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ASSISTING AN EAST AFRICAN "NEIGHBOUR" IN COMPILING A COUNTRY-SPECIFIC FOOD COMPOSITION DATABASE: A PRELIMINARY REVIEW FROM SAFOODS

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INTRODUCTION

A country-specific food composition database (FCDB) provides with accurate nutrient information inherent to the country's food consumption patterns. The South African Food Data System (SAFOODS) Department assisted with an international food compilation collaboration project, in starting up a national FCDB for an East African country. A global literature search was performed, accessing food composition articles linked to the country of reference.

OBJECTIVE

The study aimed at sourcing food composition information from scientific literature at a selected African university, to generate a FCDB for the country.

METHODOLOGY

Literature search for food data, sourced via various search engines using keywords for staples initially, and other foods produced via chemical analysis within the country. A manual search within the university postgraduate section was accessed to further extract data.

Key stakeholders of various industries within the selected country where targeted to share data for inclusion into database. Macronutrients (n=7), minerals (n=11) and vitamin (n=12) values were captured.

A literature specific Data Quality Assessment tool was developed for screening of data quality before inclusion into database for food description, sample size, sampling plan and handling, analytical methodology, comparison to other databases and analytical quality checks.

MAIN FINDINGS

- Key stakeholders (n=25) identified in country of reference, provided no chemically analysed data for 100% of cases.
- Preliminary results and searches found nutrient information extracted from literature sources, were categorized into six food groups, as per reference country policy and detailed in Figure 1. A total of 148 foods were recorded; representative of 5 of the 6 food groups (83%) captured in preliminary results
- Data for 30 components were extracted from 22 articles, in the preliminary dataset.
- The literature specific Data Quality Assessment tool was used within the research team to score articles extracted. A quality score of 50% warranted inclusion. This tool proved to be valuable for including and excluding articles sourced.
- Post quality checks, prior to matching of foods, revealed missing data ranges between 29% and 93% for Macronutrients as depicted in Figure 2, where dietary fibre and Carbohydrate values were missing for 93% and 71% of foods respectively.
- Missing mineral data were highest for Selenium and Iodine reported 91% and 99%, whilst Iron and Zinc populated for 60% of data. Descending order of missing data for Vitamins ranked from high to low; Vitamins B, D, E and C.

DISCUSSION

Generating a country-specific food composition database is fundamental for Africa. Challenges which arise include country stakeholder country support, dedicated drivers of project, sustainability and routine maintenance of data gathered to date. Findings show that nutrient data exists within the literature and simply requires access and compilation to be able to produce a FCDB of high standard. Main findings from this preliminary review, directs research focus to departments to ensure future food analysis projects will be valuable for inclusion into the country's comprehensive FCDB.

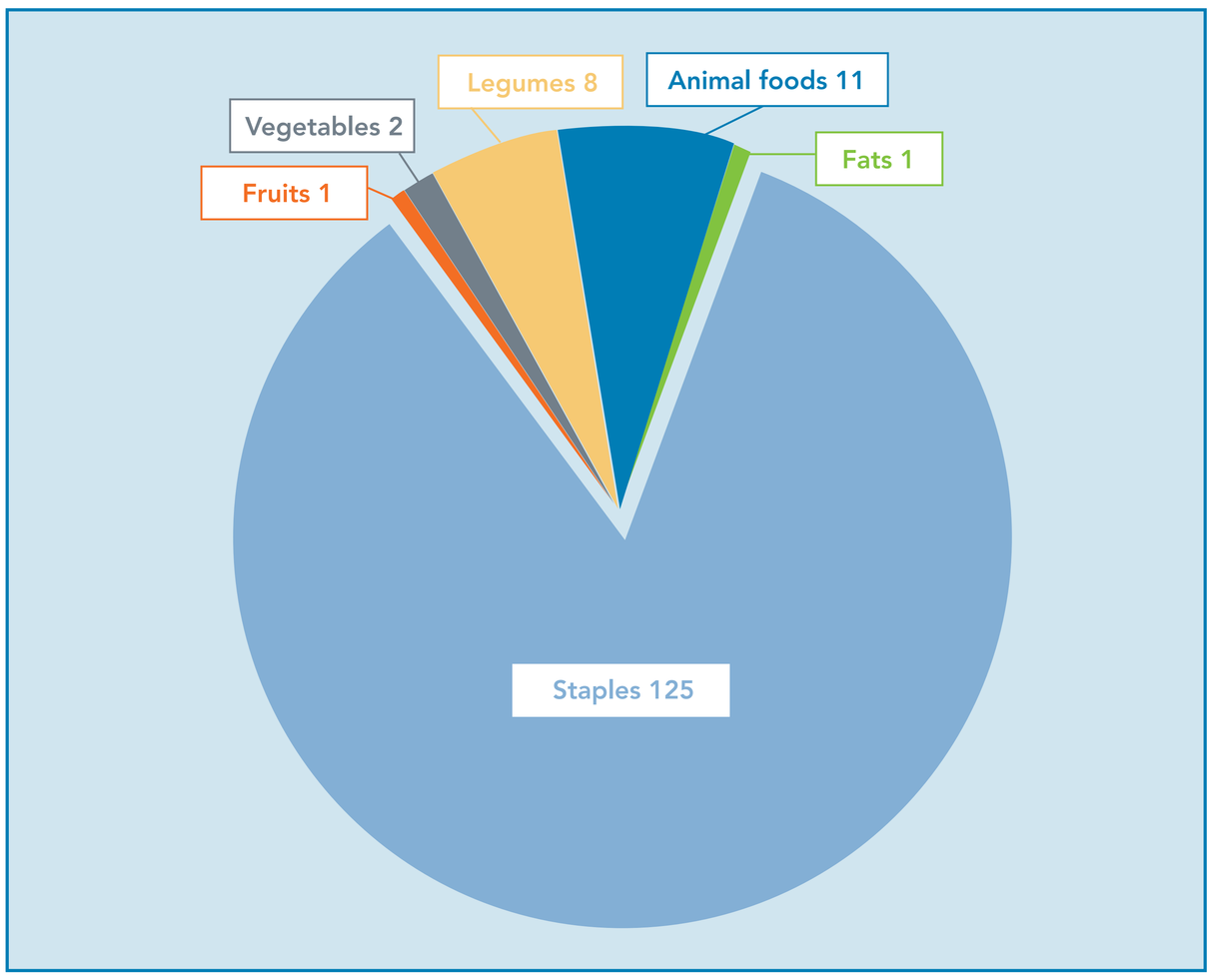

Figure 1: Food items grouped into six food groups following data extracted within country references

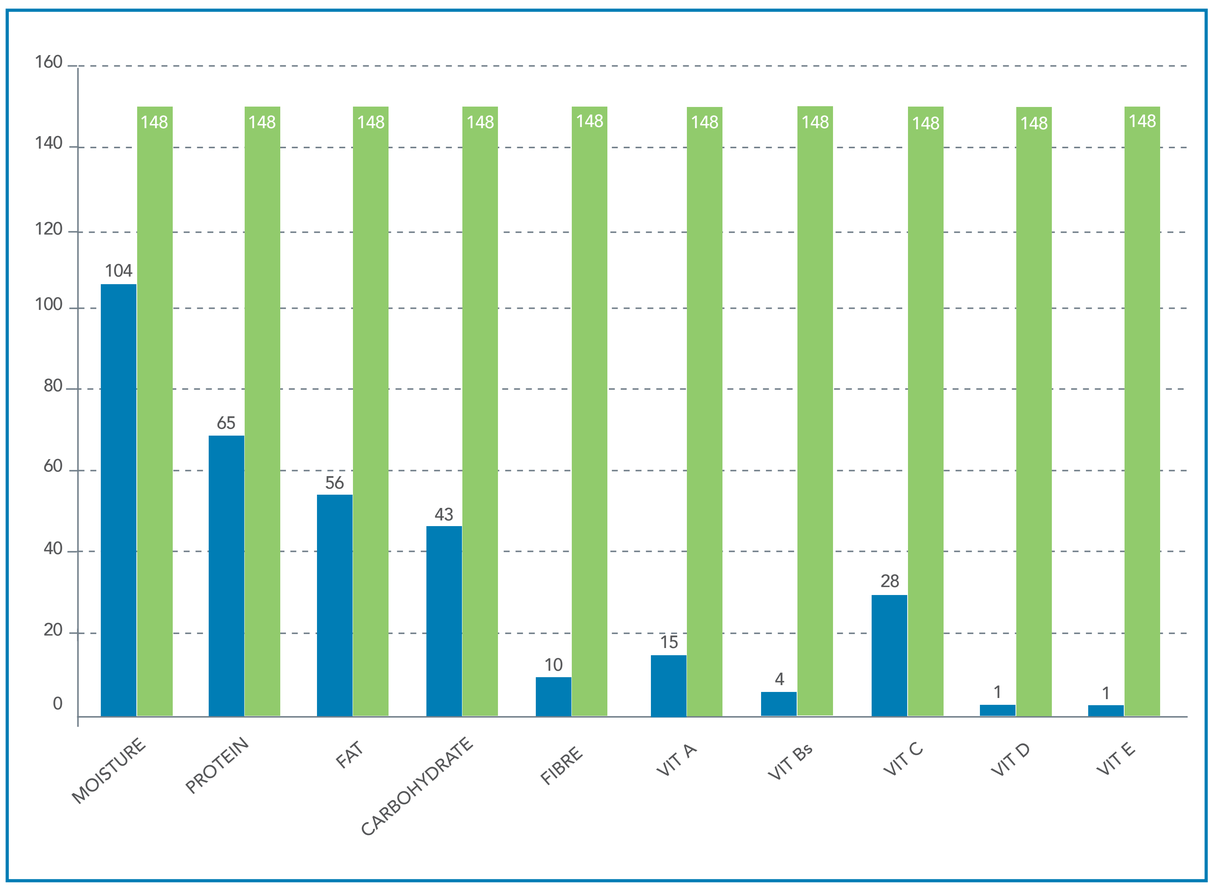

Figure 2: Macronutrients and selected Vitamins, containing a value for n=148 foods sourced. Reports on missing data per component

CONCLUSION

Data generated from university can contribute to a country-specific FCDB. Challenges with compilation process largely attributed to methodology procedures of analysis reported; large ranges for missing data within vitamins, minerals and micronutrients and accessing of information.

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