



FOOD SECURITY

The time has come

The United Nations (UN) says the world continues to speed down an unsustainable path, despite hundreds of internationally agreed goals. It's critical that the talking stops and the action starts, in order to improve the increasing problem of food security. **By Gill Hyslop**



‘The moment has arrived to put away the paralysis of indecision, acknowledge the facts and face up to the common humanity that unites all peoples,’ commented Achim Steiner, executive director of the UN Environment Programme (UNEP) at the UN Rio+20 Conference on Sustainable Development held in Brazil last month. ‘Rio+20 is a moment to turn sustainable development from aspiration and patchy implementation into a genuine path to progress and prosperity for this and the next generations to come.’

More than 100 heads of state and governments, along with thousands of parliamentarians, mayors, UN officials and leaders of the private sector attended the conference to discuss shaping new policies to promote prosperity, reduce poverty and advance social equity and environmental protection.

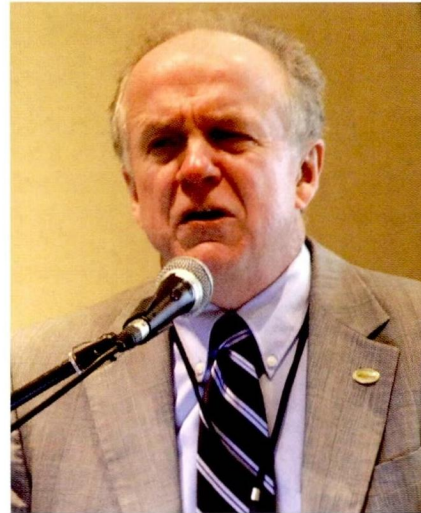
The world’s fixation on economic growth ignores a rapid and largely irreversible depletion of natural resources that will seriously harm future generations, according to the *Inclusive Wealth Report 2012 (IWR)*, a joint initiative launched at the conference by UNEP and the UN University’s International Human Dimensions Programme on Global Environmental Change (UNU-IHDP). The report looks at changes in inclusive wealth in 20 countries, which together, account for almost three quarters of global GDP, from 1990 to 2008.

Despite registering a GDP growth, South Africa was among the few countries to have significantly depleted its natural capital base of renewable and non-renewable resources, such as fossil fuels, forests and fisheries. Over the period assessed, natural resources per-capita declined by 33 per cent locally.

‘The *IWR* stands for a crucial first step in changing the global economic paradigm by forcing us to reassess our needs and goals as a society,’ stated Prof Anantha Duraiappah, director of the IWR and executive director at UNU-IHDP.

Bringing the focus home

These facts aren’t amiss among the local community and were tackled at the Institute for International Research’s Food Security Summit in Johannesburg, also held in June. However, quantified Dr Miriam Altman of the Human Sciences



Jim Hershey

Research Council (HSRC) and National Planning Commission (NPC), SA is a middle-income country with a lot of wealth. The stages of food insecurity range from food secure situations to full-scale famine and SA’s national food security situation is still on the cusp of the danger zone.

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What’s more problematical is household food and nutrition security, declared Dr Altman. This is defined by the US Department of Agriculture (USDA) as access by all members at all times to enough food for an active, healthy life, that is: a) the ready availability of nutritionally adequate and safe food; and b) the ability to acquire food in socially acceptable ways (without resorting to emergency food supplies, scavenging, stealing or other coping strategies). However, increasing food prices are particularly effecting vulnerable, rural populations.

A major fault is that healthier food, on average, costs 9-12 per cent more than similar, less healthy food products (typically, higher in oil and low in nutrition). The National Agricultural Marketing Council (NAMC) found that SA’s poorest communities are spending at least 36,4 per cent of their income buying food, compared with 2,9 per cent spent by those with more money. The *April Food Price Monitor* reported that rural communities are paying R14,89 more than urban consumers for the same food basket.

Not getting to grips

Almost 80 per cent of the local population don’t pay this, though, for nutritional needs – either because they can’t afford it, or they don’t understand what a properly balanced meal is. Dr Altman asserted that almost 70 per cent of SA’s lower income group households eat starch exclusively; and that the average South African consumes only 3.6 of the nine food groups, whereas the minimum should be six. ‘We’re not getting to grips with these problems, and what we ought to be doing about them,’ she declared.

The Summit was chaired by Pioneer South Africa Registration and Regulatory Affairs manager Kulani Machaba, who agreed that private companies should work with public institutions, government and NGOs to identify initiatives, policies and collaborative investment opportunities to ensure safe food supply for Africa. He used the opportunity to explain that DuPont collaborates on several development projects, such as the Africa Biofortified Sorghum initiative; the Improved Maize for African Soils project; and in collaboration with the Earth Institute of Columbia University to create a rapid soil information system to aid Ethiopian farmers to diagnose soil constraints in the field and improve crop yields. DuPont is investing \$1 million (around R8.5 million) over three years for the latter project.

Outlining the scenario of the agricultural sector, Dr John Purchase, CEO of

DuPont is also sponsoring the Global Food Security Index being developed by the *Economist* Intelligence Unit (EIU) to measure the drivers of food security across 105 countries. The interactive benchmark tool will be reported on in the next edition of SA Food REVIEW.

the Agricultural Business Chamber, acknowledged that, although we have a well-developed dual economy – made up of the commercial and subsistence-smallholding sectors – SA has a limited land resource base. Only 12 per cent of land is arable, of which a mere 22 per cent is high potential. Currently, 1.3 million hectares are under irrigation, 'but we need to increase this,' he commented. 'Water is another major limiting factor.'

Dr Purchase outlined that food security comprises three facets: availability (production or trading), access (affordability and convenience) and use (nutrition). Food availability is sufficient quantities of food on hand on a consistent basis; access is having satisfactory resources, both economic and physical, to obtain food for a nutritious diet; while use is the appropriate consumption, based on the knowledge of basic nutrition and care, as well as adequate water and sanitation. He added that the UN's Food and Agriculture Organisation (FAO) adjoins a fourth aspect: the stability of the first three dimensions of food security over time.

'South Africa has a relatively healthy and robust agro-food industry,' disclosed Dr Purchase. 'There are many challenges but obviously, there are many opportunities, too. Global investors are looking to Africa for food production and we can leverage off this positive development. However, we do live in uncertain times and cannot take the agro-system too much for granted.'

Disease, environmental conditions, lack of skills, and infrastructural and financial

constraints pose severe limitations of food sustainability in a fragile world that's facing challenges from population pressure, climate uncertainty, market volatility, natural resource constraints and high inequalities. Research from the past 30-odd years has revealed a great deal about the causes of hunger and poverty, yet, in comparison, very little is known on how to solve these issues and more intensified research is needed.

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Aligned with this, in May, the University of Pretoria (UP) launched the Institute for Food, Nutrition and Well-being (IFNuW), the largest collaborative platform anywhere in the world. 'The initiative brings together over 100 researchers from five faculties and over 40 departments to create a critical mass of researchers applying science to

combat hunger, malnutrition and disease,' explained Prof Sheryl Hendricks, director of IFNuW.

'Food security is a basic socio-economic right and therefore a proper regulatory framework is very important,' expressed Prof Andre Boraine, dean of the Law Faculty. 'But it's not only about quantity, it's also about quality and the consumer must be protected against unsafe food.'

Paradoxically, 'Africa is facing two chronic nutrition and health related challenges,' commented Prof John Taylor. 'On the one hand, malnutrition is causing horrendous levels of child morbidity, while overeating is equally becoming a problem with an increase in today's so-called lifestyle diseases. Over 61 per cent of South Africans are overweight and 4-6 million have diabetes, but are unaware of it.'

'Many of our local food ingredients have significant and health-promoting benefits which are, as yet, untapped by the commercial food industry,' he observed. 'Our research is based on improving people's nutrition and health with African grains, leafy vegetables and meats, which are uniquely and naturally fortified with micro and macro nutrients and disease-preventing biomolecules.'

Typically indigenous food includes, for example, sorghum, millet, ugali porridge, arrowroot, maize, goat's meat, Karoo lamb, amaranth, cowpeas, spider flower, black nightshade (or imifino), bitter watermelon, Jew's mallow and pumpkin leaves.

'The most important part of our initiative is to educate our post-graduate students to develop the skills to feed the two billion people expected to populate Africa by 2050, and to make these products commercially available within a 10 year timeframe,' remarked Prof Taylor. One essential point is to change the perception of 'poor man's food' among the lower-income communities in order to get them to accept a more diversified diet. A good example of this mindset change is the weed, rocket (or Arugula), which is now sold at premium cost. This, obviously, will entail partnering with the private sector.

'Everyone agrees that, coming from the various transdisciplinary sectors, the IFNuW research community can influence policies at government level and we can accomplish humanitarian objectives, but we need to partner with industry,' noted Prof Hettie Schonfeldt from Wits



Some of the professors involved in IFNuW



University. 'People don't eat nutrients, they eat food.' A recent partnership to have been successfully forged is between Nestlé and CSIR.

US holds out helping hand

By 2100, the world's population will exceed 10 billion and more than 80 per cent of that population will reside in Africa and Asia, according to the UN. Building on more than a decade of work with soy protein for direct human consumption, the USDA hosted a seminar in May to discuss practical solutions for cost-effective feeding of the people of southern Africa, including the region's most at-risk demographic, children aged five and under.

Stunting, which is reflective of chronic nutritional deficiency and results in low height for age, affects an estimated one-third (or 195 million) children in the developing world, with more than 90 per cent living in Asia and Africa. The long term effects of stunting aren't limited to below average height. Stunted children run the risk of developing chronic diseases, like diabetes and heart problems. This, in turn, has an economic impact, and UNICEF estimates that countries lose over three per cent of their GDP through the effects of undernutrition. It's anticipated that South Africa, specifically, will lose a cumulative US\$1.9 billion (over R16 billion) to chronic disease between 2007 and 2015.

'On a positive note though,' said Jim Hershey, executive director of the World Initiative for Soy in Human Health (WiSHH) at the American Soybean Association (ASA), 'there are increasing numbers of companies in southern Africa that are looking for ways to use soy protein in the food they offer to the market, like soy-fortified maize flour, soy beverages and textured products like soy mince. This is a step in the right direction, towards a future where the phrase 'nutritional deficiency' has no place in the southern African vocabulary'.

Representatives from cooperatives, including the American Peanut Council, WiSHH, the Alaska Seafood Marketing Institute, the USA Dry Pea & Lentil Council, the USA Dry Bean Council and the United States Potato Board, presented compelling cases for the role of plant and seafood-based proteins as a cost-effective means to shore up this country's food security. According to Hershey, while some might argue that local agriculture should be able to fulfil the country's food needs, the reality is that South Africa needs more soybean meal for poultry and swine production than it can sufficiently produce.

'Plant-based proteins are an economical way to get more protein and other vital nutrients into people's diets. Beans, legumes, lentils and soy are rich sources of protein and other essential vitamins and nutrients and, unlike animal proteins, are almost devoid of unhealthy saturated fats, while being a good source of healthy, unsaturated fats. Soy in particular, has all the essential amino acids required to make it a complete protein, which in turn, makes it nutritionally comparable to meat and other animal proteins,' stated Hershey.

'Evidently, what's needed for SA food buyers is to partner with reputable suppliers from a politically stable country which can offer a reliable, steady and sustainable supply of good, healthy and cost-effective foods.'

In conclusion, returning to the Rio+20 Summit, many 'green' groups and some political leaders from around the world declared it an 'epic' failure. In a speech to the conference, US secretary of state Hillary Clinton acknowledged that these

were 'fractious times'. However, quoting the late Apple chief executive, Steve Jobs, she said people left Rio thinking not just big, but different. Australia's prime minister Julia Gilliard agreed, 'I don't believe that

this meeting will make change tomorrow, but I do believe the things that have been agreed here over time will make a difference to the world's environment'.

Every step counts. □

Greater push to reduce food losses and waste

The FAO is calling on companies worldwide to join Save Food, the Global Initiative on Food Losses and Waste Reduction, which aims to reduce the estimated 1.3 billion tonnes of food that's lost or wasted every year. Annual losses are valued at nearly one trillion dollars.

The campaign, started last year, currently has over 50 partners. FAO, together with Messe Düsseldorf GmbH, a trade fair organiser, and Interpack, a trade fair for packaging and processes, are calling for new private sector partners involved throughout the food supply chain to join the effort, and contribute their expertise.

One-third of all food produced for human consumption is thrown away or lost. Global food losses and waste in industrialised countries amounts to roughly \$680 billion, and \$310 billion in developing countries. Food waste often occurs at retail and consumer level due to a 'throw-away' mindset. Per capita waste by consumers is between 95-115kg a year in Europe and North America, while consumers in sub-Saharan Africa and south-southeast Asia toss 6-11kg. 'Even if just one-fourth of this could be saved, it's enough to feed 900 million people,' comments Robert van Otterdijk, team leader of Save Food.