The diversity of underutilized crops in smallholders' farms of South-Eastern Sri Lanka: Impact on farmers' economy and food security

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Abstract

Even though Sri Lankan farmers have grown Underutilized Crops (UUCs) for generations, there is very limited research on these crops. This study was an initiative to identify common UUCs in prevailing farming systems and estimate their contribution to household income and food security in south-eastern Sri Lanka. The study was conducted in randomly selected 30 Grama Niladari divisions (GN Divisions) under 12 Divisional Secretariat divisions (DS divisions) in Uva and Eastern provinces. Relevant data were collected through 88 household surveys, 12 focus group discussions, 36 key informant interviews, and participatory observations. Data were analyzed following descriptive, and one-way analysis of variance, Chi-square and Pearson correlation were used for testing statistical significances of selected variables. About 95 percent of farmlands in the study area were found under three mixed cropping farming systems namely home garden (mean area 0.80 hectare), shifting cultivation ("*Chena*") (0.82 hectare) and off-season paddy lands (1.16 hectare). In three farming systems, 58% of the total crops were UUCs that covered 35% of the farm area. We identified 37 UUCs and home gardens were rich having 25 crops followed by *Chena* (19 crops) and Offseason paddy lands (7 crops). Common UUCs in home gardens were cassava, cowpea, jack-fruits, cashew, guava, pomegranate, ash plantain and traditional mango. Maize, finger millet, cowpea, green gram, proso millet, mung bean, sweet melon, and groundnut were common in Chena while in off-season paddy field only sweet melon, mung bean and cowpea were noticed. Three main farming systems contributed 65% of the household income whereas 24% of it was contributed by UUCs. As food sources, three farming systems contributed 57% of the household food need where the contribution of UUCs was 43%. The UUCs have substantial contribution to household income and food security. However, due to poor market demand and irregular rainfall farmers are now-a-days reluctant to continue the cultivation of UUCs. Suggestions are made to encourage farmers cultivating UUCs through institutional support, value addition and providing irrigation facilities where possible.

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