THE ECONOMIC IMPACT OF TOURISM IN KIRIBATI

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The Republic of Kiribati has recently begun to consider tourism development as a means of generating much needed foreign exchange and expanding employment opportunities. Following a brief description of the demand and supply characteristics of the industry, the role that tourism plays within the Kiribati economy is considered. A multiplier model focuses attention on the effects of visitor expenditure on income, employment, and government revenue generation. Differential multipliers reveal the degree to which different sectors and types of firms are able to contribute to local income and employment generation. The conclusion provides a brief overview of the planning and development implications of the findings.

Tourism is an important source of foreign exchange, government revenue, and employment for many small island states around the world. Within the South Pacific region the development of air links has allowed some of the most isolated of these microstates to embark on tourism development strategies (Milne 1990b). Tourism is assumed to bring a range of economic benefits to these nations, most of which face binding economic constraints imposed by limited resource bases and isolation from major trading partners (Crocombe and Rajotte 1980, especially Rajotte 1980; Shand 1980; Milne 1987a; Browne 1989). The problem of isolation is overcome, to a degree, by tourists traveling to the "product," while the resources sought are often renewable and inexpensive to provide; for example, sun, sand, and sea (Finney and Watson 1977; Cleverdon 1979).

It is, however, the perceived monetary and employment benefits associated with tourism that attract the eye of both public-sector planners

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and private developers. Tourists bring foreign exchange, which can improve the balance of payments and also create higher levels of intermediate demand--the multiplier effect. In addition the relatively labor--intensive nature of the industry means it is viewed as a major factor in increasing employment opportunities. The industry can also help to diversify the structure of the economy, balance regional disparities in income and employment, and provide important contributions to government coffers through taxes, duties, licenses, and fees.

Tourism brings with it a number of economic costs, though. Many tourists demand certain imported goods and services, causing some tourist revenue to leak from the economy. Consequently the local income generated by tourism is often only a small proportion of total tourist spending (Archer 1977, 1982; Varley 1977; Milne 1988b, 1990a, 1990b). The benefits of employment generation may be reduced because managerial positions often require skills that are not available in the local labor market (Samy 1975; Macnaught 1982). In addition the large amounts of money and expertise required to establish and operate international tourist facilities often necessitate high levels of foreign ownership and control in the industries (Britton 1982; Milne 1987b).

Natural disasters, political unrest, economic downturns in major tourist markets, the changing flight schedules of international airlines, and other exogenous factors will also affect the performance of tourist sectors (Britton and Kissling 1984; Milne 1990b).

Despite the range of potential negative impacts associated with tourism development, several Pacific island microstates actively promote the industry within their overall economic development strategies (Milne 1990b). This article focuses on the Republic of Kiribati and the economic impacts associated with its tourist sector, first presenting an overview of the nation's economic characteristics and the tourist industry's current structure, then analyzing the role that the sector plays within the national economy. The downstream effects of tourist expenditure on income, employment, and government revenue generation are analyzed by means of an economic multiplier model. Differential multipliers show the varying degrees to which different sectors and types of firms are able to contribute to income and employment generation. The final section deals with planning implications of the findings.

Kiribati: An Economic Overview

The Republic of Kiribati comprises three clusters of islands--the Gilbert, Phoenix, and Line groups--and stretches across the central

Pacific on both sides of the equator and the international date line. The Gilbert group consists of seventeen islands with a land mass of 270 square kilometers and is the home for 96 percent of the country's estimated 64,000 residents. The main island of the group is Tarawa. South Tarawa has a population of 21,400 and is also the main government center and focus of economic activity. The Phoenix group lies 1,600 kilometers to the east and is largely uninhabited. Within the Line group, which is situated 3,000 kilometers to the east of Tarawa, only the northern islands of Fanning, Washington, and Kiritimati (Christmas Island) are populated (1,700 residents) (Ministry of Finance and Economic Planning 1987a, 1987b; Browne 1989:61-62). The widely scattered island groups mean that the republic's 200-mile economic zone covers an area of over 3 million square kilometers (Browne 1989:61-62). With the exception of Banaba all the islands are low-lying atolls no more than 200 to 300 meters wide, ranging in length from 15 to 100 kilometers. Most islands are less than 4 meters above sea level with only shallow topsoil and low water-holding capacity. Shallow lagoon formations in the center of the atolls are common.

Life expectancy currently stands at fifty-three years and health and education facilities are limited and poorly equipped (Browne 1989:61). Kiribati's population increased by 14 percent between 1978 and 1985, with the Gilbert group bearing the bulk of the increase. Within this group the population density averages 214 persons per square kilometer. Density levels on South Tarawa rise to 1,357 per square kilometer (Statistics Office 1988). Population growth looms as one of the major problems facing the country in the future.

The republic remains a predominantly rural society with most of the population depending on subsistence activities. Of the indigenous population of 59,000 (1988) only 6 percent were involved in the cash economy, so village work remains the main economic activity. Public-sector employment accounts for nearly 75 percent of all cash employment. Most employment and education opportunities are situated in South Tarawa and as a result there is considerable migration to the atoll (Statistics Office 1988).

The republic's economy is characterized by a limited resource base and lack of formal-sector employment. Until the late 1970s Kiribati's major source of formal-sector economic activity was phosphate mining on Banaba. Following the demise of the phosphate industry export revenue declined 80 percent and government revenue and real GDP declined 50 percent (Browne 1989:62). The 1980s have witnessed wide fluctuations in export earnings but the general trend has been down-

ward since phosphate exports ceased in 1979. Estimates for 1986 point to total export earnings of A$2.5 million (down from A$6 million in 1985). The major export earners are fish (A$1.7 million) and copra (A$450,000). The former is a relatively new industry that as yet has limited value-added capacity; the latter faces extremely low world prices and a bleak future. The annual average value of imports is approximately A$21 million, leaving a visible trade deficit of A$19 million (Ministry of Finance and Economic Planning 1987a; Statistics Office 1988). Australian currency is used in the republic.

The imbalance in visible trade is, to some degree, overcome by the flow of service and transfer receipts into the country (Bertram and Watters 1984:241-244; Browne 1989:63-64). Service receipts are made up mainly of fees obtained from foreign fishing enterprises and interest on government investments. Remittances from I-Kiribati working abroad play an important role in the economy but official aid transfers provide the most substantial monetary input. In 1986 official transfers were valued at approximately A$18.5 million (Ministry of Finance and Economic Planning 1986-1987).

Thus Kiribati is characterized by a "MIRAB" economic structure--migration, remittances, aid, and bureaucracy (Bertram and Watters 1985). The nation's limited resource base cannot hope to provide the levels of revenue once generated by the phosphate industry. The result has been a continuation of limited levels of primary or secondary economic activity, a major visible trade imbalance, and limited formal-sector employment outside the government. The resulting economy is highly dependent upon remittances and especially overseas aid. It is important to note, however, that aid flows are by no means stable-a reflection of often worsening economic conditions in many of the main donor nations.

The desire to bolster tourism's status within the economy stems from the range of economic problems that face the country. The recent Kiribati Tourism Development Plan lists several objectives for future development of the tourism sector; central of these are: to achieve a rate of tourism development consistent with the absorptive capacity of the economy, to stimulate growth in support industries that will maximize the benefits of tourism spending, to ensure maximum participation of I-Kiribati in tourism development, to maximize the social benefits of tourism and minimize the conflicts with the existing lifestyle of the I-Kiribati, and to preserve and enhance the natural resources and assets of Kiribati and provide an environment in which tourism will grow naturally (Ministry of Finance and Economic Planning 1987b).

Tourism: Demand and Supply

Tourism clearly offers a distinct alternative to an economy based on an extremely limited resource base. In fact, growth of the industry could encourage further development of local agriculture if greater use of local produce is made. In addition tourism, being a relatively labor-intensive industry, has the potential to provide jobs in what is, at present, a labor-surplus economy.

The industry is only in its infancy. Total tourist arrivals remain limited and few tourist facilities have been developed. Development of tourism remains constrained by a variety of factors. Although a lack of marketing expertise and expenditure limits the profile of the country as a tourist destination, the major constraint is the lack of air links with potential markets. Apart from a small-capacity weekly Airline of the Marshall Islands flight from Fiji that continues on to the Marshall Islands and a weekly flight to Kiritimati from Honolulu, the main link is through Air Nauru, which has operated a Boeing 737 service to Tarawa for some time. This provides indirect links to the Solomon Islands, New Zealand, and Sydney; however, all passengers must stop over in Nauru. Furthermore, at the time of the author's visit to Tarawa in mid-1988, Air Nauru was in the midst of a major dispute with its pilots, leading to the cancellation of the weekly B-737 flight, which clearly exposes the precarious position of the current air link. The local Kiribati airline (Air Tungaru) has run some international flights in the past but is now purely an internal operator within the Gilbert group.

Total tourist air arrivals to the two ports of international entry in Kiribati (Tarawa and Kiritimati) have increased from 2,085 (1981) to 3,201 (1987) (Table 1). Kiritimati is playing an increasingly important role within the tourist industry; while it accounted for only 19 percent of all tourists in 1980 it attracted 29 percent in 1987. It should be noted

TABLE 1. Kiribati Air Visitor Arrivals, 1980-1987

	Tourists						
Destination	1981	1982	1983	1984	1985	1986	1987
Tarawa	1,679	1,880	2,102	2,025	1,943	2,026	2,031
Kiritimati	406	478	398	961	824	880	1,170
Total	2,085	2,358	2,500	2,986	2,767	2,906	3,201

Source: Adapted from Milne 1988a:8, fig. 2.

that these figures exclude seaborne tourists, a category that in 1986 comprised 149 persons, all of whom arrived in Tarawa (Statistics Office 1987; Milne 1988a).

The flow of tourists to Tarawa is characterized by a lack of marked seasonality. The peak months fall between July and September with another small increase in December. The pattern of tourist arrivals to Kiritimati shows more fluctuation. The high season is January to April with a marked low period from September to November. Tarawa and Kiritimati also differ markedly in terms of the markets they cater for. Nauru is the dominant source of tourists to Tarawa (20 percent in 1986). Because of the close links between the two countries the majority of Nauruan tourists will stay with friends and relatives rather than in tourist-sector accommodation. Similar circumstances surround arrivals from Tuvalu (11 percent in 1986). These two markets are characterized by a large majority of pleasure tourists (Statistics Office 1987)

The other major markets, of which Australia and New Zealand are the most important, are characterized by a large number of business (official, professional, and conference) travelers. The composition of the Kiritimati market is less complex: pleasure visitors from the United States accounted for approximately 80 percent of all tourists in 1986; if US scientists and business travelers are added the country's share of the Kiritimati market rises to nearly 90 percent. The only other significant market is Japan. The average length of stay on Tarawa is 11.5 days compared to 7 days on Kiritimati (Statistics Office 1987).

Low levels of demand are reflected in the limited development of tourist-oriented infrastructure in Kiribati. There are currently thirty-two rooms of a quality suitable for tourist needs available on Tarawa, twenty-two in the government-owned Otintaai Hotel and ten in the privately owned Hotel Kiribati. The Otintaai Hotel is currently undergoing major redevelopment; the old eight-room wing has been demolished and twenty rooms are to be added to give an islandwide total of forty-two rooms by mid-1990. The owners of the Hotel Kiribati have progressed into the advanced planning stage for a new thirty-room hotel to be situated near the new Betio causeway.

Other accommodation is provided by the twelve-room Seaman's Hostel, which at present is below the standard considered acceptable even by budget-minded Western tourists and acts as a stopgap facility in the event of the hotels being completely booked. The Robert Louis Stevenson Hotel (four bungalows) is located 152 kilometers southeast of Tarawa on the atoll of Abemama and is reached via a thirty-minute flight on Air Tungaru.

There are a scattering of small restaurants and clubs throughout Tarawa but most tourists tend to eat and drink within hotel confines. Land transport is available through two rental-car operations, the local bus network, and a small bicycle/motorcycle rental operation. Some snorkeling and diving equipment is available for hire and trips on the lagoon can be arranged through local canoe owners. Shops are plentiful but offer an uninspiring range of goods. Although high quality handicrafts are for sale the outlets are poorly maintained and difficult to locate.

Accommodation on Kiritimati is provided by the Captain Cook Hotel (thirty-six rooms), which is government owned but managed under contract to a private operator. The hotel offers a variety of activities to its guests but concentrates on organizing fishing expeditions. The only separate tourist-based operation is a privately owned rental-car business.

The limited development of tourist facilities in the republic is also a reflection of the fact that much of the necessary entrepreneurial capital and expertise required to expand the sector is not available locally.

Methodological Approach

In attempting to maximize the economic benefits accruing to the local population from tourism development Kiribati planners need detailed information on the way in which the industry is linked to other sectors of the economy. At the same time it is important to ascertain the degree to which income and employment potential varies between sectors and subsectors of the industry. Although data on total tourist expenditure are important they do not provide a detailed picture of the real prosperity created by the industry. This is because businesses that receive tourist dollars often spend or invest a portion of the revenue outside the country. Planners need to know how much expenditure leaks from the country in the form of imports, overseas debt repayments, and repatriated wages and profits.

The most complete approach that can be taken to measuring these linkages involves the use of an input-output (I-O) table. Unfortunately the absence of comprehensive national-accounts statistics makes the construction of such a table for Kiribati a time-consuming and expensive exercise. As a cost-effective and efficient alternative this study utilizes an adapted Keynesian multiplier model. The remainder of this section provides a simplified explanation of the approach; detailed descriptions of the model and its applicability to the study of tourism in small island nations are in Milne 1987a, 1987c, 1990a.

To make the model operational it is first necessary to measure tourist expenditure and break it down into various categories--for example, accommodation, handicrafts, and transport. When a tourist spends money in a tourist-sector enterprise a part of the sum will quickly be turned into jobs, income, and government revenue. This is the direct economic impact of tourism. The remainder of the sum will be spent on necessary supplies and services for the operation of the firm and is thus passed on to the suppliers of these items. Where these suppliers are located within the country they will, in turn, generate more income and employment before passing the remainder on to their own suppliers (the indirect effect). Similarly, when local residents who have received this income spend their money within the region it will create a further round of income and employment generation (the *induced effect).* It is the leakages that limit the size of the multiplier; the larger the proportion of financial flows that leave the country, the less the economic benefit and hence the lower the multiplier.

Thus, by combining the size and pattern of tourist expenditure with the capabilities of the various sectors to generate income and employment, it is possible to present a measure of the overall impact of tourist expenditure within the country. Income and government revenue multipliers are presented as a proportion of an initial A$1 of tourist expenditure; an income multiplier of 0.25 indicates that for every A$1 spent by tourists 25¢ of local income is generated. Employment multipliers indicate the number of jobs created per A$l0,000 of tourist expenditure.

A survey of all tourist facilities and ancillary supply industries on the atoll of Tarawa was carried out during May 1988 (Milne 1988a). The Tarawa survey was supplemented by additional audited information acquired from facilities on Kiritimati and Abemama. Interviews were also conducted with relevant public-sector authorities. The excellent coverage of the industry provided accurate information on industry revenues and cost structures.

Tourist Expenditure

Data collected during the business survey allow basic estimates to be made of total tourist expenditure and how it is divided among various sectors. The survey requested that participants estimate the proportion of their revenue that was derived from direct tourist expenditure in 1987. The data have been standardized to account for differing financial years. Although these data are obviously open to some discrepancies

they provide the most accurate assessment of tourist expenditure in Kiribati to date. As more than 95 percent of tourist-sector and ancillary operations were surveyed, confidence in the figures appears to be warranted (Milne 1988a).

It is estimated that tourist expenditure totaled approximately A$1.27 million in 1987 (Table 2). The dominance of accommodation establishments reflects the lack of other tourist attractions. In other words there is simply not a large range of activities and establishments to attract tourist expenditure outside the hotel confines. The tourist industry compares more than favorably with the export sector, the other major contributor to visible foreign-exchange earnings (A$2.5 million in 1986). For the purpose of the following discussion the expenditure patterns in Table 2 will be used as the average for all tourists.

Differential Multipliers

The ability to generate local income and employment out of tourist expenditure varies widely among the various tourist and ancillary sectors found in Kiribati. An analysis of how these generational capabilities vary between and within sectors provides important information for planners who wish to encourage a balanced economic development that will maximize the generation and dispersal of the industry's economic benefits. At the direct (or first-round) level of income generation (IG) and employment generation (EG) the most important determinant of coefficient size is the degree to which sectors are characterized by labor-intensive operations. For example, labor-intensive tourist sectors such as accommodation and handicrafts will generally exhibit relatively

TABLE 2. Estimated Visitor Expenditure, 1987

Sector	A$	%
Accommodation	1,090,000	85.7
Rental	47,000	3.7
Internal Air	30,000	2.4
Handicraft	27,500	2.2
Supermarket/wholesale	25,000	2.0
Small shops	5,000	0.4
Small restaurants	4,000	0.3
Other	42,000	3.3
Total	1,270,500	100.0

Source: Milne 1988a: 13, table 1.

high coefficients. Also important is the degree to which profits tend to be retained in the local economy.

Kiribati has extremely small manufacturing and service sectors and as a result indirect coefficients for the tourist sector are relatively low. This is because many of the goods and services required by the industry must be imported rather than purchased locally. The propensities of different sectors to import on the first round of expenditure range from 74 percent for the supermarket/wholesale sector to zero for the handicraft sector, small shops, and the hostel operation (Table 3).

Sectors with high first-round import propensities are weakly linked to the local economy, add little value to imported goods, and as a consequence show relatively low indirect IG and EG coefficients. It is important to note that within the accommodation sector first-round import propensities range from 61 percent (for the Kiritimati hotel) to zero for the hostel operation. The operation on Kiritimati has overseas management (leading to a degree of profit repatriation) and is forced to import most of its goods and services from outside Kiribati due to its isolation and the relative proximity of US suppliers.

In calculating the induced component of the multiplier it is necessary to know how much money earned by residents is used for consumption (the average propensity to consume) and what the actual pattern of consumption is (food, rent, electricity, and so forth). As there are no such data available for Kiribati, estimates were based on consultation with members of the Statistics Office and by drawing comparisons with data from other small Pacific island states. The average propensity to consume was estimated to be 85 percent of earnings and patterns of expenditure were fixed at levels similar to those in comparable island states;

TABLE 3. Propensity to Import on First Round of Expenditure

Tourist Sector	% of First-Round Expenditure Outside Kiribati
Handicrafts	0.0
Small shops	0.0
Hostel	0.0
Small restaurants	3.0
Rental	26.7
Internal air	31.0
Hotels (Tarawa)	50.0
Hotel (Kiritimati)	61.0
Supermarket/wholesale	74.0

Source: Milne 1988a:14, table 2.

these figures were then assumed to be constant across the population receiving incomes directly or indirectly from tourism. Tests designed to measure the sensitivity of the multiplier model to variations in these estimates revealed only slight sensitivity. Thus, though caveats must be attached to the estimates, the overall impact on the multiplier model of varying their values is minimal.

Income Generation Coefficients

Total (direct and indirect) IG coefficients for the tourist sector range from 0.74 for the handicraft sector (74¢ of every dollar of revenue earned by this sector becomes local income) to 0.27 for the hostel and supermarket/wholesale sector (Table 4).

While it is important to compare the performance of different sectors it is also enlightening to make comparisons within sectors. In general the tourism literature has reached the conclusion that small, simply organized, locally owned businesses exhibit stronger links with the local economy and 'are characterized by larger IG and EG coefficients than their larger (sometimes overseas-controlled) counterparts (Liu and Var 1982; Milne 1987a, 1988b). A comparative analysis within the accom-

TABLE 4. Differential Income, Employment, and Government Revenue Generation Coefficients

	IG		Total EG		Total GRG	
Tourist Sector	Direct	Total	S[a]	US[b]	T[C]	NT[d]
Handicrafts	0.54	0.74	1.48	5.61	0.21	0.20
Small shops	0.17	0.27	0.41	0.52	0.21	0.15
Small restaurants	0.20	0.40	0.72	0.81	0.34	0.20
Rental	0.32	0.50	0.75	0.79	0.21	0.18
Hostel	0.08	0.27	0.62	0.68	0.23	0.17
Hotel (Tarawa)	0.23	0.40	0.80	0.90	0.34	0.21
Hotel (Kiritimati)	0.21	0.32	0.63	0.70	0.31	0.14
Internal air	0.16	0.29	0.49	0.53	0.34	0.28
Supermarket/ wholesale	0.15	0.27	0.24	0.28	0.22	0.15

Source: Milne 1988a: 15-18.

[a] Standardized job creation.

[b] Unstandardized job creation.

[c] Trading (all government functions such as electricity generation, postal, MOW trading, liquor sales) plus nontrading functions.

[d] Nontrading (excludes above trading functions).

modation sector, however, reveals a high degree of variation in the ability to generate income from tourist expenditure. The hostel performs poorly; this is a direct consequence of the fact that at present it is basically a drinking club with accommodation as a secondary activity--thus labor intensity is not a characteristic of its cost structures. At the direct level the three hotels vary little but the higher import leakage of the Captain Cook Hotel (and the regional Kiritimati economy as a whole) is reflected in the lower indirect and induced components (the difference between the total and direct figures is presented in Table 4).

Employment Generation Coefficients

Because of the importance of part-time work in the tourist industry, assessments of employment creation (and hence potential labor-force demand) cannot be limited to full-time jobs. It is necessary to standardize measures of employment creation by converting part-year and part-time job opportunities into comparable standard units. Here four general categories of employment (with weightings) are used: full-time permanent (1), part-time permanent (0.4), full-time seasonal (0.2), and part-time seasonal (0.1). An unstandardized approach is also included for comparative purposes; it reveals, in basic terms, the total number of jobs created with no weightings attached to part-time or seasonal employment.

Standardized EG coefficients range from 1.48 (handicraft), or 1.48 jobs created for every A$l0,000 of revenue earned, to 0.24 (supermarket/wholesale). Unstandardized figures range from 5.61 (handicraft) to 0.28 (supermarket/wholesale). The large difference between standardized and unstandardized EG coefficients in many sectors reflects their reliance on part-time labor (Table 4). The informal nature of the operations of many smaller establishments in Kiribati leads to the use of a great deal of permanent part-time labor (often family or friends).

Government Revenue Generation Coefficients

The ability of certain sectors or firms to generate public revenue from tourist expenditure will clearly be of interest to those attempting to plan the development of the industry. This information can allow comparisons to be drawn between future government outlays on certain projects (incentives or the provision of infrastructure) and the public-sector revenue that can be expected to be gained in return.

Government revenue generation (GRG) coefficients can easily be cal-

culated through the multiplier model. The government is simply treated as another business establishment that provides goods and services for monetary remuneration (taxation on factor incomes, levies, duties, electricity payments, postal services, and so on). GRG coefficients can then be divided into nontrading (direct taxation / duty components only) and trading components (nontrading plus revenue generated by government trading operations such as postal services and electricity generation).

Sectoral variation in nontrading GRG coefficients is much smaller than that found for IG and EG coefficients: they vary in size from 0.14 for the Kiritimati hotel operation to 0.28 for Air Tungaru. In other words, for every dollar of tourist revenue earned by the Captain Cook Hotel 14¢ of government tax / duty revenue is generated. With all government functions included in the equation the hotel generates 31¢ of government revenue for every dollar of income it receives. The Tarawa-based hotels perform slightly better, generating 34¢ of government revenue (Table 4). In turn it is estimated that approximately 45-55¢ in every dollar received by the government will leak from the economy (Milne 1988a). It is important to note that IG and GRG figures are not mutually exclusive; in other words a proportion of GRG will be included in IG figures.

The Overall Impact of Tourism

The overall economic impacts attributable to tourism activity in Kiribati during 1987 are shown in Table 5. This table represents a combination of the author's estimates of tourist expenditure (Table 2) and the IG, EC, and GRG coefficients (Table 4). The final multiplier coefficients follow the format of cents generated per A$1 spent and jobs created per A$l0,000.

The estimated tourist expenditure of A$1.27 million led to the generation of nearly A$464,000 in local income (wages, salaries, profits, rents), The bulk of this income was generated directly. The limited size of the indirect and induced components is a reflection of the lack of backward linkages between the tourist sector and the Kiribati economy as a whole. For every A$l00,000 spent by tourists it is estimated that A$36,500 of local income is generated. The income multiplier of 0.365 is relatively low but is to be expected given the heavy dependence of the country on imports and overseas capital and expertise.

These calculations yield an estimate that approximately 91 standardized jobs were supported by tourist expenditure in 1987. As would be

TABLE 5. Income, Employment, and Government Revenue Effect of Visitor Expenditure, 1987

Sector	Income (A$)	No. of Jobs		Government Revenue (A$000)	
		S[a]	US[b]	T[C]	NT[d]
Accommodation	386,950	78.4	86.6	354.3	190.8
Rental	23,500	3.5	3.7	9.9	8.5
Internal air	8,700	1.5	1.7	10.2	8.4
Handicraft	20,350	4.1	15.5	5.8	5.5
Supermarket / wholesale	6,750	0.3	0.4	5.5	3.8
Small shops and restaurants	1,350	0.3	0.4	1.1	0.8
Other	15,960	3.0	3.3	12.7	9.2
Total	463,560	91.1	111.6	399.5	227.0
MULTIPLIER	0.365	0.72	0.88	0.314	0.179

Source: Milne 1988a: 19-21.

[a] Standardized jobs.

[b] Unstandardized jobs.

[c] Trading (includes all government functions such as electricity generation, postal, MOW trading, liquor sales) plus nontrading functions.

[d] Nontrading (excludes above trading functions).

expected the total number of unstandardized jobs is considerably higher (111.6), a reflection of the high degree of part-time employment in the tourist sector. The direct component accounted for approximately 55 percent of standardized and unstandardized employment. The accommodation sector is by far the most important generator of employment. Overall, for every A$l0,000 spent by tourists an estimated 0.72 standardized jobs are created; the concomitant figure for unstandardized employment is 0.88. The direct employment coefficient is relatively high, reflecting the labor-intensive nature of many of the smaller firms currently operating in Kiribati.

Tourist expenditure led to the generation of A$400,000 in government revenue (including trading functions) during the period. Hotels are the major contributors to this sum due to their heavy electricity utilization and duties levied on beverage and food imports. If trading functions are removed the impact of tourism remains significant with over A$227,000 coming into government coffers in the form of duties and taxes. The bulk of this sum was generated at the direct stage. For every A$l00,000 spent by tourists it is estimated that A$31,400 of government revenue is generated. The multiplier of 0.31 is relatively high but not surprising

given the major role that government plays in all sectors of the economy. It is estimated that between 4 and 6 percent of the government's internally generated revenue intake (not including aid) for 1987/1988 (A$16,311,990) is a direct result of the existence of the tourist industry (this figure includes revenues such as airport landing fees in the analysis) (Ministry of Finance and Economic Planning 1986-1987; Milne 1988a).

A comparison of income and employment multipliers with those for other Pacific island nations reveals the limited degree to which linkages exist between the Kiribati tourist sector and the rest of the economy (Table 6). In terms of income multipliers Kiribati is in a considerably weaker position than the Cook Islands, Tonga, Vanuatu, and Papua New Guinea. Only the microstate of Niue performs in a less efficient manner. In general there is potential for the industry to increase linkages with the local economy. As the industry becomes more established it is important that ancillary sectors be encouraged to grow with it and boost the degree to which tourist expenditure flows through the economy as a whole.

Planning Implications and Conclusions

In planning the future development of tourism in Kiribati it is important that attention be paid to the differential ability of sectors and individual enterprises to generate income, employment, and government revenue (the planning implications of the findings described above are discussed in detail in Milne 1988a). Where possible, emphasis should be placed on boosting linkages with the local economy. The relatively low

TABLE 6. Tourist Industry Multipliers in Various Pacific Island Destinations

	Multipliers[a]	
Country	Income	Employment Standardized
Kiribati	0.37	0.72
Niue	0.35	0.73
Tonga	0.42	0.96
Cook Islands	0.43	0.80
Vanuatu	0.56	0.89
Papua New Guinea	0.87	1.27

Source: Milne 1990a:38.

[a] All figures for 1987 except the Cook Islands', which are for 1984.

generational characteristics of the hotels can be improved by encouraging greater use of locally produced foodstuffs and decorative and construction materials. An important step toward achieving greater integration between supply and demand for local produce is to draw up an inventory of tourist-sector requirements for foodstuffs and beverages. This would allow primary-sector representatives to ascertain what portion of demand can be met from local resources. Meetings between the tourist sector and local farmers and fishermen should be organized to outline the industry's quality, costing, and supply requirements.

At a broader level, information about the overall impact of tourism on national income and employment allows the tourist sector to be compared with other sectors such as agriculture when details of national planning strategy are being developed. The tourist sector is an integral part of the Kiribati economy. Its importance as a source of employment and a generator of local income and government revenue means that it will continue to play a central role in the country's future development strategies. The multiplier analysis reveals that at present the linkages between the tourist sector and the rest of the economy are relatively weak and must be strengthened if the industry's potential to generate national income and employment is to be realized. In addition the material presented can be used in attempts to predict the labor requirements associated with future tourism development.

This article represents a valuable data source that can assist in revealing whether tourism development is reaching the economic goals that have been set for it by local planners. At the same time it must, of course, be remembered that such an analysis cannot account for the relative costs of tourist development, whether they be economic, social, or environmental. It is these impacts that now require the attention of those wishing to develop a well-managed and sustainable form of tourism in the Republic of Kiribati.

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