

Title Postharvest handling systems of fruits and vegetables in Cambodia
Author Borarin Buntong, Antonio Acedo Jr. and Sirichai Kanlayanarat
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Abstract

Fruits and vegetables are high-value and nutritious horticultural food crops which could be crucial in alleviating poverty and malnutrition in Cambodia. However, most fruits and vegetables are imported. Local estimate reveals that through Okhna Mong Port alone, fruit imports are valued at about 50,000-100,000 USD per day while for vegetables, only about 30% are produced locally. Increasing domestic supply of fruits and vegetables requires expansion of production and improvement of postharvest handling systems. In fruit supply chains, three intermediaries between production and consumption are generally involved; middleman/collector, wholesaler and retailer, but all chain participants could directly deal with each other and with the consumers. Being grown in small areas (except in land concessions and few farms), fruit production are mostly household enterprises and postharvest value addition (e.g. sorting, retail packing and fresh-cut operations) are usually done at retailing. Handling is poor and some fruit (e.g. banana and oranges) are transported unpacked (loose handling), resulting to high losses. In 'Pursat' oranges, loose handling resulted to outright volume losses of about 20% plus fruit with reduced quality and price of 12%. In 'Takhmao' longan (in-demand local variety), grading fruit into three classes based on size, appearance and number of fruit per bunch, is being done but packing still relies on bamboo baskets and losses of 7.5-10% due to weight loss and decay could be incurred between the production area in Kandal Province and Phnom Penh, just about 20-30 km away. Several large farms have diversified into fruit growing in various parts of the country and timely intervention in postharvest handling is needed. On the other hand, vegetable supply chains are either traditional or progressive. Traditional systems are often controlled by collectors and lack value addition and techniques, compromising product quality and safety due to faulty practices such as using dirty wash water, packing (and compressing) in big 200 kg-capacity bamboo baskets, and improper handling and transport. Progressive supply chains are either private sector-led or donor-supported, such as the cases of Triple F Company-led contract farming with small vegetable farmers, organic vegetable production and marketing, 'Kampot' pepper production and export. Furthermore, introduction of postharvest trainings and provision of production inputs (i.e. seeds of improved varieties) seem to contribute to positive changes in the vegetable industry.