



NaDEET CENTRE CELEBRATES ITS 1ST BIRTHDAY

Only one year ago NaDEET officially opened its doors to the Namibian community. As the 2004 school year comes to an end, I am reflecting on a busy and deeply satisfying year. I am proud to report that we have had a total of seventeen groups participate in the NaDEET Centre Environmental Education (EE) programme this year. There were 14 school groups, 2 youth groups and 1 adult group making a total of 501 participants for 2004. Slightly more than half of these groups are primary school children while the other 44% were secondary school children or older. The majority of the participants came from the South (35%) followed by Windhoek, the coastal towns and one group from the far north of the country.

All participants were engaged in sustainable living practices through first-hand experiences in alternative energy and water conservation. The Namib Desert and its inhabitants provided the ideal learning environment as it set an example for survival through clever adaptations. In the Namib, life does not survive because it is constantly finding more resources, but rather because it is adapted to use less in the first place. This was a valuable lesson to all participants as using less as a way to protect our environment is often forgotten.



Grade 8 learners collecting water through transpiration

Given an opportunity to comment on the programme to help us constantly improve, one teacher wrote, "We are very much impressed by your warm hospitality, the conducive environment surrounding the Centre, your systematically planned programme and activities, the content of all the lectures and materials presented as well as the delicious food from the kitchen". Another teacher commented, "The programme is an integration for both science, social studies and maths subjects. Topics covered are things that are in the school curriculum. We hope and know that [the children] will remember this for a lifetime. *They have learned for life!*"

NaDEET Centre and its surrounding environment is now ready for a well deserved rest until the next school year starts again in January.

Viktoria Keding

TAKING ACTION TO MAKE LIFE MORE SUSTAINABLE FOR MY FAMILY

There are four main concepts that the groups learn at NaDEET Centre. They are *Sustainable Living*, *Biodiversity*, *Adaptation* and *Taking Action*. All of these concepts are important for protecting the environment however if you do not **take action** at the end of the day, they all seem meaningless. Therefore to put into practice what you preach will make you a better preacher. I am coming from a middle class family consisting of twelve members. Out of the twelve members, my uncle and mom are the main breadwinners. There are 3 adults and 3 young school-going children who permanently live with them. During the holiday times, the rest of the family including myself also come to stay at my mother and uncle's home.

The water usage at our home is very high mainly because no one wants to implement measures of saving water. At the month's end, the water bill is high and only the two breadwinners, who of course also contribute to the high usage, feel the pressure. The money used for paying the water could be invested somewhere else. Therefore, I have decided to go home and implement these water saving measures. I will bring across to my family how much water is used for different activities. For example, how much water we use for flushing the toilet, washing dishes and bathing.

Then I will ask them to start thinking of whether they would rather be sitting without food or saving more money by not wasting water to have enough to eat. I will tell my uncle to compare the water prices from before and after I have talked about it with them. I am going to take action to help my family with the knowledge and skills I gained from NaDEET Centre.

Michaella Phemelo

The *Golden Mole* is produced by

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NADEET CENTRE

SOLAR COOKING'S UPHILL STRUGGLE

In the last issue of the Golden Mole, I briefly reported on my In-Service Training project "The Perception and Acceptance of Alternative Energy Sources for Cooking". Now that it is complete, here are some of the conclusions that I made from my project.

In this project, I interviewed a total of fifty-three people of which 57% were male. Of these 53 people 55% are from rural areas and 45% from urban areas. The rural participants have shown to be more positive about the usage of these alternative energy sources than the urban participants. Alternative energy sources however will take very long to be implemented by the Namibian communities. This is due to certain factors such as beliefs, high cost, weather conditions, time management and lack of awareness. Of these the main factor preventing implementation is that people only concentrate on the high initial cost and do not consider the low running cost of these alternative technologies. We must therefore make alternative energy sources a top priority rather than only as an option. It should not be the energy source for rural people only because firewood, gas and electricity are all harmful to the environment at some stage. Some pollution is just more visible to the user than others. Most participants at NaDEET Centre do not know where and how electricity is produced (i.e. coal-burning) and therefore do not think it is a problem. My project however did show that participants enjoyed solar cooking and were open to learning how to do it. Perhaps then education is an effective way to influence each other and switch to alternative technologies without a problem. We have the sun as a free natural resource so why not make use of it. Alternative energy sources are the best way to save the environment, money and to keep the ecosystem healthy.

Michaella Phemelo

It was nice being here
Although at the beginning we had a fear
We've learned alot
And all was clear
about sustainable lifestyle
That was near
We've learned to use everything wise
In order to keep our environment nice
We've learned alot of stuff
That made us alot more tough
We've learned not to be like a mole
But rather to reach our common goal
Michaella and Victoria you were great
We've enjoyed every moment of this day
We also learned to use water wise
otherwise it will minimise
We're gonna miss you alot
But at least you know we rocked
We'll be back
And this time we're gonna act
And that's a real fact.



Written by: Gabriella Olynn, Grade 12, Suiderlig H. S.

KIDS IN ARANOS CLEAN UP



In April this year, the grades 6 and 7 from Aranos Primary School participated in the NaDEET Centre programme. The school is a role model for all Namibian schools as it is racially integrated and continues to promote high standards of education.

During their visit to NaDEET, the children decided to apply some of their new gained knowledge back in their home community. After much debate between the learners, it was decided to address the litter problem in their town. Aranos Primary School lies on top of a hill overlooking the small town in eastern Namibia. Between the main street and the school is an undeveloped area with a small riverbed and many bushes. Unfortunately, this area is polluted with all sorts of rubbish accumulated over many years that is deposited by all local residents. The learners therefore wanted to

begin to address this on-going problem.

The grade 6 and 7 class decided to organise a clean-up campaign together with a drama performance to highlight the importance of a clean and healthy environment. They invited all the other grade 6 and 7 learners from the three other neighbouring schools. Although it was a very windy day, the learners managed to collect more than 20 large rubbish bags. The rubbish was immediately sorted into recyclables and non-recyclables. The drama performance was also well liked by all learners.

Viktoria Keding



IF WE PAID FOR WATER WHAT WE PAY FOR PETROL...

As an environmental educator, I often shake my head when I hear people complain about rising petrol prices worldwide. Unfortunately I live in a place where I also rely on my non-environmentally-friendly vehicle, but I am fully aware and prepared to pay for the Earth's natural resources as they are a gift to us. (I of course dream of driving a solar-powered car!) At NaDEET Centre, participants are encouraged to investigate all natural resource consumption. As we live in one of the driest countries in the world, the focal point is water.

During the environmental education programme, learners complete a variety of activities about water including water cycle experiments, a water audit and 24-hour water monitoring. The aim of the activities is for participants to discover which daily activities use the most water and how this consumption can be reduced. It is important for participants to not cut out activities as a means to reduce water use, but rather they are to learn water saving techniques that can realistically be applied at home.

WATER AUDIT

The water audit is an important introductory activity. It allows the learners to first discover how much water is used for each activity. The activities that they measure at NaDEET are: drinking, brushing teeth, washing hands, bathing, cooking and washing dishes. Other activities that are normally done at home are also discussed including watering plants, washing clothes, mopping the floor, swimming pools and flushing the toilet (NaDEET has long-drop toilets). Once the water audit has been completed, a 24 hour water monitoring can begin.



24 HOUR WATER MONITORING

During a normal programme, there is time to complete two full days of water monitoring. Each participant has their own "Sustainable Living Journal" in which information is recorded including the 24 hour water count. At NaDEET Centre access to water is in two different places, the showers and the kitchen. Each shower has its own small water tank and the kitchen tap has a water metre attached to it. Learners therefore measure the amount of water used in the shower water tanks and record the water metre reading every 24 hours.

The overall average per person for all visiting groups in 2004 for the first day was 13,25 litres. On the second day, it was reduced to 11,26 litres. This amount of water includes all water used throughout the whole day (ie, bathing, washing dishes, cooking, drinking) Considering that a flush toilet uses between 9-14 litres per flush, this is a job well done. As a group we discuss what we can do to use less water for each activity. Examples that participants give include turning off the tap

when it is not needed during bathing and brushing teeth and reusing water for plants and trees.

So, returning to water and petrol prices. In Namibia, prices per litre of petrol and water are approximately N\$4 and N\$0.005 respectively. The 11,26 litres of water used on average at NaDEET therefore only costs 5 cents. If it were petrol however it would cost N\$45.04. Considering that only 3% of the Earth's water is fresh of which 2 % is frozen, we should perhaps reevaluate the monetary value we put on water.

Viktoria Keding

WATER MONITORING

Start day: _____ Start time: _____
 Finish day: _____ Finish time: _____
 Total number of hours: _____ # of people: _____
Number of litres at showers:
 at start: _____ at finish: _____ used: _____
Water metre reading for kitchen tap:
 at start: _____ at finish: _____ used: _____
Total # of litres of water used:
 by group: _____ per person: _____

PERSONAL WATER USE LOG

ACTIVITY	# OF TIMES PER DAY	AMOUNT OF WATER (litres)	LITRES USED PER DAY
		TOTAL LITRES-	



NaDEET CENTRE SOLAR COOKED MEALS ANNUAL AUDIT

- 57 solar cooked dinners (93%)
- 4 gas cooked dinners
(due to clouds and/or rain)
- 32 solar cooked lunches (100%)
- 7 solar cooked breakfast muffins (88%)
- 1 gas cooked breakfast muffins
(due to clouds and rain)



All other meals did not require to be cooked or heated.

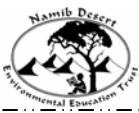
THE MOLE FILE

Fact No. 9

"The Food Chain"



At the base of the Namib food chain lies detritus (dead plant and insect material) which contains energy and nutrients. Thanks to the Tenebrionid beetles and larvae (Tok Tokkies) and fishmoths who survive on detritus, this valuable energy is not lost. The Golden Mole eats Tenebrionid larvae, termites and small reptiles that have fed on the detritus.



NADEET thanks all of our supporters!

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