Urban Forum (2014) 25:191–205
DOI 10.1007/s12132-014-9220-x

Migrant Windhoek: Rural–Urban Migration and Food Security in Namibia

Wade Pendleton · Jonathan Crush · Ndeyapo Nickanor

Published online: 18 January 2014

Abstract The relationship between migration and food security in urban areas is an emerging area of research internationally. To date, with the exception of studies in India, Kenya, and Namibia, little attention has focused on food insecurity experienced by migrants in cities of the Global South. Building on earlier work in Namibia, this paper interrogates the relationship between migration and food security in the city of Windhoek. Windhoek has experienced significant rural–urban migration in recent years, especially since Namibia's independence in 1990. Many migrants have settled in the northern and north-western areas of the city, primarily in the informal settlements. Most of the migrant households are poor and food insecure. In an effort to mitigate their insecure food situation, they make use of various strategies including receiving food transfers, obtaining food from informal markets, and other informal methods. This paper documents the dimensions and variations in food security amongst migrant households and examines the linkages between migration and food insecurity in a rapidly-growing African city.

Keywords Migration · Food insecurity · Urbanisation · Poverty · Windhoek

W. Pendleton
Department of Social Anthropology, University of Cape Town, P/B Rondebosch, Cape Town, South Africa
e-mail: wpendlet@breede.co.za

J. Crush (✉)
Balsillie School of International Affairs, Waterloo, ON, Canada
e-mail: crushj@queensu.ca

J. Crush
University of Cape Town, Rondebosch, Cape Town, South Africa

N. Nickanor
Department of Statistics, University of Namibia, P/Bag 13301, 340 Madume Ndemufayo Ave, Windhoek, Namibia
e-mail: nnickanor@unam.na

Introduction

The reciprocal relationship between urban food security and migration remains a significant gap in the research literature (Crush 2013). Studies of the impact of migration on food security and vice versa have tended to focus almost exclusively on rural populations (Zezza et al. 2011), examining such issues as whether migrant remittances enhance food security (de Brauw 2011; Karamba et al. 2011; Comes et al. 2014), food insecurity leads to out-migration (McMichael 2014), and migration deprives the rural household of labour, lowers its agricultural productivity, and undermines rural development (Lacroix 2011). In the urban setting, the definition of food security needs to be extended beyond production and supply to include food access, nutritional quality, and dietary diversity. In that context, there is an emerging literature which examines whether and how the act of migration between very different food environments impacts upon the food security of migrants.

Most of the studies to date focus on the dietary change that accompanies migration from the Global South to cities of the Global North. A number of biomedical researchers have looked at the changing diets and nutritional status of African migrants once they settle in cities of the North (Darmon and Khlat 2001; Delisle et al. 2009; Pereira et al. 2010; Dharod et al. 2011; Lindsay et al. 2012; Gele and Mbalilaki 2013). Riosmena et al. (2012) take the analysis of the relationship between South–North migration and food security a step further, arguing that Mexico–US migration is changing diets in Mexico itself and accelerating the country's growing obesity problem. Studies of the changing food security status of migrants in the cities of the South are much less common and are likely to constitute a major area of research in the future. Most of the research to date has focused on rural–urban migration and changing diets within the country (Choudhary and Parthasarathy 2009; Bowen et al. 2011; Tripathi and Srivastava 2011).

Thanks largely to the earlier work of Frayne (2004, 2005, 2007), urban food security and its links with migration have attracted more attention in Namibia. Frayne (2007) demonstrates that migrants to the city of Windhoek from the rural north of the country remit income and goods to their rural base. At the same time, their food security in the city is buttressed by substantial informal flows of agricultural produce from the rural family. Similar patterns of rural–urban reciprocity have been observed in Kenya (Owuor 2006, 2010; Mberu et al. 2013). In a broader analysis of migration and rural–urban food transfers at the regional scale, Frayne (2010) uses comparative data from the African Food Security Urban Network's (AFSUN) urban food security baseline survey and finds considerable inter-city variation in the volume and types of transfer and their importance to the food security of poor urban households.

This paper revisits the situation in Windhoek to ascertain if there have been any changes in rural–urban food transfers since Frayne conducted his research and, if so, why. Using a more rigorous set of food security indicators, the paper also focuses on the levels of food insecurity amongst migrant households and their differences with non-migrant households. Furthermore, these indicators permit us to differentiate between different types of migrant household to demonstrate that levels of food insecurity can vary within a community of migrants. Prior to a discussion of the Windhoek survey data, however, it is important to provide a background overview of postindependence rapid urbanisation and rural–urban migration in Namibia as a whole.

Rapid Urbanisation in Namibia

Like many other African countries, Namibia is urbanising at a rapid rate. The 2011 Census indicates that over 900,000 people (or 43 % of the national population) now live in urban areas (up from 33 % in 2001) (Government of Namibia 2012). The capital city of Windhoek is the major focus of urbanisation, although all of the country's urban centres are increasing in size. Windhoek's urban and peri-urban population increased from 235,500 in 2001 to 340,900 in 2011 (an annual growth rate of 5 %). The city has 16 % of the national population (up from 14 % in 2001) and 36 % of the total urban population. The next four towns in the urban hierarchy are considerably smaller in size: Rundu (63,431), Walvis Bay (62,096), Swakopmund (44,725), and Oshakati (36,541). Windhoek is about the same size as the cumulative population of the next ten largest urban centres in the country and continues to increase in primacy. The population of Windhoek is projected to reach half a million people by 2020 if the current growth rate is maintained (Windhoek Municipality 2010).

Large-scale rural–urban migration, especially from northern Namibia, is the major driver of contemporary urbanisation (Pendleton and Frayne 1998). Prior to the 1990s, there were considerable obstacles to internal migration. During the decades of South African rule before 1990, stringent controls were placed on the urbanisation of the black population (Pendleton 1996). In 1968, the total population of Windhoek was only 57,000 and whites out-numbered blacks. Apartheid controls were eased in the 1980s and rural–urban migration began to increase. In 1981, Windhoek had a population of 96,000, which had increased to 147,000 by the time of independence (Fig. 1). A 1991 survey estimated the population of the poorer northern and north-western areas of Windhoek to be about 91,000 (Pomuti and Tvedten 1998). By 1996, the number had grown to about 110,000. In 2011, the population in these areas had reached nearly 200,000 (Government of Namibia 2012).

Windhoek is the economic and political hub of Namibia, accounting for more than half of the country's manufacturing activity, over 80 % of its finance and business services, and two-thirds of its community and social services. The city has a distinctive spatial structure that reflects its colonial and apartheid history. There is a modern and thriving central business

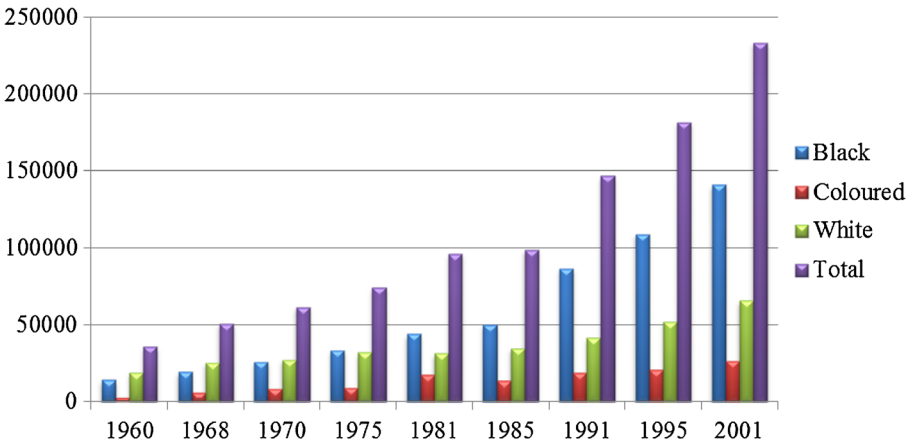

Fig. 1 Population growth of Windhoek

district (CBD) with light industrial areas to the north and south. In the centre of the CBD are government offices, courts, banks, the main post office, business centres, hotels, and new shopping malls and supermarkets; a blend of high-rise and low-rise modern buildings. To the east, south and west of the CBD are various suburbs with households in the middle and upper socioeconomic range. But there is another side to this bustling city. In the northern and north-western part of city, over 60 % of Windhoek's population lives on 25 % of the land in crowded formal and informal settlements.

The rapid urbanisation of Windhoek in the last 20 years has been accompanied by a major crisis of food insecurity for the new urban poor. However, most of the research on food insecurity in Namibia has tended to focus on the rural areas of the country. While poverty and urban livelihoods in Windhoek have been recurrent subjects of research over the years, food insecurity has been a neglected topic. In 2008–2009, the AFSUN conducted a baseline survey to better understand the seriousness of the food security situation in Windhoek. This paper presents the findings of the research with a particular focus on the food security of the migrant households that make up the majority of the residents of Windhoek's poorer informal settlements. The findings of the survey are supplemented by first-hand testimony from qualitative interviews and focus groups conducted in 2010 by one of the authors (Ndeyapo Nickanor) with residents of the informal settlements.

Migration to Windhoek

In both 2001 and 2011, about 60 % of the population of Windhoek were migrants (i.e., they were not born in the city). Survey and census data collected over the years reveal complex postindependence patterns of internal migration (Pendleton 1996; Frayne and Pendleton 2001; Government of Namibia 2005, 2012; Pendleton and Frayne 1998, 2007). Several major streams of migration to Windhoek can be identified. The main stream is internal migration (primarily rural–urban migration from northern Namibia). This stream made up 35 % of the total population of Windhoek in 2011 and 58 % of the migrant population. Owambo migrants from the four north-central regions (Ohangwena, Omusati, Oshana, and Oshikoto) accounted for 49 % of the migrants and those from the Caprivi, Kavango and Kunene contributed another 10 % to the migrant population. Other internal migration streams to Windhoek are from central Namibia (17 % of migrants) and southern Namibia (11 % of migrants) (primarily urban–urban migration). International migrants accounted for about 14 % of Windhoek's migrant population and 12 % of its total population.

It is not difficult to understand why Namibians with skills or professional qualifications might migrate to obtain employment, to live in fully serviced housing in neighbourhoods with a high quality of life, and to enjoy the many amenities Windhoek offers to people who can afford them. Housing in Windhoek's more affluent areas is luxurious to the point of being ostentatious. However, large numbers of people are also migrating to the areas where unemployment rates are the highest, poverty is widespread, and the quality of life is the worst.

The macro factors of poverty, environment, and political history define the context within which people make decisions about migration (Frayne and Pendleton 2001). Namibia's political history of colonial occupation and economic exploitation by both

Germany and South Africa entrenched radical inequalities in regional development. The white commercial farming areas in the centre and south of the country were developed and supported by cheap government-sponsored loans and access to markets and towns. The rural communal areas remained as undeveloped sources of cheap migrant labour. These regional inequalities persist despite efforts at rural development since independence. The rural communal areas lack income-producing activities, and cropping and livestock production methods are basic and small-scale.

The Namibian population has an estimated doubling time of about 20 years and is unevenly distributed as a result of regional inequalities in both environmental conditions and political history. Due to poor rainfall and low carrying capacity, the rural central areas of the country are widely recognised as marginal. The location of the central communal areas on the west, east, and south of the commercial farming area reflects a history of land disenfranchisement for white settler farmers (primarily Afrikaners and Germans). The Namibian Constitution does not allow for ancestral land claims, although such claims are a frequent agenda item at land conferences because of population pressure on existing communal land areas. Drought is endemic in Namibia and is one of the environmental factors that affect migration. Common coping responses to drought at the household level include migration of household members to urban areas and sending children to relatives in less-affected areas.

The rural–urban migration experience is reflected in various terms and concepts found in Namibian languages and cultures. Amongst the Owambo, someone who has moved from a rural area and stays in town, and does not visit the rural area, is referred to as *Ombwiti* (they have lost their roots). People who are born in town and stay there are called *Ondakwatwa*. Someone who goes to town for the first time is called *Kashuku*. There is a saying in Oshiwambo that reflects the importance of maintaining rural ties when you move to town: *ou na okukala u na omutala kegumbo* (you should have a room at home). Coming to Windhoek or other towns in central Namibia to look for work is called *Uushimba* in Oshiwambo. However, the term does not apply to Ondangwa, Oshakati, Rundu, or Katima Mulilo, the towns in the north of the country. These places are not seen as "foreign" towns; they are considered local and are different sorts of places. This may be because the ethnic and socio-cultural make-up of such places is both familiar and homogeneous. Similar terms about the urban migration experience exist for people in the Kavango and Caprivi. However, the Herero, Damara, and Nama do not have terms like *Ombwiti*, which reflects their long experience with town life in Windhoek and central/southern Namibia.

The major reasons given by migrants for coming to Windhoek are jobs and money, rural poverty, family issues (such as a change of residence due to marriage or a death in the family, or simply to move in with relatives), and education (Pendleton and Frayne 1998; Frayne 2007). Many migrants have multiple reasons for migration, reflecting the complex nature of their decision to move. Men and women migrate for the same reasons, but their relative importance differs; economics is more important to men and family/living conditions are more important to women. Of the adult female migrants in the northern and north-west areas of Windhoek, almost half have come in recent years, indicating a substantial increase in urban migration by women for economic reasons. To some extent, the increased migration of women, especially those moving independently from rural areas, reflects their desire for a lifestyle free of the male domination typical of rural life.

The northern (Moses//Garoëb and Tobias Hainyeko) and north-western (Samora Machel, Katutura East and Central, and Soweto) areas of Windhoek are important destinations for Owambo, Herero, Damara, and Nama migrants. The majority of people from the northern regions (the Owambo) settle in the north and north-western areas of the city (Tobias Hainyeko, Moses//Garoëb, and Samora Machel). People from the central regions divide amongst Khomasdal North, Samora Machel, and Central Katutura. Those from the southern regions head for Windhoek West and Khomasdal North. The established communities of people from each region have a cumulative effect as new migrants often stay with kin or friends prior to establishing their own independent households. This helps to explain why there are fewer people from the Caprivi and the Kavango in Windhoek even though the Kavango is about the same distance from Windhoek as the former Owamboland. However, this situation is changing with more tarred roads, more combi-taxis regularly travelling to Windhoek, and people from these areas establishing communities in the city.

There is considerable evidence that urbanisation in Africa does not involve a one-time move from rural to urban areas. Many urban households maintain strong links with rural households in "home" communities. Studies of remittance behaviour in Southern Africa, including Namibia, show that urban households often send money and periodically send goods (including foodstuffs) to the rural households they maintain links with. Several studies have shown extensive links between urban and rural households in Windhoek and the north of the country. In 2000, Frayne interviewed 305 households in Katutura and found that 85 % of respondents were migrants to Windhoek (Frayne 2004). Only 2 % had no rural relatives. Just over 40 % visited their rural home several times per year and another 40 % once per year. Less than 10 % never visited. Only 37 % of migrants had sent money home in the previous year, a figure that had not increased in a decade.

Households of Migrants

The AFSUN Urban Food Security survey was conducted in Windhoek in late 2008 (Pendleton et al. 2012). The fieldwork was implemented by the Central Consultancy Bureau (UCCB) of the University of Namibia. Households in four of the poorer areas of the city were surveyed: Tobias Hainyeko (with a total population of 45,912), Moses// Garoëb (45,564), Samora Machel (50,110), and Khomasdal North (43,921). Within these four constituencies, 14 enumeration areas (PSUs) were selected and 32 households identified using a systematic random sampling technique. The selected households were located on maps, which were used by the fieldworkers to find their target households. A total of 448 household heads or their representatives were interviewed and information on 1,848 people was collected. In early 2010, 52 in-depth interviews and eight focus groups were conducted in the informal settlements. A list of 180 households that had been interviewed in 2008 was first drawn up. Fifty households were then purposefully sampled from the 180, and key informants were drawn from the selected households.

The census findings about the significance of migration to the demography of Windhoek were confirmed by the AFSUN survey. Only 30 % of the total household population had been born in Windhoek and most of these were children. Almost half of

the household members were rural–urban migrants, primarily Owambo. About 10 % had moved to Windhoek from other urban areas. The surveyed households can be grouped into three categories: migrant households (all the members were born outside Windhoek), households with no migrants (in which everyone was born in the city), and mixed households with both migrant and non-migrant members. For the purposes of this analysis, migrant households are compared with the other two types combined.

The majority of new migrants to Windhoek settle in the city's rapidly growing and underserviced informal settlements. Two-thirds of the migrant households in the survey lived in informal housing and only one-third in formal housing (Table 1). The situation was almost exactly the reverse with other kinds of households with 63 % in formal housing and 37 % in informal housing. Another striking contrast between migrant and other households is in their type. The greatest difference is in the relative importance of male-centred households: 34 % of migrant households and only 10 % of other households have a male head without a spouse or partner. This is consistent with Frayne's (2004) finding that single adult male migrants in Windhoek often form ad hoc households, living under the same roof, eating from the same pot, and pooling income.

The distinctive nature of rural–urban migration in Namibia is reflected in the age structure of the migrant population (Fig. 2). Migration is clearly dominated by adults of working age. Almost 70 % of household heads are in the 20–44 age range, with the majority in their late thirties and early forties. While other household members tend to be a little younger on average, two-thirds are also aged between 20 and 44. Within that band, migrants in their twenties dominate. The numbers of migrant children under the age of 15 and adults over the age of 60 are comparatively low. Children are not absent but they constitute only 13 % of total migrant household members (discounting heads of households). Those over 60 make up only 6 % of household heads and 1 % of other household members.

At the time of the survey, only half of the working-age adults in migrant households were in full-time employment (Table 2). Another 10 % had casual or part-time work. The unemployment rate was therefore either 37 % (counting all those without jobs) or 27 % (only counting those without jobs who were actively seeking employment). As one man observed:

Table 1 Migrant and other households in Windhoek

	Migrant households		Other households	
Type of housing				
Formal	70	32.7	141	62.7
Informal	144	67.3	84	37.3
Total	214	100.0	225	100
Type of household				
Female-centred	60	27.8	85	37.1
Male-centred	73	33.8	23	10.0
Nuclear	41	19.0	56	24.5
Extended	42	19.4	65	28.4
Total	216	100.0	229	100.0

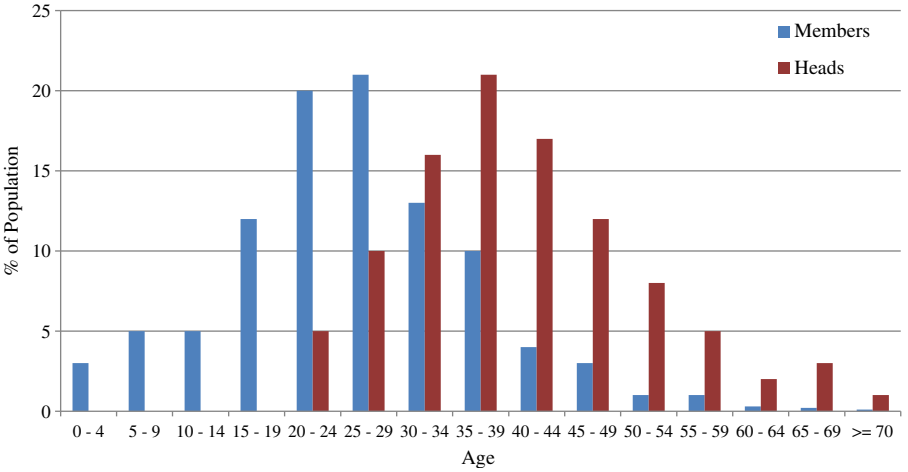

Fig. 2 Age distribution of migrant heads and other migrant household members

> There are not many opportunities for us to find work here in the urban areas. You can observe the many young people that are moving to the urban areas with the hope of finding employment but either because they are not educated or lack skills are just roaming the streets. The situation is dire here, some also do not want to work and others have given up completely (Interview with 58-year-old male, 16 February 2010).

Other, relatively minor, sources of household income include the informal economy, casual work and remittances (all 15 % of households), social grants (4 %), rentals (1 %), and sale of agricultural produce (1 %). In other words, wage employment is easily the most important source of income amongst Windhoek's migrant households. Average annual household income from employment amounted to NAD 47,000, compared to only NAD 10,000 from casual work and NAD 9,500 from informal activity. There was a marked gender difference in the employment profile with 60 % of males and only 43 % of females in full-time employment. Rates of unemployment were significantly higher amongst women than men.

Table 2 Employment status of migrant household members

	Female %	Male %	Total %
Working full-time	42.9	60.0	51.3
Working part-time/casual	12.2	8.4	10.3
Unemployed — looking for work	32.3	23.5	27.1
Unemployed — not looking	12.6	8.1	10.4
Total	468	455	923

Migration and Food Insecurity

Although four out of five migrant households obtain income through a household member in wage employment, wages are low and many live in a state of persistent poverty. Given that households in Windhoek purchase most of their food, this raises the question of whether income poverty translates into food insecurity. Household food insecurity was measured using the various international cross-cultural scales developed by the Food and Nutrition Technical Assistance Project (FANTA): the Household Food Insecurity Access Scale (HFIAS), the Household Food Insecurity Access Prevalence (HFIAP) indicator, and the Household Dietary Diversity Scale (HDDS).

The HFIAS average score for all surveyed households in Windhoek was 9.3. Only two of the 11 cities surveyed by AFSUN (Johannesburg and Blantyre) had lower (i.e., better) mean and median scores on the HFIAS. The urban poor of Windhoek therefore appear to be less food insecure than those in many other cities of the region. However, there was a notable difference between the food HFIAS average score for migrant households (10.0) and other households (7.4), indicating that migrant households are less food secure than other households. This is confirmed by the distribution of households across the groups of HFIAS values. For example, 62 % of migrant households and 68 % of other households had scores of 10 or less. As Fig. 3 shows, the higher the HFIAS score, the greater the relative proportion of migrant households. The fact that around 25 % of migrant and 20 % of other households had scores above 16 indicates that food insecurity is not only a function of migrant status, however.

The differences between migrant and other households are narrower on the HIAP classification (Fig. 4). Over 60 % of households of both types classified as severely food insecure (64 % migrant, 62 % other) and, at the other end of the spectrum, only 4 % fewer migrant households were food secure (16 % migrant versus 20 % other). This suggests that migrant households are not significantly more food insecure than the other residents of Windhoek's poorer areas despite the fact that more of the latter live in

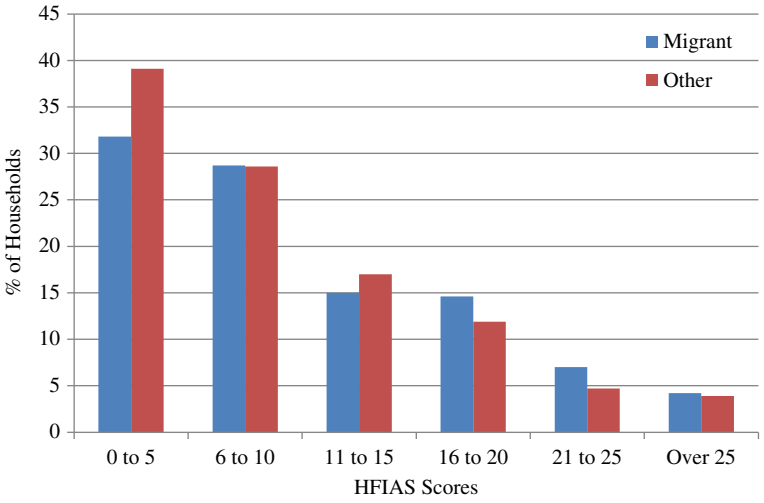

Fig. 3 HFIAS scores of migrant and other households

formal housing and have better incomes. The explanation for this is rural–urban food transfers that close the gap between the two types of household (see below).

The overall HDDS (dietary diversity) score for Windhoek is 5.95 (out of a possible 12). Migrant households (at 5.46) therefore have a less diverse diet than other households (at 7.00). The distribution around the mean score varied considerably at the extremes. As Fig. 5 shows, migrant households were disproportionately represented in the lower dietary diversity categories (50 % of households had a score of 5 or less compared to only 34 % of other households) and underrepresented in the higher dietary diversity categories (9 % versus 22 % with scores of 9 or above). The lack of food and the monotony of the diet were a constant refrain in the qualitative interviews:

> Even when there is something to eat, which in most cases is *mahangu* or maize porridge, your hunger is not satisfied. What is important is that one has taken in that little bit of food and that is how we live - *kamakela ka kasa* [proverb that even when there is insufficient food a person will not die.] We do not even own livestock in the rural village to supplement ourselves in the urban areas. We usually eat once per day. Here there is no-one who should eat more or less. If what is there is small then everyone eats less. Every day we eat the same meal, pap, pap, we do not have a choice of what we want to eat, it is what we can afford. One has to live and pap takes away your hunger (Interview with 58-year-old male, 16 February 2010).

> We share the food equally with my children, obviously they eat frequently. They get hungry often and it is worse when there is not even bread to give them. It's not as if we eat fancy food – it is mainly pap, pap from maize or *mahangu*. The children get tired of eating the same food – but where do I get the money to buy them nutritious food? One constantly worries about where to get the next meal – what will happen to the children if I don't find food? (Interview with 25-year-old female, 17 February 2010).

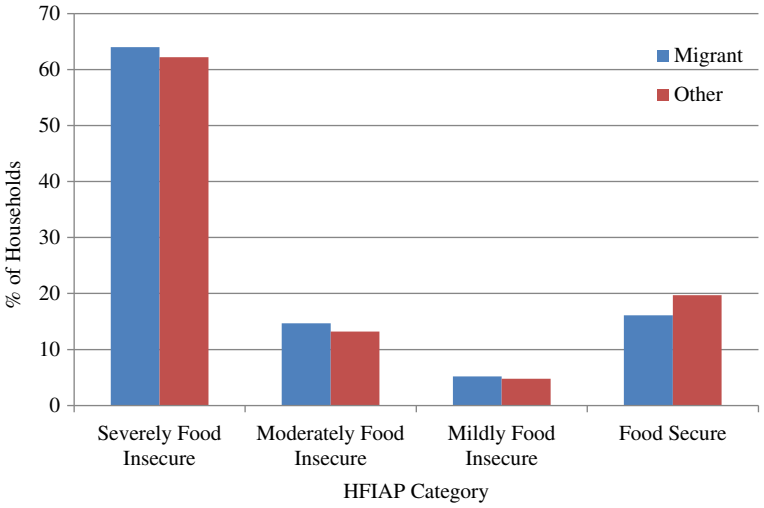

Fig. 4 HFIAP categories of migrant and other households

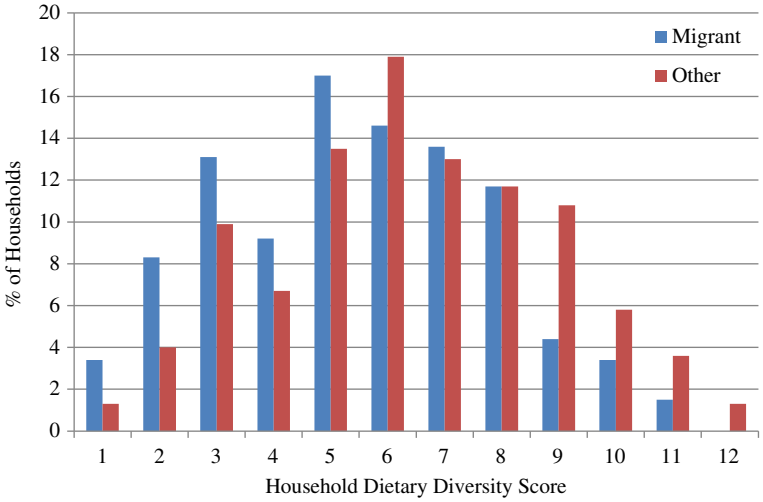

Fig. 5 Distribution of dietary diversity scores

Rural–Urban Migration and Informal Food Transfers

A number of studies have documented the existence of informal food chains linking rural and urban households through migration systems (Tacoli 2002). This phenomenon has been termed 'reciprocal urbanisation' by Frayne (2010) as it involves a constant back and forth movement of people and goods, including food stuffs, between urban and rural areas. Frayne (2004) earlier demonstrated the importance of informal food transfers in Windhoek where 62 % of poor urban households received food from rural relatives. Produce continues to move from the north of the country to Windhoek when urban residents visit the area and return with food or it is sent directly to the city through various informal channels. In many cases, reciprocal urbanisation involves sending cash remittances to rural family members in the north and receiving agricultural produce in return:

> We receive food such as beans, maize, *mahangu* (millet) from our grandmother in the rural north during the rainy season and she sends these items twice a month and in return we send her money (Interview with 34-year-old female, 16 February 2010.)

Migrants in Windhoek are also sent food by rural relatives during periods of unemployment and while they search for work. Some respondents suggested that households without access to income depend on food from the countryside to avert hunger and starvation:

> We live in extreme poverty here, but I sometimes think it's much better than the rural areas. I just struggle to find work here and there for a day or two and it is with that money that I buy food. There are some relatives in the rural north who send us food and especially when harvests are good we receive a variety of food types apart from *mahangu* flour. We do not receive this food on a monthly basis –

> but when we receive it, it relieves me from going to the shops every time to buy food (Interview with 40-year-old female, 18 February 2010).

> My family in the north sends us food from the north mainly *mahangu* flour, dried and fresh spinach. We receive *mahangu* flour about 40 kg every month; if they don't send we are going to starve with such a full house (Interview with 27-year-old male, 18 February 2010).

> The food is sent to the (household) members in the urban areas, because some may not have jobs yet. There are other basics to pay for. Some are staying with children from the rural households, so we need to help each other. We do get food from our household in the rural north because in the rural north food is grown and not bought every day like here in the urban areas (Focus Group Participant, 25 February 2010).

Most of these quotations make reference to the fact that the flow of food is not consistent throughout the year. In the words of one focus group participant, "we do receive food from the rural north, but only when they had a good harvest." The quality of the harvest certainly determines how much produce is received in Windhoek in any given year:

> During and after harvesting most households receive *mahangu* flour from the rural north. It is not always but maybe once in 2 months and the quantity depends on how much they have in their granaries. With the flood these days we also receive fish in addition to the usual food. The food is send by members of our households in the north or parents or other relatives (Focus Group Participant, 25 February 2010).

While *mahangu* flour was mentioned by almost all the respondents, some receive a more diverse food basket:

> We do get food mainly *mahangu* flour, dried spinach (*omaanda*), beans, pumpkins, nuts and wild fruits (*eembe*, *eenyandi*, *eenduga*) from the north. Most of these food types are dried, in that way we can keep them longer. Other households may receive food from relatives in other urban areas but most of the food remitted is really from the rural north (Focus Group Participant, 25 February 2010).

> During the summer it is the best time regarding food security in many households because most receive a variety of fresh produce from the rural north such as pumpkins, beans, nuts, *mahangu* meal, fresh wild spinach, *omutete*, wild fruits such as *eembe* and *eenyandi* and even mopane worms (Focus Group Participant, 18 February 2010).

The AFSUN survey confirmed that cereals (primarily *mahangu*) are the most important type of food transferred from the rural areas (received by 38 % of migrant households in the previous year). The overall figures for other foodstuffs were much

lower: fish (received by only 9 % of households), legumes (8 %), meat or poultry (7 %), and vegetables (5 %). Only 2 % had received any fruit in the previous year. In general, then, informal food transfers do not add significantly to the dietary diversity of the majority of households. Transfers of all foodstuffs are also relatively infrequent. None of the recipient households said they receive cereals more than once per month. About one-quarter got cereals at least once every 2 months and 57 % received them 3–6 times per year. The remaining 16 % received the transfers just once per year. The main exception to the pattern of infrequent transfers is meat and poultry (with nearly 80 % of recipient households getting them at least once every 2 months).

Interestingly, only 39 % of the surveyed households had received food from rural relatives in the previous year. This figure is considerably lower than Frayne (2004) figure of 62 % and may indicate a decline in food transfers as the time spent away from the rural areas increases. Some respondents felt that food was only received by migrants who kept in close contact with their rural families:

> We sometimes receive food from the north, mainly *mahangu* flour, beans, pumpkins, nuts and other wild fruits. But not all the households receive that. Those who do are those who have maintained strong links with their rural households. Some or most female-headed households are on their own (Focus Group Participant, 25 February 2010).

Others pointed out that harvests in the north had been severely affected by extreme weather in recent years, leading to declining harvests and less food to send to the city:

> At times it's only when you go visit that you bring along food, people in the north are just struggling with the changes in the amount of rain received and the floods which destroyed the crops, one can no longer rely on that as a source (Focus Group Participant, 25 February 2010).

> One cannot completely rely on the food from the north, because those in the north also depend on it for survival and these days the rains and floods have affected the harvest so much that they rely on drought food until the next cycle again. The food from the north is send mainly by family members and relatives. Apart from *mahangu* flour which can be sent throughout the year some food types such as pumpkins, fresh wild spinach and sour milk are seasonal (Interview with 45-year-old female, 22 February 2010).

> When we visit the north we bring back *mahangu* flour. They also send it in case I don't go – maybe four times per year but these days the harvest in the north is not that good due to recent floods in the year 2004, 2008, 2009 and 2010 (Interview with 38-year-old female, 18 February 2010).

Some researchers have suggested that climate change may be a factor in agricultural decline and is likely to continue to have negative impacts into the future (Newsham and Thomas 2013, Nyambe & Delete, 2013).

Households that were classified as food insecure on the HFIAP scale were more likely to receive food transfers than those which were not: for example, 37 % of food

insecure households received transfers compared to just 6 % of food secure households. This suggests that food transfers per se were insufficient to guarantee food security which is consistent with the fact that the critical determinant of food security is access to wage income. The disproportionate number of food insecure households amongst those receiving food suggests that these transfers are actually a response to food insecurity.

Conclusion

While the multitude of challenges facing such rapidly growing cities of migrants (employment, housing, service provision, and transport infrastructure, for example) is well-recognised, food insecurity is not. International, continental, and national food security agendas (including in Namibia) have a decidedly rural bias with little attention given to the specific challenges of feeding the residents of African cities (Crush and Frayne 2011). Food *availability* is not a central issue in a city like Windhoek and is likely to become an even less important dimension of food insecurity as more supermarkets open and the city becomes more firmly integrated into modern global and regional food supply chains (Emongor and Kirsten 2009). The most important dimensions of food insecurity are the lack of food *access* and dietary diversity and these, in turn, depend on incomes and food pricing. In Windhoek, the poorest households are located in informal areas of the city. The majority of these households are comprised of migrants from the rural areas and experience chronic food insecurity. Windhoek has experienced significant rural–urban and urban–urban migration, especially since independence. People have migrated to the city en masse in search of a better life than they could ever hope for in the rural areas. But with declining and irregular informal rural–urban food transfers to supplement their diet, they are in an increasingly precarious situation.

Acknowledgments We wish to acknowledge the financial support of the Canadian Government through AFSUN and the assistance of Akiser Pomuti and Christa Schier.

References

Bowen, L., Ebrahim, S., De Stavola, B., Ness, A., Kinra, S., Bharathi, A., et al. (2011). Dietary intake and rural–urban migration in India: a cross-sectional study. *PLoS ONE, 6*(6), e14822.

Choudhary, N., & Parthasarathy, D. (2009). Is migration status a determinant of urban nutrition insecurity? Empirical evidence from Mumbai city, India. *Journal of Biosocial Science, 41*(5), 583–605.

Comes, J.-L., Ebeke, C., Etoundi, S., & Yogo, T. (2014). Are remittances and foreign aid a hedge against food price shocks in developing countries? *World Development, 54*, 81–98.

Crush, J. (2013). Linking food security, migration and development. *International Migration, 51*(5), 61–75.

Crush, J., & Frayne, B. (2011). Urban food security and the new international food security agenda. *Development Southern Africa, 28*, 527–544.

Darmon, N., & Khlat, M. (2001). An overview of the health status of migrants in France, in relation to their dietary practices. *Public Health Nutrition, 4*(2), 163–172.

de Brauw, A. (2011). Migration and child development during the food price crisis in El Salvador. *Food Policy, 36*(1), 28–40.

Delisle, H., Vioque, J., & Gil, A. (2009). Dietary patterns and quality in West-African immigrants in Madrid. *Nutrition Journal, 8*, 3.

Dharod, J., Croom, J., Sady, C., & Morrell, D. (2011). Dietary intake, food security, and acculturation among Somali refugees in the United States: results of a pilot study. *Journal of Immigrant & Refugee Studies, 9*(1), 82–97.

Emongor, R., & Kirsten, J. (2009). The impact of South African supermarkets on agricultural development in the SADC: a case study in Zambia, Namibia and Botswana. *Agrekon, 48*, 60–85.

Frayne, B. (2004). Migration and urban survival strategies in Windhoek, Namibia. *Geoforum, 35*, 489–505.

Frayne, B. (2005). Rural productivity and urban survival in Namibia: eating away from home. *Journal of Contemporary African Studies, 23*, 51–76.

Frayne, B. (2007). Migration and the changing social economy of Windhoek, Namibia. *Development Southern Africa, 24*, 91–108.

Frayne, B. (2010). Pathways of food: mobility and food transfers in Southern African cities. *International Development Planning Review, 32*, 83–104.

Frayne, B., & Pendleton, W. (2001). Migration in Namibia: combining macro and micro approaches to research design and analysis. *International Migration Review, 3*, 1054–1085.

Gele, A., & Mbalilaki, A. (2013). Overweight and obesity among African immigrants in Oslo. *BMC Research Notes, 6*, 119.

Government of Namibia. (2005). *Namibia 2001: population and housing census*. Windhoek: National Planning Commission.

Government of Namibia. (2012). *Namibia 2011: population and housing census*. Windhoek: National Planning Commission.

Karamba, W., Quiñones, E., & Winters, P. (2011). Migration and food consumption patterns in Ghana. *Food Policy, 36*(1), 41–53.

Lacroix, T. (2011). *Migration, rural development, poverty and food security: a comparative perspective*. Oxford: International Migration Institute, Oxford University.

Lindsay, K., Gibney, E., & McAuliffe, F. (2012). Maternal nutrition among women from Sub-Saharan Africa, with a focus on Nigeria, and potential implications for pregnancy outcomes among immigrant populations in developed countries. *Journal of Human Nutrition and Dietetics, 25*(6), 534–546.

Mberu, B., Ezeh, A., Chepngeno-Langat, Kimani, J., Oti, S., & Beguy, D. (2013). Family ties and urban–rural linkages among older migrants in Nairobi informal settlements. *Population Space and Place, 19*(3), 275–293.

McMichael, C. (2014). Climate change and migration: Food insecurity as a driver and outcome of climate change-related migration. In A. Malik, E. Grohmann & R. Akhtar (Eds.), *Environmental deterioration and human health* (pp. 291–313). Dordrecht: Springer.

Newsham, A., & Thomas, D. (2013). Knowing, farming and climate change adaptation in north-central Namibia. *Global Environmental Change, 21*, 761–770.

Owuor, S. (2006). *Bridging the urban–rural divide: multi-spatial livelihoods in Nakuru Town, Kenya*. Leiden: African Studies Center.

Owuor, S. (2010). Migrants, urban poverty and the changing nature of urban–rural linkages in Kenya. In J. Crush & B. Frayne (Eds.), *Surviving on the move: migration, poverty and development in Southern Africa* (pp. 117–131). Midrand: DBSA.

Pendleton, W. (1996). *Katutura: a place where we stay.* Athens: Ohio University Press.

Pendleton, W. & Frayne, B. (1998). Report of the results from the Namibian migration project. SSD Research Report No. 35. Multi-Disciplinary Research Centre, University of Namibia.

Pendleton, W. & Frayne, B. (2007). Namibia: regional migration and poverty report. Unpublished Report for SAMP, Cape Town.

Pendleton, W., Nickanor, N., & Pomuti, A. (2012). *The state of food insecurity in Windhoek, Namibia*. Urban Food Security Series No. 14. Cape Town: AFSUN.

Pereira, C., Larder, N., & Somerset, S. (2010). Food acquisition habits in a group of African refugees recently settled in Australia. *Health & Place, 16*(5), 934–941.

Pomuti, A. & Tvedten, I. (1998). Namibia: urbanization in the 1990s. Publication No. 6, Namibian Economic Policy Research Unit, Windhoek.

Riosmena, F., Drank, R., Akrush, I., & Kroeger, A. (2012). U.S. migration, translocality, and the acceleration of the nutrition transition in Mexico. *Annals of the Association of American Geographers, 10*(5), 1209–1218.

Tacoli, C. (2002). *Changing rural–urban interactions in Sub-Sahara Africa and their impact on livelihoods: a summary.* London: Human Settlement Programme, IEED.

Tripathi, A., & Srivastava, S. (2011). Interstate migration and changing food preferences in India. *Ecology of Food and Nutrition, 50*(5), 410–428.

Windhoek's Municipality. (2010). *Constituency map of the Khomas Region and population figures for Windhoek's urban localities/suburbs from the 2006 population census.* Windhoek: Central Bureau of Statistics.

Zezza, A., Carletto, C., Davis, B., & Winters, P. (2011). Assessing the impact of migration on food and nutrition security. *Food Policy, 36*(1), 1–6.