GOBABEB Training and Research Centre
oasis of learning

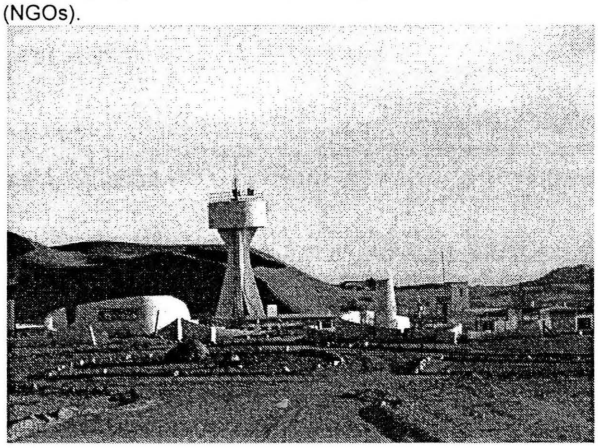
The Gobabeb Update

February, 2005

From the Director's Chair: Oasis of Leaning

By Dr. Joh Henschel, Executive Director

As an *Oasis of Learning* Gobabeb has the two-fold role of; 1) facilitating training about the functioning and creative problem solving of arid environments and, 2) disseminating information and thereby empowering people who need to live sustainably in these environments. To support both roles research is needed to ensure that valid information is relayed. Research is conducted not only by resident and visiting scientists and students at Gobabeb, but also participation from a range of people, including rural communities living close to the environment. People who visit our *Oasis of Learning* comprise people from schools, tertiary education institutions, communities, as well as governmental and non-governmental institutions (NGOs).



The second role truly defines Gobabeb. Of what use is knowledge obtained through research if only a few people are in possession of this knowledge? What happens if these people disappear along with their knowledge? Researchers are not the custodians of the environment, although they fulfil an important function that can empower the custodians to manage more wisely. Thus, Gobabeb is defined not only by generating vast amounts of new knowledge but also by disseminating information and to empower those directly involved with the environment. People and the environment are interdependent in an ever-changing world. Hence, everybody has the responsibility of protecting the environment to ensure future sustainable use. In this respect people need to know the what, how, when and where about their environment to act wisely. Training at the Centre fills an important niche in Namibia and SADC that is outside the scope of formal education institutions. This is partly due to Gobabeb's location in the desert – some people consider it to be in the middle of nowhere, we think of it as the centre of everywhere.

It is here that people can engage their minds with minimum distraction and gain knowledge and direct experience that can be applied in their daily and work lives. Training at Gobabeb is as precious as water in the desert. This Oasis makes *things* grow in people's heads that can help to sustain both people and the environment.

How can Gobabeb continue to fulfil its role as a training institution? Firstly, training is a well established component of Gobabeb. All residents and even many visiting scientists support training in some way or another. Secondly, many training institutions have established sound partnerships with Gobabeb, bringing students and/or tutors and sometimes funding into the partnership. Thirdly, where trainees cannot contribute to cost-recovery of their training, several funding options are explored to ensure 1) that identified training needs are met and 2) that the Centre has the capacity to train in order to meet national training and capacity building needs as part of sustainable development.

Training at Gobabeb in 2004

By Natalie Davidson, Training and Outreach Support Assistant

Greetings from the Training Section here at Gobabeb! 2004 was a busy year for training. This year approximately 805 students in a wide variety of ages and destinations visited the Centre for training; Namibian Colleges of Education, Polytechnic of Namibia (PoN), University of Namibia (UNAM), schools in Namibia, international universities, international and national interns, and the annual Summer Desertification Programme. No matter what the level, students come to learn valuable lessons about arid environments, conservation and sustainable development.

Several primary schools paid 1 or 2 day visits to Gobabeb. School learners were exposed to a new learning environment and our outdoor teaching philosophy. They explored the ecosystems surrounding the station and learned about the special adaptations that people, plants and animals have made in order to survive in this arid environment. Also, an important aspect of our school learner's programme is an introduction to the concepts of conservation and sustainable development. Young students gained a unique experience and learn lessons that will hopefully stay with them throughout their lives and will share with others.

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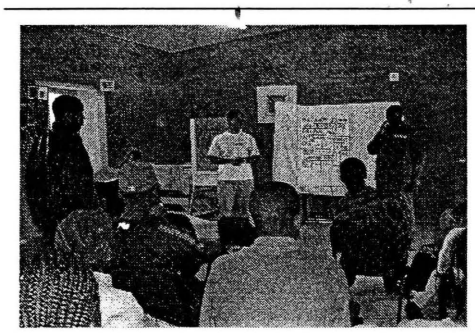
Gobabeb Training and Research Centre



Training continued...

All four of the Colleges of Education visited the Centre for one day each. Not only did the teachers-in-training get the usual station tour and nature walk during their visit, but they were also introduced to models of outdoor teaching. These models introduced ideas on how science can be taken out of the classroom and into the real world, examining the environment through cost-effective experiments. Due to budgetary constraints the Colleges of Education were unable to stay longer than one day, but their participation with programmes at the Centre is vital. We at Gobabeb believe that if tomorrow's teachers can introduce young students to the importance of science and ecology, students will foster an interest and genuine concern for the environment for the rest of their lives.

Both UNAM and PoN held 5-day Desert Ecology courses at Gobabeb. During these courses, students developed field research techniques and presentation skills, as well as learning how to conduct fieldwork in a team setting. A new course held this year was a month-long Field Geography Course presented with UNAM. Students learned how to plan research, collect and analyse data and interpret results as part of their practical training. *Not to forget SDP – see separate report.*

Gobabeb not only hosts Namibian institutions; a number of international university student groups received training in 2004. These include Dartmouth College, University of Marburg, University of Trier, SUGE, and Worcester Polytechnic Institute, to just to name a few. Many of these student groups visited Gobabeb as part of a semester abroad. Groups also come to learn about arid ecosystems and often times to evaluate the potential to conduct future research or courses at the Centre.

We also has an Intern Programme at the Centre where university students come and work at the station for three to six months. The interns fall into two categories, Namibian in-service trainees and international interns. In-service trainees do practical training and usually conduct a five-month project under the guidance of the Centre, as well as helping out with station duties. International interns assist with the training, research and environmental monitoring activities at the Centre.

All in all, 2004 was a busy and successful year at the Training section of Gobabeb. For training activities planned for 2005 please contact natalied@drfn.org.na.

Outdoor teaching

By Natalie Davidson, Training and Outreach Support Assistant

The trainers, staff and scientists at Gobabeb provide training programmes in order to increase environmental awareness, introduce and expose visitors to important aspects of arid environments, foster experiential education, and provide a capacity building experience that visitors can take home with them. Most courses at the Centre are "hands on." This "hands on" approach allows students not only to learn about subjects such as fieldwork techniques, ecology and sustainable development, but also allows them to put these ideas into practice.

At Gobabeb we believe in learning by discovery. The act of discovery creates an interest in the student and makes the subject personal. Nothing is more frustrating to a student than sitting inside a classroom, learning about an animal or plant that is just outside the front door.

We strive not to tell, but rather to show people the environment through outdoor teaching techniques. The "classroom" environment at Gobabeb strives to provide a comfortable and exciting opportunity for students to learn a lesson that they will remember for a lifetime and hopefully, share with others.

Some of the activities that we do with visiting students include, nature walks in the dunes and riverbed, one-day and two-day investigations in three ecosystems, scorpion walks, morning walks, and trips to field study sites. But in order to effectively teach visitors, the staff and trainers follow a few simple guidelines that include;

–Each student should use a small notebook for field notes.
–Plan activities for the students to do themselves as soon as they are in the field.
–Plan carefully so that the students do not get bored with one activity or stand around with nothing to do.
–Have a concluding discussion after every outdoor activity and evaluate the lesson.
–Involve everyone from the start by asking questions and bringing their attention to interesting sights and sounds.

For more information and detail about outdoor teaching at Gobabeb please contact natalied@drfn.org.na

Gobabeb
Training and Research Centre

The Grinnel Fellowship Programme

By Natalie Davidson, Training and Outreach Support Assistant

Grinnell College has upholds an ideal of social justice and responsibility. As part of this historic commitment, and in an attempt to match the talents, energy and idealism of our students with the needs of our local and global communities, Grinnell College created the Grinnell Corps, seven post-graduation service fellowship programmes for students. Since 2000, two to three post-graduate fellowship opportunities are offered with the Desert Research Foundation of Namibia (DRFN) at the Gobabeb Training and Research Centre. This programme offers a unique opportunity to Grinnell students interested in pursuing educational opportunities incorporating social commitment and environmental interests. Fellowships are meant to enrich the educational experience of selected students, as well as provide a service to the host organization.

The Fellow positions are that of Research and Information Technology Assistant and Training and Outreach Support Assistant. The Fellow taking the first position serves as a research assistant and information technology assistant to the DRFN at Gobabeb (DR@GO), as well as providing central support to the Summer Desertification Programme (SDP). This year's research and IT assistant is Gerald Walther, who graduated from Grinnell with a B.A. in Biochemistry and Philosophy. The second Fellow's primary duties consist of support to formal training, training workshops and community outreach. This years training and outreach assistant is Natalie Davidson, who graduated from Grinnell with a B.A. in Economics and a concentration in Environmental Studies. Here is what each of them has to say about their experience so far:

"*It has been an experience unlike any other in my life. I have had the opportunity to work with people of all different backgrounds, countries and all walks of life. When students leave Gobabeb excited about what they have learned and with a greater interest in the environment, it gives a great sense of accomplishment. It is those days that make me feel as if one person really can make a difference.*" Natalie Davidson

"*If one word were to sum up my experience at Gobabeb thus far, it would be flexibility. Generally, every day presents new challenges and demands novel answers. Sometimes I unexpectedly have to spend the entire day working on IT or suddenly get e-mail with demands for some report. Thus, the tasks never gets boring and it is quite enjoyable to quickly adjust to new situations.*" Gerald Walther.

Internship Programme

By Natalie Davidson, Training and Outreach Support Assistant

Gobabeb attracts students from all over Namibia and the world for our intern programme. With recent interns from the UK, Canada, the U.S., Germany, Switzerland, Namibia, and South Africa (just to name a few places), the centre provides a truly international experience. Interns come for a variety of reasons: to contribute to a widely respected non-governmental organization; to satisfy a university practicum requirement; to gain valuable work experience; or simply to have the once in the life time opportunity to live in a beautiful area like the Namib Desert. Whatever the reasons for coming to Gobabeb, rest assured that the centre is a dynamic institution where you will learn a lot and have a good time too.

All interns assist with basic station duties such as helping with supply trips, looking after scientific equipment, recording weather data, working in the library, helping researchers with their field and lab work, leading station tours for visitors and educational groups, as well as completing their own station assigned projects. Recent projects completed by interns include a study on the decomposition rate of detritus in the different microhabitats of the river ecosystem, a study of the biodiversity of tenebrionid beetles at two different BIOTA field sites, and an organization and review of Gobabeb's waste management system. Gobabeb has rolling admittance to the intern programme, which means that interns are accepted and working at the station throughout the whole year.

But don't just take our word for it. Here is what one of our current interns has to say about her experience here at Gobabeb:

"*It is definitely a special experience to do an internship here in Gobabeb. Work is never boring, there is always something different to do and one needs to be very flexible. As an assistant for everyone, I have the possibility to get an overview of everybody's work here in this special environment and at the same time, I have my own responsibilities. After a few weeks, I was already a "Gobabebian".*"

Inke Meyer

In-service training: benefits, experience and career development

By Veronica "Roxy" Siteketa, Research Assistant

In order to qualify or complete a national diploma in a science field at the Polytechnic of Namibia, a student must complete in-service training apart from the formal studies. In-service training provides the students with opportunities to apply their theoretical knowledge and develop practical skill in the environment.

The Gobabeb Training and Research Centre is one of the identified centres, which offers such a programme. The centre is well known by educational institutes to provide proper training to students, because it has all the necessary materials, facilities and qualified staff in the Environmental Sciences field.

During in-service training students design a project proposed by the Centre and carry out the project by themselves. This training lead students to assume their social responsibilities, including development of sense of responsibility, problem solving approaches, integrity and a humane attitude towards others.

In-service training continue...

Apart from carrying out a proposed project, the student is entitled to help out with the stations duties to get hands on experience. Students help out with on-going Long-term Ecological Research (LTER) projects, such as the beetle population and the Welwitschia growth project.

By the end of the training, the student knows how to, for e.g. to design a project and write up a comprehensive report. As in-service trainees students also have to present their research for which they are graded at the Polytechnic to make up the final mark for the semester.

LEFT PHOTO: *Josephine Ipinge from the Polytechnic of Namibia looking at the productivity of detritus in the main river channel as part of her aim to determine the factors that may affect the decomposition rate in the Kuiseb River.*

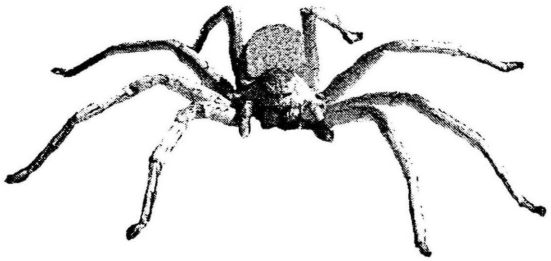
Postgraduate studies at Gobabeb

By Petra Moser, PhD Student from Germany

Is it the beautiful scenery, the abundant sunshine, the unlimited sky or the excellent facilities that draw Masters and PhD students to Gobabeb year after year for shorter and longer periods?
What brings students to Gobabeb? It is the unique opportunity to carry out research in an extreme environment in which organisms display unusual adaptations, behaviours and processes. The Centre also provides the necessary facilities such as accommodation, office space, Internet connection and above all a brilliantly equipped library on arid and semi-arid environments. Equally attractive is that Gobabeb is a venue for internationally renowned researchers and high-level decision makers. An array of people has passed through the Centre in the past 40 years and continues to do so. The impression of Gobabeb as a geographically and socially remote field station is rather unfair. As a young scientist, one is able to meet people one would otherwise never meet and discuss research at a high level in a relaxed and inspiring atmosphere. More than one professional career has started off at Gobabeb.
At present seven PhD and three Master students are carrying out their fieldwork at the Centre.

Martina Glanzl and **Florian Goldenberg** hail from Austria and have been working on black-backed jackals for the past year. They are registered at the University of Vienna and co-operate with the 'Jackal Project' of the Institute of Zoology, Zoological Society of London. Martina is working on seasonal adaptations to food availability and seasonal changes in hormonal status as well as foraging behaviour and movement during search for food. Florian's PhD focuses on territoriality and home ranges, movement and gait choice as well as energy budgeting. The German ecologist **Petra Moser** from the Centre for Development Research of the University of Bonn, Germany, has spent the past two years researching various processes relevant to regeneration of two important fodder trees (Anatree, Camelthorn) growing along the western ephemeral rivers of Namibia. Her interest goes beyond the natural science perspective of these fodder plants and also includes their socio-economic aspects. **Claire Whitaker**, a 2nd year PhD student at the Plant Cell Biology Research Unit of the University of KwaZulu-Natal, Durban, South Africa, has been undertaking research concerning the seed biology and storage behaviour of the seeds of *Welwitschia mirabilis* since 2002, with specific focus on fungal infection of the seeds.

Thomas Noergaard, a Danish PhD student from the University of Zürich, Switzerland, has been studying the navigation of the male nocturnal White Lady spider since 2001. Currently rounding up his work he can prove that it is not the sun, the moon nor gravity these spiders use on their long distance night searches for food and females but local landmarks and well-adapted night vision. **Anna Furrer** and **Nicole Blaser**, also from the University of Zürich will shed more light on the unusual recruitment behaviour of the desert ants *Ocymyrmex robustior*. Different from other ants, their search for food can happen as 'outbursts' in groups, probably initiated by large food resources such as termite nests. In their Masters thesis they hope to make sense of these outbursts and what triggers them.
Other PhD students/ candidates include: **Constanze Grohman** (Germany) who looks at insects, ants and termites as ecosystem engineers; **Nico E. Willemse** who will look at the biodiversity effects of different land uses in Namibia and **Jacqueline Fuchs** who does research on how predators affect ant and termite diversity.



The White Lady spider, Leucorchestris arenicola

BIOTA Paraecologists: focus on training

By Nico E. Willemse, Data Manager & Researcher

BIOTA is an interdisciplinary initiative for long-term monitoring and analysis of changes in biodiversity due to human land use and global climate change. The initiative aims to establish infrastructure and to develop the local capacity to allow the continuation of these activities even after the present funding by the German Government ceased. The research infrastructure has already been set up during the pilot phase of the project by establishing the Biodiversity Observatories, i.e. standardised biodiversity monitoring and research sites which have also been inventoried and initially studied during the first phase of the project. In the second phase, the project aims to empower the local land users to make use of the research activities for future decisions in land management.

BIOTA Para-ecologists continue...

BIOTA Southern Africa has two training components as part of the project's aim to integrate local communities in research activities in a participatory way and to empower them to take over substantial parts of the biodiversity monitoring tasks on the Biodiversity Observatories in the near future.
The first training component is a training programme for researchers in BIOTA Southern Africa to increase their capacity for promoting effective community participation. The second training programme is for members of local land-user communities, as para-ecologists, to develop local capacity and to conduct parts of the biodiversity monitoring on the Biodiversity Observatories that was until now carried out by academic scientists.
Ten candidates were selected in July/ August 2004 for the training of para-ecologists. The selection was done by BIOTA researchers and local institutions (i.e., National Parks, Nature Conservation Offices, Agricultural Research stations) close to the respective communities. The training comprised two training courses to held by BIOTA researchers and staff at the Gobabeb Training and Research Centre in Namibia (first course in October 2004, one follow-up course in 2005 and one final feed-back and evaluation course in 2006) as well as "training on the job" during the fieldwork of the BIOTA researchers.

Following the training course each para-ecologist must be able to perform the following tasks;
•General: Assistants in field work such as biomass assessment, rehabilitation experiments
•Monitoring of soil conditions (water content, soil erosion)
•Assessment and collection of rust fungi occurrence over the year
•Annual botanical monitoring
•Monthly botanical phenological observations
•Zoological monitoring (arthropods)
•Basic socio-economic research (e.g., monitoring of human activities on Observatories)
•Link local knowledge to BIOTA research & vice versa
•Raise awareness in the community and its surroundings regarding biodiversity issues & BIOTA findings (working with school groups)

Each para-ecologist is supervised and supported by a "mentor", i.e., a BIOTA researcher or a representative of a neighbouring institution, respectively, depending on the situation at each site.

Beyond the project's lifespan para-ecologists who developed the capacity to conduct important tasks of the long-term biodiversity monitoring, can be employed by Namibian Institutions that are interested to take over the Biodiversity Observatories as monitoring tools. The employment of skilled local people will raise the acceptance of, and interest in the research activities in the communities' vicinity and will be more economic for the institution.

The 14th annual Summer Desertification Programme

By Gerald Walther, Research and Information Technology Assistant

The topic of this years Summer Desertification Programme is water management in the Cuvelai. In collaboration with the Department of Water Affairs, the SDP group conducted a baseline study and developed a monitoring system to help the newly formed Cuvelai Basins Management Committee (BMC) identify and analyze problems pertaining to sustainable management of the region. After an initial training period at the DRFN office in Windhoek the group of 15 students traveled to the North and interviewed community members as well as members of various institutions such as Rural Water Supply and NamWater on the current water situation in the region. Besides this socio-economic approach the students also walked transect to assess the current environmental situation at large. Data were analyzed at Gobabeb and talks prepared, which were given to the stakeholders, including one presentation at a BMC meeting. The final report was written at Gobabeb and will be finished and presented at the open weekend in the beginning of February 2005.

A perspective: Gobabeb and tertiary education institutions in Namibia and southern Africa

By Nico E. Willemse, Data Manager & Researcher

As indicated by Dr. Henschel in his introductory piece, From the Director's chair (this issue), Gobabeb has a two-fold role in Namibia and the region. Training is one of the Centre's fundamental roles and supports training and capacity building in the region as a whole. Boasting a track records exceeding 40 years of commendable research, experimentation and participation in the advancement of the frontiers of knowledge in natural science, Gobabeb definitely has the authority on many topics related to sustainable development. As a centre of excellence Gobabeb avails itself to researchers, institutional collaborations and tries to disseminate information as widely as possible in the region. Apart from scientific and multidisciplinary research the Centre experiments with technologies that can hopefully lighten the plight on resources currently overexploited. On the contrary experimentation may use resources in abundance but currently not used; such is the case with Namibia's abundance of solar radiation that is harnessed at the Centre to generate energy.

Tertiary education institutions in Namibia and SADC sometimes lack the facilities and/ or expertise to adequately expose students to fundamental concepts, techniques and practices. In this light Gobabeb plays an important role. The Centre not only offers facilities for accommodation, conferencing and fieldwork but also the right ambience that encourages effective and practical learning. Gobabeb is therefore, a reliable partner to tertiary institutions in SADC when it comes to research on arid and semi-arid environments. It offers a venue in the Namib Desert that is self-sustained with access to a well-stocked library, fair technology infrastructure and easy access to the field for fieldwork.

Gobabeb and tertiary education institutions continued...

Gobabeb and collaborating institutions compliment each other in terms of the overall contribution to a research project or topic. For instance, where the tertiary institution contributes funding and human resources Gobabeb can meet half way and provide the expertise, the venue and infrastructure. Collaborating with national and regional tertiary institutions not only lightens the burden of costs and technical expertise but also ensures greater thinking power and possible differing perspectives which is stimulating for researchers. At the end of the day, through collaboration, the Centre expands its network of researchers and institutions which not only compliments its authority on arid and semi-arid environments but also expands its multidisciplinary repertoire.

Fourteen years of the Summer Desertification Project at Gobabeb: Environmental Problem Solving for Sustainable Development

By Dr. Mary K. Seely

The conclusion of a programme phase provides a good opportunity to review changes, successes, failures and future directions. Information Weekend at Gobabeb in 2005 marks the end of the Summer Desertification Project – or SDP as most of us have grown to know it. For 13 of 14 years, Sida has been the main supporter and for that they are heartily thanked. They are also funding a transition phase so that good experiences and lessons learnt will be transferred to the Gobabeb In-Service Training Programme (with a new acronym GIST) that Polytechnic of Namibia and Gobabeb will implement in the future.

Actually, the very first proto-SDP didn't even take place at Gobabeb but involved a one-week trip with six participants from UNAM who traveled to central-northern Namibia to investigate the environment and its relationship to agriculture, health, water, infrastructure and similar topics. Shell Namibia provided petrol for the DRFN bus and people brought their own camping gear. These participants now have important jobs with government, UNAM and NGOs proving the potential that they showed in this very first endeavour. Meanwhile, it is fitting that the last SDP also took place in central-northern Namibia, as did four others over the years.

The following summer, six participants, many who had traveled north, met at Gobabeb and analysed available long-term data from the Weather Bureau to produce the Rainfall Range Map that NAU reproduced for several years. This represented one of the seven SDPs that focused on water and river basins, three of which addressed the Kuiseb basin and two the Cuvelai basin. It was out of the SDP projects that the Environmental Learning and Action in the Kuiseb project grew that led to piloting the first Basin Management Committee in Namibia. Gobabeb was and is a key player in the information generation and networking that supports the KBMC. The last SDP, on the other hand, contributed an environmental baseline and monitoring system to the Iishana sub-basin Management Committee of the Cuvelai Basin. Real contributions to real environmental challenges in Namibia arise from SDP.

During the course of SDP evolution the number of participants from UNAM, Polytechnic of Namibia and Ogongo Agricultural College grew from 6 to 16. Mary Seely remained the coordinating thread while Prof Bill Hamilton joined the team from SDP 4 and Komeine Nantanga from SDP 9 onwards. In between a number of persons lent their expertise ranging from Guido van Langenhove who supported four of the river basin projects to others who contributed time and expertise to one or another of the projects. We expect the experiences from 14 years of SDP will long influence environmental problem solving in Namibia.

In Brief: What's Happening

The official inauguration of Gobabeb Training and Research Centre (GTRC) will take place on May 10th, 2005.

BIOTA workshop will take place on from 14-15 March 2005 in Piket, South Africa.

BIOTA Para-ecologist training course in June 2005, Gelap Ost, southern Namibia.

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The Gobabeb Centre is a Centre of Excellence facilitating the promotion of suitable lifestyles and practices through the wise management of natural resources in arid environments throughout Namibia and the SADC region.

Editor's note: Thank you for reading the first Gobabeb Update for 2005. If you would like more information about the Gobabeb Centre, please contact us at helenk@drfn.org.na, *or contact the editor at* nicow@drfn.org.na.