



Summary: Agriculture's Contribution to Hawaii's Economy—An Update

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If you inquire about the size of a condominium unit, one person might respond by stating the number of bedrooms, bathrooms, and associated parking stalls. Alternatively, another might state the square-foot area of its interior area and lanai. Both descriptions convey useful but different information.

Likewise, when we describe the contribution of agriculture to Hawaii's economy, we can portray it in several ways. The actual estimates may vary depending on what is defined as "agriculture" and on the methodology applied to develop the estimates.

Here, we define agriculture as including farm production, forestry, fisheries, agricultural services, and food processing, as well as the related distribution margins (transportation, wholesale, and retail) used in delivering agricultural products and services. Then, we summarize and compare three measures of contribution—sales, value added (GSP), and employment—for three benchmark years: 1992, 1997, and 2000. (For more detail on this subject, see CTAHR publication EI-3, *Agriculture's Contribution to Hawaii's Economy—An Update*, available at <www.ctahr.hawaii.edu>.)

Agriculture sales

Sales value is the most common measure of economic activities. It includes the farmgate value routinely reported by the Hawaii Department of Agriculture. Total agriculture sales (farm production, agricultural service, forestry and fisheries, and food processing) decreased from \$2.14 billion in 1992 to \$1.87 billion in 1997 but rebounded to \$1.94 billion in 2000.

While sugarcane sales value declined sharply by 10% annually during the 1992–2000 period, pineapple sales value remained stable at \$102 million after a slight decline in 1997. The continual decrease in sugarcane sales value is largely offset by the tremendous growth in sales value of diversified agriculture (including seed crops, coffee, macadamia nuts, fruits, vegetables, flowers, and nursery products), which increased at an annual rate of 3.8% between 1992 and 2000. Reflecting this trend, the sales value of diversified agriculture jumped from just over 50% of total farm production in 1992 to almost 70% in 2000. Diversified agriculture posted record high sales of \$357 million in 2000.

Value added—the contribution to GSP

An industry's gross state product (GSP) is the value added in production contributed by labor and property. It is equivalent to the value of production minus the value of intermediate goods that producers buy from other producers.

Hawaii's economy as measured by total GSP decreased slightly at an annual rate of 0.8% during the 1992–1997 period, but it rebounded at a yearly rate of 1.7% from 1997 to 2000.

Agriculture's GSP likewise decreased during the 1992–1997 period, at a higher annual rate of 2.3%, but it came back strongly from 1997 to 2000 with a robust annual rate of increase of 2.5%. During this latter period, agriculture's contribution to Hawaii's economy had a higher rate of growth than the other sectors combined. Agriculture, including its distribution margins, contributes 3.1% of Hawaii's total GSP—a fairly constant share since 1992.

Agriculture's contribution to employment

Employment (the number of full and part-time jobs) provides another good indicator in measuring the contribution of an industry to the economy. In 1992, agriculture contributed 4.2% of total employment in the state, but it declined slightly to 3.7% in 1997, before reversing the trend and rising to 3.8% in 2000. When distribution margins are included, agriculture in 2000 contributed over 38,000 jobs, or 5.0% of the total statewide employment.

Alternate methodology

The U.S. Department of Agriculture's Economic Research Service (USDA-ERS) also estimates the impact of agriculture in Hawaii. ERS uses the national input-output table to assess the total economic activity (in terms of value added, employment, and output) in providing food, clothing, tobacco, flowers, and other agricultural products to the final consumers. By this measure, in 1997 the estimated total contribution of Hawaii's agriculture in terms of value added was \$4.72 billion and employment was 114,431 jobs; these correspond to 12.3% of Hawaii's total value added and 15.4% of state employment¹. These estimates are obviously higher than those presented above, primarily due to the much-expanded definition of agriculture used by ERS.

¹Dr. William Edmondson, ERS-USDA, provided the 1997 estimates, the most recent available.

Sales by agricultural sector

