

Title Conservation and sustainable use of tropical and sub-tropical fruits: current status and prospects

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Abstract

Tropical and sub-tropical fruits have received high priority in national, regional and even global agricultural development agenda over the last decade. This is in recognition of its economic, food and nutritional security and environmental contributions and values. For example, the volume exported has increased by 31% from 27.5 million t in 2000 to 35.9 million t in 2004. In terms of value, the global export market in 2004 is estimated at US\$ 15 billion. It is also important for the welfare of small farmers where tropical and sub-tropical fruits are key components of home gardens and traditional multi-cropping systems, such as agro-forestry systems, where fruits and fruit products provide substantial income, food, fodder, timber, fuel, medicine and other multiple uses to the poor and marginal groups of farmers. Tropical and sub-tropical fruits are important sources of vitamins and minerals and many of these fruits are also high in dietary fiber. Research findings also indicate that these fruits contain micronutrients, phytochemicals and antioxidants, which could contribute to human well-being and health. There is also a very large potential genepool from cultivated and wild fruit species for the improvement of tropical and sub-tropical fruits and fruit products as it gains more economic importance as an export commodity worldwide. For tropical fruits alone, the Asian region for example, is highly diverse with about 400 species distributed in various ecosystems. The collections currently in field genebanks as well as in situ conservation areas have substantial genepool which can be used to confer specific characteristic such as nutritional value, color and shape of fruits, desirable post harvest characteristics, chemical composition of fruits and resistance to biotic and abiotic stresses which can provide significant competitive advantage to fruits and fruit products in the world market. However, the rapid agricultural and urban development in many countries around the world have brought about changes in land use, large scale deforestation and together with climate change and natural disasters have resulted in massive degradation of natural habitats and loss of native diversity. Due to the recognition of the multiple values of tropical and sub-tropical fruits, and its increasing market potential on one hand and the rapid loss of diversity on the other hand, FAO, IPGRI, ICUC, IICA, TFNet and other organizations facilitated the formation of Fruits Networks which looks at the process of coordinating research and development work on conservation and sustainable use of these valuable resource including the identification of priority fruit species. Currently, through these networks, work must be intensified in the identification of priority genepools of major and minor tropical and sub-tropical

fruit species, gathering of information on distribution and diversity, status of collections, genetic resources activities including characterization, evaluation, documentation, maintenance and conservation and looking at ways of increasing value adding to products of elite and improved materials through processing and linking this with improving livelihoods and food and nutritional security of small fruit farmers. It is expected that the benefits derived from the increased income and improved livelihoods of fruit farmers will feedback into promoting tropical and sub-tropical fruit diversity in home gardens, orchards and other agro-forestry systems. There is also the need to provide support to research on conservation techniques and their adoption in national programs, strengthening of capacity building and in promoting national, regional and international collaboration to facilitate networking and dissemination of information.