

Tree seedlings accommodated in a temporary structure at the quarry.

**Dr Michael Rademacher,  
Manager Biodiversity  
and Natural Resources,  
HeidelbergCement, describes  
the unique rehabilitation  
project at Wazo Hill Quarry,  
Tanzania.**

**D**eforestation and mismanagement of land is a very serious challenge for the Dar es Salaam region in Tanzania, Africa. Dar es Salaam is Tanzania's commercial hub and one of the fastest growing cities in the country. The majority of inhabitants depend largely on charcoal as their primary household energy source. While surrounding forests have been nearly destroyed, reforestation and recultivation are not yet a priority.

In order to promote sustainable land management around the mining sites of Tanzania Portland Cement Company (TPCC)

# From Quarry to Tree Nursery

The nursery will be run by local staff and support the creation of an urban forest in the periphery of Dar es Salaam, serving for future production of firewood and lumber, as well as recreational purposes.

in the region, HeidelbergCement – holding a majority stake in TPCC – initiated a Public Private Partnership project together with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). The project started in October 2010 within the framework of the German programme for development partnerships, where GIZ and private companies jointly design, finance and implement projects that benefit all parties involved. The TPCC Tree Nursery and Quarry Rehabilitation



Reforestation should contribute to the reduction of surface erosion and the formation of new ground water.



Seedlings in a seed bed ready for transplantation into the polyethylene bags.

Programme was officially launched at Wazo Hill Quarry near Dar es Salaam on 6 October 2010.

The establishment of a tree nursery is at the centre of the project. It will produce plant material for rehabilitation of the old extraction site, which currently covers approximately 73 hectares. The nursery will be run by local staff and support the creation of an urban forest in the periphery of Dar es Salaam, serving for future production of firewood and lumber, as well as recreational purposes.

Additional foresting should contribute to the reduction of surface erosion and the formation of new ground water. Furthermore, trees will be distributed to smaller settlements near the cement plant, in order to promote the greening of the landscape. Seed and seedlings can also be sold, for instance, to other companies. The tree nursery will produce 100 000 plants and sell 50 000 seedlings by 2013. In addition, 50 000 trees will be planted in the new urban forest by 2013.

Having established the groundwork for the project off-take by October 2010, the tree nursery has continually increased the number of tree seedlings ready for plantation. Daily work in the tree nursery includes the maintenance of the seed beds, raising tree seedlings in the nurseries and planting trees in the quarry. The main focus has been to supply, raise and plant trees that fit well with the conditions of the surrounding area.

Commendable progress has been made with the dissemination of tree seeds and their maintenance. Locally available plant residues are used as mulching materials to shade the seed beds and preserve moisture content in the soil for the seeds to grow well.

Depending on the maturity of seedlings on the seed bed, different species were periodically transplanted into polyethylene bags. This helps to protect them from intense sunlight and other hazards.

By the end of March 2011, 3000 of 5000 propagated seeds had already germinated. A total of 30 different species of trees were in the field with a total of 1318 trees planted. By the end of June 2011 the total number of seedlings will increase to 20 000. The first plantations in the urban forest area will start in September 2011.

In the future, both the new urban forest and the surrounding areas of the extraction site will serve as nature parks for education or recreation, as a habitat for endangered fauna and flora and as an example of sustainable land management. Parts can also be used for sustainable cultivation and production of firewood and lumber.

In order to ensure the transfer of knowledge about sustainable land management and quarry rehabilitation, TPCC will conduct workshops and training sessions on sustainable land-use for stakeholders. Workshops will be conducted for universities, schools, NGOs, as well as national and local authorities, to share information about environmentally sound approaches to recultivation, sustainable agriculture and forestry. A cooperation network between national and international institutions, as well as other companies in the mining sector, will be established to support the knowledge transfer and promotion of further projects. 🌍