



Hans H. Ruthenberg-Graduierten-Förderpreis 2005/

Hans H. Ruthenberg Award for Graduates 2005

Gudrun Keding “African nightshade, eggplant, spiderflower et al. - production and consumption of traditional vegetables in Tanzania from the farmers point of view”

University of Goettingen, 2004

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Summary

Traditional vegetables, though not necessarily indigenous to a country, can be associated with traditional production Systems, local knowledge of farmers and, usually, have a long history of local usage and selection. Furthermore, traditional vegetables are widely under-utilised and neglected in research and development. In the frame of the project "Promotion of Neglected Indigenous Vegetable Crops for Nutritional Health in Eastern and Southern Africa" led by the World Vegetable Centre (AVRDC) and partners, a study was performed in order to verify the potential of traditional vegetables that might help to fight malnutrition in Tanzania and to diversify income for resource-poor farmers under low-input conditions.

For this study, focus group meetings were conducted in 10-12 villages of four different districts in north-east Tanzania to gather basic Information on available traditional vegetables and to explore farmers' knowledge on production and consumption taking gender into consideration. As the questionnaire for focus groups was mainly needed to guide the discussion it was semi-structured, containing both closed and open questions. The four districts researched differed highly in ethnicity as well as in climate, altitude, and soil conditions.

To analyse data received a long-table approach was applied, which is a low-technology Option, yet, it is suitable to identify themes and categorise results. To compare the research districts with regard to their availability of traditional vegetables, the Sørensen coefficient was calculated. Furthermore, Shannon's and Simpson's diversity indices were determined, which are used to characterise species diversity in a community. They account for both abundance and evenness of the species present.

Farmers named 10-34 different traditional vegetables per village, summing up to an overall of 102 in all four districts. While 56 of these vegetables could be identified, 46 of them were only known by their local names. Only 12 traditional vegetables were present in all four districts. The number of wild traditional vegetables used was always greater than that of cultivated ones, with a ratio wild:cultivated ranging from 11:9 in an urban highland district to 59:11 in a rural coastal district. The Sørensen coefficient showed a rather low degree of

common vegetables in two districts and ranged from about 27% only between Singida and Muheza to nearly 60% of common vegetables between Arumeru and Singida districts. Furthermore, it was shown by Shannon's and Simpson's diversity indices that vegetables diversity as well as evenness were less different between the urban districts of Arumeru and Muheza but diversity was much higher in the rural Kongwa district and, especially, in the rural and coastal Muheza district.

Traditional and particularly wild traditional vegetables were threatened with genetic erosion due to change in land use and eating habits. While climate change was suggested by farmers as a possible reason for genetic erosion, it was found that climatic conditions were rather negligible, while the degree of urbanisation and the availability of infrastructure were more decisive. Thereby, training and new knowledge gained apparently stimulated exotic vegetable cultivation, while it reduced traditional vegetable diversity. At the same time, indigenous or traditional knowledge on how and where to collect, cultivate and prepare traditional vegetables was disappearing.

Despite their recognised importance, existing taboos, for example in one district, did not allow men to eat green leafy vegetables. Preservation of traditional vegetables was non-satisfying since leaves were usually dried in the direct sun-light, whereby especially vitamin C is being lost.

As a consequence of this study, it is suggested i. a. to launch an educational program especially on sparing preparation and processing methods as well as to increase awareness of wild traditional vegetables, the conservation of their habitats, and the possibility to save these genetic resources through enhanced utilisation. Thereby, marketing of wild traditional vegetables, which hardly occurred in Tanzania, could be a source of income and is one possibility to enhance preservation through usage of these important food sources.