



# BUSH TELEGRAPH

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It's more  
than just  
**FOOD**

# THE GLOBAL FOOD SYSTEM



We all need food, water and shelter. Without them we will not survive. With over 7 billion people in the world today, we have become too dependent on the global food system. This is because nowadays most people no longer produce their own food, but buy it. Those people that do still grow their own food are dependent on health soils and ideal weather conditions, especially rain, for their crops to grow and animals to survive. Due to many factors the global food system is breaking down.

## WORLD FOOD SECURITY

Food is the heart of civilisation, yet it is unequally distributed.

Did you know that each day there are about 200,000 more people who need food?



Isn't it ironic how of the 7 billion people in the world there are over 870 million people that do not have enough to eat while over 1,7 billion are overweight?

To have food security means that people have both physical and economic access to the basic food they need at all times. Unfortunately, most people in Sub-Saharan Africa and Asia have food insecurity because of reasons such as war, price instability, uncontrolled urbanisation and drought. These problems are made worse by climate change.

On the other side of the scale there are billions of people who have more than enough food and waste it due to lack of awareness, not caring or being dependent on a food supply chain that has enormous food loss.



## ...AND LOCALLY?

Even with only a little over 2 million people, Namibia is still not 100% food secured. Most of Namibia's land is not fit for cultivation. With floods, drought and poverty, Namibia's food security is compromised. According to the World Food Programme, between 12-14% of Namibian households have food shortages. During this past year (2013), the severe drought throughout the country has increased food insecurity to over 30% of households.

There are many reasons that our global food system is not currently sustainable. Let's explore some of these issues and think twice about food the next time you eat!

# FOOD & YOU

When we eat, we do it for various reasons but most importantly we eat because food:

- Gives us energy
- Gives us comfort
- Keeps us alive
- Helps our bodies fight diseases

Sometimes we eat just because food looks, smells and tastes good. Most importantly, food provides us with nutrients. These are chemical substances that rebuild the body, repair tissues and give energy. Good nutrition means getting the right amount of healthy foods in your body. Remember, a healthy lifestyle also includes exercise.



## LEARN THE FIVE FOOD GROUPS

There are many different types of food. These are divided into five different food groups:

**FRUITS & VEGETABLES** give minerals, vitamins and fibre

**DAIRY** gives us calcium



**STARCHES** provide energy

**PROTEINS** build muscle and tissue

**OILS & FATS** maintain body temperature & health cells

It is important to balance the type of foods you eat and how you prepare these. For example, eating deep fried chicken with chips is not going to give you the nutrients you need compared to an oven roasted chicken with a fresh salad.



Which food groups do chips, sweets and cool drink belong to?

**None, because your body does not need them.**



**Drink water!**

Your body needs 8 glasses a day!



## Namibian School Feeding Programme (NSFP)

Not all Namibian people have sufficient food. With the number of orphans and vulnerable children (OVC) on the rise, NSFP was introduced. This feeding programme feeds children in lower grades (1-7) not only to ensure that they are nourished, but also to improve their general health and concentration levels in the classroom. More than 300 000 learners have already benefited country-wide.

# THE FOOD SUPPLIER: Nature



About 10 billion tonnes of food are produced per year. This includes food from crops, fisheries and animal farming. Most of this is done in a commercial way to maximise production and reduce costs. But what impact does that have on the environment and the quality of the food along the production process?

## PRODUCTION



Food production depends on the environment to provide ecosystem services. These are basic functions such as clean air, water and fertile soils. Large-scale farming has increased food production through the use of fertilisers and increased water irrigation schemes. Fisheries depend on the natural reproduction cycle of fish.

Without careful consideration of nature, there already is or will be a decline in productivity. This is due to pesticides, soil erosion, decreased water availability and over-utilisation of natural resources.

## PACKAGING and DISTRIBUTION

To get food from the source to the consumer, it needs to be packaged and distributed. These processes use a lot of plastics and fossil fuels. In some countries, such as Rwanda, plastic bags have been completely banned while in others, such as South Africa, the consumer must pay for the bag. But this is just the bag to carry the food home. What about all of the plastic and other packaging materials needed to get the food from the farm to the shop?



## IMPACTS OF CLIMATE CHANGE ON FOOD SUPPLY

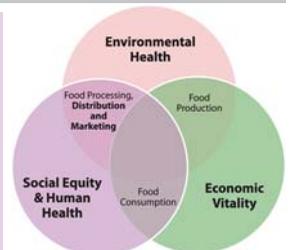
People often blame things on climate change. Actually, it is our modern lifestyles, especially the global dependence on fossil fuels that is the cause. The impacts of climate change will make the growing conditions more difficult, especially as there are more extreme weather conditions (for example, drought and flood side by side). Here are some concerns:

- ◇ Reduced yields
- ◇ Increased irrigation
- ◇ Planting and harvesting changes
- ◇ Decreased arability
- ◇ More pests
- ◇ Risks to fisheries

## Sustainable Food systems

We need sustainable food systems which focus on:

- ◆ Local, seasonal foods
- ◆ Health of the population
- ◆ Building communities
- ◆ Local economic development such as supporting local producers, processors, distributors and retailers.



# FOOD WASTAGE

Actually the food produced in the world is technically enough to feed all people. But besides its unequal distribution, there is a lot of food that is just lost during harvesting, processing, packaging and distribution.



## GLOBAL FOOD WASTAGE



More than half of the world's food wastage occurs during production, post-harvest handling and storage. The remaining wastage happens at the processing, distribution and consumption stages. Generally, developing countries suffer more food losses during agricultural production, while food waste at the retail and consumer level tends to be higher in middle and high-income regions.

Environmental damage is greater when a food product is lost later in the food production chain because a lot of energy already went into the lost food product.

## FOOD TERMS

**Food waste:** The intentional removal of edible items, mainly by retailers and consumers, due to the behaviour of businesses and individuals. For example when fruits are not sold because they do not look "perfect".

**Food loss:** The unintended reduction in food available for human consumption, resulting from inefficiencies in supply chains. It mainly occurs during production or post-harvest processing. For example, when crops are left unharvested.

## 4 Rs OF FOOD WASTAGE

The worst place for wasted food to end up is on a landfill. Here it is removed from any natural cycles and the nutrients will not be returned to the soil. The following can reduce food wastage:



### Reduce food waste

Minimising food wasted means that fewer natural resources are wasted to produce unneeded food.



### Re-use food within the human food chain

Donate food that would otherwise be wasted to the less fortunate members of society



### Recycle and recover

Recycle wasted food products. For example, composting or recovery of by-products for other uses such as energy production.

# TAKING ACTION: Global Movements

Food insecurity is a high priority on the international community's agenda. In order to reach global food security action needs to be taken now on both sides—those who have too much and those who don't have enough.



This is a global initiative aimed at creating awareness about food wasted as well as a call for taking action. Did you know that about 1,3 billion tonnes of all the food produced during the production and consumption systems worldwide is wasted?



**THINK** about the other millions of people starving. What happens to your leftover food? Do you have any? Do you throw it away? Or do you compost it? Make sure you don't take more than you need.



**EAT** up, but do so mindfully. It is important to know what impacts wasting food has on the environment. So buy less, eat only what you need and waste not. Teach those around you to be responsible about food loss and food waste.



**SAVE** food to save money and the environment. When shopping, pay attention to what you buy. Choose local products with less packaging and don't buy more than you need.

**REDUCE YOUR FOOTPRINT**  
Think globally and act locally.



The United Nations' Millennium Development Goals (MDG) aim to eradicate extreme poverty and hunger. This initiative aims to ensure that people work towards:



**100% access to adequate food all year round** through nutrition-sensitive agriculture and prevention of price volatility.



**Zero stunted children aged less than 2 years** through universal access to nutritious food in the 1000-day "window of opportunity" between the start of pregnancy and a child's 2nd birthday.



**All food systems are sustainable** through universal standards for all.



**100% increase in smallholder productivity and income** through reduced poverty and improved legislation.



**Zero loss or waste of food** through improved practices.

# PERSONALITIES IN CONSERVATION

**Name:** DAPP Namibia  
(Development Aid from People to People)

**Number of years on the job:** 23 years

**Tell us about the history of DAPP:** It started in the Omusati region in 1990 with tree planting, later selling second-hand clothes to raise funds to build DAPP Vocational Training School and other projects.

**What is the main aim of DAPP?**

DAPP is taking a holistic approach to development work and as its name states aims to promote "Solidary Humanism from People to People". We do this through four major areas: Health, Education, Environment and Community Development.

**Can you tell us more about your Child Aid project?**

The Child Aid project aims to give children a better chance through our programme "10 Lines of Child Aid activities". These strengthen the economy of the family, health and hygiene, pre-schools, children active in society, children without parents, education, regional development, environment, no more malaria and flood/drought relief. The Child Aid project is focused on the development of the whole family.

**How does your work contribute to food security and nutrition?**



We want every family to have their own family garden farm. Vegetables and food items are becoming more expensive and the trend is that the price will only increase. Here we educate families to produce the basics for themselves. It is not enough to have our stomachs full with mahango. There are nutritional elements that need to be in our food such as vitamins, minerals and protein. From working with families, we can see

that generally little is known about nutrition and a balanced diet, although these are important for children to grow properly.

**Can't you use examples from indigenous knowledge to teach about nutrition?**

Not enough. For example the mind-set is to make the stomach full and to use vegetables like traditional spinach only as a relish for the taste.

**Explain the idea of a family garden farm:**

On each homestead a family can set aside a small area to grow vegetables just for their own consumption. We promote that families also reuse water from their household use. We also are very active promoting the planting of trees to grow fruit and provide shade.

**DAPP's message for the youth:**

Start garden farming and planting trees in your home. Be a part of it!



# LEARNING MORE: Genetically Modified Organisms

Many people would like to solve the food insecurity issue by increasing production through the creation of food products that have been genetically modified. Is this solving the root cause of the problem or perhaps creating new ones?

## Genetic engineering

All living organisms have genes. For thousands of years, farmers have been purposely breeding animals "selectively" for a certain colour, size or strength. This is called genetic engineering and mimics nature when males and females select each other for breeding.

## Genetically modified organisms

Now scientists have discovered how to intentionally change the actual genetic makeup of a living organism. This is done by removing, modifying or adding genes in order to change the 'natural' information. This process enables organisms to make new substances or perform new functions. This is called genetically modified organisms (GMOs).

## Compare the GMOs with potential negative side effects



**Insecticide corn** aims to help corn grow by producing a poison that kills harmful insects.

**CON:** What about all the good insects such as butterflies and bees that might also be killed?



**Golden rice** aims to provide more vitamin A per serving.

**CON:** What if this rice cross-breeds and/ or outcompetes wild rice species?



**Long-lasting tomatoes** aim to produce less of the substance that causes them to rot.

**CON:** What if more people develop allergies such as happened in the last twenty years with peanuts?

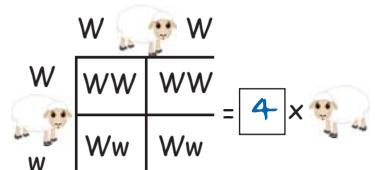
Science is very important to discovering how the world works and for it to work better for us. However, there can be negative consequences too. Many people are concerned about the effects of GMOs on the environment, the economy and human health because there is still so much unknown about the long term impacts.

## ACTIVITY: The Punnett square

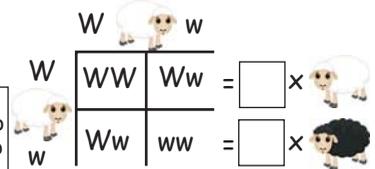
Studying genetics helps to predict the likelihood of inheriting particular traits. This can be done with a Punnett square. This is a simple graphical way of discovering combinations of characteristics that can occur in an offspring.

Using the example, write the correct number of white and black sheep in the boxes.

### Example 1:



### Example 2:



**Key:**  
 WW- white sheep  
 Ww - white sheep  
 ww - black sheep

# LEARNING MORE: Packaging & Labels



In shops almost all the food is packaged. This is because packaging food protects it from getting damaged during distribution, storage and sale. All packaged foods are labelled. Labelling is any written electronic or graphic information on the package. Packaging and labelling are important because of:

- ◇ Convenience in distribution
- ◇ Easy marketing/pricing
- ◇ Security and legal reasons
- ◇ Listing of allergens
- ◇ Nutritional information
- ◇ Listing of ingredients

## READING LABELS

Healthy eating starts with knowing the facts about what you are putting in your mouth. Reading nutrition labels is the first step in making wise food choices. There are many food items that are sold that have no nutritional value and are actually harmful to your body if you have too much. It is also important to make sure that you are getting important vitamins and nutrients and not just sugar.

**Ingredients:** Carbonated water, sugar, citric acid, stabilisers, flavourant, preservatives and colourants

| Cool Drink              |           |                    |
|-------------------------|-----------|--------------------|
| Nutritional Information |           |                    |
| Typical value           | per 100ml | % of daily amount* |
| Energy                  | 211 kJ    | 8%                 |
| Fat                     | 0 g       | 0%                 |
| Sodium                  | 6,3 mg    | <1%                |
| Carbohydrates           | 12,3 g    |                    |
| of which is sugar       | 12,3 g    | 45%                |
| Protein                 | 0 g       | 0%                 |
| Dietary Fibre           | 0 g       | 0%                 |

\*Of total 330 ml container

Allergens: none

1. Study the package to find the list of ingredients and the nutritional label.
2. Check for the addition of ingredients that are actually not food, but chemical substances, such as the circled items here.
3. Next, compare the serving size information with the actual packaging. Most cool drink tins are 330ml, but the serving size listed is 100ml. Unless you share, you are drinking more than 3 times the serving size!
4. The **purple section** is the amount of calories the food has in it. It does not tell you how long the energy will last you.
5. The **pink section** are values that you want to keep low. Carbohydrates are good for you, but not if they are all purely from sugar!
6. The **green section** are values that should be high. This cool drink doesn't have anything of value. There are no vitamins even listed.

Now go read the food labels in your kitchen.  
Do you know what is in your food?

# TAKING ACTION: Home gardening

Gardening is an art, the more you do it the better you get. You have that piece of land in your backyard or school grounds. What to do with it? Even if you do not have a large yard, there is still enough space to make a home garden. Producing your own food can improve your diet, reduce costs and secure food for your family. Here are some basic tips and a fun way to grow potatoes.



**Grow organically!** Use natural herbicides. Spray pests with a homemade garlic geranium spray to keep them away or remove them by hand.



**Grow with compost!** Add homemade compost to your soil and put nutrients back into food.



**Grow with re-used water!** Re-use your household water on plants. Although these methods take time, they produce better food and are friendlier to the environment.

## ACTIVITY: Tyre Potato Planter

Potatoes are a starch grown from 'seed potatoes' or a fully grown potato. They prefer cooler weather (so plant in winter) and normally need a lot of space. Try out this method of planting in tyres.

### Directions:

1. Put an old car tyre on the ground under some shade.
2. Fill the tyre with some fertile, sandy or loamy soil.
3. Dig the potato tubers into the soil (about as deep as your fist) and water it regularly.
4. Once the potato plant has grown higher than the tyre, add a second tyre. This is to protect the plant from wind and to provide shade.
5. As the potato plant grows taller, continue to add fertile soil and additional tyres. Make sure there are always potato plant leaves sticking out.
6. Approximately five months later, when the potato plant flowers and dies, the potatoes are ready.
7. Simply push the tyres over, pick out the potatoes from the soil and enjoy!



### Material needed:

- ◆ Shovel
- ◆ Fertile soil
- ◆ Old car tyres
- ◆ Potato tubers (make sure there are small growth buds before planting)



This way of growing potatoes saves water by protecting the potato plant from heat and wind. It reuses old tyres, making it possible to grow potatoes in a very small area.



"Adapted from Desert Soul Gardening Guide"

# HOLDEN'S HANG-OUT




Holden Mole is the name. NaDEET's my hangout spot. I love Namibia. My number one job is to get the basics - my food, water and shelter. "Education is the key"- I know everyone says it, but it is true. So if you don't know, ask me.

Holden Mole, NaDEET, PO Box 31017, Pioniers Park, Windhoek  
email to [admin@nadeet.org](mailto:admin@nadeet.org) or post them on NaDEET's Facebook page

Dear Holden

Why do some animals not come out during the day and only come out at night?  
Urilitrob, Windhoek

Dear Urilitrob,

Animals that are active at night are called nocturnal. These animals have adapted to being active at night for various reasons such as:

- ◆ To reduce competition for food.
- ◆ To avoid heat stress during the day.
- ◆ To avoid predation.

Most nocturnal animals have developed 'sharp' vision, good hearing and a very good sense of smell. For example spotted eagle owls have really big eyes that enable them to see better at night. Another example is the golden mole. It has very good hearing abilities that help it to hear the vibration of termites underground.



Holden

## UPDATE FROM LAST ISSUE

### Page 6

- F** Mosquitos are threatened with extinction.
- T** Erosion causes desertification and a decrease in agricultural production.
- T** Light pollution is on the increase due to unsustainable development.
- T** Plastic can take up to 500 years to decompose and is polluting our oceans.
- F** Mining causes genetically modified foods.
- T** Cars produce air pollution such as smog.
- F** The main problem with oil spills is that they cause rainbows.
- F** The annual harvest of mealies causes deforestation.

### Page 6

Deforestation    Off road driving    Littering    Water wasting



- One recycled tin can save enough energy to run a TV for three hours.
- More than 1 in 6 people do not have access to safe drinking water.
- Around the world 7.3 million hectares of forest cover are lost each year.
- Lichens are slow growing and may need 10-500 years to recover if damaged.

### Page 7

#### CAUSE

- No one recycles
- Leaking pipes are not fixed
- Energy saving cooking methods are not used
- Environmental Impact Assessment is not followed.

#### EFFECT

- Chronic water shortage
- Development project may become an environmental hazard.
- More land must be cleared for rubbish dump
- Trees are cut rapidly for firewood

### Page 10

- 1) About how many participants have been at NaDEET Centre in the past 10 years?  
a) 75    b) 750    **c) 7,500**    d) 75,000
- 2) Which of the following programmes does NaDEET Centre not offer?  
a) primary    **b) pre-primary**    c) secondary    d) community
- 3) Due to use of solar energy, NaDEET Centre is almost 100%:  
a) water-free    b) sunlight-free    **c) carbon-free**    d) nitrogen-fixed
- 4) Our community programme has helped community members to become owners of approximately how many solar cookers?  
a) 10    **b) 250**    c) 2000    d) 0
- 5) The average water used at NaDEET Centre per person per day is:  
a) 1 litre    b) 5 litres    **c) 15 litres**    d) 50 litres

**CONGRATULATIONS to AINA KANKONO and ANTJE WILKE ... the WINNERS of the "Test your NaDEET Centre Knowledge" contest.**

**1<sup>st</sup> place winner: Eco Media Awards "Publishers House" category 2010**  
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**Writer:** Viktoria Endjala  
**Graphics:** Ida Blaauw, Crazy Cat Creations

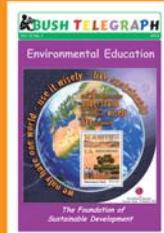
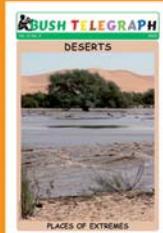
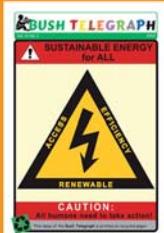
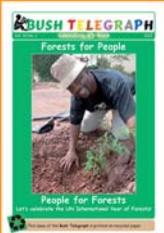
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