

# Reviewing post-harvest options with farmers

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In our undertakings to promote and develop a more sustainable agriculture, we often tend to push – in a gentle way – the principles and techniques of such agricultural production on farmers. Too little attention is given to the creation of a “pulling force”, by making sustainable agriculture more attractive economically.

A good example is that of crop diversification in the Yayasan Mitra Tani Mandiri area on Timor Island. Pineapple was promoted as a suitable crop for drier areas, with potential uses in soil conservation and products for home consumption as well as for the market. This crop grew well, and was indeed well suited to the situation and needs of local farmers. As a result, more and more pineapple was planted. However, the peak harvest season is during the rainy season, when roads are not passable and thus the fruit cannot reach the markets. The pineapples were therefore consumed by the producer, given away to relatives and friends, or even left to rot in the field.

## Basket of options

Development of sustainable agriculture consists for a large part in increasing the number of options available to farmers, enabling farmers to be more resilient and react in a knowledgeable way. Together with farmers, we analysed what commonly happens to agricultural products after the harvest, and came up with the following four options: consumption, marketing, re-use as planting material, or post-harvest loss. These four categories were matched by four potential types of action by farmer families after harvesting: none, treatment, processing and/or storage (Table 1).

**Table 1. Post-harvest options for farmers**

Destination of produce	Action (by farmer or household)			
	None	Treatment	Processing	Storage
Consumption				
Market				
Planting				
Loss				

This table provides a chance to visualize, together with communities, the different post-harvest options. It has been used in analysing current conditions and for assessing farmers’ opportunities. Referring to the pineapple example, farmers on Timor Island indicated that after harvest no further processing was done before the fruit was consumed, taken to the market or became spoiled (Table 1, column 1). Some farmers could estimate quite accurately the quantity of fruit that was consumed, marketed or lost.

With some help from extensionists, it turned out that there were opportunities for farmers to process the fruits into alternative products such as jam, juice, or syrup, for (own) consumption or for marketing (column 3). Processing could also decrease the total loss of fruits! Furthermore, several of the processed products could be stored for a longer period (jam, syrup), which again increases the total number of post-harvest options to include storage for consumption and marketing (column 4).

## Not only processing

Indonesian farmers’ attention to improvements in post-harvest activities is often exclusively focused on processing a product to add value. Important factors such as labour requirements and other investments for processing, as well as the risks involved (including complete loss), are often overlooked.

Another example, from small coffee farmers in Toraja, South Sulawesi, shows that there are other ways to improve post-harvest processes. The main problem Toraja farmers are facing is that the treatment of the ripe beans – washing and sun-drying – is rather cumbersome. Most coffee farmers here produce small quantities of ripe beans, and treatment is often low in quality. Discussion showed that many coffee farmers would rather sell the ripe beans directly after harvesting, even at a lower price. At the same time, this would open up new opportunities for groups of farmers, or cooperatives, which could specialize in better quality treatment of larger amounts of coffee beans.

## Decision instruments

Our last example comes from the rather new vanilla producing area in North Maluku. Farmers have learned how to grow this valuable spice organically and several have also mastered the necessary skills for treating the raw vanilla beans, which includes an elaborate process of curing (sweating and drying).

Mr. Samuel, a vanilla farmer in North Maluku, makes a decision each year on the level of post-harvest processing to carry out. This decision is mostly influenced by yield quantities, and consequently labour requirements for curing, as well as the prices offered for fresh and cured beans. In 2001 and 2002, for example, he treated and marketed 2.8 and 3.8 kilos of vanilla beans. He received a price of 350,000 IDR (approx. US\$30 per kilo) which gave a total income of 980,000 IDR in 2001 and 1,330,000 IDR in 2002. In 2003, after bumper harvest, he sold 101 kilos of untreated beans at the lower price of 85,000 IDR per kilo, which gave a total income of 8,585,000 IDR.

## Finding solutions

By systematically analysing different post-harvest options, we have been able to explore the alternatives together with farmers – for example, in the case of the coffee in Toraja, the option to sell the berries straight from the tree. Another option would have been to process the coffee beans to a finished product for consumption or sale. In the case of vanilla, the treatment needs a lot of care, which implies that there are risks involved. Options to explore might include training on proper treatment methods, specialization of a group on “professional” treatment of vanilla beans, or even just directly selling the beans after harvest.

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