

# The commodity systems of four indigenous leafy vegetables in Senegal<sup>#</sup>

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## Abstract

Increasing the production of traditional leafy vegetables that are well adapted to the agro-ecology of Senegal, easy to grow and requiring low inputs, could greatly help to solve the poverty and malnutrition problems in Senegal. However, leafy vegetables are often overlooked by the scientific community. The species of leafy vegetables dealt with in this paper are roselle (*Hibiscus sabdariffa* L.), cowpea (*Vigna unguiculata* (L.) Walp), amaranths (*Amaranthus* L. spp.) and *Moringa* (*Moringa oleifera* Lam). To increase production of traditional leafy vegetables, access to good quality seeds is necessary. Two plant-collecting missions were undertaken throughout Senegal by a multidisciplinary research team. Experimentation on *Hibiscus* regeneration and characterisation was conducted at ISRA-CDH research station. Sixty-four accessions were collected among the four species. Forty-eight accessions of roselle (*Hibiscus sabdariffa* L.) were characterised. The level of dissimilarity (63%) within the accessions of roselle confirmed the high degree of intra-species variability. The Richness Index determined for the Diaobe and Matam markets indicated a high degree of genetic diversity of roselle. These are used to select three new lines according to farmers' preference criteria.

In addition, socio-economic surveys were conducted in two pilot villages. It was found that planting dates for leafy vegetables varied greatly, depending on species, locality and season. Sowing was mainly done broadcast. Organic fertilisers were commonly applied. Eighty per cent (80%) of the farmers applied an NPK formulation and small quantities of urea. Traditional irrigation methods are often used in the growing of traditional leafy vegetables. The seeds used by farmers were a mixture of varieties. Farmers identified four types of each of roselle, amaranth and cowpea, but could not differentiate any variety for *Moringa*. Local markets constitute the main roselle seed supply source. Few farmers have developed traditional methods of seed conservation. Selling of seed is not a common activity in rural areas. Generally, farmers exchange gratuitously their seeds. Leaves are commonly sold at the field, in the village, in the nearest city and weekly at local markets called 'Louma'. Average annual income generated by leaves varies from 41 to 500 USD. Leafy vegetables are used as food and for medicinal purposes. Leafy vegetable consumption in Senegal is around 23 g/person-d.

**Keywords:** leafy vegetables, production, species, seed and genetic diversity