

CALL TO ACTION

- ✓ Sensitize farmers to consider imputed operator and family labor as part of the production and marketing cost.
- ✓ Develop, promote and support technologies or interventions that reduce the inputs with largest cost-shares: fungicide- and inorganic fertilizer-use for all crops; soil amendments for cabbage and broccoli; seed for potato; harvesting, weeding, and chemical application labor for all crops; transportation cost for all crops.
- ✓ Find mechanisms to increase the efficiency of transporting products from farm to the trading posts, and to ensure cost-sharing with disposers, assemblers or commission agents.
- ✓ Sustain efforts in supporting quality potato seed production and marketing systems; encourage certification of more potato seed growers.
- ✓ Improve post-harvest and logistics management for all crops to reduce labor, stall rental and logistic costs per kg.
- ✓ Sustain efforts to support direct marketing systems that reduce marketing costs.

MAJOR REFERENCE

Launio, C.C. , Altaki, M., Camfilí-Talastas, M., and Longay, N. Highland Vegetable Value Chain Analysis for Policy Formulation and Future Impact Evaluation of Agricultural Trading Centers. Terminal Report submitted to DA- Bureau of Agricultural Research.

Japan International Cooperation Agency (JICA).2019. Survey on Issue Analysis of Food Value Chain in the Philippines (Final Report.). Retrieved from <https://openjicareport.jica.go.jp/pdf/1000041342.pdf> on October 30, 2020.

ABOUT THE MATERIAL

Informing Policy and Practice is published quarterly by the Institute of Social Research and Development and R & E Publications Office of Benguet State University. It synthesizes findings from research and development activities, or presents results of quick survey and opinion poll on social, economic, and policy issues and concerns affecting the Cordillera region. It also distills the key messages and provides recommendations for the information and consideration of relevant stakeholders and policymakers.

**Institute of Social Research and Development
Research and Extension Publications Office**

Benguet State University
2601 La Trinidad, Benguet, Philippines
em@il Address: isrd@bsu.edu.ph |
repo@bsu.edu.ph
Telephone/ Fax: +63 (074) 422-1877
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INFORMING POLICY AND PRACTICE

Policy Brief Series No. 2022-6.1

Production and Marketing Cost Structures of Benguet Vegetable Highland Vegetables: Guide to Prioritizing Extension Interventions

By Cheryl C. Launio, Mary-an J. Altaki, Matyline Camfilí-Talastas, and Normalyn T. Longay

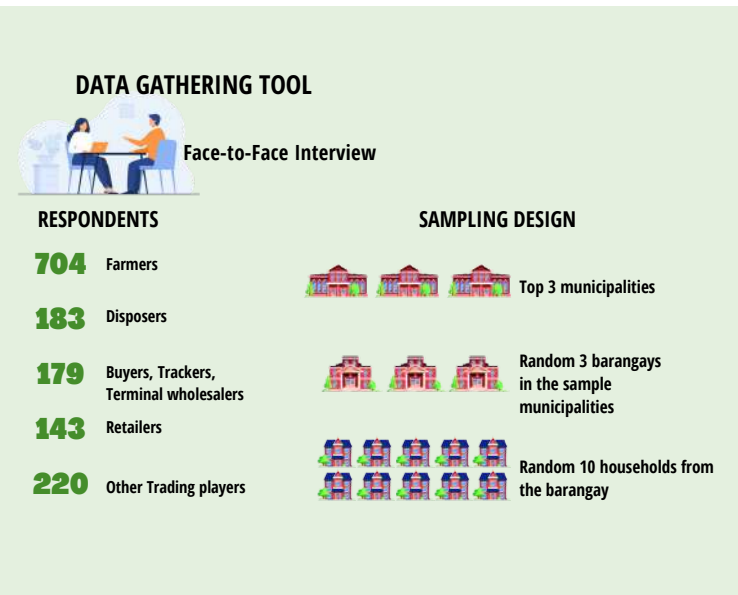
HIGHLIGHTS

- ✓ Production cost for highland vegetable varies by crop ranging from 200-450 thousand pesos per hectare. Garden pea, potato, and broccoli have the highest production cost at more than PhP 20 per kg.
- ✓ Unpaid (imputed) operator and family labor costs comprise the largest share of the production cost of almost all highland vegetables, hence must always be costed.
- ✓ Cost of fertilizer and soil amendments comprise 23% of the total production cost for cabbage; seed comprises 20% for potato; and chemical pesticides comprise 10-15% for broccoli, cabbage, and potato. Technologies and interventions that reduce such costs may significantly increase the profitability and competitiveness of highland vegetables.
- ✓ Transportation cost from farm to trading posts is a significant cost being shouldered by farmers alone. Mechanisms of possible cost-sharing with disposers/commission agents may be studied.
- ✓ Total marketing cost from trading posts in La Trinidad, Benguet to retailers in wet markets in the NCR ranges from PhP 14.50 to PhP 20.50 per kg not excluding the imputed post-harvest losses or wastage.
- ✓ Hired labor comprises the largest share of marketing costs, followed by transportation, stall rental, and packaging materials.

INTRODUCTION

Reducing production and marketing costs per unit is the single most important goal in the competitiveness of any product. Farmers can achieve this goal either by being able to produce the same product of the same quality at a reduced cost or by increasing their yield per unit area at the same cost. Similarly, traders can reduce per unit marketing costs by either reducing their cost incurred but delivering the same volume or increasing the volume handled at the same cost. Further, comparing the unit costs of producing and marketing a local product with the production and marketing costs incurred by international competitors indicates local producers' competitiveness. This article presents baseline data gathered before COVID-19, covering the average production cost of seven highland vegetable crops, their production and marketing cost structures, and the implications for extension, research and development, and policy.

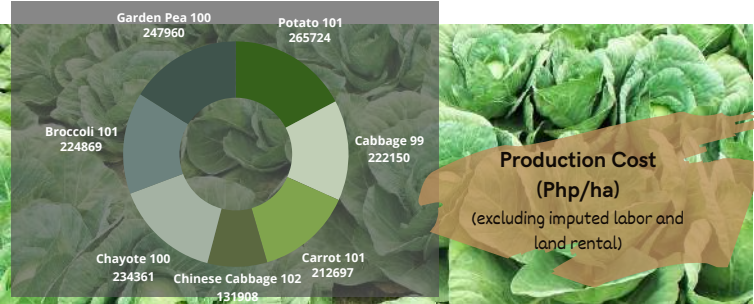
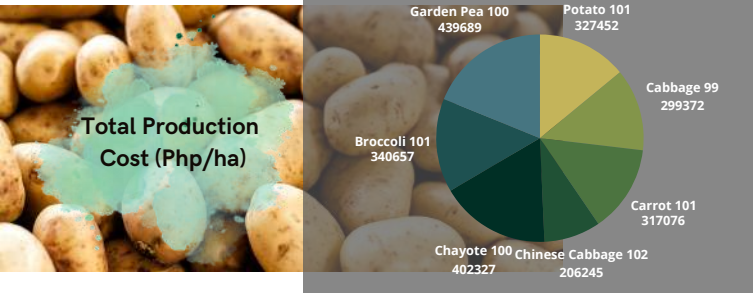
METHODOLOGY



Production Cost

Garden pea has the highest production cost at approximately PhP 430,000 ha⁻¹, equivalent to PhP 110.74 kg⁻¹ at the average yield of 3.92 tons ha⁻¹ and considering imputed labor and land rental as enterprise costs. On the other hand, Chinese cabbage records the lowest production cost per hectare of PhP 206,245. Chinese cabbage garnered the lowest production cost per kilogram, amounting to PhP 12.41. These average production costs are based on an average of 100 randomly selected farmers from major production areas per crop in Benguet, hence may be used as a baseline representing conventional farmers’ practice in top producing municipalities. The cost estimates are much higher than estimates from PSA (2019) and relatively higher than the provincial agriculture office estimates (IICA, 2013).

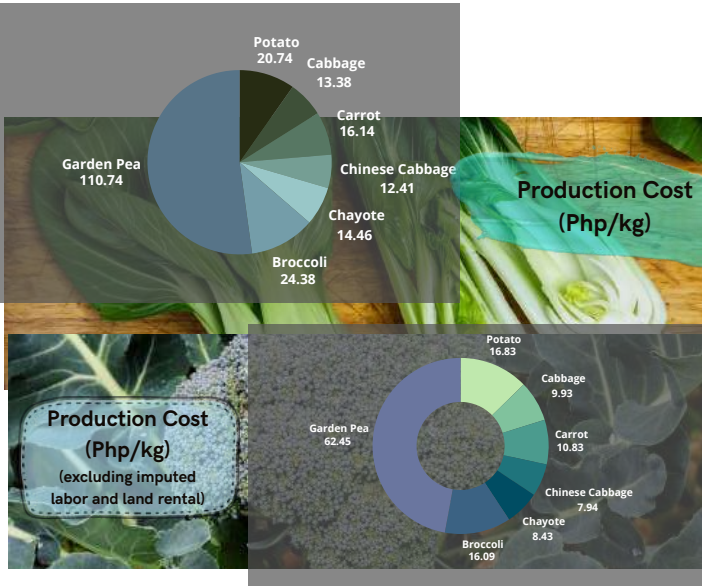
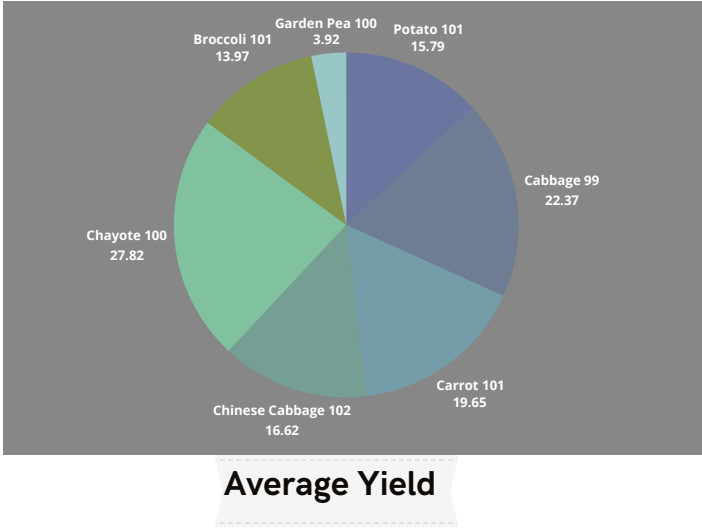
Given the average yields based on farmers’ survey as indicated in the figure below (potato: 16 tons ha⁻¹, cabbage: 22 tons ha⁻¹, carrot: 20 tons ha⁻¹, Chinese cabbage: 17 tons ha⁻¹, chayote: 28 tons ha⁻¹, broccoli: 14 tons ha⁻¹, and garden pea: 4 tons ha⁻¹), it shows the average production cost per kilogram accounting for or excluding own and family labor, and imputed land rental as costs. On average, for farmers to profit from vegetable farming, selling prices per kg in the trading post should not be lower than PhP 21 for potato, PhP 13 for cabbage, PhP 16 for carrot, PhP 12 for Chinese cabbage, PhP 14 for chayote, PhP 24 for broccoli and PhP 111 for garden pea. At PhP 17 for potato, PhP 10 for cabbage, PhP 11 for carrot, PhP 8 for Chinese cabbage, PhP 8 for chayote, PhP 16 for broccoli and PhP 62 for garden pea, they will be able to recoup the value of their own and family labor and use of their land.



Average production costs (Php/ha) of fresh highland vegetables, by crop, 2019



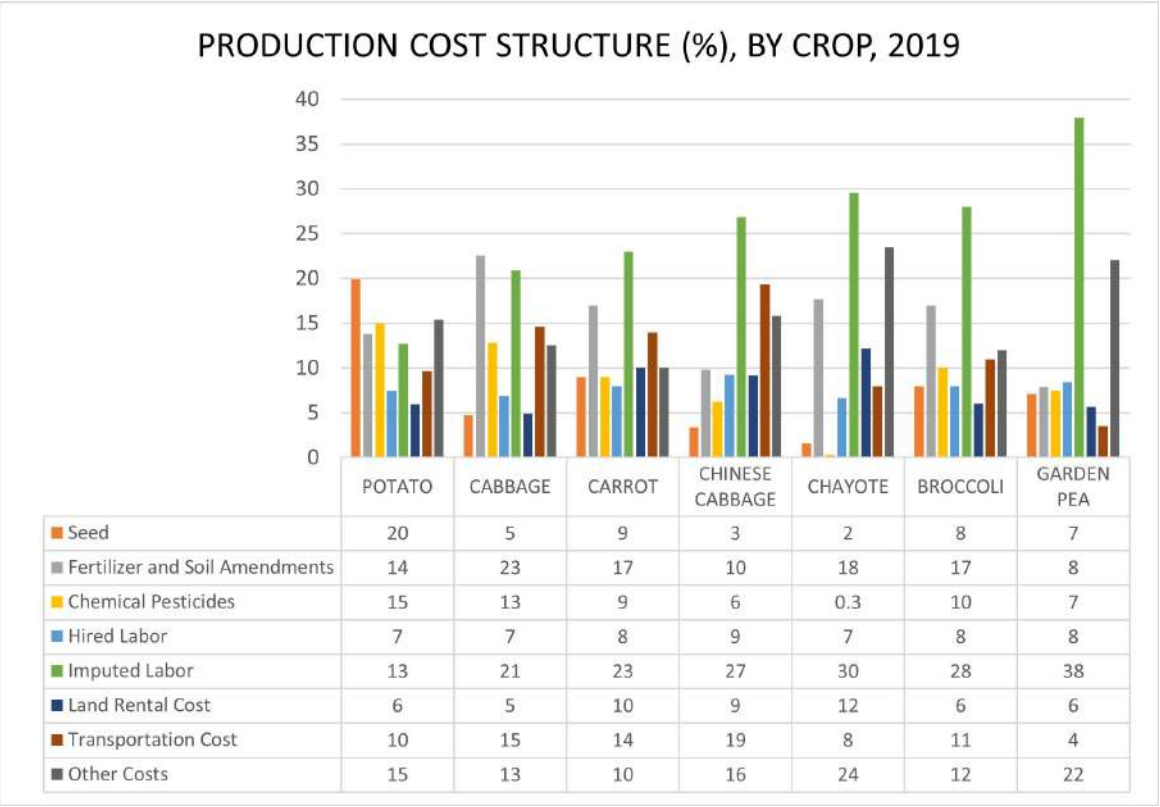
FINDINGS



Average production costs (Php/kg) of fresh highland vegetables, by crop, 2019

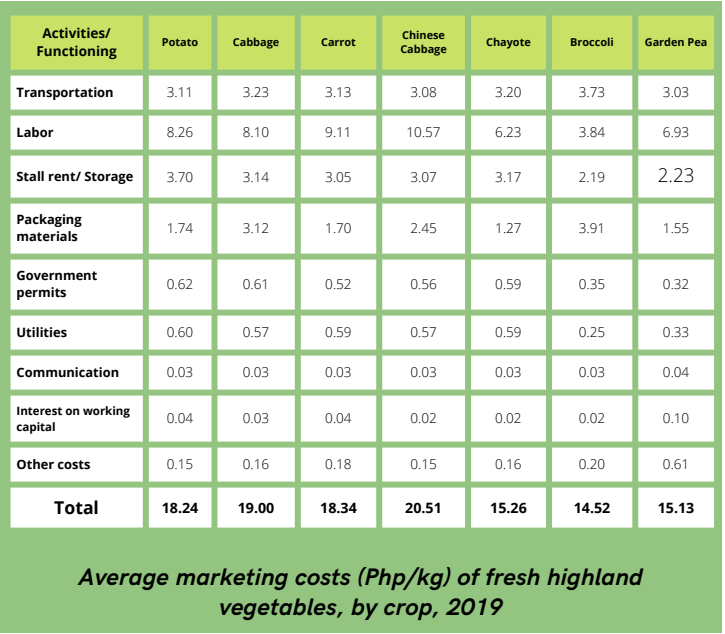
Production Cost Structure

About which input comprise the largest share, although similar, each crop differs in the share of material inputs and labor. These cost-shares can be used as bases for the prioritization of interventions. For example, in potatoes, 20% of the total cost goes to seed. This result supports the focus of potato Research and Development and the DA-CAR agenda on improving planting materials’ accessibility and availability. It is important to sustain the efforts of reducing the seed cost while attaining the same yield or ensure that higher seed costs due to technology will result in much higher yields so farmers can reduce seed cost per unit and also increase their income. Chemical pesticides and fertilizers are also areas of intervention for potatoes, cabbage, and broccoli. These data can be used to inform farmers, development, and extension workers on the areas whereby efficiency can be increased through technology, process, management, and other programs.



Marketing Costs

The marketing costs incurred by disposers, wholesalers, and retailers are transportation, labor, stall rent/storage, packaging materials, government permits, utilities, communication, interest on working capital, and other costs. Part of the costs are postproduction losses, but in this study, the “wastage” was not yet incorporated in the cost estimates. The marketing cost ranges from PhP 14.50 to 20.50 per kg depending on the crop. While in general the marketing costs are similar regardless of crop, the average volume handled per crop by a player differ resulting in the different average cost per kg per crop. The average volume handled per player is 26 tons/day for disposers, 5.8 tons/day for wholesalers or buyers, 1.7 tons for terminal wholesalers, and 0.18 tons/day for retailers. For cost-plus pricing, these average marketing costs per kg can be added to the production and marketing cost per kg shouldered by the farmer to comprise the total cost per kg.



Average marketing costs (Php/kg) of fresh highland vegetables, by crop, 2019

Marketing Cost Structure

Labor cost is one of the largest marketing costs for all crops, followed by transportation and stall rent/storage. Labor costs include costs of weighing, packing, sorting/grading, and hauling. Chinese cabbage records the highest labor cost for almost PhP11 kg⁻¹, followed by carrots with PhP9 kg⁻¹. On the other hand, broccoli incurred the largest cost for transportation, followed by cabbage and chayote. A possible explanation to this is that the average volume being handled for broccoli and other “sari-sari” crops are relatively smaller. Stall rent/storage is also one of the major marketing costs for selected highland vegetables since most vegetable traders rent stalls in the trading areas or wet markets. Interest in working capital is also included as a marketing cost since there is an opportunity cost to use of capital. Packaging materials are highest for the brassica or crucifer vegetables such as broccoli, cabbage, and Chinese cabbage, where protective covers are required to minimize fast water loss, and serve as protection.

