



## LOCAL ECONOMIC IMPACTS OF DRAGON TOURISM IN INDONESIA

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**Abstract:** Ecotourism in protected areas is viewed as a sustainable alternative to mass tourism and as a means of providing benefits to local communities which bear the greatest opportunity costs of protection. However, these ideals have rarely been tested. This study used small-scale survey methods to examine the magnitude and distribution of tourism employment and revenue generation in communities in an Indonesian park. Results suggest that distributional inequalities favor external operators and urban gateway residents rather than rural villagers. Just as the local economy remains peripheral to regional and national centers, so core-periphery relations also exist within the local context. Development around the park has yet to re-orient itself to the goals of ecotourism. **Keywords:** ecotourism, host benefits, development theory, community participation, visitor expenditure. © 2000 Elsevier Science Ltd. All rights reserved.

**Résumé:** Les impacts économiques locaux du tourisme de dragon en Indonésie. L'écotourisme dans des régions protégées se voit comme une alternative durable au tourisme de masse et comme un moyen de pourvoir des bénéfices aux communautés locales. Pourtant, ces idéaux ont rarement été mis à l'essai. Cette étude a utilisé des méthodes d'enquête à petite échelle pour examiner l'ampleur et la distribution des emplois et des revenus dans un parc indonésien. Les résultats suggèrent que les inégalités de distribution favorisent les voyageurs externes et les villes d'entrée plutôt que les habitants ruraux. Tout comme l'économie locale reste périphérique aux centres régionaux et nationaux, il y a des relations entre périphérie et centre dans le contexte local. Le développement autour du parc ne s'est pas encore réorienté vers les buts de l'écotourisme. **Mots-clés:** écotourisme, bénéfices à la région d'accueil, théorie de développement, participation communautaire, dépenses des visiteurs. © 2000 Elsevier Science Ltd. All rights reserved.

### INTRODUCTION

Tourism has long been viewed as a tool for economic development. As a rapidly growing sector of many less industrialized countries, international tourism has emerged as an important component of export-oriented development programs (Goodwin, Kent, Parker and Walpole 1997, 1998). Proponents of it as a development tool cite numerous potential economic benefits for host countries, including increased foreign exchange earnings, increased employ-

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ment opportunities, improved socioeconomic conditions, and a greater market stability than traditional commodity exports (Eadington and Redman 1991; Lea 1988). However, critics have expressed the view that tourism, in common with many outward-oriented patterns of growth, merely perpetuates existing inequalities between developed consumer nations and developing hosts (Britton 1982; Brohman 1996; Krippendorf 1987; Pleumaron 1994). In particular they suggest that economic capital and control frequently stem from outside sources resulting in leakages, external dependency, and an unequal distribution of benefits and costs. These processes may be repeated at a national scale, with a polarization between the metropolitan core and the rural periphery (Frank 1969). These latter areas are often marginalized by their geographic remoteness and hence lack of interaction with the market. Furthermore, core-periphery relations may exist within rural locales, as a result of the appropriation of benefits by a few at the expense of the majority which bears most of the costs. The extent to which equitable local benefits from tourism can be realized largely depends upon the ability of the host population to minimize such risks.

Alternative forms of tourism are increasingly being promoted in rural areas as a means to combat the historic trends of inequality and dependency (Brohman 1996). For example, ecotourism has emerged as a potential mechanism for involving local rural communities in association with natural heritage such as protected areas. These are under increasing pressure to provide economic justification for their continued existence (McNeely 1988). Nature tourism based on protected areas offers a means both of generating direct revenues to offset management costs, and the promise of economic benefits for marginalized surrounding communities (Boo 1992; Goodwin 1996; Hales 1989; Lindberg and Enriquez 1994; Wells 1992; Zube and Busch 1990). It is in this sense that the term is used here. There is a continuing debate over the definition of ecotourism, fueled by its use as a marketing tool within the industry (Goodwin 1996; Stewart and Sekartjekarini 1994). Some definitions equate it simply with nature tourism (WTTERC 1993), while others recognize a degree of consumer responsibility (Orams 1995; Wight 1994). However, ecotourism is increasingly held to embody both conservation and sustainable development ideals (Boo 1992). Several definitions include reference to improving the economic well-being of local residents (Lindberg and Hawkins 1993; Ziffer 1989), the most recent of which is

low impact nature tourism which contributes to the maintenance of species and habitats either directly through a contribution to conservation and/or indirectly by providing revenue to the local community sufficient for local people to value, and therefore protect, their wildlife heritage as a source of income. (Goodwin 1996:288)

Ecotourism is viewed as a viable alternative to the mass form since by its very nature (small scale, locally controlled, and emphasizing

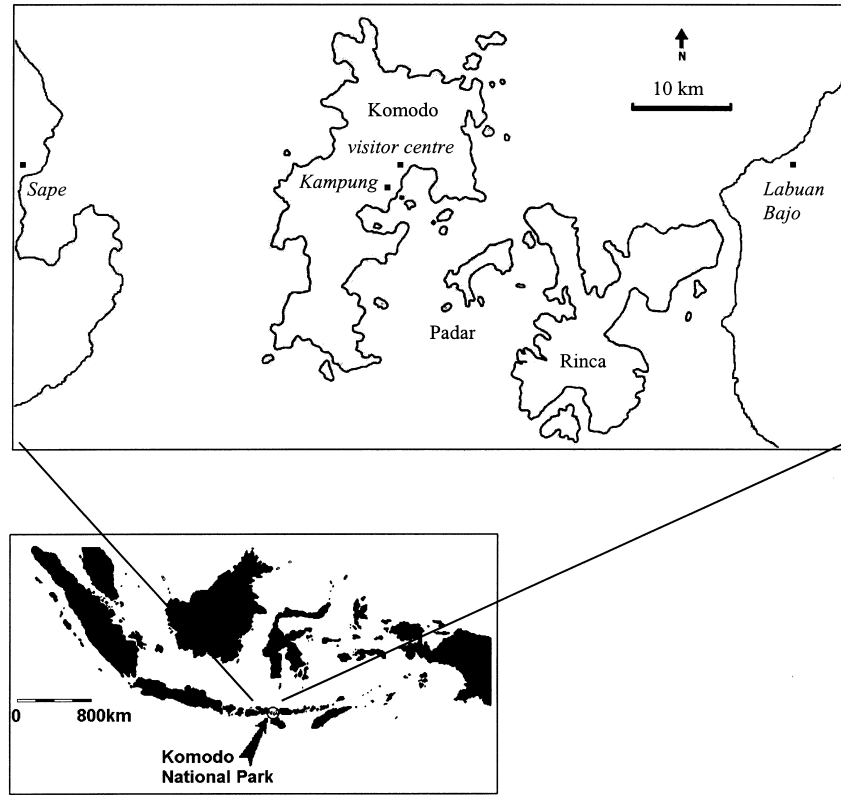
community development to meet the economic, social, and cultural needs of the community), it can remedy some of the problems of dependency caused by the latter (Khan 1997). However, the ideology of ecotourism remains relatively untested in practice. A few studies have examined local benefits as part of a wider assessment of impacts (Lee and Snepenger 1992; Lindberg and Enriquez 1994). However, little detailed empirical work has been carried out regarding local distributional effects and employment generation in relation to ecotourism (Healy 1994; Sinclair 1991; Wells 1992). This paper addresses this issue by examining the contribution which tourism based on Komodo National Park (KNP) makes to surrounding local communities in eastern Indonesia.

The park is situated in a relatively poor, rural area of the country. Tourism to KNP has the potential to contribute significantly to the surrounding local economy, through employment and revenue generation, and to stimulate local development. However, the extent to which local communities actually benefit may be constrained by the problems of distributional inequality and external dependency highlighted above. This paper examines employment and revenue generation, and the distribution of benefits at local and regional scales. Of particular interest is the division of benefits between the island villages within the park, which have suffered the greatest opportunity costs of conservation, and the two semi-urban gateways to the park within which local economic development has focused.

## LOCAL ECONOMIC IMPACTS

Komodo National Park (119°30" E, 8°35" S) is located in the Lesser Sunda Islands of Indonesia, in the province of East Nusa Tenggara. Lying in the Sape straits between Flores and Sumbawa, it comprises the three islands of Komodo, Rinca and Padar, and smaller surrounding islands, plus the straits between the main islands and all waters within 1000 meters off shore (Figure 1). The total area is 173,000 hectares (1,730 km<sup>2</sup>), of which 35% is terrestrial and 65% is marine. KNP is best known for the Komodo monitor, *Varanus komodoensis*, known locally as "ora" and colloquially termed "Komodo dragon". Discovered in 1910, its total population is not more than 3,000 individuals, with a very limited distribution. It is found only on the islands of Komodo, Rinca, Gili Motong, and in certain coastal regions of western and northern Flores. The species is probably extinct on Padar, where it was last seen in 1975. It is the world's largest living lizard, with males sometimes weighing over 90 kg and exceeding 3 meters in length (Auffenberg 1981). The Komodo dragon is listed as vulnerable in the IUCN red list of threatened species (IUCN 1996).

Tourists have traveled to the islands since the discovery of the Komodo dragon, which remains the principal attraction. Since KNP was formally established in 1980, tourism has grown steadily. In the 1995–96 financial year, almost 30,000 arrivals were recorded. Of these, 93% were foreign, consisting mainly of European and North



**Figure 1. Komodo National Park and Surrounding Islands**

American tourists (Goodwin et al 1997). All arrive by sea, either on a public ferry, by charter boat from neighboring islands, or by cruiseship from Bali or further afield. Tourists come into contact with local communities in three locations: the village (*kampung*) of Komodo on Komodo Island close to the main park visitor center, and two gateway towns adjacent to the park, Sape to the west on Sumbawa Island and Labuan Bajo to the east on Flores (Figure 1). Upon establishment of the park, Kampung Komodo and two settlements on Rinca Island were allowed to remain as enclaves. However, utilization rights of the inhabitants over terrestrial resources within the park were severely curtailed. The islanders' principal economic activity is pelagic fishing (Sudibyo 1995a). Livelihoods of neighboring communities on Sumbawa and Flores have also been based upon fishing and agriculture. Fishing is carried out by the immigrant Bugis and Bajau people, while the native Bima and Manggarai people are primarily farmers. The towns of Sape and Labuan Bajo have become market centers for marine and agricultural produce, and a trading community has developed in these areas. Most rapid development has been witnessed in Labuan

Bajo, the administrative center of Komodo subdistrict. Much of this has been in association with the development of transport infrastructure, namely an airstrip, ferry terminal, and harbor for larger vessels. There are relatively complete public facilities and government offices in Labuan Bajo, and to a lesser extent in Sape (Sudibyo 1995b).

### *Study Methods*

Traditional economic analysis would estimate impacts using macroeconomic techniques such as input-output analysis. But such large-scale techniques are inappropriate for local level inquiries where significant data are often unavailable (Kottke 1988; Lea 1988; Smith 1989). The focus of this study is not regional economic impact, but rather local impacts, including employment, distributional effects and tourism-induced change in small, defined communities. These impacts are most thoroughly identified by direct estimation from primary data sources and the use of local secondary data sources. After an initial inventory of tourism-related businesses, surveys were undertaken both of businesses (supply side) and tourists (demand side) in August 1996. The major areas of inquiry were the magnitude of tourism in local communities; how tourism is affecting patterns of development in local communities; the type and magnitude of local employment generated by tourism; the magnitude of local revenue generated by tourism; revenue distribution within the local economy; and the level of leakage from the local economy. The period of investigation was confined to the financial year 1995–96.

The magnitude of visitation of local communities around KNP was estimated from data on arrivals and overnight stays. Records of arrivals and departures were obtained from the park, harbor office, and national air/sea carrier records. Data regarding overnight stays were obtained from hotel records. Length of stay was estimated both from hotel records and from tourist responses. Questionnaire surveys were undertaken with the proprietors of all the local hotels ( $n = 22$ ), restaurants ( $n = 38$ ), and tourist-frequented shops ( $n = 41$ ) identified in the initial inventory, and with a small number of charter boat captains ( $n = 10$ ). Not all charter boats could be surveyed since they spend little time in port; however, supporting data for other vessels were collected from KNP records as described above. Data collected during these surveys included location, year of establishment, and proprietor's place of origin, along with class (for hotels), and style of menu (for restaurants). There were also questions regarding the volume and frequency of tourist patronage, the proportion of those who were foreign, and estimates of total revenue. Supporting secondary sources (such as hotel registration books and accounts) were examined wherever possible. Respondents were also asked about their staff. Data were collected for each employee regarding the type of job undertaken, monthly salary, age,

sex, level of education, place of birth, and whether or not they were related to the proprietor.

A self-administered questionnaire was distributed to tourists in Labuan Bajo. Its objective was to identify their spending patterns for a number of categories of purchase, as estimated by the tourists themselves. Questionnaires were distributed to respondents by staff in the restaurants of nine of the 11 major accommodation establishments in and around Labuan Bajo (two out-of-town locations were excluded due to practical constraints). Of 290 questionnaires distributed, 227 were returned, a response rate of 78.3%. They were only given to consenting tourists. However, a comparison of the age/sex/nationality distributions of respondents with data from KNP suggests that the sample is representative of the foreign tourists visiting KNP.

After initial classification questions (age, sex, nationality, profession), the survey examined respondents' means of transport, length of stay in Labuan Bajo, and estimates of their local expenditure. Nine categories of expenditure were included, the first four comprising estimates of daily expenditure on accommodation, food, drink and alcohol, and the subsequent five comprising estimates of total expenditure on souvenirs, tours, buses/taxis, charter boats and ferries. Total local expenditure for 1995–96 was then calculated by multiplying mean expenditure per respondent by their total number for the period estimated from independent records (see above). This approach avoids any seasonal effect of conducting the survey during the August peak period, although it does assume that mean individual expenditure remains stable throughout the year. Prior visits to the site suggest that prices have not risen substantially during the study period and that this assumption is not unreasonable.

The distribution of tourism-related revenue and employment among sectors, and among individual hotels and restaurants, was identified using survey data. Within the charter boat sector, distribution of revenue between local independent boats and externally owned or contracted boats was estimated using KNP arrival records as a surrogate for revenue. Estimates of leakage from the local economy were based on proportional expenditure on the import of non-locally produced goods (for restaurants, hotels, and shops) and services (public transport and charter boats). Estimates of the amount of leakage due to external operators and “enclave” tours was based on records of mode of transport and estimated mean costs of different visit types.

For this study, the working definition of “local economy” was restricted to the village communities living within KNP and the gateway towns to the east and west. These are the only places in the immediate vicinity where tourists come into contact with local people, and a wider definition risked including areas frequented by tourists other than those visiting the park. These are also the communities which carry the opportunity costs of protecting the park. In addition, the study has been confined to the impacts of foreign

tourists, for a number of reasons. One, it is difficult to separate domestic tourists from domestic business travellers staying in local towns, and so it is safer to exclude them. Two, some data sources for visitation and accommodation patterns refer only to foreign arrivals. Three, host people associate "tourist" with foreigners, so when questioned, local businessmen and townspeople emphasized those impacts. Four, tourists are predominantly (93%) foreign, so any additional impact of domestic visitors will be comparatively small. From hereon the focus is on foreign tourists.

A particular limitation of local economic inquiry in developing rural areas is data availability. In many cases both primary and secondary data were incomplete or unavailable, necessitating a certain amount of estimation. In particular, accurate financial accounts were largely unavailable. As a result, revenue estimates had to be made on the basis of oral testimony or the use of published prices and records of clientele volume. As far as possible, triangulation of independent data sources was carried out to improve the accuracy of estimates. In addition, it should be reiterated that this study focuses principally on the distribution of economic benefits from the first round of tourism expenditure. No account is taken of second or subsequent rounds; therefore, no estimate of the "multiplier effect" is made. Although future spending rounds may be important for assessing the level of integration of tourism into the local economy, the estimation of multipliers requires considerable data which were not available locally, and was thus beyond the scope of this study. Similarly, the opportunity costs of local involvement in tourism, and the associated social and environmental consequences, are excluded. These are an important consideration because ecotourism is intended to be environmentally and culturally benign, and deserve greater attention in the economic evaluation literature.

#### *The Magnitude of Development*

It is clear that the greatest contact of the local community with foreign tourists occurs in Labuan Bajo. An estimated 11,000 people, staying an average of three nights, spend about 33,000 bed nights in and around the town. Sape receives far fewer overnight visitors, around 1,100. However, approximately 11,500 pass through the town each year, *en route* to KNP and the islands to the east. Sape is a transit stop for changing from bus and taxi transport to ferry and charter boats, and as such the contact of local people with tourists is confined primarily to transport termini. Therefore, fewer opportunities exist for local people to benefit from tourism in Sape than in Labuan Bajo. The potential benefits are even more limited for people living within KNP. The villages on Rinca Island receive no tourists due to their isolated, inaccessible locations. Kampung Komodo does receive some, and the community comes into contact with approximately 5,000 tourists as a result of the close proximity of the visitor center on Komodo Island. However, no tourists stay overnight in the village, and it offers no retail services.

It is evident that both gateways to the park have experienced a phase of rapid development in the service sector since the mid to late 80s. This coincided with a rapid growth in arrivals. Labuan Bajo is the major center of tourism development associated with KNP, with a greater number and quality of services than in Sape (Table 1). This may be due to the fact that Labuan Bajo is closer to KNP, the sea crossing is easier, and access to Labuan Bajo itself is easier as a result of recent developments in transport infrastructure. Kampung Komodo has no formal service industry, and development of tourism enterprises is limited to the provision of a shuttle boat service and the production of wooden dragon carvings.

In Labuan Bajo, it is clear that new styles of accommodation and restaurant are emerging in response to tourism demand. This is the only location with Class A (relatively expensive, \$10–40 per room) and Class B (mid-priced tourist class, \$4–8 per room) hotels, while in Sape the traditional, basic, and inexpensive Class C *losmen* style of accommodation prevails (under \$4 per room). The restaurants in Labuan Bajo display a greater diversity of menus than those in Sape, which all serve different forms of Indonesian cuisine. Although the majority of restaurants in Labuan Bajo serve national styles, four serve a heavily Chinese-influenced menu, and two include overtly European cuisine. Many more now serve Western style drinks, such as milkshakes. In addition, while restaurants in Sape are predominantly traditional roadside *warungs*, 30% of those in Labuan Bajo are part of Class A and B hotel establishments. In Sape, businesses were predominantly family-run: 59% of shop employees ( $n = 51$ ) and 64% of hotel and restaurant employees ( $n = 51$ ) were related to the owner of the business. In Labuan Bajo, only 41% of shop employees ( $n = 95$ ) and 50% of hotel and restaurant employees ( $n = 135$ ) were related to the owner/manager.

Some 67 charter boats from Labuan Bajo offer day or overnight round trip tours to KNP and adjacent islands, and longer passages to and from Lombok. The one-way trips to and from Lombok are offered by ten local boats and ten boats from Lombok. In addition, 47 charter boats were recorded in KNP logs as having visited the

**Table 1. Inventory of Local Tourism-related Businesses (1996)**

Business	Labuan Bajo	Sape	Kampung Komodo
Hotels (class A - luxury)	1		
Hotels (class B - tourist)	10		
Hotels (class C - traditional)	7	4	
Total rooms	278	58	
Total beds	522	94	
Restaurants	25	13	
Capacity	550	186	
Charter boats	67	13	2



park during 1995–96 from Labuan Bajo on shorter round-trips, although incomplete records suggest that this number may be higher, particularly at peak times. A number of charter boats run cruises between Sape and the park, 11 regularly. Six of these are owned by tour companies from outside Sape, while five are locally owned. Virtually all of the trade for these boats comes from package tours booked through operators in Bali and Bima.

Tourism has provided a number of employment opportunities for local people. A total of 420 jobs in Labuan Bajo and 154 jobs in Sape were partially dependent upon it (Table 2). However, not all of the jobs in these enterprises are supported by tourism revenue alone, since many of them cater for local customers and domestic business clients, or undertake other activities in low season months. If the proportional dependence of each sector upon foreign tourists is taken into account (using the relative proportions of tourism/non-tourism revenue, and in the case of part-time charter boats using the relative proportions of time spent running tours or fishing), then an estimated 256 full-time equivalent jobs in Labuan Bajo and 65 in Sape were generated by the industry. Predominant employment (42%) is in the charter boat sector, with restaurant and hotel employees comprising a further 39%. In Kampung Komodo, 23 jobs were created by tourism. Of these, 17 consisted of wooden dragon carvers, and six were boat crew on the shuttles between the government ferry and Komodo Island. Irregular employment in KNP as tour guides and porters on guided trails amounted to an additional full-time equivalent job. Overall, only 7% of local tourism-related employment was generated in Kampung Komodo.

Most employees in the tourism sector were male. While there are no opportunities for female employment in the charter boat sector, between 36% (Labuan Bajo,  $n = 50$ ) and 55% (Sape,  $n = 22$ ) of hotel and restaurant employees were female. The average age of female

**Table 2. Estimates of Tourism-related Employment**

Business	Number of tourism-associated jobs	Number of FTEs <sup>a</sup>	Proportion of total FTEs (%)
Hotels	79	70	20.3
Restaurants	161	65	18.8
Charter boats	179	145	42.0
Shops	146	30	8.7
Other	53	35	10.1
Total	618	345	100.0
Labuan Bajo	420	256	74.2
Sape	154	65	18.8
Kampung Komodo	44	24	7.0

<sup>a</sup> FTE=full-time equivalent job (see text for calculation).

employees was 23 ( $n = 30$ ), of males, 27 ( $n = 42$ ). Among charter boat employees, the average age of captains was 32 ( $n = 10$ ), of crew, 23 ( $n = 17$ ). These results suggest that tourism employment opportunities fall mainly to the younger members of local communities, and mainly to males. This is consistent with other recent studies in Indonesia (Cukier, Norris and Wall 1996; Cukier and Wall 1994; Timothy and Wall 1997).

The types of employment available in tourism are predominantly unskilled or semiskilled, such as boat crew, waiting in restaurants, and domestic duties in hotels. Some limited opportunities for more skilled employment (chefs, boat captains, craftsmen, guides) also exist, although senior positions in tourism businesses are rarely filled by locals. While 94% of shop owners in Sape were from within the local district ( $n = 16$ ), only 46% of restaurant owners were ( $n = 13$ ). In Labuan Bajo, only 28% of shops and restaurants were locally owned ( $n = 47$ ). Anecdotal evidence also suggests that the majority of Class A and B hotel owners were nonlocal. Most employees in tourism have not received any additional training or education beyond secondary school, and few speak English. The average monthly wage of hotel and restaurant employees in Labuan Bajo was approximately \$28 ( $n = 113$ , range=\$13 to \$52), which is lower than the average wage of street vendors identified by Timothy and Wall (1997) in a destination on Java. By comparison, the average basic monthly wage among KNP junior staff was \$76 ( $n = 78$ , range=\$55 to \$99). This suggests that tourism jobs are not well paid. However, salary may not be a reliable indicator of income since other invisible benefits, such as accommodation and meals, also flow to employees.

#### *Local Revenue Generation and Leakage*

Local survey results suggest that approximately \$0.6 to \$1.6 million (\$1.1 million  $\pm$  43%) was spent by tourists in the local communities surrounding KNP in 1995–96 (Table 3). Of this, 99% was spent in the two gateway towns of Labuan Bajo (80%) and Sape (19%). Only 1% accrued to people living within the park. Opportunities for revenue generation from tourism in Kampung Komodo are essentially limited to two options, both generating approximately half of the total tourism-associated revenue in the village. One is the shuttle service from the government ferry to the visitor camp on the island. The other is the sale of carved wooden statues of dragons. A small amount is also generated by casual employment as porters and guides.

Independent estimates of tourist expenditure in Labuan Bajo yield concurrent findings. Results from the survey suggest an estimated \$0.7 to \$1.4 million (\$1.0 million  $\pm$  33%), while those of the local business survey suggest an estimated \$0.5 to \$1.3 million (\$0.9 million  $\pm$  48%). Each tourist to Labuan Bajo spent approximately \$75 to \$106 (\$90.70  $\pm$  \$15.70) during their visit. Almost half of local expenditure comprised transport costs, the majority for charter

**Table 3. Estimates of Revenue Generated in Local Communities (1995–96)**

Business	Visitor survey (\$1,000s)			Business survey (\$1,000s)			Estimated leakage (%)
	Labuan Bajo	Labuan Bajo	Sape	Kampung Komodo	Total	% of total	
<b>Accommodation</b>	<b>151</b>	<b>151</b>	<b>4</b>	<b>0</b>	<b>155</b>	<b>14.0</b>	<b>25</b>
Restaurant		125	23	0	148	13.4	25
Meals	146						
Drinks	60						
Alcohol	69						
Souvenirs	98	127	0	6	133	12.0	60
Other retail		160	3	1	164	14.9	60
<b>Consumables</b>	<b>373</b>	<b>412</b>	<b>25</b>	<b>7</b>	<b>444</b>	<b>40.2</b>	<b>48.2</b>
Public transport	118	38	36	6	80	7.2	90
Charter boats	384	276	149	0	425	38.5	60
<b>Transport</b>	<b>502</b>	<b>314</b>	<b>185</b>	<b>6</b>	<b>505</b>	<b>45.8</b>	<b>64.7</b>
<b>Total (\$1000s)</b>	<b>1026</b>	<b>877</b>	<b>214</b>	<b>13</b>	<b>1103</b>	<b>100.0</b>	<b>52.5</b>
Range (\$millions)	0.7–1.4	0.5–1.3	0.2–0.3		0.6–1.6		
Margin of error (%)	33	48	24		43		
Proportion of total (%)		79.5	19.4	1.1	100		

tours of KNP and surrounding islands. These make up the most expensive item purchased by tourists, and, by their association with the park, are often the major attraction of a stay in the area. They also provide access to beaches and snorkeling sites. Approximately 40% of local expenditure comprised consumable and retail sales, with a further 14% comprising overnight accommodation.

Within sectors of the local economy, the distribution of revenue from tourism was uneven. The majority of tourists to Labuan Bajo (89%) stayed in class B hotels, which are specifically aimed at the foreign market in terms of facilities and location, despite the fact that class B hotels only accounted for 62% of available beds. Traditional *losmen*, accounting for 28% of available beds, only received 5.6% of overnight tourists. Restaurants could be divided into outlets with foreign tourists comprising <35% of clients ( $n = 13$ ) and those with >55% of clients ( $n = 12$ ). Chi-squared and

**Table 4. Restaurant Characteristics by the Proportion of Foreign Customers**

Foreign tourists	Group 1 (<35% foreign customers)	Group 2 (>55% foreign customers)	Probability of equal means ( $p <$ )
Mean annual visitor total	702	6,793	0.0001
Mean annual income (\$)	2,394	9,976	0.01
Mean cost per meal (\$)	0.60	1.58	0.01
Frequency of foreign customers	Weekly	Daily	0.01
Style of menu	Indonesian	Foreign-influenced	0.01

ANOVA tests revealed significant differences between these groups (Table 4). Members of the group with the higher percentage of tourists had a greater number and frequency of tourist visits, a greater income, and a greater price per meal. They were also more likely to serve foreign-influenced cuisine. This group contained all the restaurants associated with Class A and B hotels and four other independent restaurants in prominent waterfront or high street locations. Among charter boats from Labuan Bajo running tours to KNP, 15% of vessels accounted for 59% of visits, suggesting that a small core of boats dominates that market. There are at least two multiple boat-owners in Labuan Bajo, and evidence suggests that some captains have links with certain Class B hotels which give them preferential access to clients booking tours through those accommodation establishments. Among charter boats from Sape, local cooperative vessels comprising 56% of the total fleet only accounted for 34% of visits to KNP, suggesting that they benefit less than externally owned or contracted vessels. The accumulated evidence presented here points to the existence of local and extra-local elites within all sectors of the local industry that control and appropriate the majority of the financial benefits.

It is estimated that at least 50% of tourist expenditure in the local economy surrounding KNP leaked out as a result of the import of goods and services (Table 3). Retail supplies and consumables other than some fresh produce were imported to the local area from Java and elsewhere. Detailed accounts from three outlets suggested the leakage amounted to some 60%. Using these data, this economic loss from hotels and restaurants as a result of the import of consumable goods was estimated to be 20–30%. However, these figures may be substantial underestimates of the total since they do not take into account leakages associated with infrastructural or running costs, nor of non-local ownership which could result in removal of assets. The involvement of external operators in providing local transport operations resulted in an estimated 60% leakage from the charter boat sector and 90% leakage from public transport revenues after taking into account payment of local wages.

In addition to leakage, a considerable amount of tourism expenditure on visits to KNP fails to pass through the local economy. Not everyone passes through the gateway towns or comes into contact with communities inside the park. Although independent tourists interact considerably with the local economy, members of many package tours are isolated from such contact by the nature of their itineraries. Using average visit costs for independent (\$100) and package charter (\$300) tourists, and apportioning 50% (\$300) of the average cost of a 3–4 day cruiseship tour of Nusa Tenggara to KNP (the highlight of the itinerary for most passengers, with \$300 the cost of an equivalent charter tour visiting the park only), then an estimated \$5–6 million was spent on visits in 1995–96. Thus, the estimated local expenditure of \$1.1 million is approximately 20% of total expenditure, while 80% leaks out of the local economy.

## CONCLUSION

To date there have been few rigorous economic evaluations of ecotourism. This paper constitutes one of the more thorough site-level assessments, with a particular focus on the analysis of local distributional issues. The patterns emerging from this research suggest that tourism to KNP is evolving along traditional lines comparable to the majority of tourism in developing countries. Having passed from the initial discovery period in the 80s, it has entered a phase of growth and development which has attracted external commercial interest and thereby reduced local control. Three key issues can be highlighted.

First, it is clear that enlarged levels of contact are associated with increasingly modern and foreign styles of development, together with the need for substantial capital investment. The need to cater for a foreign market, and the additional capital costs involved, have inevitably led to external involvement in the industry. A large proportion of businesses—be they hotels, restaurants, or charter boat operations—are not locally owned. It is also apparent that large areas of waterfront land in Labuan Bajo are being purchased by external investors in anticipation of an expansion of tourism development in the region. This area in particular is being viewed as the next potential focus for development by the tourism industry in eastern Indonesia, which is gradually extending east of Bali. This will compromise the ability of local people to control and capitalize upon the development and commodification of their environment.

Second, besides a lack of capital, local people are disadvantaged by a lack of relevant skills or the opportunity to undertake training. As a result, employment opportunities are based on existing skills and capacities, as seafarers are equipped to become involved in the charter boat sector, while traders and entrepreneurs are able to reorient themselves towards tourism. Or they are limited to subordinate or semi-skilled roles which require little by way of formal education or training. This is reflected in the fact that employees are comparatively young and wages comparatively low, although salary is not always a reliable indicator of income if invisible benefits such as accommodation and food also flow to employees. The development of retail and service sectors of the local economy have provided new opportunities for female employment in more visible functions than the traditional gender roles which predominate within local fishing communities (Sudibyo 1995b). Some of these are related to the expansion of the industry. However, the impact of tourism development, or any other development, on gender roles is difficult to ascertain when the hidden roles of women in society are not fully understood. In the same way that salaries are not always a good indicator of material benefits from employment, the sex ratio of visible employment is not necessarily a good indicator of female involvement in an industry or business. This type of inquiry demands more extensive ethnographic field research than was possible within the scope of this project.

The third factor limiting local benefits, besides lack of capital and skills, is a paucity of linkages between the industry and traditional production sectors of the local economy. Tourism is a tertiary business developing where the dominant industry has been primary, fishing and farming, without the development of intermediate secondary sectors. Tourism relies on secondary, manufacturing industries for the supply of processed and packaged retail goods, and for much of its infrastructure. Their absence locally, and the lack of linkages where they do exist, accounts for much of the leakage which is witnessed. The problem is exacerbated by the tendency towards enclave developments, whose attributes are currently displayed by the cruiseship sector of the market based upon KNP (Freitag 1994). Passengers are almost completely isolated from the local economy in a self-sufficient, exclusive environment which denies local people the opportunity to benefit. The same is true of most externally organized package tours. As a result, a paradoxical situation occurs whereby tourists spending the most on their visit to KNP contribute the least to the local economy.

The patterns and processes thus described serve to constrain local benefits by limiting local access (both physically and economically) to the market. In this respect tourism to KNP conforms to the traditional political economic view of it as perpetuating existing inequalities between the developing periphery and the metropolitan core (Britton 1982; Keller 1987). However, this study also demonstrates the existence of core-periphery relations *within* the local economy. Clearly, there is considerable variation in the level of participation in the industry among local communities in and around KNP. Labuan Bajo, Sape, and Kampung Komodo differ in their level of infrastructural development and the scale of the tourism sectors of the economy, from relatively high to almost non-existent. This pattern is reflected in the volumes of visitation to each of these locations, and in the resultant economic benefits flowing to them. Essentially, tourism development is confined to one of the gateway towns, with limited development in a second gateway. There is minimal contact between tourists and the rural inhabitants of KNP.

Furthermore, within each location the existence of local economic elites serves to further constrain the distribution of benefits. Modern hotel establishments have flourished at the expense of traditional family-run *losmen* and homestays. In addition, although there are many small, local outlets serving food, most tourist custom accrues to the hotel restaurants and to a small core of independent restaurants which cater specifically for the tourist market. Multiple boat-ownership and preferential linkages between hotels and charter boats further benefit appropriation by a wealthy core. The extent to which local power distribution within the industry is related to ethnic and religious divisions, and to the balance of political power, is unclear and demands further investigation. However, it is obvious that an urban-rural divide exists in the way that local economic benefits are distributed, and that ethnic differences may

well exist within and among these communities (Hitchcock 1993; Sudibyo 1995a,b).

The existence of core-periphery relations within the local economy, which is itself peripheral to regional cores, is of particular significance to the debate regarding ecotourism. While tourism to KNP clearly generates some limited benefits in the surrounding local economy, the village communities within the park have been marginalized from any participation in the distribution of such benefits. Given that ecotourism as a conservation and rural development tool is intended to benefit those most disenfranchised by protected areas and most isolated from the development process, it would seem that what is practised in KNP does not qualify as ecotourism. For this to change, village communities within the park need to be more fully integrated into the process of protected area management, and given the opportunities to participate in tourism development in ways which they themselves decide are appropriate.

If tourism to KNP is to re-orient itself to the development goals of ecotourism and to ensure local participation (Goodwin 1996), then regulation rather than a *laissez-faire* approach towards development will be necessary (Brohman 1996; Keller 1987; Khan 1997; Tooman 1997). A number of practical initiatives were suggested at a local workshop on sustainable tourism in 1996 which brought together park managers, members of the tourism industry, and community representatives. In an effort to increase local access to the market, it was suggested that Labuan Bajo be made a center for tourist transport to KNP. By requiring external charter and cruise operators to interact with the local economy by visiting Labuan Bajo, enclave practices would be minimized and improved backward linkages with the local agricultural economy could be developed. Evidence from an initiative in nearby Lombok where a large tourism operation has developed small-scale links with local agriculture suggests that such projects can succeed with institutional support, although seasonal factors may variably constrain both supply and demand (Telfer and Wall 1996). To improve the participation of rural residents, delegates suggested language and natural history training for local residents to participate in nature guiding within KNP, and skills training and marketing assistance for the development of small-scale enterprises such as handicraft production. Such a scheme was recently implemented in Kampung Komodo, whereby a group of villagers were trained in woodcarving techniques to supply the demand for dragon carvings. However, a lack of support by some tour operators undermined the marketing and distribution strategy of the local cooperative. Such schemes are unlikely to succeed without the appropriate support of the industry.

It is clear that the shortcomings of current benefit distributions are now being recognized, and a greater emphasis has been placed on community empowerment within KNP development plans (Djuwantoko 1996; Subijanto 1996). However, if local initiatives to improve distributional equity are to succeed, they require the co-operation and involvement of all the various stakeholders in tour-

ism, including park authorities, local government, local communities, and in particular the external tour operators who currently control much of the business to KNP. It is not enough for issues to be recognized within institutional management plans, or for initiatives to be developed without the necessary support of the industry. It is much easier to identify the issues that need attention than to address them with practical solutions. Equally, it is easier to prescribe what ecotourism should be than to practice it. This study has demonstrated some of the shortcomings of so-called ecotourism development and operation. The identification of means of addressing these shortcomings, and testing the efficacy of such solutions, is an endeavor which now demands attention.

Since this study was carried out, Indonesia has suffered political and economic instability that continues to have severe negative impacts on tourist arrivals to the country. This highlights the vulnerability that local markets face when they rely heavily on international demand. Unpredictable events such as this remain outside the control of local or national stakeholders, and although tourism was not the only industry to have been affected, those involved must consider the implications of such a decline in the market and ways in which the damage can be minimized. This too is a considerable challenge which planners and managers must address. ■

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