

## **Iron, Zinc and $\beta$ -carotene nutrients potential of non-cultivated indigenous vegetables in Tanzania**

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**Keywords:** indigenous vegetables, micronutrients, iron, zinc,  $\beta$ -carotene

### **Abstract**

Based on focus group discussions and information provided by key informants, non-cultivated indigenous vegetables in three rural districts in Tanzania were identified and collected. The districts were namely Kongwa, Muheza and Arumeru. Samples were brought to Sokoine University of Agriculture (SUA) where analyses were carried out for selected micronutrients that are known to be among the commonly deficient in the diets of the majority of local people in the country. The micronutrients included minerals (Iron and Zinc) and  $\beta$ -carotene (a common precursor of Vitamin A). Atomic Absorption Spectrophotometric (AAS) method was used to determine Iron and Zinc contents while  $\beta$ -carotene contents were assessed by High Performance Liquid Chromatography (HPLC) method. The former analyses were carried out at SUA while the latter were done at the Asian Vegetable Research Development Centre's (AVRDC) laboratories in Taiwan. Results show high iron contents to occur in the African spider flower and bitter lettuce (of up to 49.95 mg per 100g edible portion), while puncture vine and cape myrtle have high zinc contents (up to 1.631 mg per 100g edible portion). Highest contents of  $\beta$ -carotene were found in African spider flower and puncture vine (up to 16.13 mg per 100g edible portion). It is therefore concluded that if utilization and consumption of these vegetables is promoted there is great potential of reducing the 'hidden hunger' caused by deficiencies of the tested nutrients. However, great variations in the contents of the three nutrients were noted for same species collected in different districts. Therefore, while it is absolutely critical to select specific species, it is also important to consider the location where the vegetable is obtained.