What should rural households grow and eat to improve their nutrition?

Over the past three years, the University of Pretoria has been conducting a research project commissioned by the Water Research Commission of South Africa.

The study set out to understand what people in rural households in South Africa grow and eat in order to make recommendations to WRC and the Department for Agriculture, Forestry and Fisheries to plan further research into how rain-fed and irrigated crop production can improve nutrition of households in these communities. This study will inform future research studies on water efficient crops to improve household food security and nutrition.

The research was carried out in the Local Municipalities of Ingquza Hill, Jozini, Maruleng and Ratlou between 2013 and 2015.

The survey team conducted household surveys, focus group discussions and interviews, in both summer and winter.

The findings and

recommendations were
validated through workshops
with members of the
communities. This brochure
presents the key findings and
recommendations of the study.





Ratlou

Joziv



Institute for Food, Nutrition and Well-being



Maruleng

This paper is based on research conducted by the University of Pretoria's Institute for Food, Nutrition and Well-being and was supported by the Water Research Commission (WRC No K5/2172/4) project entitled: *Current rain-fed and irrigated production of food crops and its potential to meet all year round nutritional requirements of rural poor people in North West, Limpopo, KwaZulu-Natal and Eastern Cape Provinces.*For more information, please contact Prof Sheryl Hendriks at sheryl.hendriks@up.ac.za.

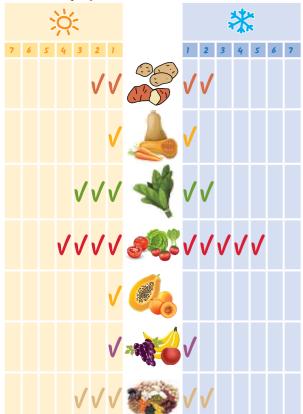
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Our research shows that 9 out of 10 households in Jozini grow crops on open plots or in household, community or school gardens. 8 of these were irrigated.

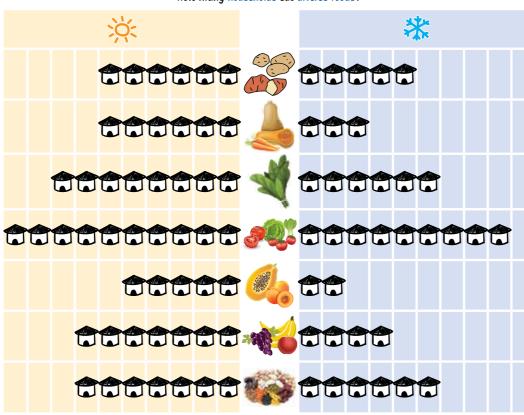
We found that all households ate purchased maize every day. Very few households eat diverse diets or eat foods from the following food groups every day.

How many days a week do households eat diverse foods?



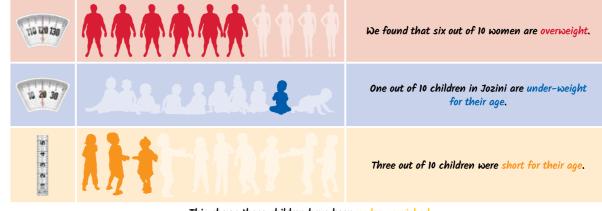
Most households in Jozini ate foods from 5 food groups each week. It is recommended that people eat foods from as many groups as possible everyday to ensure good nutrition. The results show that diets in this community are not very diverse.

How many households eat diverse foods?



Key messages...

female care-givers and children between 24 and 59 months of age at each household.



This shows these children have been



One out of 10 children are overweight for their age.

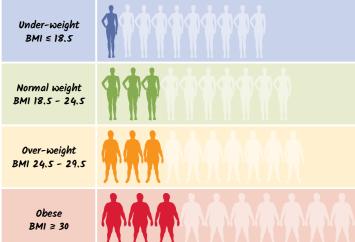
This shows that these children are not eating balanced and healthy diets.

We found that households that grow crops eat fresh vegetables and fruits more often than those who do not grow crops. They also eat more eggs and fish than households that do not grow crops.

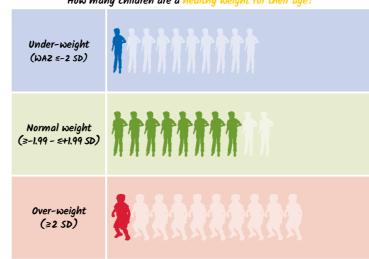
We also found that households that irrigate enjoy a more diverse diet, eating fresh vegetables and fruits more often than those who do not irrigate their crops. They also eat more meat, eggs, fish and dairy products than households that do not grow crops or irrigate.

Improvements in the diets of all household members is necessary for improved nutrition, health and productivity.

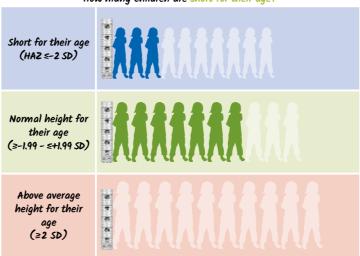
How many female carers are a healthy weight?



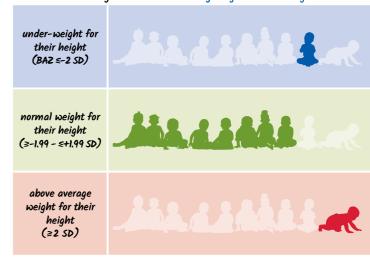
How many children are a healthy weight for their age?



How many children are short for their age?



How many children are a healthy weight for their height?



What we recommend...

Eating a variety of vegetables and fruits regularly ensures the intake of a variety of nutrients required for maintaining health bodies and minds. Diversified diets help children grow and develop optimally.

Diets can be improved by including the following foods or increasing the number of times in a week these foods are consumed. Growing these foods for home consumption will improve the diets of small children and adults.

The crops in the table below are able to grow in Jozini.

| Food group | Crop | Can provide food: | Supplemental irrigation needed |
|------------------------------------|--------------------------------|----------------------|--------------------------------------|
| White roots and tubers | Amadumbe | 淡 | |
| | Potato | ※ ** | |
| | Sweet potato | 淡 | |
| Orange- and red-fleshed vegetables | Beetroot | ※※ | |
| | Tomato | »XX | |
| | Carrots | ※ ** | |
| | Pumpkin / Butternut | :XX | |
| | Gem squash | :XX | |
| | Orange-fleshed sweet potato | :XX | |
| | Hubbard squash | :XX | |
| | Pumpkin | 淡 | |
| Dark green leafy vegetables | Broccoli | ※ ** | |
| | African leafy vegetables | 淡 | |
| | Swiss Chard | ※※ | |
| | Beetroot leaves | ※ ** | |
| | Pumpkin leaves | 淡 | |
| | Cowpea and legume leaves | 淡 | |

| | = Can provide food in summer |
|----|----------------------------------|
| ** | k = Can provide food in winter |
| | = Supplemental irrigation needed |

| Food group | Crop | Can provide food: | Supplemental irrigation needed |
|--------------------------------------|----------------------|-------------------------|--------------------------------------|
| Other vegetables | Cauliflower | ※※ | |
| | Cabbage | 淡珠 | P a box |
| | Lettuce | 淡珠 | |
| | Cucumber | 淡 | |
| | Eggplant | 淡 | |
| | Green beans | 淡 | |
| | Green pepper | 淡 | |
| | Peas | 涂珠 | |
| | Zucchini | 淡 | |
| | Onion | ※ ** | |
| | Mango and Papaya | ×X; | |
| Orange- and red-coloured fruit | Spanspek | :XX | |
| | Watermellon | :XX | |
| | Orange / Citrus | * | |
| | Avocado | 淡 | |
| Other fruit | Banana | 淡 | |
| | Figs | 淡 | |
| | Loquat | 淡 | |
| | Pineapple | XX: | |
| Legumes | Bambara groundnut | and when dried all year | |
| | Cow peas | and when dried all year | |
| | Broadbeans | and when dried all year | |
| | Harricot beans | and when dried all year | |
| | Sugar Beans | and when dried all year | |
| | Groundnut | and when dried all year | |





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