More studies are needed to further establish the linkages between migration and food security and go beyond focusing only on the prevalence of the food insecurity effects of migration. It is important, in these efforts, to encompass a more holistic understanding of the effects of both migration and food security, particularly, taking the multidimensional concept of food security, links with migration status.

International Migration to Namibia

Although data on international migration to Namibia are scarce (Gitonga and Visser 2019), the most recent national census (in 2011) found that 93,000 people, or about 4.5% of the total population, were born outside Namibia (Namibia Statistics Agency 2015). UN DESA (2019) estimates that by 2019 the number had increased to 107,561 or 4.3% of the population. The Namibian migration landscape is largely dominated by migrants from neighbouring countries including Angola, South Africa, Zimbabwe, and Zambia (Figure 1). These migrants were driven from their countries by conflict and war, as in Angola, and by an economic meltdown in the case of Zimbabwe. During Namibia's liberation war in the 1980s, many of its combatants and non-combatants sought refuge in Angola. In the post-independence era, migration flows reversed, with Angolan refugees fleeing the country in large numbers in the 1990s to escape the country's long civil war. In the post-civil war period, Angolan refugees have continued to move to Namibia due to droughts and economic challenges in their country (Oliver and Ilcan 2018, Relief Web 2022).

The growth in Zimbabwean migration is especially striking with a more than 300% increase between 2001 and 2011, a period that coincides with a rapid deterioration in the Zimbabwean economy and socio-political landscape, forcing many people to move to other countries (Crush and Tevera 2010). By 2019, there were an estimated 39,580 migrants from Angola, 14,968 from Zimbabwe and 8,785 from South Africa in Namibia (UN DESA 2019). South-South migrants in Namibia came from 34 African countries, 15 Asian countries and 5 Latin American and Caribbean countries.

Namibia's attractiveness as a destination for migrants from other countries, especially from the southern African region, is due to its relative political stability and its stable upper middle-income economy. As the World Bank (2022) points out, Namibia has sound economic management and reduced the incidence of poverty from 28.7% in 2009-10 to 17.4% in 2015-16. The relative prosperity of the country attracts migrants with the prospects of a better life. Although the economic challenges of recent years have reduced growth rates, this does not appear to have dissuaded international migration to Namibia.

The drought has precipitated further migration by Angolans living in Cunene and Huila provinces to avoid hunger, malnutrition, starvation, and food insecurity. Most of these migrants settle in the Ohangwena and Omusati regions of Namibia. In 2021, for example, 4,000 Angolan migrants were reported to have fled unemployment, hunger, and drought in their country and camped at Etunda in the Omusati region (All Africa 2021). Many other Angolan migrants have settled among the Namibian population in various areas of the country, including Windhoek and the northern towns of Outapi, Oshakati, Eehana, Ruacana, Omuthiya and Opuwo.

In Namibia's urban centres, Angolans compete with Namibians for employment and other livelihood activities. In an environment where economic conditions are getting more

challenging, migrants are at a disadvantage and have to make do. Without stable employment, they build their livelihoods in the informal sector. Their increased vulnerability means that they are likely to face more severe food security challenges. Even ex-refugees in the camps of Kasava and Osire are no better off, as they lack the resources and services for survival (Ilcan, Isin, and Nyers 2014). The challenges facing Angolan migrants are similar to those confronting other migrants from Zimbabwe, Zambia, and other countries within the region.

Against this background, this study examines the extent to which food insecurity is a major driver of international migration to Namibia and assesses the nature of their food security situation and food security coping strategies while domiciled in the country. The paper draws on a survey of migrant and non-migrant households conducted in 2016.

Methodology

The sample was drawn from a survey completed in 2016 by the African Food Security Urban Network (AFSUN) and Hungry Cities Partnership over a two-week period. The field work was implemented by researchers based at the University of Namibia. The sampling units were drawn from the entire Windhoek city (Figure 2), with the same household samples drawn from the ten constituencies of the city. The households surveyed in the ten constituencies were identified using a two-stage sampling design. In the first step, primary sampling units (PSU) were randomly selected with a proportional probability to size (PPS), followed in the second step by systematic sampling of a fixed number of households in each chosen PSU. PSUs were selected from a master frame developed and demarcated for the 2011 Population and Housing Census. Within the ten constituencies, a total of 35 PSUs were selected covering the entire city of Windhoek, and 25 households were systematically selected in each PSU. The sampled PSUs and households were located on maps, which were used to target households for interviews. Eventually, in each household, the head or their representative was interviewed after giving their informed consent.

Migration status was determined through a simple question: where was the head of the household and household members born and migrated from? This question was important for determining four categories by migration status: (a) nonmigrant households; (b) urban to urban internal migrants; (c) rural to urban internal migrants; and (d) international migrants. Almost 60% of the heads of households

Figure 1: Country of Origin of Migrants in Namibia, 2001 and 2011

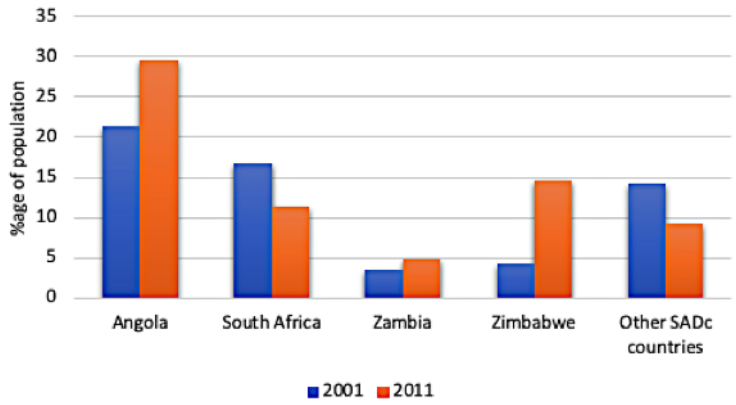
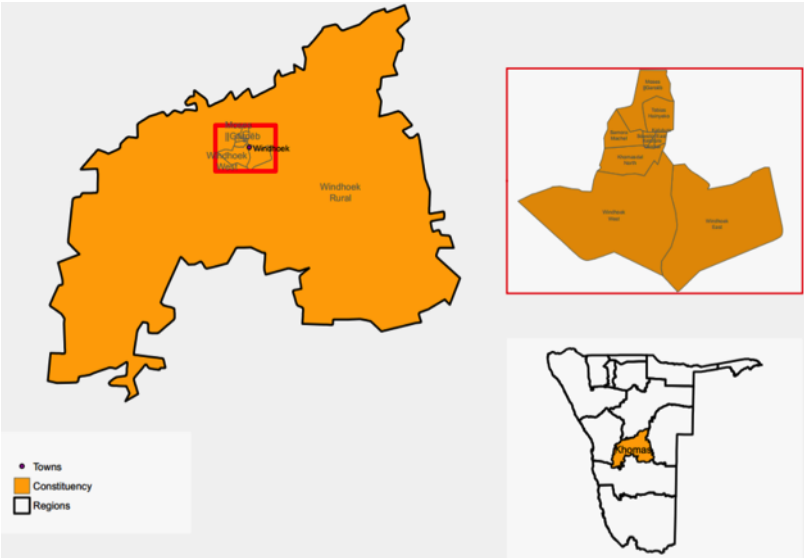


Figure 2: Location of Windhoek and Khomas Region



were born in rural areas of Namibia, while one quarter were born in Windhoek (Table 1). For household members, close to 50% were born in Windhoek. Only 4.5% of the heads were born abroad and migrated to Namibia.

The study used three measures of household food security: the Household Food Insecurity Access Prevalence (HFIAP) to measure household food access, the Months of Adequate Household Food Provisioning (MAHFP) to measure the long-term stability of food access, and the Household Dietary Diversity Score (HDDS) to capture the quality and variety of diets According to Frayne and McCordic (2015), access is defined by the ability of a household to command resources via labour, legal right, production, or social capital (the resources open to a household via social networks). Household access is best defined as the availability of these resources, rather than being exclusively measured by the purchasing power of a household. Access is operationalized in the self-reporting of the HFIAP of the physical consequences, economic impacts, and social experience of lack of access to food by households. The HFIAP is used to classify households into one food-secure and three food-insecure categories of increasing severity.

Typically, the HFIAP categories are represented as food secure (HFIAP = 1), mildly food insecure (HFIAP = 2), moderately food insecure (HFIAP = 3), or severely food insecure (HFIAP = 4). A binary categorisation, where HFIAP categories are binned into food secure (HFIAP = 1) and food insecure (HFIAP = 2–4) in this study to fit a logistic regression. The logit model is preferred to aid in the ease of interpretation of the regression coefficients. These are interpreted as odds ratios, with OR > 1 indicating an increased likelihood or chance of food insecurity.

The stability of household food access is operationalized in the MAHFP as the adequacy of food provisioning over a 12-month period. The survey instrument measures the number of months during which a household reports having access to sufficient food. The respondents were asked the following questions: (i) in the past 12 months, were there months where you did not have enough food to meet your family's food needs? And (ii) If yes, what were the months in which you did not have enough food to meet the needs of your family? The greater the number of months that a household did not have had enough food to meet its needs, the greater the likelihood that it is vulnerable to food insecurity (Hoddinott and Yohannes 2002). The MAHFP is measured as the number of months in which a household had sufficient food provisioning. The total number of months of adequate provisioning leads to a count variable. A Poisson regression is then used to identify potential risk factors. The regression coefficients of the model are interpreted as risk ratios (RR), with RR>1 implying increased risk and RR <1 reduced risk.

Lack of dietary diversity often accompanies food insecurity and thus the quality of food consumed is an important aspect of food security. Measures of dietary diversity tend to be of two types: those based on whether an individual food is consumed or not, and those that are based on whether food from a particular food group is consumed. When comparing dietary diversity based on food groups and individual foods, regression analysis shows that dietary diversity based on food groups is a stronger determinant of nutritional adequacy (Ruel 2003). The household dietary diversity score (HDDS) adopts the food group approach and asks how many of 12 different groups were consumed in the household over a specific recall period (usually 24 hours) (Swindale and Bilinsky 2006, Swindale and Ohri-Vachaspati 2005). HDDS can be considered a Poisson response variable, and hence a standard Poisson regression model is used to estimate the intensity and determinants of HDSS for different types of households. All of the analysis that follows was carried out using SPSS Version 25.

The Afrobarometer Lived Poverty Index (LPI) was used as a measure of multi-dimensional poverty. The questions in the LPI provide information on how frequently households went without certain basic necessities over the course of the previous year. Those assessed include food, clean water, medicine, fuel to cook food, and a cash income. An LPI score was calculated for each household ranging from 0.00 (indicating complete satisfaction of basic needs) to 4.00 (indicating that no basic needs were met during the previous year.)

Table 2 presents the background characteristics of the household members in the international migrant households captured by the survey. There were slightly more male household heads than females (55% versus 45%). Over half (53%) of the household members were not married. Just over one third were working full-time. Half had migrated in the five years prior to the survey. The majority were relatively young, with two thirds younger than 34 years of age.

Table 1: Place of Birth of Household Heads and Members

Place of origin	Head of household		All members	
	No.	%	No.	%
Windhoek	202	24.0	1,940	49.9
Another urban area in Namibia	110	13.1	381	9.8
Rural area in Namibia	491	58.4	1,447	37.2
Foreign country	38	4.5	118	3.0
Total	841	100	3,886	100

Table 2: Characteristics of Migrant Household Members			
		No.	**%**
Gender	Male	65	55.1
	Female	51	44.9
Household position	Head of household	38	32.2
	Spouse/partner	24	20.3
	Son/daughter	22	18.6
	Brother/sister	9	7.6
	Others: relatives	20	17.1
	Others: non-relatives	5	4.2
Marital status	Unmarried	62	53.4
	Married	42	36.2
	Other	15	10.4
Work status	Working full-time	42	35.6
	Self-employed	16	13.6
	Unemployed	20	16.9
	Pensioner	11	9.3
	Student	28	23.8
Education level	No formal	19	16.1
	Primary	19	16.1
	Secondary	43	36.4
	Tertiary	37	32.2
Year migrated	<1990	30	25.4
	1990-1999	8	6.8
	2000-2009	21	17.8
	2010- 2016	59	50.0
Age	<24	32	29.1
	25-34	39	35.5
	35-59	28	25.5
	60+	11	10.0

Comparing Migrant and Non-Migrant Households

Windhoek is a highly food insecure city. Only 16% of the 874 households surveyed city-wide were food secure. There were marked differences between migrant and non-migrant households within the city, however. A similar low percentage of migrant and non-migrant households were food secure. However, over 80% of migrant households were severely food insecure, compared with 66% of non-migrant households (Figure 3).

The mean HDDS for migrant households was a low 2.6 versus 3.2 among non-migrant households. In both groups, most households consumed food from only two food groups (47% for migrants, 39% among non-migrants), followed by those consuming three food groups (21% for migrants, 18% for non-migrants). However, Figure 4 shows the distribution of HDDS values and that some non-migrant households consumed food from as many as 10 food groups (compared to a maximum of 6 for migrant households).

Table 3 shows the proportion of migrant and non-migrant households consuming foods from each of the 12 food groups. Migrant households in Windhoek had more carbohydrate-rich foods such as pasta, bread, and cereals such as rice and wheat (96% versus 20% of households), while non-migrant households consumed more meat (51% versus 23%). Migrant households were the more likely to have consumed fish (34% versus 20%). Non-migrant households were marginally more likely to include vegetables and fruit in their diet, but both groups had relatively low consumption of these healthier food options.

The adequacy of the food supply varied throughout the year for both groups of households. Figure 5 shows that the months from September to December (following the Namibian winter) was the period of greatest food hardship for both migrant and non-migrant households. However, the incidence of food deprivation was more pronounced for non-migrant households towards the end of the year.

Figure 3: HFIAP Food Insecurity Scores Among Migrant and Non-Migrant Households

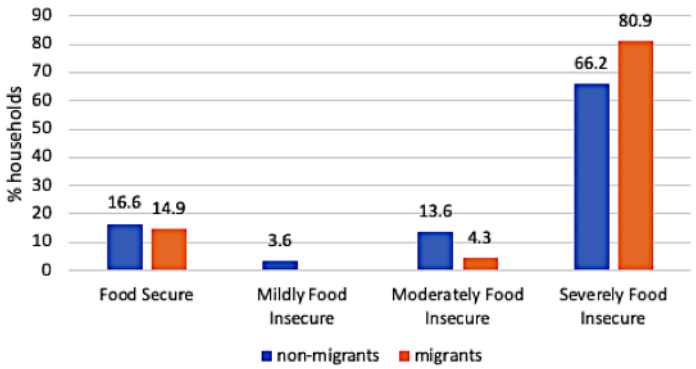


Figure 4: HDDS Among Migrant and Non-Migrant Households

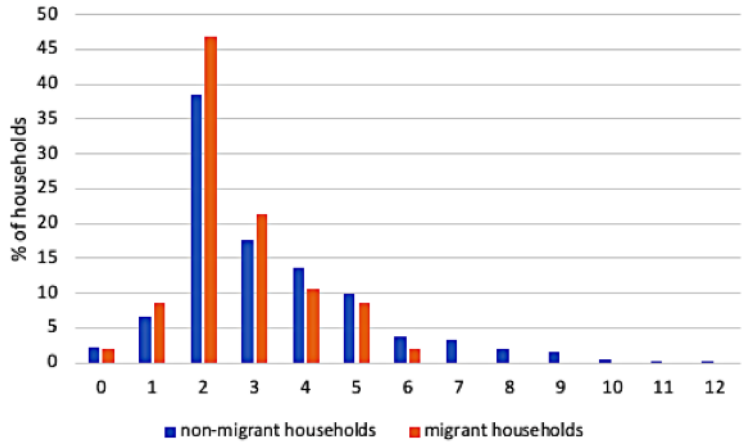
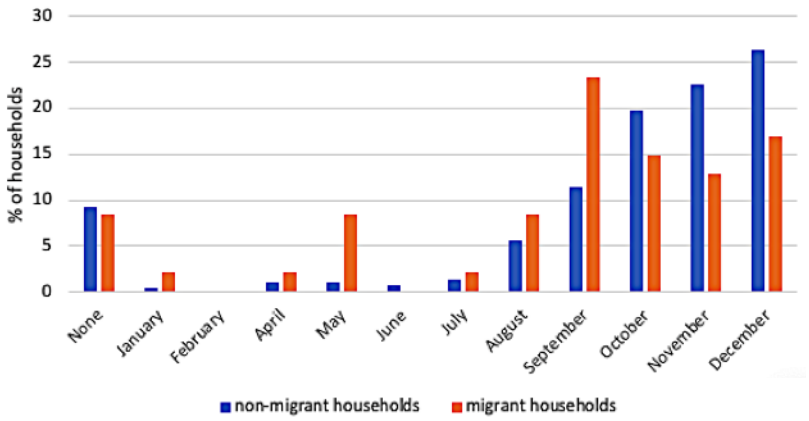


Table 3: Food Groups Consumed by Migrant and Non-Migrant Households		
Dietary groups	**% of migrants**	**% of non-migrants**
Pasta, bread, rice noodles, biscuits or any other foods made from flour, millet, sorghum, maize, rice, wheat, or oats	95.7	20.2
Fresh or dried fish or shellfish	34.1	20.1
Beef, pork, lamb, goat, rabbit, wild game, chicken, duck, other birds, organ meats/offal or products	23.4	51.2
Sugar or honey	23.4	34.7
Other vegetables	23.4	20.8
Foods made with oil, fat, or butter	21.6	6.4
Condiments, coffee, tea	17.2	27.1
Foods made from beans, peas, lentils, or nuts	10.6	5.8
Cheese, yoghurt, milk, or other milk/dairy products	8.5	15.1
Potatoes, sweet potatoes, beetroots, carrots or foods made from them	4.3	12.1
Fruits	2.1	6.1
Eggs	0	5.7

Figure 5: MAHFP Among Migrant and Non-Migrant Households



Modelling Migrant Food Insecurity

Table 4 shows the relationship between food security and the socio-economic characteristics of all households in the survey. Food insecurity was most strongly associated with housing type, lived poverty, and household income. Formal housing households (64%) were less food insecure than those living in informal areas (92%). Three quarters of households with heads engaged in formal employment were food insecure. However, all households with heads in informal employment were food insecure. The relationship between poverty and food insecurity is illustrated by the fact that as lived poverty improved, the proportion of food insecure households declined. Finally, as household income increased, food insecurity declined. All households in the lowest two income quintiles were food insecure while food security improved to 25% in the upper income quintile.

In the multivariate logit regression model, migrant household food insecurity was strongly associated with length of time in Namibia and type of housing (Table 5). Recent migrants (those who arrived from 2010 onwards had much higher odds of being food insecure (OR=7.93, p=0.004), as did migrants in informal housing (OR=6.76, p<0.001). There were reduced odds of being food insecure for smaller households, those with a household head in formal employment, and those with lower lived poverty.

Table 4: Bivariate Association of Food Insecurity with Household Variables

Variable	Categories	Food secure (%)	Food insecure (%)	Chi-square (p-value)
International migration	Yes	14.9	85.1	0.94 (p=0.754)
	No	16.6	83.4	
Housing type	Formal	36.4	63.6	57.98 (p<0.001)
	Informal	8.3	91.7	
Household size	1 member	0.0	100.0	23.09 (p=0.01)
	2-3 members	23.5	76.5	
	4-5 members	7.1	92.9	
	6 or more members	15.4	84.6	
Household head occupation	Formal	28.6	71.4	27.09 (p=0.01)
	Casual	0.0	100.0	
	Business	0.0	100.0	
	Others	0.0	100.0	
Lived Poverty Index (LPI)	0-0.50	57.1	42.9	122.34 (p<0.001)
	0.51-1.00	59.0	50.0	
	1.1-1.50	10.0	90.0	
	>1.51	0.0	100	
Household income	<= 700.00	0.0	100.0	78.26 (p<0.001)
	701.00-1500.00	0.0	100.0	
	1501.00-2500.00	14.3	85.7	
	2501.00-6300.00	14.3	85.7	
	6301.00+	25.0	75.0	

Table 5: Variables Associated with Migrant Household Food Insecurity (HFIAP)					
Variable	**Categories**	**Odds ratio**	**95% C.I. for OR**		**p-value**
		OR	**Lower**	**Upper**	
Year migrated	<1990	1.00			
	1990-1999	5.37	0.910	31.689	0.063
	2000-2009	5.63	1.231	25.776	0.026
	2010- 2017	7.93	1.929	32.589	0.004
Housing type	Informal	6.76	2.276	20.09	0.001
	Formal	1.00			
Household size	1	0.11	0.024	0.499	0.004
	2-3	0.45	0.114	1.76	0.25
	4-5	0.48	0.129	1.76	0.266
	6 or more	1.00			
Household head occupation	Formal	0.25	0.04	1.486	0.126
	Casual	0.86	0.054	13.921	0.918
	Business	0.10	0.009	1.132	0.063
	Other	1.00			
Lived Poverty Index	0-0.50	0.014	0.03	0.057	0.001
	0.51-1.00	0.066	0.014	0.305	0.001
	1.1-1.50	0.136	0.026	0.707	0.001
	>1.51	1.00			

Migrant households in informal housing had higher odds of inadequate monthly food compared to those in formal housing (OR=1.4, p<0.001 (Table 6). All levels of income lower than N$6,301+ had higher odds of food inadequacy, with the lowest income quintile being most likely to experience food inadequacy (OR=4.18, p<0.001), Similarly, those with the lowest levels of lived poverty were least likely to experience an inadequate monthly supply of food (OR=0.24, p<0.001).

The pattern of risk factors for poor migrant household dietary diversity is rather different (Table 7). There was no significant association between the HDDS and variables including the year of migration, housing type, household size, or the occupation of the head of household. The odds of a migrant household experiencing poor dietary diversity increased with greater lived poverty and a decline in household income. Households with the lowest levels of lived poverty had lower odds of poor dietary diversity (OR=1.78, p<0.001). Households in the lowest income quintile had highest odds of poor dietary diversity (OR=0.72, p<0.001).

Table 6: Variables Associated with Migrant Household Food Stability (MAHFP)					
Parameter		**Relative risk (RR)**	**95% Wald Confidence Interval for RR**		**p-value**
			Lower	**Upper**	
Year migrated	<1990	0.72	0.467	1.12	0.147
	1990-1999	0.94	0.768	1.146	0.53
	2000-2009	0.93	0.795	1.086	0.356
	2010- 2017	1.00			
Housing type	Informal	1.40	1.186	1.66	0.001
	Formal	1.00			
Household size	1 member	0.84	0.711	0.986	0.033
	2-3 members	0.70	0.621	0.78	<0.001
	4-5 members	0.88	0.788	0.977	0.017
	6 or more	1.00			

Household head occupation	Formal	0.55	0.493	0.614	<0.001
	Casual	0.88	0.779	0.999	0.048
	Business	0.54	0.458	0.642	<0.001
	Others	1.00			
Lived Poverty Index	0-0.50	0.24	0.184	0.319	p<0.001
	0.51-1.00	0.41	0.332	0.511	p<0.001
	1.1-1.50	0.55	0.432	0.687	p<0.001
	>1.51	1.00			
Household income	<= 700.00	4.18	2.693	6.476	p<0.001
	701.00-1500.00	2.59	1.702	3.926	p<0.001
	1501.00-2500.00	2.84	1.853	4.341	p<0.001
	2501.00-6300.00	2.13	1.383	3.266	
	6301.00+	1.00			p<0.001

Table 7: Variables Associated with Migrant Household Dietary Diversity (HDDS)

Variable		Relative risk (RR)	95% Wald Confidence Interval for RR		p-value
			Lower	Upper	
Year migrated	<1990	0.948	0.624	1.408	0.147
	1990-1999	0.958	0.754	1.193	0.53
	2000-2009	0.92	0.776	1.082	0.356
	2010-2017	1.00			
Housing type	Informal	1.05	0.888	1.249	0.21
	Formal	1.00			
Household size	1 member	0.90	0.703	1.147	0.13
	2-3 members	0.97	0.816	1.151	0.08
	4-5 members	1.06	0.891	1.262	0.17
	6 or more	1.00			
Household head occupation	Formal	1.06	0.868	1.291	<0.001
	Casual	0.90	0.715	1.138	0.048
	Business	0.82	0.628	1.062	<0.001
	Others	1.00			
Lived Poverty Index	0-0.50	1.78	1.458	2.179	p<0.001
	0.51-1.00	1.37	1.11	1.69	p<0.001
	1.1-1.50	1.25	1.02	1.595	p=0.03
	>1.51	1.00			
Household income	<= 700.00	0.72	0.531	0.976	p=0.01
	701.00-1500.00	0.82	0.632	0.981	p=0.045
	1501.00-2500.00	0.86	0.669	1.111	p=0.071
	2501.00 - 6300.00	0.81	0.648	0.914	p<0.01
	6301.00+	1.00			

Conclusion

Food security and international migration have emerged as key development issues in many developing countries, including Namibia. According to the World Bank (2018), there is a complex causal relationship between food insecurity and migration in developing nations. Studies in developed countries show that recent immigrants are at higher risk of food insecurity (Tarraf, Sanou, and Giroux 2017), and lack of appropriate socially and culturally acceptable foods is manifested in less diverse diets (Anderson et al 2014). Internal migration, where people move from rural areas to urban centres such as Windhoek, has been given a great deal of attention in Namibia (Frayne and Pendleton 2001, Frayne 2004, 2005, 2007, 2010, Pendleton, Crush, and Nickanor 2014). However, there is dearth of research on international migration and food security in the country. This paper aims to fill this research gap by investigating the nexus between international migration and household food security in Windhoek. Drawing on data from a city-wide household food security survey of the city, the paper compared the food security status of international migrant and non-migrant households in terms of food access, stability of supply, and dietary diversity.

The findings show that the migrant households were more food insecure, with less diverse diets, than their local counterparts. On the other hand, there were few months that households reported inadequate food provisioning. Many factors were at play here. Most important was length of residence in Windhoek, where recent migrants were more at risk of food insecurity. This clearly demonstrate a lack of social capital or social networks, which would provide necessary support during the time the family is establishing itself. Within the migrant group, differences in food security were associated with length of residence, type of housing, employment status of the household head, household income, and lived poverty.

In future research on the migration and food insecurity nexus in Namibia, more focus is needed on the cultural dimensions of food security. Changes in dietary habits related to immigration - referred to as dietary acculturation - are particularly important to explore (Cleveland et al 2009, Mansour, Liamputtong, and Arora 2020). There are various ways to measure acculturation, but the most used is duration of stay in the host country (Sanou et al 2014). This proxy measure considers acculturation as a linear and unidirectional process, which excludes the possibility of multiculturalism and interaction between the host and home country food cultures. However, acculturation is a multidimensional and multidirectional phenomenon that takes different paths (Pillarella 2006, Pérez-Escamilla and Putnik 2007). Investigating the dietary acculturation process would also help understand the assimilation process, including its impacts on migrant health (Beiser 2005, McDonald and Kennedy 2005).

References

1. Africa Centre for Strategic Studies (ACSS) (2021). "African Migration Trends to Watch in 2022." At: https://africacenter.org/spotlight/african-migration-trends-to-watch-in-2022/
2. All Africa (2021). "Namibia: Plight of Angolans Worsens." At: https://allafrica.com/stories/202111230276.html
3. Anderson, L., Hadzibegovic, D., Moseley, J. and Sellen, D. (2014). "Household Food Insecurity Shows Associations with Food Intake, Social Support Utilization and Dietary Change Among Refugee Adult Caregivers Resettled in the United States." *Ecology of Food and Nutrition* 53(3): 312–332.
4. Beiser, M. (2005). "The Health of Immigrants and Refugees in Canada." *Canadian Journal of Public Health* 96: S30–S44.
5. Cleveland, M., Laroche, M., Pons, F. and Kastoun, R. (2009). "Acculturation and Consumption: Textures of Cultural Adaptation." *International Journal of Intercultural Relations* 33:196-212.
6. Crush, J. and Caesar, M. (2017). "Introduction: Cultivating the Migration-Food Security Nexus." *International Migration* 55(4): 10-17.
7. Crush, J. and Tevera, D. (2010). *Zimbabwe's Exodus: Crisis, Migration, Survival* (Ottawa: International Development Research Centre).
8. Frayne, B. (2004). "Migration and Urban Survival Strategies in Windhoek, Namibia." *Geoforum* 35: 489-505.
9. Frayne, B. (2005). "Rural Productivity and Urban Survival in Namibia: Eating Away from Home." *Journal of Contemporary African Studies* 23: 51–76.
10. Frayne, B. (2007). "Migration and the Changing Social Economy of Windhoek, Namibia." *Development Southern Africa* 24: 91–108.
11. Frayne, B. (2010). "Pathways of Food: Mobility and Food Transfers in Southern African Cities." *International Development Planning Review* 32: 83–104.
12. Frayne, B. and Pendleton, W. (2001). "Migration in Namibia: Combining Macro and Micro Approaches to Research Design and Analysis." *International Migration Review* 3: 1054–1085.
13. Frayne, B. and McCordic, C. (2015). "Planning for Food Secure Cities: Measuring the Influence of Infrastructure and Income on Household Food Security in Southern African Cities." *Geoforum* 65: 1-11.
14. Gitonga, Z. and Visser, M. (2019). "Is Migration an Effective Adaptive Livelihood Diversification Strategy Among Households in Arid Regions of Namibia?" 6th International Conference of African Association of Agricultural Economists, Nigeria.
15. Hammond, L. (2021). "Hunger and Migration: The Hidden Links that go Beyond Borders." At: https://www.concernusa.org/story/hunger-and-migration-beyond-borders/
16. Hoddinott, J. and Yohannes, Y. (2002). *Dietary Diversity as a Household Food Security Indicator.* (Washington, D.C.: Food and Nutrition Technical Assistance Project).

17. Ilcan, S., Isin, F. and Nyers, P. (2014). "Activist Citizens and the Politics of Mobility in Osire Refugee Camp" In E. Isin and P. Nyers (eds.), *Routledge Handbook of Global Citizenship Studies* (London: Routledge), pp. 185-195.
18. Mansour, R., Liamputtong, P. and Arora, A. (2020). "Prevalence, Determinants, and Effects of Food Insecurity among Middle Eastern and North African Migrants and Refugees in High Income Countries: A Systematic Review." *International Journal of Environmental Research and Public Health* 17(19): 7262.
19. McDonald, J. and Kennedy, S. (2005). "Is Migration to Canada Associated with Unhealthy Weight Gain? Overweight and Obesity among Canada's Immigrants." *Social Science and Medicine* 61(12): 2469–2481.
20. Mixed Migration Centre (2021). *Mixed Migration Review 2021: Highlights, Interviews, Essays, Data* (Geneva: Mixed Migration Centre). At: https://mixedmigration.org/wp-content/uploads/2021/11/Mixed-Migration-Review-2021.pdf
21. Namibia Statistics Agency (2015). "Namibia 2011 Census Migration Report." At: *https://cms.my.na/assets/documents/Migration_Report.pdf*
22. Napier, C., Oldewage-Theron, W. and Makhaye, B. (2018). "Predictors of Food Insecurity and Coping Strategies of Women Asylum Seekers and Refugees in Durban, South Africa." *Agriculture and Food Security* 7: 1-9.
23. Oliver, M. and Ilcan, S. (2018). "The Politics of Protection: The Right to Food in Protracted Refugee Situations." *Refugee Survey Quarterly* 37(4): 440-457.
24. Orjuela-Grimm, M., Dschak, C., Aragon Gama, C., Carreño, S., Hoyos, L., Mundo, V., Bojorquez, I., Carpio, K., Quero, Y., Xicotencatl, A. and Infante, C. (2022). "Migrants on the Move and Food (In)security: A Call for Research." *Journal of Immigrant and Minority Health* 24: 1318–1327.
25. Pendleton, W., Crush, J. and Nickanor, N. (2014). "Migrant Windhoek: Rural–Urban Migration and Food Security in Namibia." *Urban Forum* 25: 191–205.
26. Pérez-Escamilla, R. and Putnik, P. (2007). "The Role of Acculturation in Nutrition, Lifestyle, and Incidence of Type 2 Diabetes among Latinos." *Journal of Nutrition* 137(4): 860–870.
27. Pillarella S. (2006). "Dietary Acculturation of Recent West African Francophone Immigrants Established in Montreal: An Ecological Analysis." At: http://www.archipel.uqam.ca/2892/1/M9505.pdf
28. Relief Web (2022). "Namibia: Angolan Migrants Emergency Plan of Action." At: https://reliefweb.int/report/namibia/namibia-angolan-migrants-emergency-plan-action-epoa-dref-operation-n-mdrna012
29. Ruel, M. (2003). "Operationalizing Dietary Diversity: A Review of Measurement Issues and Research Priorities." *Journal of Nutrition* 133(11): 3911S-3926S.
30. Sanou, D., O'Reilly, E., Ngnie-Teta, I., Batal, M., Mondain, N., Andrew, C., Newbold, B. and Bourgeault, I. (2014). "Acculturation and Nutritional Health of Immigrants in Canada: A Scoping Review." *Journal of Immigrant and Minority Health* 16(1): 24–34.
31. Swindale, A. and Bilinsky, P. (2006). "Development of a Universally Applicable Household Food Insecurity Measurement Tool: Process, Current Status, and Outstanding Issues." *Journal of Nutrition* 136(5): 1449S-1452S.
32. Swindale, A. and Ohri-Vachaspati, P. (2004). Measuring Household Food Consumption: A Technical Guide (Washington, D.C.: Food and Nutrition Technical Assistance Project and Academy for Education Development). At: https://pdf.usaid.gov/pdf_docs/Pnadd641.pdf
33. Tarraf, D., Sanou, D. and Giroux, I. (2017). "Immigration and Food Insecurity: The Canadian Experience—A Literature Review" In I. Muenstermann (ed.), *People's Movements in the 21st Century: Risks, Challenges and Benefits* (London: IntechOpen), pp. 37-54.
34. Tawodzera, G. and Crush, J. (2017). "South-South Migration and Urban Food Security: Zimbabwean Migrants in South African Cities." *International Migration* 55(4): 88-102.
35. UN Department of Economic and Social Affairs (UN DESA) (2019). "International Migrant Stock 2019 - Country Profile: Namibia." At: https://www.un.org/development/desa/pd/content/international-migrant-stock
36. UN-Habitat (2022). *Envisaging the Future of Cities.* World Cities Report 2022, United Nations Human Settlements Programme (UN-Habitat), Nairobi. At: https://unhabitat.org/sites/default/files/2022/06/wcr_2022.pdf
37. World Bank (2018). *Learning to Realize Education's Promise.* World Development Report 2018, World Bank, Washington, D.C. At: https://www.worldbank.org/en/publication/wdr2018
38. World Bank (2022). "Overview: The World Bank in Namibia." At: https://www.worldbank.org/en/country/namibia/overview#1