

AGRO-MORPHOLOGICAL DIVERSITY OF SPONGE GOURD IN IN-SITU CONSERVATION AT BARA AND KASKI ECO-SITES, NEPAL

Y. R. Pandey¹, R.B. Yadav², P. Chaudhary³, S.P. Khatiwada², J. Bajaracharya³, D. K. Rijal⁴, M.P. Upadhayay³, A.K. Gautam⁴, B. R. Sthapit⁵ and D.I. Jarvis⁶

¹ Horticultural Research Station, Nepal Agricultural Research Council, Jumla, Nepal

² Kachorwa Research Site, Nepal Agricultural Research Council, Hardinath, Dhanusha, Janakpur, Nepal

³ Agricultural Botany Division, Nepal Agricultural Research Council, Nepal; e-mail: jwala@unlimit.com

⁴ Local Initiatives for Biodiversity, Research and Development (LI-BIRD), P.O. Box No. 324, Pokhara, Nepal, Tel/fax: 977-61-26834; E-mail: rblibird@mos.com.np

⁵ International Plant Genetic Resources Institute, APO, Malaysia, e-mail: b.sthapit@cgiar.org

⁶ International Plant Genetic Resources, Via dei Tre Denari, 472/a, 00057 Maccaresse, Rome Italy
Email: d.Jarvis@cgiar.org

Agro-morphological traits of sponge gourd (*Luffa cylindrica* L.) landraces were characterised to explore the potentiality of sponge gourd diversity and identify the unique diversity available at Begnas (600-1400 m) and Bara (80-100m) eco-sites, Nepal during 1999/2000. A total of 36 and 21 farmer cultivars of sponge gourd in Bara and Begnas respectively were studied using farmers' descriptors to assess agro-morphological diversity. Farmers who participated in diversity fair were randomly selected and their plots were visited to characterise sponge gourds in farmer's field. Because of the importance of fruits in human consumption, more emphasis on fruit characterisation was given in the study. Variability in quantitative traits was found among the landraces of both sites. In Begnas village, only 6 landraces were widely grown and they have distinct characteristics, which can be distinguished by farmer descriptors such as fruit length, colour, aroma, fruiting periods and sponginess whereas in Bara village, genetic variation was observed in fresh fruit weight and aroma. Principal Component Analysis (PCA) grouped the studied accessions into five clusters. The first principle component accounted 43.9% of the total variation in nine characters. The cluster I had maximum number of accessions (14) followed by cluster II (12). Naming and describing the farmer named variety given by the farmers are related to their use and morphological characteristics and were found useful in managing the resources in the community.