

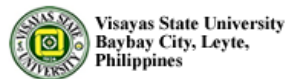
HORT/2007/066-2

**Seasonal Vegetable Price Data for Leyte, Philippines**

**Working Paper No. 2**



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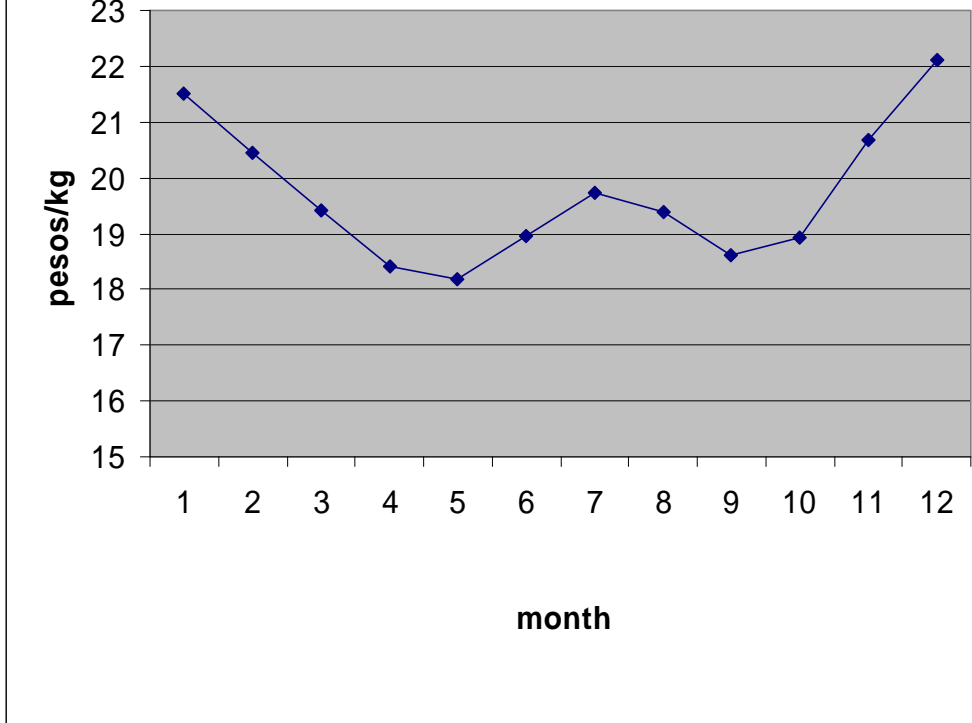


*The Australian Centre for International Agricultural (ACIAR) project HORT/2007/066 “Enhanced profitability of selected vegetable value chains in the Southern Philippines” is concerned with increased income, and improved livelihoods for vegetable growers in the Southern Philippines. One component of the project relates to protected cropping. This component seeks to determine whether vegetables can be profitably grown under protected cropping (eg under plastic or netting) in the Southern Philippines. The focus is primarily Leyte, given the very difficult growing conditions that prevail there for certain times of the year.*

### **Seasonal retail price variability**

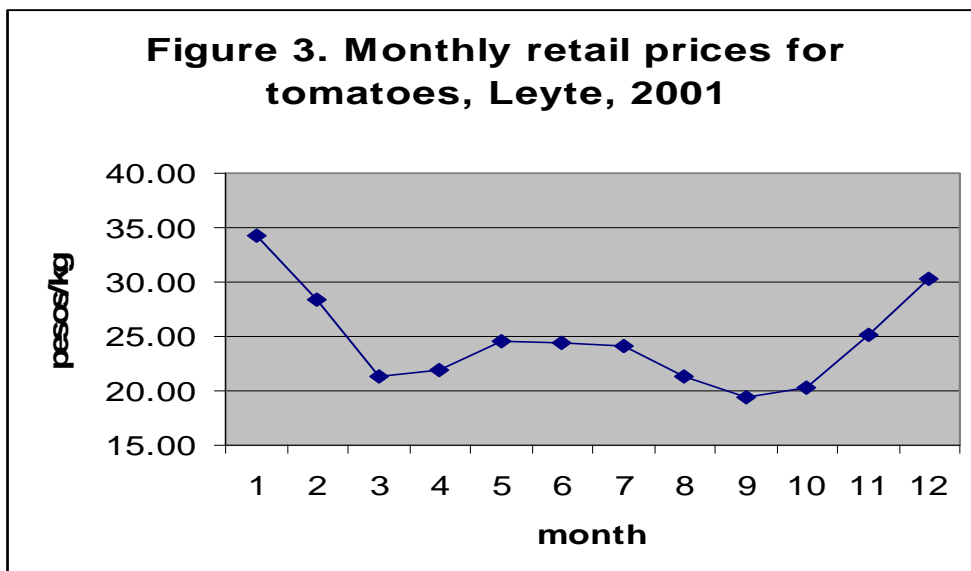
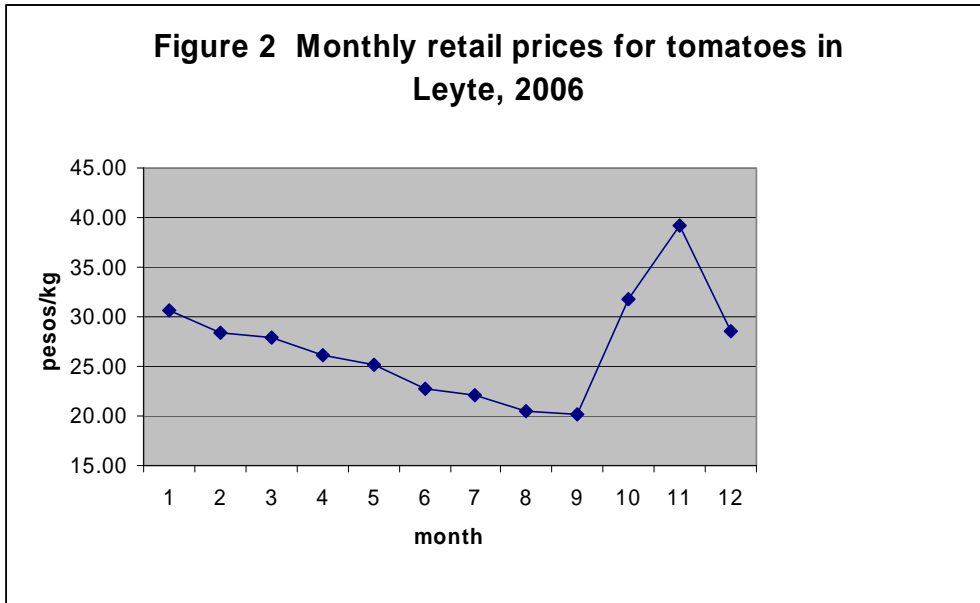
In Leyte, the relatively dry season is from February to May in western Leyte, while the relatively dry season in the eastern part of Leyte is from May to September. Therefore, especially from October until around March, when it is very wet and windy in most of the island, prices are correspondingly higher, as indicated in Figure 1. These data in Figure 1 were obtained from the Philippines Bureau of Agricultural Statistics (BAS) for ‘leafy and fruity’ vegetables. In fact, the data indicate a somewhat bi-modal price distribution with high prices from approximately October to March, with a smaller ‘bump’ in prices around July. A roughly similar pattern was discerned in the BAS data for most other vegetables in Leyte. In all graphs with ‘month’ on the axis, Month 1 = January; Month 2 = February etc. These data have not been published by BAS.

**Figure 1. Average monthly retail prices for Leyte leafy and fruity vegetables 1996-2006**



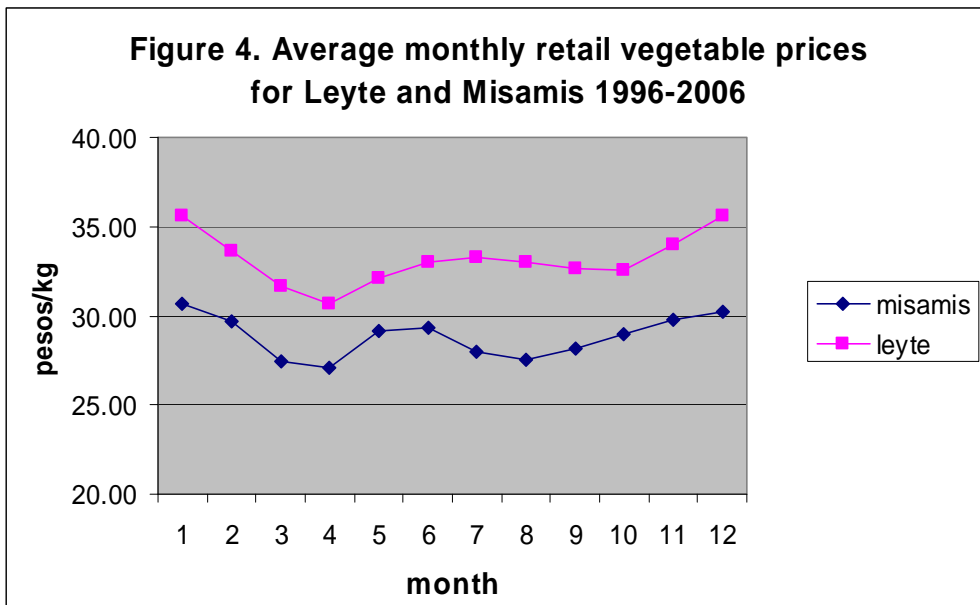
This aggregated (retail) price data of Figure 1 indicate an approximately 25% change between low and high season prices. However, these long term (11 year) monthly averages hide more significant price variations for *specific vegetables in particular years*. For example, figure 2 shows monthly retail tomato prices in Leyte during the year 2006. The price variation between wet and dry season is much higher in this more specific case, although still below what an individual farmer would experience. (A report by Rogers, 2007 indicated that some farmers experience very large price changes across the seasons). The particular pattern of seasonal price change for tomatoes shown in Figure 2 for 2006 indicates 50-100% price increases in the wet season. While the particular seasonal pattern for tomato prices differs from year to year (eg compare

Figure 2 for 2006 and Figure 3 for 2001), the seasonal price variability, as measured by the standard deviation *is* reasonably consistent across years, as is the generic increase in wet season prices.



### **Leyte retail prices versus retail prices in other provinces**

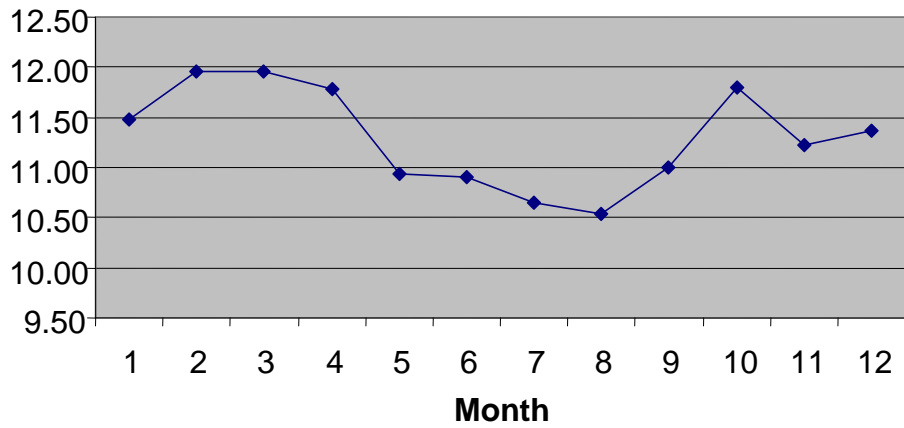
There are significant imports of vegetables into Leyte from other areas of the Philippines (Department of Agriculture - RFU8 (2002). *R and D program and Agenda for Vegetable Crops in Region 8, Philippine*, Unpublished). Consequently Leyte prices are influenced by prices in other regions. Looking at seasonality of vegetable prices across three provinces in the Southern Philippines, there is consistency of seasonal price trends between Leyte, Misamis Oriental and Cebu (see Figure 4, for the first two). This consistent differential empirically supports the notion of strong provincial market interrelationships, and movement of product between regions. The degree to which these price differentials accurately reflect the added marketing costs (transport etc) will be verified during the course of the project. However, it does indicate that Leyte prices are influenced by prices elsewhere (as would be expected). There is an implication that the costs of protected cropping structures in Leyte can only be potentially rewarded via higher vegetable prices up to the point of 'import parity' (ie the prices that vegetables can be sourced from other provinces). Of course, protective cropping structures that are applicable to Leyte may also be applicable elsewhere. Price relativities between provinces may change according to the degree of applicability of the concept in each province. While Leyte may be the province most affected by wet and windy weather, and therefore may be the province with most to gain from protective cropping, protective cropping structures in Leyte may be more vulnerable to damage than elsewhere, for the same reason (ie wet and windy weather). The net effect of these forces on the comparative advantage of vegetables grown in different provinces is unknown. Vegetable *quality* increases, which may arise from protective cropping, will also affect these profit relativities within and across provinces.



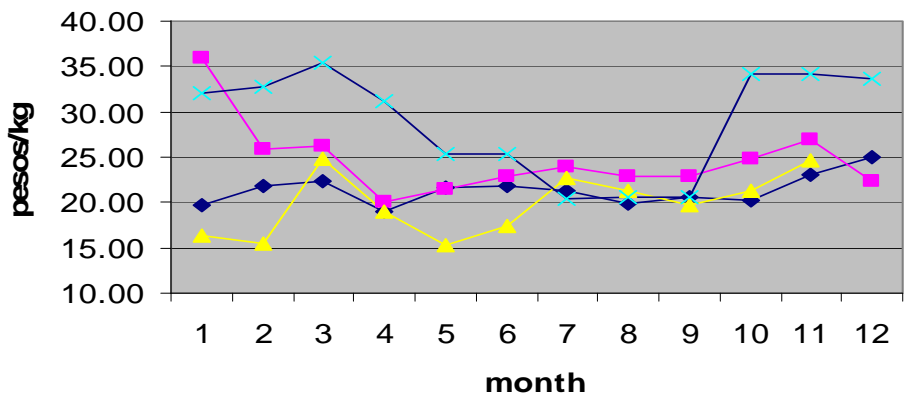
**Farm level prices**

Farm level prices in Leyte show an approximately similar pattern as retail prices (Figure 5). Farm level prices are approximately one-half the retail prices in Leyte (compare prices in Figure 5 with Figure 1). The ‘gap’ between farm level and retail level prices does indicate some potential for ‘supply chain’ efficiency improvements, and these will be analysed as the project proceeds. Again, particular year and particular vegetables show greater variability at farm level, as is the case at retail level. Individual farmers would experience even greater variability.

**Figure 5. Average monthly farm prices leafy and fruity vegetables Leyte 1996-2006**



**Figure 6. Four recent years of farm prices for bitter gourd, Leyte**



## Implications of this analysis for Protective Cropping 'Structures'

The short analysis presented in this paper has indicated that:

- price increases in the wet season make an *a priori* case for investment in protective cropping structures;
- there is some potential for broader supply chain efficiencies (including protective cropping structures) in Southern Philippines vegetable production and distribution based upon prevailing farm/retail price spreads;
- vegetable imports from other provinces may constrain the amount of money that can profitably be spent on protective cropping structures.
- Leyte may have most to gain, at least in a relative sense, from protective cropping structures since it is the area traditionally worst affected by weather.
- low cost protective structures may be the only way for vegetables to be obtained for local consumption in remote areas, since the cost of delivering vegetables to those areas from within the province, or from other provinces, is likely to be prohibitive.

Vegetable price increases in the wet season are almost certainly a result of supply constraints, and undoubtedly these constraints can be alleviated by 'protected cropping' structures. Whether this can be done in such a way as to be profitable for Leyte farmers is an open question that the project will be endeavouring to answer.