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Does Tourism Destroy Agriculture?

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Tourism changed the structure of Hawaii's agricultural sector without causing its demise. Tourism encouraged diversified agriculture with the resultant production of high valued, non-traditional crops, such as specialty fruits, coffees, nuts, flowers, and nursery products. Landscape services and a host of service enterprises based in agriculture were also stimulated by tourism. This research note details the transformation of agriculture in Hawaii and concludes that tourism brought about extensive, positive changes.

When tourism in Hawaii began expanding rapidly, policymakers were worried that large landowners would sell their sugar and pineapple plantations to land speculators. Zoning legislation enacted in 1961 was largely a response to this threat (DeGrove 1984). Since 1970, approximately 30% of the acreage historically devoted to sugar and pineapple production has been taken out of production. Only a small fraction of the land has been converted to resort or other urban uses, with most lying unused or used for low-intensive grazing (Decision Analysts 1989). In addition to zoning regulations, Hawaii has encouraged agriculture by developing agricultural parks to offer long-term leases to agricultural producers at affordable rates.

The production of traditional crops in Hawaii declined as tourism increased, but the diversified agricultural sector in Hawaii has exhibited strong growth. Fresh pineapples, macadamia nuts, floriculture and nursery products, papayas, and guavas have experienced significant growth in both production and value since the 1960s. The development of Kona coffee as a gourmet-quality product has brought higher prices which offset the decline in production.

It has been shown that tourists acquire new tastes during their vacations, which may prompt them to purchase products of their destination after returning home. Several studies reveal strong influence of a trip to Hawaii on consumer preferences for macadamia nuts, chocolate-covered macadamia nuts, fresh pineapples, papaya nectar, and fresh papayas (Scott and Shehata 1980; Scott and Dik 1981; Scott, Osman and Kanda 1983; Scott and Sisson 1985; Scott, Marcario-Weidman and Sisson). On returning home, visitors often spread these newly acquired tastes through families and acquaintances. This increases the export potential of Hawaii's agricultural commodities.

Improvements in Hawaii's transportation infrastructure, developed primarily for the visitor industry, assisted agriculture exports as well. Exporters of agricultural products in Hawaii have only had to pay the variable costs of transportation while fixed costs are recovered from paying passengers and inshipments (Garrod, Roecklein, Macario and Miklius 1980). Air transportation also opened up distant markets for perishable agricultural commodities.

All export sales of Hawaii's agricultural commodities cannot be attributed

to tourism. However, the exports of fresh pineapples, fresh papayas, and anthuriums increased at the same time and rate as the number of visitors to Hawaii expanded. The large number of visitors to Hawaii and the exotic image cultivated by the tourism industry have increased the domestic and export demand for the state's diversified agricultural crops and associated products.

Landscape services and the services of agriculturally-based leisure attractions, which are sold directly and indirectly to tourists, are important sources of employment and income in Hawaii. Secondary data about the role of these two types of services is sparse and many are unaware of how the firms providing these services are linked to agriculture.

The infrastructure of the visitor industry is beautified by landscape services that are an intermediate service, sold indirectly to tourists. Articles in the popular press and various trade journals indicate that enjoying landscapes is becoming an increasingly important leisure activity (Doyle 1988; Gibbs 1988; Glass 1985). This trend increased the demand for landscape services in Hawaii because tourists have large amounts of leisure time.

Members of the visitor industry may employ landscape service professionals or they may purchase landscape service from an agricultural service firm. For example, resorts often hire employees to supply landscape maintenance activities rather than contracting with an outside firm to complete the work. The in-house employment of landscape service workers by the visitor industry represents a sizable linkage between agriculture and tourism that is generally overlooked because the jobs are generated by nonagricultural firms.

Bartmettler and Prasad (1967) found that 11 firms in 1964 sold landscape services in Hawaii. In 1987, this industry had grown to include 355 firms, employing 4,281 workers. Only part of this landscape industry employment was directly related to tourism. An estimated 15% to 20% of the industry's \$206.73 million in gross sales were to hotels and resorts. Based on these percentages, an estimated \$40.95 million in revenues and 650 jobs can be linked to the visitor industry (Cox, Hollyer and Schug 1991).

Non-agricultural firms in Hawaii that market to tourists also employ landscape service professionals. Golf courses, hotels, and government parks and recreational facilities spent an estimated \$77.38 million on landscape services in 1987 and accounted for 3,415 agricultural jobs (Cox et al 1991). While there are other industries that employ in-house landscape services and are part of the visitor industry, information on these could not be broken out of the available data.

Due in part to a favorable outlook for Hawaii's visitor industry, landscape service occupations are among those projected to exhibit strong employment growth in the near future. Landscape service occupations are expected to account for 85% of the agricultural job openings from 1988 to 1993 in Hawaii (Hawaii State Department of Labor and Industrial Relations 1987).

In addition to the market linkages already discussed, landscape services also provide benefits to the visitor industry, which are difficult to quantify in financial terms. The value of these services, in non-market terms, may be significant to the visitor because of the recreational areas and the emotional well-being (Roberts and Roberts 1988) generated by a well-designed, properly maintained landscape.

There is no consensus on the definition of an agriculturally-based leisure attraction. The definition used in a survey of agriculturally-based leisure attractions in Hawaii was an enterprise that produces and/or processes plant or animals, which also strives to attract visitors to enjoy the agricultural attributes of the operation and its site, and/or to purchase agricultural products produced or obtained by the enterprise (Cox and Fox 1991).

Survey results indicate that in 1988 agriculturally-based leisure attraction

in Hawaii had 6.3 million visitors and total revenues of \$31.9 million (Cox and Fox 1991). Most of the attractions surveyed offered tours, although the revenues generated by tours varied. Plant production and processing tours generated the majority of their attractions' revenues from the sale of goods at retail outlets at the attractions. On the other hand, attractions offering tours of a botanical garden generated the majority of their revenues from the sales of services. Sports activities generated the highest revenue per visitor, while plant production tours generated the least.

The majority of revenues from agriculturally-based leisure attractions surveyed in Hawaii was derived from the sale of services or goods produced on site. This indicates that most of an attraction's economic benefits accrue to the local economy, and lends support to the conclusion that agriculturally-based leisure attractions hold promise as a means of stimulating Hawaii's rural areas. The majority of the attractions surveyed planned to expand their facilities and/or their services in the future. It appears that agriculturally-based leisure attractions will continue to be a positive development for agriculture and tourism in Hawaii.

This investigation into Hawaii's economy indicates that tourism does not destroy agriculture, but can benefit agriculture in many different ways. However, a dynamic agricultural sector is needed in order to accommodate the economic changes brought by a developing visitor industry. As tourism becomes more important in a primarily agrarian area, key decision-makers can facilitate the adjustment process by being aware of the positive potential for change. □□

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• Conference Reports

Building for Tomorrow

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The Society of Travel and Tourism Educators (STTE) held its annual conference from 14 to 17 October, 1993, in Miami. Founded in 1980 with 15 members, the purpose of STTE is to increase professional knowledge of educators in the tourism field through interaction. Today's membership has grown to over 300 with members from all regions of the United States and abroad. The 1993 conference participants were from US, UK, New Zealand, Canada, and Germany. STTE maintains a keen interest in both education and research issues and there were parallel sessions in these two areas.

The theme of this year's conference, *Building For Tomorrow*, was intended to help high school teachers, and their students prepare for the future needs in various tourism sectors. One way the conference addressed these future needs was to sponsor an "Educational Choice Fair," which promoted a closer work-