Reviewer’s report

**Title:** Dietary diversity of formal and informal residents in Johannesburg, South Africa

**Version:** 1  **Date:** 16 April 2013

**Reviewer:** Danielle Gallegos

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Overall the topic is important particularly regarding the prevalence of food insecurity, its determinants and sequelae in middle income and high income countries. The paper however does require some revision to ensure that its aims, results and recommendations are clear.

**Major Compulsory Revisions**

1. The overarching aim of the paper is not clear – the title makes reference to dietary diversity, the background refers to food insecurity but the results are clearly focussed on dietary diversity with very minor reference to food insecurity. My understanding based on the background section is that the paper is considering the issue of food security and in particular the connection between food shortages and dietary diversity. This is confused throughout the paper and a much sharper focus would be of benefit.

2. The abstract needs a bit of an overhaul. The background section provides a mixture of background and methods, and refers to a “dynamic” which is not clearly articulated. Dietary diversity is not mentioned in the background at all and is pivotal. No mention is made of the food security results in the abstract. The conclusions were not necessarily justified.

3. The background moves between an African context and a South African context. Food insecurity as is described is contextual and there will have varying dimensions across the African continent dependent on the level of development and the stages of the nutrition transition. What is the WDI of South Africa? If is it considered a upper middle income country then the food insecurity experienced will be related more to that experienced in countries such as the USA, UK, Canada and Australia. In these countries, general national food security is achieved with relatively low rates of household food insecurity across the entire population. However, when interrogated more closely higher rates of food insecurity are found in groups on lower incomes and/or who could be identified as vulnerable (e.g refugees) (Hadley and Sellen 2006, Hadley, Mulder et al. 2007, Hadley, Zodhiates et al. 2007, Gallegos, Ellies et al. 2008). Given one of the target populations is a group that are made up of internal and external migrants then some of this literature may be relevant.

4. I am also a little concerned regarding the age of the references used for the food security component. The definition of food security is given as the 1996 Rome Declaration and yet this definition has been updated and ratified at the
World Food Summit in 2009 (Food and Agriculture Organisation 2009). A quick search also identified a number of articles related to food security in Southern Africa that would assist with the context (Misselhorn 2005, Oldewage-Theron, Dicks et al. 2006, Oldewage-Theron and Kruger 2009, Stupar, Eide et al. 2012)

5. The paper would benefit from separating out the results from the discussion.

6. Given that the primary tenet of the paper is around food insecurity and nutritional vulnerability as measured by dietary diversity, I was expecting to see more results regarding the link between the two. While numbers of households experiencing hunger were low, my questions relate to:

- Did households who reported going hungry in the last 12 months have lower dietary diversity scores?
- Were there differences in the food groups consumed between those who identified going hungry in the last 12 months?

The larger project also looked at HIV and another interesting question is: was dietary diversity related to HIV presence in the household? Was food insecurity related to HIV presence?

7. Somewhere in the paper there needs to be a discussion of the limitation of the measure used for determining food insecurity. The single question measure is only determining the most severe form of food insecurity where hunger is present. In an urban setting in a middle to high income country such as South Africa a food insecurity could have a range of severity levels. This has important implications for policy – if households are increasingly anxious about where the next meal is coming from or resorting to other means to ensure food is on the table (rather than experiencing hunger) then this has ongoing implications for policy development. Given the low numbers of those experiencing hunger this may have been something to consider and discuss.

There is also the limitation of using a food security measure that looks at the last 12 months and a dietary diversity measure that is a 24 hour food recall

8. Some of what appears in the conclusion is part of the discussion. I generally think this section needs to be reworked and this will be assisted once the results and discussion are separated and the focus of the paper is more clearly defined.

Minor Essential Revisions

1. The language around formal and informal settlements needs to be explained up front. An international audience may not necessarily understand the terminology used.

2. Some statements are made that are not clear for example: why economic access to food should resonate with urban planners is not clear nor obvious

3. There is some repetition, typographical, grammatical and phrasing errors that need to be fixed

**Level of interest:** An article whose findings are important to those with closely related research interests
Quality of written English: Not suitable for publication unless extensively edited

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

No conflict of interest