

# Effects of rising food prices on household food security on femaleheaded households in Runnymede Village, Mopani District, South Africa

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## Abstract

**Background:** Rising food prices can have a devastating effect on the health of poor households by making it more difficult for them to afford basic food baskets. Although South Africa is food secure as a nation, it does not mean that every household is able to access nutritionally adequate food.

**Objective:** The objective of the study was to determine the effects of rising food prices on people's perceptions and coping strategies regarding household food security.

**Setting:** Sixty femaleheaded households were selected from 250 households in Runnymede Village in the Greater Tzaneen Local Municipality, Mopani District, Limpopo province, South Africa.

**Design:** A descriptive and exploratory study was conducted using quantitative methods by means of an administered, structured questionnaire. The accessible population was femaleheaded households residing in Runnymede Village. Participants representing 60 femaleheaded households were purposively selected from the 250 households. Open and closed-ended questions were used to collect the data.

**Results:** The majority (58%) of participants indicated that their eating habits had changed owing to rising food prices. Approximately 60% of the participants indicated that they bought food in bulk as a shortterm strategy to cope with rising food prices. Approximately 50% had a vegetable garden to alleviate food unavailability, and harvested for subsistence to meet non-food expenses. The majority (57%) of participants converted to buying cheaper brands, such as generic store brands. In addition, rising food prices made high quality food scarce for poorer households, forcing them to resort to cheaper or less nutritious foods.

**Conclusion:** Rising food prices had a negative impact on poor, femaleheaded households in Runnymede Village.

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## Introduction

Although South Africa is food secure as a nation, it does not mean that every household is able to access nutritionally adequate food.<sup>1</sup> Rising food prices pose a serious threat to food security at both household and country level.<sup>2</sup> This can have a major and devastating effect in terms of food security. According to the World Bank, the 2010–2011 food price increases pushed an estimated 44 million people into poverty.<sup>3</sup> It was found in the South African National Health and Nutrition Examination Survey in 2012 that in the Limpopo province 31% of households experienced hunger, with a further 27% at risk of it. Rising food prices could increase these figures.<sup>4</sup> Lower income South Africans are the most vulnerable to upward trends in food prices since most people in South Africa spend approximately 35% of their income on food.<sup>5</sup> The price increase in cereal, maize meal, bread, sugar, tea, oil, salt, flour and other staples forces the poor to

economise on the quantity and quality of their meals.<sup>2</sup> If these foods increase in price, poor households are likely to suffer because most are net buyers of food.<sup>6</sup> Increased food insecurity and malnutrition may result, with tragic implications in the short and longterm, particularly for children, the aged, and other vulnerable members of society. In certain cases, the most adversely affected are the chronically urban and rural poor, the landless and femaleheaded households.<sup>7</sup> The ability of poor households to meet other important non-food expenses, such as education and health care, are limited by rising food prices.<sup>8</sup>

In Limpopo province, femaleheaded households spend an average of 53% of their total household income on food.<sup>9</sup> This confirms that poorer households, which are usually food insecure, spend a large fraction of their income on food.<sup>9</sup> The headline Consumer Price Index annual inflation rate in January 2013 was 5.4%. This rate was 0.3 of

a percentage point lower than the corresponding annual rate of 5.7% in December 2012. On average, prices increased by 0.3% between December 2012 and January 2013.<sup>10</sup> Analysts indicated that this could rise to as much as 18%, driven by the recent rapid increase in the price of locally produced grain products, as well as by rising input costs, including electricity, labour, fuel, fertiliser and packaging.<sup>10</sup> Although studies relating to rising food prices on household food security have been conducted in South Africa, little is known of the effects of rising food prices on household food security at local level. Therefore, the aim of this paper was to investigate the effects of rising food prices on the household food security of femaleheaded households.

## Subjects and method

### Study population

This study was conducted in January 2013 at Runnymede Village in the Greater Tzaneen Local Municipality of the Mopani District in Limpopo province. The district is divided into five local municipalities, namely Ba-Phalaborwa, Greater Giyani, Greater Letaba, Greater Tzaneen and Maruleng. The accessible population was femaleheaded households residing in the Runnymede Village. Approximately 37% of the people in Greater Tzaneen are unemployed, and 48% of the households are headed by women.<sup>11</sup>

Runnymede Village is a small village, with an estimated population size of 1 978 people.<sup>12</sup> The total number of households in Runnymede Village is 250. The village is a typical semi-rural settlement, with dwelling units consisting of bricks and corrugated iron and tiled roofing, as well as a few shacks and traditional huts. The village has one high school, two primary schools and a crèche. There is one mobile clinic visiting point. The local language in the village is Xitsonga.

### Method

A descriptive and exploratory study was conducted using quantitative methods. Descriptive design was used to describe the effects of rising food prices on household food security, while exploratory design was used to explore coping strategies. Inclusion criteria comprised femaleheaded households. The primary women were aged  $\geq 20$  years. The village has 250 households, but of these, only 60 are femaleheaded. Therefore, the sample size was 60 households. The response rate was 100%. Participants who volunteered to be part of the study were Xitsonga speaking, and were required to provide informed consent after a full oral and written explanation was given of the aims, objectives and study procedures. Only participants who did not provide consent and women who were mentally challenged were excluded. Participants had the right to withdraw from the study at any time. The anonymity of the participants was ensured by using codes instead of names.

### Data collection

A questionnaire was developed in English, in consultation with an educational expert and translated into Xitsonga. Comments pertaining to the content validity of the questionnaire were requested from those within the Nutrition Department at the University of

Venda with the most expertise. Face validity was tested during a pilot study involving 10 participants in the nearby Mavele Village. The questionnaire included sections on socio demographic data, the effects of rising food prices on household food security, coping strategies and people's perceptions. The questionnaire was completed during a structured interview to ensure that illiterate participants were not excluded. Two investigators, BSc Nutrition final year students (researchers of the study) were standardised in terms of the explanations given and interviews conducted using the questionnaire. The interviews were conducted in Xitsonga, and were held outdoors because participants were not comfortable welcoming researchers into their homes. During the interviews, the researchers made a note of whether or not the households had home gardens and livestock. Data were collected over a two week period by the investigators. Permission was obtained from the Chief's Kraal or Traditional Authority of Runnymede Village. Ethics approval was obtained from the University of Venda School of Health Sciences Research Ethics Committee.

### Statistical analysis

The data were entered and stored in a spreadsheet of Microsoft® Excel®, and thereafter exported into SPSS® version 21 for analysis. The frequencies of the categories were determined and represented in tables, graphs and figures, as appropriate. Data on the effect of rising food prices were arranged into themes.

## Results

### Demographics of the participants and households

Of the entire group ( $n = 60$ ), 30% fell within the age range of 30–39 years, with 22% and 23% in the age ranges of 40–49 years and 50–59 years, respectively. With regard to marital status, 47% of the participants were single, and 35% were widowed. The participants' educational level ranged from never having attended school to tertiary education. Thirty-seven per cent of the participants had a tertiary education, 17% had attained a grade 8–10 education level, and 18% a grade 11–12 level. More than half (53%) of the participants were unemployed, and the remaining 47% were employed. Of the employed, 30% indicated that they received a salary (Table 1).

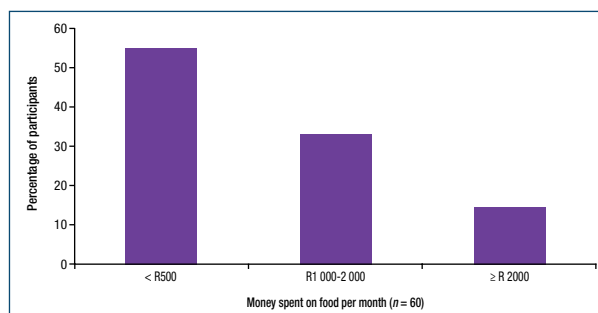
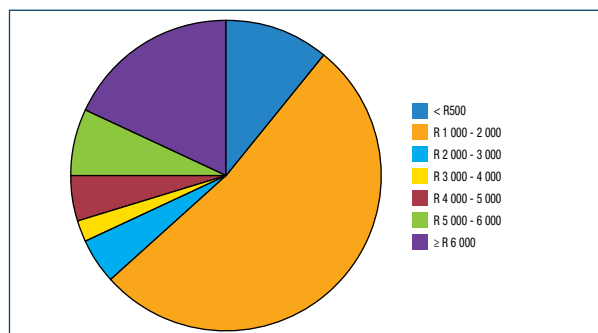
More than half (53%) of the participants earned a household income ranging from R1 000–2 000 per month (Figure 1). When the amount of money spent on food was assessed, the results revealed that 55% spent less than R500 per month, and 32% between R1 000 and R2 000 (Figure 2). In addition, 80% of the participants purchased food from supermarkets, while 20% sourced it from local shops. Of all the participants, 78% purchased food once a month, while 20% did so twice a month. Fifty-three per cent of the participants ate two meals per day, while 40% ate three (Table 2).

### Effects of rising food prices on household food security

When assessing the knowledge and understanding of participants of the concept of "rising food prices", the majority (80%) of the participants described it as "when food becomes far more expensive", while 2% said rising food prices meant "buying less for more money". Another 2% regarded it as "a deliberate increase in

**Table 1:** Demographics of the participants (*n* = 60)

Variables	n (%)
<b>Age distribution (years)</b>	
20–29	7 (12)
30–39	18 (30)
40–49	13 (22)
50–59	14 (23)
≥ 60	8 (13)
<b>Marital status</b>	
Single	28 (47)
Widowed	21 (35)
Divorced	11 (18)
<b>Educational level attained</b>	
Never attended school	9 (15)
Grades 1–4	3 (5)
Grades 5–7	5 (8)
Grades 8–10	10 (17)
Grades 11–12	11 (18)
Tertiary	22 (37)
<b>Type of employment</b>	
Domestic worker	1 (2)
Health worker	10 (17)
School educator	8 (13)
Receptionist	1 (2)
Cleaner	2 (3)
Selfemployed	6 (10)
<b>Employment status</b>	
Unemployed	32 (53)
Employed	28 (47)
<b>Source of income per month</b>	
Self	9 (15)
Pensioner	4 (7)
Oldage grant	6 (10)
Child grant	21 (35)
Salary	18 (30)
Medical grant	2 (3)
<b>Household members</b>	
1–2	1 (2)
2–3	21 (35)
3–4	7 (12)
4–5	16 (27)
5–6	9 (15)
6–7	6 (10)

**Figure 1:** Money spent on food per month (*n* = 60)**Figure 2:** Household income per month (*n* = 60)**Table 2:** Food purchasing and consumption behaviour (*n* = 60)

Food purchasing and consumption behaviour	n (%)
<b>Place where food is purchased</b>	
Supermarkets (Shoprite U-Save, Spar, Pick n Pay and Boxer and Roots)	48 (80)
Local shops (Asian or foreign owned)	12 (20)
<b>Frequency of food purchasing per month</b>	
Once	47 (78)
Twice	12 (20)
Three times	1 (2)
<b>Frequency of eating per day</b>	
Once	3 (5)
Twice	32 (53)
Three times	24 (40)
Four times	1 (2)

food prices". A further 13% of the participants reported that rising food prices were "the abnormal increase in food prices that mostly affect the poor and unemployed", and 3% said it was "caused by drought and the shortage of rainfall".

Participants indicated that rising food prices had a mixed effect on their households, and that many difficulties were experienced owing to rising food prices. Half (50%) of the participants indicated that they spent almost 50% of their money on food. This impeded their ability to access other important commodities required in the household. They also indicated that they could not build proper houses nor save money. Furthermore, 28% of the participants indicated that although food prices had increased, their income had remained the same.

**Table 3:** Usual food purchased by participants

Variables	n (%)
<b>Usual ingredients purchased by households (n = 60)</b>	
Maize meal, oil, salt, teabags, milk, bread and sugar	60 (100)
<b>Other ingredients purchased by households (n = 60)</b>	
Chicken feet in bulk, frozen fish in bulk, mopani worms, tinned fish, tomatoes, onions and cabbage	36 (60)
Rice, mayonnaise, tomato sauce, carrots, a chicken braai pack, eggs, butternut, potatoes, beef, chicken hearts, onions, green peppers, apples, bananas, pawpaw, kiwis, soft drinks, spaghetti, fresh milk, oats, spinach and flour	18 (30)
Samp, chicken necks in bulk and peanut butter and jam	6 (10)

Thus, 15% borrowed money from micro lenders, popularly known as *bo machonisa*. The types of foods usually bought by participants are listed in Table 3.

With regard to the usual food purchased by participants, all of them (100%) purchased maize meal, oil, salt, teabags, milk and sugar. Chicken feet and frozen fish in bulk, mopani worms, tinned fish, tomatoes, onions and cabbage were purchased by 60% of the participants. In addition, 30% indicated that they purchased rice, mayonnaise, tomato sauce, carrots, a chicken braai pack or mixed portions, eggs, butternuts, potatoes, beef, chicken hearts, green peppers, apples, bananas, pawpaw, kiwis, soft drinks, spaghetti, fresh milk (full cream), oats, spinach and flour. Ten per cent indicated that they purchased samp, chicken necks in bulk, and peanut butter and jam (Table 3).

### Coping strategies

The coping strategies discussed herein are divided into short and longterm.

#### Shortterm strategies

Participants were asked to report the strategies that they used to cope with rising food prices. In their statements, 60% of the participants indicated that they bought food in bulk in order to ensure that food was available throughout the month. Another strategy was to send children to neighbours and relatives in order for them to have meals more often. Composing a shopping list with basic or usual food items was another coping strategy mentioned by 23% of the participants, while 17% indicated that they ate indigenous, traditional foods that grew in the wild.

#### Longterm strategies

Approximately 50% of the participants indicated that they started planting vegetable gardens for food availability and subsistence. They also indicated that the small amount of money that they received from the sale of these vegetables assisted them to purchase other commodities required on a daily basis. Social grants also brought some relief to 43% of the study participants, with 7% stating that they resorted to selling their livestock when their money to buy food and other commodities was exhausted.

### Other coping strategies

The majority (58%) of the participants indicated that their way of eating had changed owing to rising food prices. The majority (77%) were short of food before the month end, and reported their coping strategies to be eating less preferred food, borrowing food from neighbours, borrowing money to buy food, going without food, eating indigenous, traditional food that grew in the wild, and omitting important meals, such as breakfast. In addition, only 23% of the participants indicated that the food that was purchased lasted for the entire month. In other words, they were never short of food.

### Changing purchasing and eating behaviour

The majority of the study participants (57%) indicated that their purchasing patterns had changed. They had stopped buying food items such as rice, mayonnaise, tomato sauce, soft drinks, flour, snacks (potato chips, sweets and cakes), red meat, tuna fish and cereal. These participants now bought cheaper brands, such as generic store brands, while 20% of the participants purchased food in Asian or Foreign owned shops because they believed that the prices were cheaper. The last coping strategy mentioned was reducing the portion sizes. This was cited by 70% of the study participants.

### People's perceptions of rising food prices

The majority (55%) of the participants perceived rising food prices as "an enemy of progress, which makes poor people become poorer, and pushes many households into debt from which it is difficult to recover". Approximately 30% of the participants perceived rising food prices to be a way of maintaining a high currency rate and increasing value-added tax (VAT) income for the state. Only 15% of the participants reported that they did not know what rising food prices entailed. The following responses were provided by some of the participants: "Rising food prices make it hard for us to mobilise savings" (5%), "Rising food prices are a way of keeping the currency high and getting more tax through VAT" (7%) and "It affects one's way of eating because people are forced to eat food from the same groups, and in turn, this can lead to micronutrient deficiencies" (3%).

### Discussion

The participants were women aged  $\geq 20$  years from the rural area outside Tzaneen. Our study showed that these women were single, divorced or widowed, but managed to support their families. Statistically, 68% of adults in the Mopani District are single.<sup>11</sup> In the rural areas, women play a critical role in running the household and are more competent than men with regard to financial management for the family.<sup>13</sup> The findings of the current study are contrary to the Gender Inequality Index (GII) of 2013, which states that South Africa ranked 94<sup>th</sup> in the world, with a GII of 0.461.<sup>14</sup> This index confirms longstanding beliefs concerning racial and ethnic groups in South Africa with regard to gender roles, based on the premise that women are less important or deserving of power than men.

In the current study, 37% of the women had attained a tertiary education. It has been indicated in other research that only 8% of participants in the Mopani District, and 10% in Limpopo province, have a tertiary education.<sup>11</sup> The majority (53%) of the participants

in the current study were unemployed. This is a reflection of the high rate (40%) of unemployment in Limpopo province.<sup>11</sup> Economic meltdowns which cause food prices to increase make it difficult for people to secure employment to sustain their nutritional needs. The highest rate of unemployment in South Africa is among the young black population.<sup>15</sup>

The majority (52%) of the participants in the current study depended on social grants for survival, and spent less than R500 on food per month. This caused them to reduce the quality and quantity of foods consumed. Therefore, they were at risk of malnutrition.<sup>16</sup> Social security measures are viewed as “safety nets” to prevent absolute poverty in families, and to attempt to move such families out of poverty. Although the amount of the grant is small, it plays a key role in reducing income poverty among the very poor, and especially among femaleheaded households. When food prices increase, the social grants do not, thus making it difficult for participants to afford other necessities, such as medication, prepaid electricity and school fees.<sup>17</sup>

The findings also revealed that the majority (53%) of the participants had a household income of R1 000–2 000 per month. This is owing to underdevelopment in rural areas and high unemployment rates, which means that women have to depend on social grants.

#### Effects of rising food prices on household food security

This study showed that most participants bought food from supermarkets. Most social grant recipients in the village collected their grants from Shoprite supermarkets where they could buy groceries conveniently. The participants indicated that because of rising food prices, they could no longer buy other brands, and instead purchased generic store brands, which they regarded as cheaper. The nutrition of the poor is at risk if they are not cushioned from rises in food prices since this can result in households not having enough to feed everybody, which, in turn, forces them to accept lower priced food options.<sup>18</sup> Higher food prices lead poor people to limit their food consumption and adjust to an increasingly unbalanced diet, which has a harmful effect on health in the shortterm (hunger) and longterm (food insecurity).<sup>19</sup>

To avoid the increase in debt to acquire food, households change to primarily sourcing less costly, less preferred and less nutritious foods.<sup>20</sup> The interaction of food, health and care as determinants of nutritional status extend beyond income alone. Women are more likely to work in farming areas, possibly resulting in less time and increased difficulty in caring for their children.<sup>20</sup> These constraints can lead to suboptimal childfeeding practices, which often leave their children poorly nourished and lacking in immunity to disease.<sup>21</sup> Undernourishment increases child mortality, lowers productivity and can have severe lifelong effects, particularly on women and children.

In the current study, the change in eating patterns caused participants to consume a monotonous diet. A monotonous diet, poor-quality food and the lack of choice can lead to micronutrient deficiencies and disorders.<sup>22</sup> Alterations owing to rising food prices may include changing to lower-quality and less nutritious foods, a reduction in consumption by certain members of the family, a reduction in the frequency of consumption and/or size of the portion, as well as

reduction in diet diversity, leading people to become trapped in poverty at household level. This results in a malnourished community, and more likely, in the cycle of malnutrition.<sup>7</sup> In recent years, the increase in hunger in developing countries can be attributed to the financial meltdowns of 2008 and 2009.<sup>23</sup>

Our findings also revealed that food supplies for some participants were depleted before the end of the month. These caused participants to eat less preferred food, and to either borrow food from neighbours or borrow money to buy food. This resulted in indebtedness, and caused participants to miss some meals in order to cope. The majority (53%) of the participants in the current study indicated that they ate two meals a day. An increase in extreme poverty owing to rising food prices leads to higher malnutrition because poorer people eat less. These changes in consumption patterns, brought on by higher food prices, generate increased micronutrient deficiency disorders and a higher incidence of diseases, thereby increasing child and maternal mortality.<sup>24</sup> Under these poverty-induced circumstances, poor households often cut back on non-food necessities, such as health and education, resulting in poorer school performance and reduced worker productivity, while possibly depleting assets and savings.<sup>24</sup> When nutritional needs are not met, people become prone to acute malnutrition and high mortality rates. An increase in the price of staple foods can lead to a substantial reduction in energy intake and the inability to purchase other needed goods.<sup>25</sup> In this study, this impact was reported on the poorest households, who spent the most in percentage terms on food. In countries where the main staple food accounts for a large share of total energy, e.g. Bangladesh, Malawi and Tajikistan, poor urban and rural households suffer a substantial decline in energy intake.<sup>25;26</sup>

Rising food prices can have multiple, negative, longterm impact on a household's well-being and future human capital.<sup>25;26</sup> Families also adjust food distribution within their households to cope with rising food prices.<sup>13</sup> It is common for mothers to forgo food when it is scarce, while boys frequently receive larger portions than girls.<sup>27</sup>

#### Coping strategies for rising food prices

The findings of the study revealed that the majority (60%) of the participants indicated that they bought food in bulk as a shortterm strategy to cope with rising food prices. This could lead to people eating a monotonous diet or eating poor-quality foods lacking in choice and nutrients.

As a longterm strategy to address food insecurity, 50% of the participants indicated that they harvested vegetables from their home gardens for food security and availability, and also sold the produce in order to earn money for commodities. It is reported that cash and commercialisation have a positive effect on small farmholder income, nutrition and food security, and this helps to prevent micronutrient deficiencies.<sup>28</sup>

#### People's perceptions of rising food prices

Rising food prices have a negative effect on all people, regardless of their status. However, the most affected are the poor and unemployed because they are unable to afford the basic necessities.<sup>3;22</sup> In addition, rising food prices make it difficult for households with

little or no income to mobilise savings.<sup>26</sup> The current study revealed similar findings in that the majority of the participants considered rising food prices to be an enemy of progress, making poor people poorer, and pushing many households into debt, from which it was difficult to recover.

## Conclusion

Rising food prices negatively affected participants in Runnymede Village because they were forced to change their eating or dietary patterns by buying generic store brands. In addition, spending half of their income on food restricted them from affording other basic necessities, such as education and health. Generic store brands tend to have an unpleasant taste owing to the poor quality of the ingredients used, and this could have led to an alteration in the consumption of food by participants. Poor-quality food has poor nutritive value that is vital for the well-being of many communities in rural areas, and inferior products make it impossible for many households to meet their daily recommended intake of nutrients. Participants in the current study bought their food in bulk as a short-term strategy to cope with rising food prices. In addition, participants harvested vegetables from their home gardens for food security and availability. As a long-term strategy to address food insecurity, participants sold the produce in order to earn money for commodities. Furthermore, participants perceived rising food prices to be an enemy of progress, making poor people poorer, and pushing many households into debt, from which it was difficult to recover.

Subsidising all food prices, not only the price of staple foods, is recommended in order for the poor to afford adequate food. Job creation should be improved to reduce unemployment in families. Lastly, investment in agricultural education for small farmers should be made. Help and agricultural knowledge regarding better food production should be provided to small farmers and people who have home gardens.

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