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*photograph: Sheona Shackleton*

# POLICY BRIEF

Department of Environmental Science, Rhodes University

## Addressing local level food insecurity amongst small-holder communities in transition

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## FOOD INSECURITY IN THE DEVELOPING WORLD

Food insecurity affects a significant proportion of the world's population and hence it typically receives priority attention in global policies associated with poverty, equity and sustainable development. For example, it is the first of the Millennium Development Goals and the second of their successor, the Sustainable Development Goals. Access to sufficient and nutritious food is deemed a basic human right. The latest FAO analysis of the "State of Food Insecurity in the World 2014" reports that 805 million people (approximately 11-12% of the world's population) are chronically undernourished (i.e. do not have sufficient energy intake over a period of at least one year). In sub-Saharan Africa the prevalence remains stubbornly high at 24%, the highest in the world.

Whilst most interpret food insecurity to mean an insufficient quantity of food (as measured by the number of calories consumed), the widely accepted FAO definition considers four dimensions of food security, namely quantity, quality or diversity, access and use. Provision of enough calories on a daily basis is not sufficient if the diet lacks diversity and appropriate balance to provide the full range of minerals and vitamins necessary for proper health, or if the food available is culturally unacceptable. Thus, there is a pressing need for more nuanced analyses of food security against all four of the dimensions embedded in the concept. Additionally, it is important that these be measured at more local or regional levels because national statistics can mask alarming regional discrepancies in food security, or amongst particular sectors of society, such as recent migrants, refugees, female- or child-headed households, those vulnerable to HIV/AIDS or the landless, to mention just a few. For example, at a national level South Africa is considered a food secure nation with respect to staple requirements, and access to sufficient food is enshrined in the Constitution (Section 27, subsection 1b), but nationally one in twenty (i.e. approx. 2.5 million people) go to bed hungry most nights, and 23% of children below the age of 15 are physically stunted, severely stunted or wasted, due to the long-term ill effects of insufficient food or of inadequate diversity and quality. At a subnational level, there are marked differences between rural and urban populations and even between geographic areas (for example, the prevalence of stunting amongst boys less than 15 years old is 23% in the Eastern Cape, compared to 12% in Gauteng). Once again, despite being a food secure nation, nationally 40% of the population have a dietary diversity score of four or less, which is a cut-off point signifying poor dietary diversity which makes people more vulnerable to malnutrition and ill health, and in Limpopo and Northwest provinces it is as high as 66% and 61%, respectively.

## FOOD SECURITY IN TIMES OF TRANSITION

### *2.1 Extent of use of non-timber forest products use by urban communities*

Appropriate and targeted policy options require not only statistics on the prevalence and different dimensions of food insecurity, but they must be placed within the context of national and local drivers of change and transitions that influence the supply, demand and use of food. In some countries and regions, contextual changes in the supply and demand for food change relatively slowly. In other countries the changes can be quite rapid, which demands that policies relating to food security must be flexible, adaptive and proactive – features that are often lacking or only weakly developed. South Africa is such a country having experienced large-scale economic and social change over the last two decades as it moved from a repressive undemocratic system with massive inequities to a constitutional democracy requiring total transformation of the policy, social and economic environments. These have played out in multiple transitions. The rural areas of the Eastern Cape province provide fertile grounds for analysis of policy options in such situations. At the national level significant transitions inexorably effecting rural livelihoods in the rural regions include:

- Urbanisation, which slowly draws rural labour and financial capital away from rural areas.
- A real growth in wages over the last decade and a half attracting people to seek wage labour and salaried employment.
- Declining remittances from urban dwellers to rural households.
- A broadening social security net of government grants which provides cash incomes on a regular basis to the majority of rural households, thereby increasing disposable income and decreasing vulnerability to some degree.
- Compulsory schooling up until the age of 15, resulting in reduced availability of family labour (especially for farming or herding activities).
- Increasing education levels and access to media leading to aspirations for alternative lifestyles, material goods, careers

and job prospects that are in short supply in underdeveloped or remote rural areas.

- School food feeding schemes and child support grants leading to better child nutrition and health.
- Changing dietary composition as a result of higher disposable incomes, globalisation, urbanisation, fast food revolution, and increased media and advertising exposure to the sorts of foods 'expected' to be eaten by certain social or economic strata.
- Land reform which gives greater autonomy to beneficiaries over land use decisions. However, there has been very little reform in the communal areas where the majority of South Africa's rural populations live and where poverty and food insecurity are highest.
- Decline in agriculture as a contributor to national GDP despite national government seeing it as a primary sector for job creation.
- Climate change undermining food production in some areas, or requiring new ways of producing food

Within this changing context local food production and food security is equally dynamic. Our recent work in the Eastern Cape shows that the interplay of the above transitions has marked influence on household food security as reflected in the following trends.

### **1. A decline in small-holder cultivation**

There is compelling evidence of a decline in the number of rural households engaging in cultivation of fields. Longitudinal data from two villages (Koloni, Guquka), what is now a peri-urban cluster at Mission Station and the Wild Coast more generally show that this has been going on for decades, also recently supported by analysis of abandoned fields in the Willowvale area. However, the drivers of the decline have varied through time. In some areas, the decline has been countered to some extent by intensification of homestead gardening. Many rural, nominally farming communities, are now surrounded by mostly fallow fields open to grazing by livestock and invasion of shrubby plants and trees.

### **2. Increasing purchase of food, even in rural communities**

Accompanying the decline of own food production is the increasing share of family food requirements that are purchased rather than grown or reared by households. For most rural households in the Eastern Cape, less than 5 % of total food consumed comes from their own labour, with slightly higher figures specifically for staple cereals or vegetables. Figure regarding livestock ownership show similar trends with fewer rural households owning large stock such as goats, sheep or cattle.

### **3. Diets are of low diversity**

In the rural areas of South Africa including the Eastern Cape, standard scores of dietary diversity (based on 24 or 48 hour recall methods) indicate that the considerable majority of households have diets that are typified by low to moderate diversity, which make people vulnerable to ill health and food insecurity. The recent SANHANES-1 national survey reported that fruit and vegetable consumption in the Eastern Cape was the lowest in South Africa. This is within the context that nationally, South Africans consume less than half the daily amounts of fruits and vegetables recommended by the FAO. For the majority of rural people, the morning meal is simply tea and either bread or maize porridge, sometimes with curdled milk. The main meal of the day is usually maize porridge or samp with some sauce, typically from soup or stock powder, maybe with some onions and tomatoes, dried beans and perhaps indigenous vegetables or cabbage. Fruit is rarely eaten as a part of a formal meal, but more as an ad hoc snack during the day when encountered (on a tree or being sold by the side of the road). Tinned fish or meat may be eaten once or twice a week, albeit for many it is only once or twice per month. Overall, calorific intake is dominated by maize and dietary diversity is below optimum.

### **4. HIV/AIDS imperils household food security**

Recent data from Willowvale on the Wild Coast and Lesseyton outside Queenstown revealed that adolescent and young adult males from households with a high number of HIV/AIDS proxy indicators had average daily calorie intakes that were 10 % lower than the internationally recommended age-related daily requirements. Generally, for nearly all the age groups at both sites, the mean calorie intake was lower amongst high proxy score households than low score ones. Additionally, at both sites fewer high proxy score households cultivated their own vegetables than low score ones, a difference of 13 % at both sites. The proportion of low score households with moderately and well-balanced diets was higher than that of high proxy score households at both sites. Kaschula's work in both the

Eastern Cape and a site in KwaZulu-Natal showed that households that experienced a recent death cultivated lower plot sizes and that this was most marked if the death was on an adult female, emphasising the primary role of women in subsistence cultivation.

## FROM FOOD INSECURITY TO FOOD SECURITY: POLICY RECOMMENDATIONS

### **1. Food insecurity is a complex problem requiring intersectoral responses and transdisciplinary analyses**

Food insecurity is not just about production of food. It is about production, stability of supply and access, land tenure, diversity of foods, access to food by different sectors, food cultures and preferences, distribution channels, market prices, attitudes, education and health. Consequently, eliminating food insecurity cannot be the responsibility of a single government department nor at one tier of government, nor of government alone. Addressing food insecurity requires a coherent, multisectoral and coordinated policy environment and programmes involving government, NGOs, civil society, traditional authorities and agribusiness, informed by context specific transdisciplinary perspectives. A continuous learning and adaptive process is imperative.

### **2. Encourage use of the land available**

Although many rural communities identify themselves as farming or agrarian communities, much land lies fallow. Yet land is the primary asset of most rural dwellers provided that there is some security of tenure or use. Seasonal resting or rotation has ecological and production benefits. However, the long-term and widespread trend of disengagement with arable agriculture and static or declining livestock ownership means that increasing areas of land are potentially underutilised, although the availability of wild and cultural resources may be increasing. The constraints of limited labour, fencing, finances and shrub invasion may hinder any attempts to return some or all of these lands to arable production, especially in marginal areas. In such settings alternative uses or products (such as orchards, livestock, firewood/charcoal, thatch grass, game) should be considered. In the better agroecological areas, targeted responses to address felt constraints need to be devised. In such instances the caution of Kepe & Tessaro (2014) that the real reasons for disengagement from arable production need to be investigated, as opposed to recording of post hoc justifications, is salient advice.

### **3. Recognition and promotion of multifunctional land use**

Very few small-scale farmers or rural households use land for a single purpose. Rather, a typical mix includes rearing of some poultry or livestock, growing of some vegetables and fruit trees in a homestead garden, small plots of maize for homestead or livestock consumption, collection of a range of non-food resources (such as firewood, medicinal plants, fencing materials, weaving fibres), burial sites, perhaps space for some small enterprise (such as brewing, welding, weaving) and affirmation of deep cultural and spiritual connections to the land. A minority also cultivate fields for subsistence use and the selling of any surplus. Consequently, policy interventions, finances or programmes that seek to direct land use to a single function, such as commercial agriculture, are likely to be met with resistance or limited acceptance. Rather, build on and strengthen the benefits of what is common practice through promoting diversified use of the land at household, community and landscape scales. This underpins ecological, social and economic resilience.

### **4. Support crop and dietary diversity**

In the rural areas of South Africa including the Eastern Cape dietary diversity is typically moderate to low, which make people vulnerable to ill health and food insecurity. A diversity of crops as well as diets go hand in hand. Intercropping is favoured by most households but is an anathema to most commercial agriculturalists and extension officers. If the primary purpose of cultivation is household food supply (and maybe a small surplus), the health, social and ecological benefits of planting a diversity of crops and of intercropping practices are clear. Extension officers should promote rather than hinder diversity. This includes advocating for agroforestry which fosters trees in home gardens, arable fields and the grazing landscapes

### **5. Strengthen communications regarding dietary diversity in nutrition awareness and food supply programmes**

The South African general school curriculum includes lessons on the importance of a mixed diet and inclusion of the different food groups within the diet. This is a solid conduit for increasing household and societal awareness of healthy eating. However, in many instances, especially in rural areas, these food groups are not translated into actual foods that

Orange trees as street trees

Urban street trees

Urban park

Urban park



children know or have physical or financial access to. In other words, the curriculum does not accommodate local food cultures, knowledge, preferences or realities, and therefore core lessons and outcomes remain abstract to some learners. Secondly, while conveying the importance of different food groups, the message of promoting diversity within each food group is lost. Thus, the school food and nutrition curriculum needs to be embedded in learner realities. The national school feeding programme is an ideal vehicle for promotion of the message around the value of a diversity of foods (although the school feeding programme is less reliable in rural areas). Whilst dietary diversity is important for everyone, it is especially important for HIV/AIDS sufferers. This needs to be soundly communicated within programmes about living with HIV/AIDS and during caregiver training.

#### **6. Recognition of the contribution of culturally accepted 'indigenous' foods**

Most rural households in South Africa make some use of indigenous, or wild, fruits and vegetables collected from gardens, fields and surrounding lands. The frequency of use and amounts consumed are culturally and environmentally mediated, ranging from daily in some communities to a few times a month in others. These foods are important for several reasons. Firstly, they can add significantly to the diversity of the diet. Secondly, most of them have higher vitamin and mineral contents than most western or conventional vegetables. Thirdly, they usually grow spontaneously without any input, care or costs. Fourthly, many are also regarded as traditional or cultural foods. Yet, many extension officers do not recognise them as valuable foods and deem them to be weeds that should be removed. Additionally, some who have increasingly adopted western diets stigmatise the use of indigenous foods as backward or as a public sign of poverty. Considering the benefits mentioned, it is important that indigenous foods be endorsed and encouraged through mention and education within school curricula, health and maternal training programmes at clinics and popularisation through media, lifestyle programmes, and cultural activities and occasions. Celebrations of traditional or cultural foods can counter the pervasive advertising messages of fast food dominated 'western' diets that are increasingly implicated in several ill health pandemics such as Type 2 diabetes and obesity.

#### **7. Feed the soil to feed a family**

Small-scale food production, whether in a homestead garden or a small-holder farm, relies on intensive production. Sustained intensive production is only possible through maintaining soil health. The amount of food produced from a healthy soil is 3 – 7 times greater than from a neglected soil. Inexpensive means of promoting soil health through water conservation, contouring, mulching, composting, manuring and agroforestry need to be promoted via school curricula, women's groups, clinics and extension materials. The provision of guttering and water tanks, coupled with uncomplicated water and soil conservation techniques, allow longer periods or year round cropping of homestead gardens.

#### **8. Promote and invest in agriculture from household to community to district level**

Multiple studies throughout South Africa reveal that rural elders often complain that the youth are not interested in agriculture or working the land, but are rather lured by "city lights", "easy money" and modern lifestyles. On the other hand, many rural youth have deep connections to the land but cannot see a clear way to obtain secure access to land or procure the capital needed to start. Bridging this requires investment by government agencies, traditional authorities and NGOs of knowledge, skills, tenure security and capital in all forms of agricultural production, not just commercial, market-orientated models. Much can be gained from building on what exists, i.e. home garden or small-holder production, first for household food security, then on to local market engagement, and ultimately, for those who wish, a mix of these two and broader market engagement.

#### **9. Linking small-holders to local markets and co-operatives**

Given that most food is now purchased, there is widespread opportunity for small-holders to offer their produce to local, as opposed to centralised, markets. Doing so will save both the rural consumers and the small-holders the cost of transport to the nearest urban centre. Yet, many small-holders lack knowledge of how to price their produce for a local market. This requires market information systems that can be disseminated by radio or weekly pamphlets by Local Economic Development officials in local municipalities. Another challenge may be that the market is too dispersed or insufficiently developed. Linking small-holders to government procurement programmes (such as the school feeding programmes and local hospitals), or adjacent, private tourism enterprises, can help with this. Alternatively, co-operative buying and transport schemes can assist small-holders in engaging with more distant markets in the most cost-efficient manner possible. Successful small-holders add to community food security by supplying food locally and acting as role-models to others, whilst some also provide employment. The promotion of local farmers' markets on specific days of the week has been shown to be a viable model in many areas.

## **10. Preservation of and value addition to surplus production**

At times many rural households generate a surplus production of a specific crop or cultural food from their homestead garden. Such surplus is donated to family or is left unused. Very few attempt to sell the surplus because they are not interested in doing so, the quantities are too small, or they do not know how or where to sell it. This surplus need not be wasted if the shelf-life is extended by drying, pickling or canning. Such processing then makes the food available during seasonal or other periods of scarcity, or it can be sold in the off season at prices 3 – 10 times higher than selling the fresh produce in season. However, in most areas, the knowledge and practice of such processing is relatively rare. Providing information and demonstrations at clinics and women's groups could increase the prevalence and benefits of such processes to increase the shelf-life of surplus produce, whilst contributing to women's empowerment. These can be promoted via shows or competitions, along with recipes and cultural foods.

## **11. Target the most needy**

In some areas food insecurity is quite pervasive and hence broad-based interventions are likely to offer some tangible improvements. In other regions where the prevalence is lower, broad-based approaches can be inefficient and not cost-effective because the food insecure households can be relatively “unseen” by authorities and groups who could make a difference. In such regions more targeted approaches are likely to yield better food security outcomes. This requires development of food insecurity or hunger inventories or maps. These take time and finances to establish, but once available, can facilitate targeted support and in a form that is needed, such as access to land, fencing, knowledge, skills training or social grants. Inclusion of school teachers and community health or social workers can aid in compilation of such inventories or maps. Above all, local level policies and strategies need to be focussed and adaptive to local conditions and cultures and responsive to changing conditions and transitions.

## **12. Promote climate smart agriculture**

Several research projects have shown that the majority of rural households in communities throughout the Eastern Cape perceive changes in local climates, especially in relation to the later onset of the seasonal summer rains, increased climate variability and increased severity of extreme climate events. This means that for many, the old, time-established ways of agriculture and food production will be less productive and hence food insecurity is likely to increase unless appropriate climate smart strategies are adopted. Climate smart agriculture promotes ways of food production that both (i) lowers emissions of greenhouse gases and (ii) increases the productivity, adaptability and resilience of food production systems in the face of climate change, whilst embedding agricultural systems in the broader landscapes and flow of ecosystem services from those landscapes. The increasing variability and severity of local weather patterns requires that production systems need to be more adaptable and flexible and that farmers must be able to respond in shorter time periods than has been the case up until now. At the local scale, this will require greater information to farmers and households on climate smart agriculture, farmers and households having access to a greater variety of crop types and genetic stocks, increased use of conservation agriculture techniques, better medium- to long-term weather forecasting and social learning regarding new approaches.



photograph: Ross Shackleton

## FURTHER READING

- Abu-Basutu, K. 2013. The contribution of wild foods to food security in the face of climate change and HIV/AIDS. Rhodes University, Grahamstown. 140 pp.
- Du Toit, D.C., Ramonyani, M.D., Lubbe, P.A. & Ntushelo, V. 2011. Food security. Directorate of Economic Services, Dept of Agriculture, Forestry & Fisheries, Pretoria. 25 pp.
- FAO, IFAD & WFP. 2014. The state of food insecurity in the world 2014: strengthening the enabling environment for food security and nutrition. FAO, Rome. 57 pp.
- Fay, D. 2009. Land Tenure, Land Use, and Land Reform at Dwesa–Cwebe, South Africa: Local transformations and the limits of the State. *World Development*, 37: 1424-1433.
- Hebinck, P. & Lent P.C. 2007. *Livelihoods and landscapes: the people of Guquka and Koloni and their resources*. Brill, Leiden.
- Ngcaba, S.V. 2002. The decline of agriculture in rural Transkei: the case of Mission Location in Butterworth. MA thesis, Rhodes University, Grahamstown. 91 pp.
- Shackleton, R.T., Shackleton, C.M., Shackleton, S.E. & Gambiza, J. 2013. Deagrarianisation and forest revegetation in a biodiversity hotspot on the Wild Coast, South Africa. *PLOS ONE*, 8/issue 10/e76939 online.
- Shisana, O., Labadarios, D., Rehle, T., Simbayi, L., Zuma, K., Dhansay, A., Reddy, P., Parker, W., Hoosain, E., Naidoo, P., Hongoro, C., Mchiza, Z., Steyn, N.P., Dwane, N., Makoae, M., Maluleke, T., Ramlagan, S., Zungu, N., Evans, M.G., Jacobs, L., Faber, M. & the SANHANES-1 Team. 2014. South African national health and nutrition examination survey (SANHANES-1): 2014 Edition. HSRC Press, Cape Town. 453 pp.
- Trefry, A., Parkins, J.R. & Cundill, G. 2014. Culture and food security: a case study of homestead food production in South Africa. *Food Security*, 6: 555-565.