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INDUCED AGRICULTURAL DEVELOPMENT IN TOURISM-BASED ECONOMIES

by

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INTRODUCTION

A declining agricultural sector is not the preordained outcome of increased tourism because new agricultural-based goods and services induced by tourism may more than offset decreases in traditional agricultural activities. However, the academic literature in general reinforces the perception of the agriculture and visitor industries as being independent sectors in competition with each other for the scare resources of the economy (Belisle).

This paper argues that increases in tourism change the structure of the agricultural sector, but do not necessarily lead to its demise. It contains a discussion of how tourism may stimulate the demand for food and agricultural services and increase the positive externalities received by society from farmland. The concluding section includes a discussion of the need for a comprehensive research program to investigate all the direct, indirect, and non-market aspects that make up the linkages between the agriculture and tourism sectors.

FOOD PRODUCTION AND THE VISITOR INDUSTRY

The perception that an increase in tourism causes a decline in agriculture stems from evidence that as tourism grows, a larger proportion of food is imported (Latimer). Hope's study of the decline in trade balances for agricultural products and agricultural's share of exports in the CARICOM countries of Barbados, Guyana, Jamaica, and Trinidad and Tobago also supports these conclusions.

This focus on agriculture's share of trade in light of increases in tourism has painted an overly pessimistic picture. The data used by Hope and Latimer show, or in some cases suggest, that while agricultural imports increased, domestic production also increased. A relative decline in the agricultural sector is well accepted by development professionals to be an inevitable part of modernization; it is an indicator of economy's progress rather its decline. Looking at the role of agriculture on its own terms is more revealing and provides a more realistic assessment of agriculture's performance.

Recent research indicates that agriculture will respond to an increase in tourism, albeit with difficulty (Latimer). Imported agricultural products may have a competitive advantage. However,

in some cases, domestic production can succeed if improved marketing relationships between producers and others are established. Food marketers need a consistent supply of high quality produce, and they may be unaware of the possibilities for utilizing local produce. The diversified agricultural sector in the early stages of development is composed of small, unorganized farmers inexperienced in dealing with the visitor industry and uninformed about appropriate marketing practices. A major transformation of this sector is required to meet new requirements demanded from the visitor sector.

Besides the changes required in marketing practices, a growth in tourism may also have resulted in a change in the mix of agricultural products demanded. While the rising costs of labor and land may have contributed to the decline of agricultural competitiveness in Caribbean and Pacific island economies experiencing a tourism boom, other evidence suggests that a long term decline in sugar, bananas and pineapple may have been inevitable for these areas (Latimer). Rising competition from lower cost producers and close product substitutes would likely have produced a decline in the production of these cash crops, irrespective of the visitor industry. The decline in the relative importance in the traditional crops did force producers to look to other alternatives, including food products demanded by tourists. Thus, tourism may have hastened the demise of cash crops, but, at the same time, stimulated the growth of diversified agriculture which has a higher return per acre.

Demand Induced by Tourism

In addition to the increase in food consumption caused by the increase in the de facto population, the tourist may acquire new tastes during his stay, which may prompt him to purchase products from that area after returning home. For instance, consumer demand studies reveal the strong influence of a trip to Hawaii on a consumer's preference for dry-roasted macadamia nuts, chocolate-covered macadamia nuts and papayas (Scott). The returned visitor/consumer may also expose others to these new and unusual products.

More organized and directed efforts, such as promotional programs for tourism and agricultural products, also produce positive externalities. Tourism promotional activities often highlight agricultural production and processing, which can translate into increased demand for export products. Agricultural promotional efforts simultaneously advertise the physical and cultural attractions of the area, often resulting in an increase in visitors.

Additional types of positive externalities are also possible. For example, agriculture in Hawaii has benefited from marginal cost pricing policies for both air and ocean transportation. Shippers of agricultural products only pay the variable costs, while fixed costs are recovered from passengers and imports (Garrod et al.).

AGRICULTURAL SERVICES

Agricultural services are an important, but overlooked, source of employment and income in tourist economies. According to the 1978 Census of Agriculture, there are six agricultural service industry groups. Ordered by their relative gross receipts, they are: landscape and horticultural services; crop services; veterinary services; farm and management services; animal services, excluding veterinary services; and soil preparation services services. At least two, landscape and horticultural services and animal services, include services purchased directly or indirectly by visitors. For example, stables selling trail rides would be counted a firm providing animals services, while a hotel or retail shop would purchase landscape and horticultural services in order to beautify the area and attract clients.

Many agricultural-based attractions also market products and provide services directly to visitors. Tours of wineries and botanical gardens are just two of the many possible points-of-interest. Because these attractions are not traditionally defined as agriculture, research has tended to ignore this linkage.

Landscape and Horticultural Services

In 1978, landscape and horticultural services accounted for $2.64 billion in gross receipts for the entire nation. The Western Region accounted for the largest share of this leading service category (U.S. Department of Commerce). There are three basic activities performed by landscaping sector participants: the design, installation, and maintenance of landscapes. Individuals engaging in all of these activities need basic knowledge about agriculture before they can function effectively. Previous research has not analyzed the economic contribution of the sector as a whole. For example, several studies have been completed on the economic value of turf grass maintenance, ignoring the design and installation costs associated each type of landscape (Indyck et al.; Oklahoma State University).

While the design and installation of landscapes may be viewed as an investment which is expected to yield a return of some sort, continual maintenance of landscape is necessary to prevent the landscape from depreciating. There are many natural landscape which have not been designed and installed by man, such as national parks, but still require continued maintenance.

Measuring the expected return from an investment in landscaping is difficult because the problems associated with quantifying the benefits from the investment, many of which may be extra-market. However, the nature of the expected benefits have been widely discussed. They include: enhancing a facility's appearance; reducing sound transmission; increasing privacy (Brickman); recharging water systems (Golf Course Management); increasing productivity of employees (Mueller) and students (DiGeronimo and Gustafson; Robertson); containing fire (Flynn);

supplying cut flowers, foliage, herbs and spices (Sullivan); reducing heating and cooling costs (Consumers' Research), controlling water and wind, providing oxygen, reducing air and water pollution, reducing glare controlling allergies, providing recreation areas, and making clients and the general population feel better (Roberts and Roberts; Ulrich).

On-going research at the University of Hawaii has found that employment from 1974 to 1985 in Hawaii in landscape and horticultural services has been increasing, while, over the same time period, employment in agricultural production industries has been decreasing. Evidence indicates that resort hotels have been increasing their expenditures on landscape design and installation during recent years. Workers which provide in-house landscaping services are a very significant portion of the total employment in landscaping (Cox and Hollyer). Hotels, golf courses, and real estate management firms are the largest source of in-house employment.

Primary data collection also indicates that landscape and horticultural services is the highest valued agricultural activity in Hawaii, if the value of all those hired by a non-agricultural businesses are included. However, relative comparisons are difficult to make because there are differences in the point in the marketing channel at which values are measured.

Agricultural-Based Leisure Attractions

One linkage between agriculture and tourism which has not, to a large degree, been investigated is the agricultural-based leisure attraction. There are many different attractions of this type found all over the world. A definition developed at the University of Hawaii to determine which sites would be included in surveys is:

> An agricultural-based leisure attraction is a site at which one of the owner's objectives is the cultivation and/or raising and/or processing of plants and/or animals, and where a concurrent objective is to attract visitors to the site to spend time and/or money to enjoy attributes (services) of the site and/or to consume or purchase products (goods) produced at the site.

One such type of activity is referred to as farm tourism. Much of the research on farm tourism has been done in Europe, where it is well established. The farm accommodations may range from a few rooms or camping sites to specially built accommodations. In some countries, farm tourism caters primarily to families with children; in others it is the search for individual and unique types of holidays providing activities in isolation and quiet (Dernoi).

As reported by Dernoi, Sweden has the highest percentage of farms offering accommodations (20 percent), followed by Austria (10 percent), England and Wales (8 percent), Scotland (6 percent) West Germany (4 percent) and France (3 percent). Many European

governments explicitly promote farm tourism through tax incentives, government loans, and marketing assistance. Farmers can use previously unemployed resources, including family labor, unused land, and under utilized buildings. Farm tourism may boost sales of agricultural products and the farm enterprise may enjoy a boost in productivity and equity.

Research in England (Frater) shows that four main factors influence the farmer's decision to provide accommodation:

1) to increase annual income (35%)
2) to enjoy the company (25%)
3) to offset a falling income from agriculture (20%)
4) to utilize disused resources (16%).

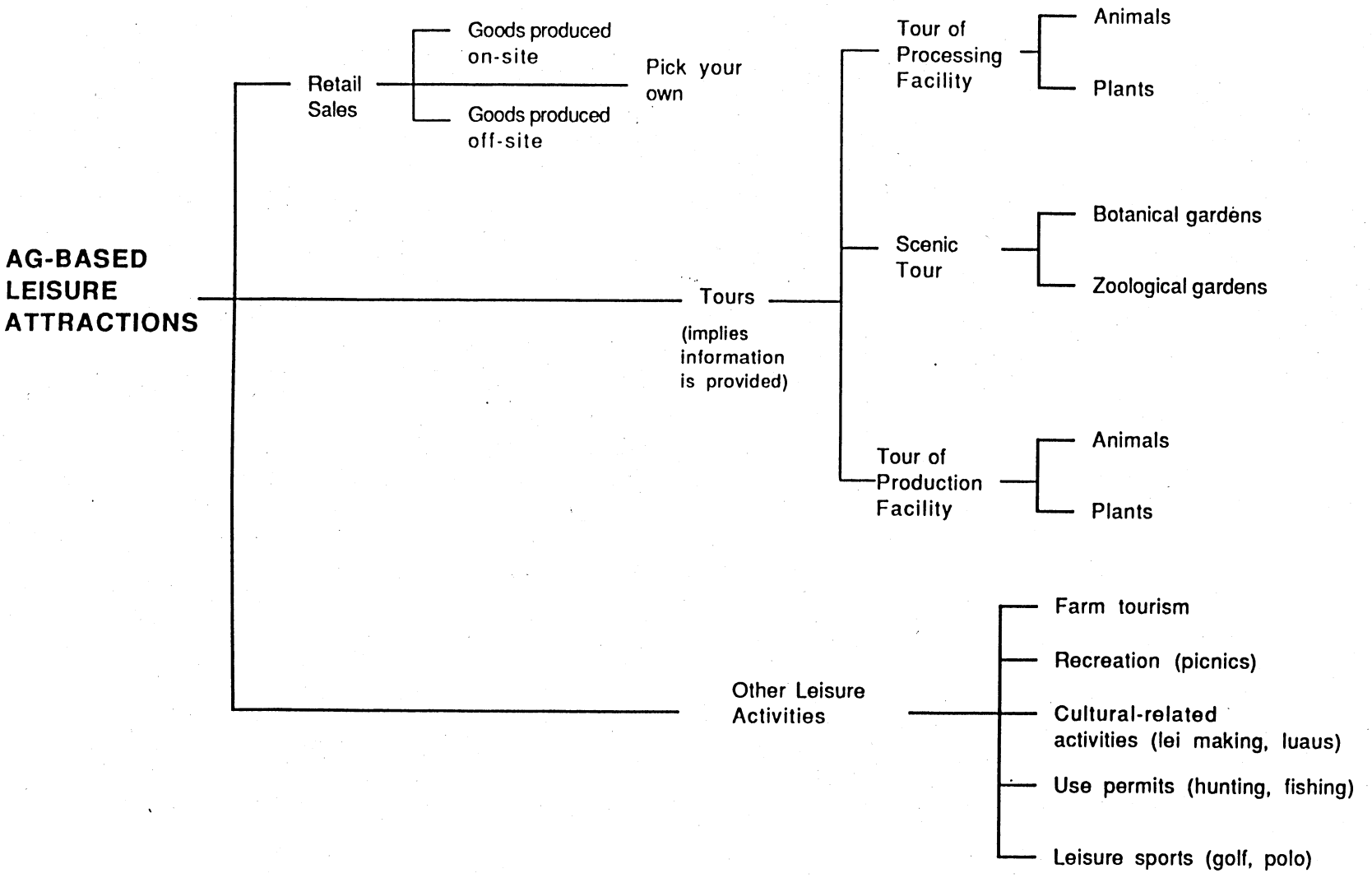
The same research shows that the commonest form of accommodation is bed and breakfast (60%).

There are many other types of attractions which have largely been ignored by researchers. Figure 1 illustrates the diverse nature of these attractions. There are three major types of attractions that have a base in agriculture: tours in which information is provided to the visitors, other leisure activities in which information is not provided to the participant, and retail sales of goods produced or processed on-site.

The extent to which such attractions are based on agriculture is varied and controversial. A tour of a production or processing facility, such as the Dole Pineapple Pavillion in Hawaii, has a strong link to agriculture. The self-guided tours of botanical gardens, zoos, and marine parks that many people take in their leisure time may not be considered by some to be agriculturally-based. However, given that resource economics is included in many agricultural colleges across the nation, this broad definition of agriculture is not viewed as being inconsistent with existing schools of thought.

Other leisure activities may be based in agriculture, but the participant is provided little information about agriculture. One example of an attraction of this nature is Waimea Falls Park in Hawaii which provides access to natural and cultivated scenery, but also features activities which were integral parts of early agrarian cultures, such as retrieving and opening a coconut and stringing leis. However, there is no definitive point at which one activity is deemed as providing information, while another is not, it is simply a matter of degree.

Figure 1. AGRICULTURAL-BASED LEISURE ATTRACTIONS



A retail outlet may be located at or near agricultural production or processing facilities. Retail sales are often a major source of revenue, sometimes supporting tours or other on-site activities that might be unprofitable by themselves. However, in many cases, the majority of the revenue may come from the sales of goods produced off-site. The direct sales may also aid the market development efforts of many site owners.

Common to all the attractions is the desire of the visitor to learn more about or experience esthetic pleasure from various agricultural activities. To entice the visitor to stay longer, which is a prominent policy in tourist destination areas, activities must be developed to supplement present activities. Many visitors are genuinely interested in the lifestyles and environments of the areas they are visiting. Agricultural services should not be overlooked, either as profit-makers themselves, as vehicles for marketing products, or as not-for-profit methods of generating visitor satisfaction.

POSITIVE EXTERNALITIES OF AGRICULTURAL FARMLAND

Agriculture can provide a positive externality to the tourism sector in the form of aesthetic views. Sargent states that, "it has long been recognized that to maintain agriculture in rolling country is to maintain scenic qualities, and that when agricultural land grows up to brush or forests, or is developed for urban uses, the aesthetic value is reduced." The basis for a framework to value the aesthetic amenities of agricultural landscapes can be found in disciplines such as urban and environmental planning. It would include such factors as the nostalgic value of the crop or farming method, texture of vegetation, presence of man-made structures, and presence of water (Zube, et al.)

Environmental resource economists have used contingent valuation techniques to measure the value of open space, and scenic and recreational areas. Pitt et al. show the large difference in such values in various cultural settings. For example, the public value of a grain field was $116 per acre in Sweden, while in Georgia it was only $13 per acre. The accuracy and interpretation of such values can be debated, but public support of agriculture should be highly correlated with the amenity values attributed to farmland.

Measuring the scenic value of farmland in tourist economies, by surveying both the resident population and visitors, would provide useful information. The size of the external benefits agriculture bestows upon the tourist industry, for which it may receive no direct compensation, could then be determined. Knowledge of the aesthetic values of agricultural land will be useful to land use planners, policy makers, and agriculture and tourism industry as they develop policies affecting both sectors.

CONCLUSIONS AND IMPLICATIONS FOR RESEARCH

This paper has argued that previous researchers have used too narrow a definition for agriculture in investigating the relationship between agriculture and tourism. There are strong positive linkages between the two sectors and agriculture can gain from a symbiotic relationship with tourism. A declining agricultural sector is not the preordained outcome of increased tourism, although some traditional agricultural activities may decrease. New agricultural-based goods and services induced by tourism may more than offset such decreases.

There is a need to investigate the linkage between the two sectors more comprehensively. A developmental approach could provide a theoretical framework for analyzing the ways in which the two interact. The dynamics of the relationship may evolve through several key stages of development and integration, similar to Rostow's schema.

A thorough research program should qualify and quantify, where possible, the direct, indirect, and non-market aspects of the relationship between the two sectors. This paper contains a discussion of three possible areas for further study. These include the demand for food and agricultural services and the positive externalities of farmland.

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Scale Economies, Agglomeration Economies and the "Cumulative Causation Hypothesis" Implications for U.S. Rural Development

Bruce A. Weber and Binayak Bhadra

During periods of economic history when regions are converging economically, economic theories that emphasize equilibrating mechanisms (factor mobility, relative price differentials) tend to dominate economic thinking. The existence of pockets of economic disadvantage in such theories is explained by imperfections of various kinds, which are seen as progressively disappearing as these imperfections are reduced through government policy and technological change. The regional economic experience of the United States in the half-century preceding the late 1970s was one of convergence. Per capita incomes of states (Coughlin and Mandelbaum, 1988), regions and metropolitan and non-metropolitan counties became more equal during the period from 1929 to about 1978. (See Table 1)

This half century trend of convergence of regional per capita incomes ended in the late 1970s. "Since 1978," according to Coughlin and Mandelbaum, "this trend toward greater income equality across states has been sharply reversed; by 1987, state per capita income inequality had risen back to its 1966 level" (1988, p. 24). Table 1 shows the spread among regional per capita incomes and between metro and nonmetro per capita incomes has increased as well. This decade-long reversal of a 50 year trend has persisted long enough to challenge the continued uncritical use of the neoclassical model in explaining regional growth patterns.

Table 1. U.S. Regional Per Capita Incomes as Percent of National Average: 1929-87

Regions	1929	1939[b]	1949[c]	1959	1969	1979	1987[d]
New England	125	127	105	109	110	104	120
Middle Atlantic	139	132	115	114	113	106	114
E.N. Central	114	111	109	107	105	104	98
W.N. Central	82	82	95	92	93	99	96
S. Atlantic	65	77	82	84	90	91	97
E.S. Central	50	49	63	69	73	79	77
W.S. Central	62	66	85	83	83	93	85
Mountain	83	88	98	94	89	95	89
Pacific	129	130	122	118	115	114	111
Spread[a]	89	83	59	49	42	35	43
Metro/Nonmetro Counties							
Metropolitan	127	124	114	111	108	106	107
Nonmetropolitan	56	58	71	73	78	81	77
Spread[a]	71	66	43	38	30	25	30

[a]/Percentage point spread between highest and lowest (metro/nonmetro) region
[b]/1940 for metro/nonmetro
[c]/1950 for metro/nonmetro
[d]/1986 for metro/nonmetro

Source: Bureau of Economic Analysis, 1988a, 1988b; Strong and Weber, 1986.

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