

Status, diversity and potential of semi arid indigenous and minor vegetables of western India

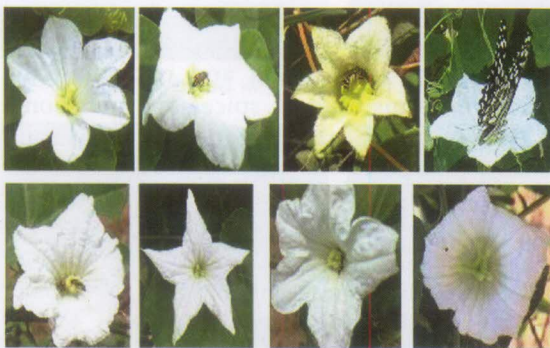
Global diversity in vegetable crops is estimated about 400 species, with about 80 species of major and minor vegetables reported to have originated in India. About 37% of cultivated vegetable species were determined to have an Asian-Pacific origin, 22% originated in the Americas, 17% are from the region spanning Europe, the Mediterranean, Near East and Central Asia, 15% originated from Saharan and sub-saharan Africa, and 10% are wide ranging species that cross several world regions. However, with the advent of cut-and-burn agriculture and green revolution/commercialized agriculture, the development project areas and related activities of these diverse resources are declining at a fast pace. Overgrazing, deforestation, and overexploitation of native resources under range situations have eroded the biodiversity of vegetable crops from this unique ecosystem. Moreover, traditional knowledge about important indigenous plant species has also decreased in the younger generation influenced by urbanization.

Status of semi-arid region of western India

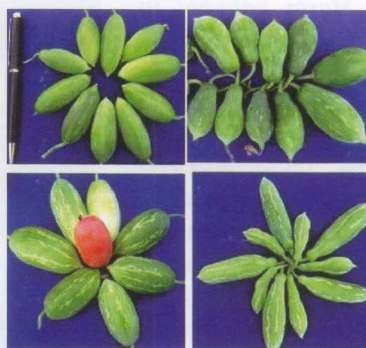
Global expansion of semi-arid region is 22.6 million square kilometer (MSK) followed by arid region (15.7 MSK). Two zones of semi-arid climate are recognized in India, one in the north, is contiguous with the desert of Thar, extending into Rajasthan, Punjab, parts of Uttar Pradesh, Kutch, Saurashtra (the Mountainous region of Gir excluded). The other semi-arid zone is situated in the south. It includes the Deccan plateau, the Coimbatore plateau located in the shadow of the Nilgiri and Palni hills and the extreme south-east corner of Madras comprising Ramanathapuram and Tirunelveli districts. The semi-arid zones of north and south are separated by a narrow humid strip composed of the Satpura range and the plain of the Tapti River. Some regions are characterized by hot and dry summer and cool winter whereas some regions are characterized by hot and wet summer and dry winter.

Potential of semi-arid indigenous vegetable

The indigenous and minor vegetables includes cucurbitaceous vegetables, viz. kachri (*Cucumis melo* var. *callosus* / *agrestis*), kakadia/snap melon (*Cucumis melo* var. *momordica*), mateera (*Citrullus lanatus*), tinda (*Praecitrullus fistulosus*), spine gourd, ivy gourd; leguminous vegetables, viz. Indian bean, cluster bean (*Cymopsis tetragonoloba*); leafy vegetables like palak, amaranths, fenugreek, coriander, fennel, drumstick leaves, brinjal, drumstick etc. have potential to fight the problems of protein, vitamins, minerals, antioxidants and micronutrients in malnutrition affected areas in western India (Table 1). Various indigenous leafy vegetables of western India are having an optimal source of nutrients such as carotene, folate, iron, calcium, zinc, proteins and dietary fibre. Therefore, documentation of traditional crop knowledge and dissemination of information relating to the indigenous



Variability in ivy gourd flower and different pollinating agents



Fruit variability in Ivy gourd



Promising line of spine gourd CHESSG-11 under semi-arid conditions