

Co-operative project



„DesertDrip – combating desertification with water-saving irrigation technology in combination with a sustainable management of soil, erosion and vegetation“

Funded by AiF, project executing organisation of BMWi, PRO INNO/NEMO

Period: 1.7.2008 to 30.6.2010

Co-operative partners, partial projects

ttz-Bremerhaven, - Water, Energy and Landscape management -, Bremerhaven,
<http://www.ttz-bremerhaven.de>

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Optimisation of the irrigation-vegetation-soil complex for a sustainable and efficient prevention of desertification by environmental engineering procedures

WATERMAN GmbH, Bremen/Berlin, <http://www.waterman-online.de/>

Project leader: Dipl. Ing. Helmut Kückens, eMail: helmut.kueckens@waterman-online.de

Development and system adaptation of an innovative, modular and self-regulating irrigation technology with conditioned substrates for combating desertification

Centre for Environmental Research and Sustainable Technologies (UFT), University of Bremen, <http://www.uft.uni-bremen.de/>

Project leader: Raimund Kesel, eMail: Raimund.Kesel@uni-bremen.de

Optimisation of the irrigation-vegetation-soil complex for a sustainable and efficient prevention of desertification with conditioned substrates and protection of erosion with ReviTec®- modules (management of soil ecosystem and erosion)

Chinese Partner: Academy of Forestry Science, Inner Mongolia, Hohut

Prof. Zhang Wen Jun, research station at Dalate Banner, Erduosi, Inner Mongolia
(40°21'30"N, 109°50'30"O, ca. 50 km south of Baotou).

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Universität Bremen

ReviTec®

Summary

„In China, desertification affected land make up 27.9 percent of the land and the net increase of desertification between 1994 and 1999 amounted to 52,000 km, threatening the lives of 400 million people at a direct annual economic loss of US\$ 6.5 billion“ (UNCCD, UN Convention to Combat Desertification). According to the Chinese Academy of Science, deserts in the country are growing at 950sq.miles a year.

The threat of desertification is met with large scale vegetated wind breaks („green wall“). An improvement of the survival rate of planted trees is mainly achieved by an efficient use of the limited water resources and thus contributes efficiently to the combat againts desertification and to cost reduction.

The superordinate goal of the R&D project is the development and application of a technical-ecological concept for the sustainable establishment of vegetated wind breaks in regions threatened by desertification. The concept focuses on the management of irrigation, vegetation and the soil-ecosystem. It includes two innovative and awarded technologies: the WATERMAN drip-stick-system which has an excellent water-economy and the ReviTec®-approach with its modules to protect erosion, with water absorbing, bioactivated soil amendments, vegetated with site-specific adapted plants.

In an afforestation experiment of 24 months at the research station of the Academy of Forestry Science of Inner Mongolia, the functionality of the modularised and adaptable concept is demonstrated and optimised: water efficiency, survival rate and soil development. With the successful functional qualification of the DesertDrip-technology and its components, a transfer of the technology to other affected regions is envisaged to support the combat against desertification.