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Cochin International Airport:
The Gateway to God's Own Country

> Kerala is a bizarre anomaly among developing nations, a place that offers real hope for the future of the Third World. This small state in India, though not much larger than Maryland, has a population as big as California's and a per capita income of less than $300. But its infant mortality rate is low, its literacy rate among the highest on Earth, and its birthrate below America's and falling faster. Kerala's citizens live nearly as long as Americans or Europeans. Though mostly a land of paddy-covered plains, statistically Kerala stands out as the Mount Everest of social development; there's truly no place like it.
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> --National Geographic Traveler, *Special Edition: 50 Places of a Lifetime*, October 1999

In February 2001, Babu Rajeev, the Managing Director of the Cochin International Airport Limited (CIAL), was worried about how to improve the financial performance of his airport. CIAL had opened in 1999 to widespread acclaim as the first and only airport to be constructed and operated by a private company in India. The airport was generating enough revenue to cover its operating costs, but not enough to service its debt or to pay dividends to its shareholders. CIAL was already in technical default to its lenders, and Mr. Rajeev had to figure out quickly how to improve profits or to convince shareholders to make further large infusions of equity. Mr. Rajeev was optimistic that a solution could be found, if only because CIAL had overcome such great odds in the past.

Cochin (also called Kochi) is the largest city in Kerala, a beautiful and largely agricultural state at the southwest tip of India (see Exhibits 1 and 2). Cochin's original airport was located on a small island occupied by a naval base, which limited the opportunities for expansion. The airport had been regarded as inadequate since the 1970s, but matters came to a head in the early 1990s when the Airports Authority of India

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(AAI)[1], which operated all domestic and international airports, threatened to close Cochin because there was no room to upgrade its runways to accommodate the larger aircraft that Indian Airlines was planning to introduce. In 1991 the AAI approved a site for a new replacement airport at Nedumbassery, a village 25 kilometers north of Cochin. The Indian Government also announced that AAI did not have the funds to build the new airport, although the State of Kerala was welcome to build and operate the new facility at its own expense.

At this stage, the local District Collector for Cochin[2], V. J. Kurian, was assigned the task of finding funding for the new airport. The State of Kerala was in no better financial shape than the central government, so Mr. Kurian, an exceptionally capable and motivated administrator, developed a plan to raise private capital, primarily through loans from Keralites who worked abroad and from local businesses. Although the State of Kerala would eventually become a major investor too, the project was structured as a private company. Eight years later, the Cochin community proudly watched the President of India, K.R. Narayanan, declare the nation's most modern airport open.

Cochin's achievement was the envy of other Indian cities, and all the more surprising because Kerela is known more for its support of left-leaning governments than private enterprise. Cochin even beat Bangalore, the city that most observers believed would be the first in India to have a privatized airport. Bangalore is the heart of a region often described as India's Silicon Valley, and is much larger and more prosperous than Cochin. By 1992, the city had outgrown its old airport and, with the AAI's blessing, had put out to tender a private concession to build and operate a new facility. Bangalore's future seemed so bright that the competition attracted 17 bidders. The project was delayed by controversies over the selection process, however, and later faced the threat of a competing proposal in Hyderabad, the capital city of the neighboring state of Andhra Pradesh. Construction of the new Bangalore airport did not break ground until January 2001, over a year after CIAL had opened its airport. Cochin's triumph would be short-lived, however, if CIAL proved to be a financial failure.

Trends in Airport Privatization in Asia[3]

CIAL was seen as a potential model not just in India, but in other parts of the world as well. The rapid growth in air travel throughout the world had strained the capacity of existing airports, and the International Civil Aviation Organization estimated that US$250 billion would be invested in air transportation infrastructure between 2000 and 2010. Many governments were looking to private enterprise to finance, build and operate airport facilities because, like the State of Kerala, they faced budget constraints.

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[1] At the time the new Cochin airport location was approved, the authority that operated the domestic airports (National Airports Authority of India) was separate from the authority that operated the international airports (International Airports Authority of India). The two authorities were consolidated as the AAI shortly afterwards, and for simplicity's sake we refer only to AAI in this case.

[2] The District Collector is the chief administrator at the sub-State level of government.

[3] This section draws heavily from Paul Hooper, "The Privatization of Airports in Asia", manuscript, National University of Singapore; and Curtis A. Spillers, "Airport Privatizations: Smooth Flying or Crash Landing?", *Journal of Project Finance* (Winter 2000), pp. 41-47.

The desire to escape inefficient public management was also an important motive for privatization in some cases.

Airport services are generally divided into two types: airside and landside. The airside services include the runways, taxiways, aprons and terminals and are usually funded in part from landing fees, passenger fees, and the profits from fuel; ground handling and aircraft catering activities. The landside services include passenger check-in, retail and duty-free concessions, food and beverages, car parking, and hotels and are usually financed in part by revenues from renting counter and office space to airlines and from rents or fees charged to retail, food and other businesses.

The scope of private involvement in airports varied greatly, but the government almost always retained control over air traffic control, customs and immigration, and basic police and security. Private involvement was common in landside services; for example, almost all airports relied on private concessionaires to operate their restaurants, newsstands, and duty free shops. Private provision of airside facilities was rarer but growing, in part because the airside was often where new investments were needed.

Private involvement in airside facilities was complicated because airports are often regarded as important catalysts of local economic growth, and the airside provides the essential foundation for all airport activities. Airside capacity also tends to be built in large increments, so that the "expansion path" of an airport is not continuous, resulting in periods of low utilization followed by periods of congestion. In addition, airside activities tend to be noisy and land-intensive, and thus a potential source of controversy with neighboring communities. Finally, there is a presumption that the airside services are natural monopolies, and thus can not be trusted to the private sector without government supervision. As a result, central and local governments traditionally financed airside expansions with public debt, usually repaid by a combination of tax revenues and landing fees. This traditional approach was under strain, however, given the rapid growth in air travel and the competing demands for government resources.

Nowhere were the challenges greater than in Asia. The rapid growth in air travel and the emergence of new airlines in the booming Asian economies had created demands for additional airport and airway capacity throughout Asia Pacific. Major new airports were much more common in Asia than in Europe or North America, in part because the expected growth in air traffic was greater and the opposition to siting new airports less. The costs were often astronomical, however, and were being financed primarily by governments. The new airports in Osaka and Hong Kong had cost in the range of US$15 to US$20 billion each[4], for example) dwarfing even the substantial sums being spent on new airports for Bangkok (US$4 billion), Kuala Lumpur (US$4 billion), Seoul (US$3.5 billion), and Shanghai (US$1.6 billion). Some new airports (including Seoul, Macau, and Osaka) were structured as private companies, but the regional or national governments

[4] Published estimates vary, principally because of the different components included (eg. bridges, transit).

owned most of the shares. Where there had been significant private investments, they were usually from airlines that expected special privileges in return.[5]

Private involvement was much more common in the management and expansion of existing airports than in the construction of new ones (Exhibit 3). For example, a private consortium had been given the concession to build and operate the third terminal at Manila's airport. Similarly, the Malaysian government had bundled all its existing airports into a single company and awarded it as a concession with explicit requirements to use profits from the large airports to cross-subsidize the smaller regional airports. Stock in several large existing Chinese airports, including Beijing's Capital Airport, had been floated to private investors on the Chinese and Hong Kong stock markets. Even with these schemes, however, the government often owned a controlling share. The airports in Jakarta and Seoul were managed by private firms, for example, but the vehicle was a joint venture company with the government retaining the majority share.

Private investors had learned many lessons about the risks of investing in airports in Asia. Construction costs had been underestimated significantly in some cases, such as the new Macau and Osaka airports.[6] But traffic and political risks were the most important concern. The Asian economic crisis of 1997-1999 taught planners that air traffic is strongly influenced by economic conditions and consumer sentiment. Tourist routes had proven particularly vulnerable, and many of the newer Asian airlines that had been pioneering new routes did not survive the downturn in the economy. The airports that served as international gateways to Asia had suffered the least, but gateway airports were facing increasing competition from one another. In China's Pearl River Delta, for example, Hong Kong, Macau, Shenzhen, and Zhuhai all had new international airports and Guangzhou was about to open a fifth. All five had ambitions to be the region's leading gateway, but they lay close to one another.

Political risk arose from the government regulation of the privatized airports. Indonesia and Thailand had both acknowledged the need to establish a clear regulatory framework, for example, but neither had revealed details about how it would operate. The Philippines had legislation in place to facilitate private infrastructure concessions, but there had been problems in implementing the policy. Malaysia had a framework that specified the obligations of the private investor but gave the government great latitude to unilaterally change the terms of the concession contract.

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[5] At the new Shanghai airport, for example, Lufthansa had taken a 29 percent share in a joint venture to build and operate the cargo terminal. Similarly, China Southern Airlines was significant investor in Guangzhou's US$1.3 billion new airport.

[6] Osaka's Kansai International Airport was built on a "floating island" that was settling unevenly. In Macau, some observers claim that the government provided private investors with overly optimistic estimates of traffic and costs to lure them to build a gateway that might safeguard the future importance and autonomy of its soon-to-be ex-colony. See R. Pinkham, "Gamble in Macau", *Airline Business*, February 2001, pages 70-71.

The Kerala Economy

Kerala is India's second smallest state, but its land is so fertile that it is home to 30 million people. The state is mainly rural, but it has three main cities spread at 200 kilometer intervals along its coast (Exhibit 2). Cochin, which is in the middle, is the largest of the three and Kerala's main commercial and industrial center. Trivandrum, to the south, is the seat of State Government. Calicut, to the north, is the smallest.[7]

When state government was introduced in 1956, Kerala entered the history books by establishing the world's first freely-elected Communist government. In the decades that followed, the state developed a distinctive strategy for social and economic development that endured whether the Communist Party or its rival, the Congress Party, controlled state government. The "Kerala model" emphasized raising literacy rates, improving health and nutrition standards, and increasing longevity. Kerala also attempted to lift the educational status of women and to encourage public participation in planning processes. Unfortunately, Kerala's considerable success in these areas was not matched by industrial development and job creation. Kerala's population grew at twice the rates in the rest of India, and its impoverished agricultural and handicraft industries were unable to absorb the growing workforce. Although the economy improved somewhat during the 1960's, Kerala failed to attract significant amounts of investment, allegedly because of its reputation for militant unions. The result was a heavy dependence on agriculture, rising unemployment, and per capita incomes roughly 20 percent below the national average.

Kerala was saved by an explosion in the opportunities for Indian workers abroad, particularly in the Middle East when world oil prices increased during the 1970s. The number of Indian workers in the Middle East grew more than ten-fold during the 1970s, doubled again in the 1980s, and rose to 2.8 million by 1996 (see Exhibit 4). With its well-educated workforce, Kerala captured between 40 and 50 percent of the jobs abroad. By 2000, between 1.2 to 1.4 million Keralites lived in the Middle East, or about 10 to 15 percent of Kerala's entire workforce. During the 1980's, for example, for every new job created in Kerala there were two filled by Keralites in the Middle East. Roughly as many Keralites worked abroad in other regions, including other parts of Asia, Europe, and North America. The jobs in the Middle East paid three times as much as jobs in Kerala, if you were lucky enough to secure a job at home. By 1980, the emigrants were sending Rs 8.2 billion back to Kerala. Remittances peaked at Rs 58.6 billion in 1994, an amount equal to 27 percent of Kerala's net domestic product.

The Middle Eastern jobs were vulnerable to fluctuations in oil prices as Kerala learned in 1996 and 1997, when Saudi Arabia and the United Arab Emirates sent 77,000 Keralites home. Matters were made worse by the fact that the prices for rubber, spices and other crops were falling too, so that Kerala suffered from a moderate recession for several years. By the end of the 1990s Kerala's economy had largely recovered, but the

[7] Trivandrum, the seat of government, is now commonly referred to in India as Thiruvanthapuram, Cochin as Kochi and Calicut as Kozhikode. We have adopted the practice in this case study of using the names that are more familiar to readers from outside India.

combination of the recession and growing losses in state-owned enterprises had left the State of Kerala deeply in debt.

The foreign workers would play an important role in the plans for the new Cochin airport by providing a source of both investors and air travelers. Kerala had only limited direct international service, so many workers going to or from jobs in the Middle East had to change planes in Bombay. A survey conducted by the AAI in June 1993 revealed that one in every nine passengers passing through Bombay International Airport was destined for, or was coming from, Kerala. This amounted to 436,000 passenger movements in fiscal year 1992/93. The stop in Bombay typically added an overnight stay and a hotel bill to the trip. In addition, the immigration and customs officials in Bombay did not speak Malayalam, the native language of most Keralites. It was common for returning workers to bring gifts for family members and friends, and the government had passed a law in 1978 granting non-resident Indians (NRIs) special baggage allowances in an effort to encourage the remittance of more foreign earnings. But a certain amount of "negotiation" with customs officials was necessary, and the Keralites were handicapped by their inability to negotiate in their native tongue. One study estimated that 15 percent of total savings remitted to Kerala were spent on these gifts, mainly in the form of gold, textiles, and electronics. The average worker carried gifts valued at US$4,307 and paid customs duties of US$870 and a bribe of US$146.[8]

The Potential for Tourism

Another consideration that would loom large in the planning for Cochin's new airport was the potential for attracting international tourists in large numbers to Kerala. Kerala had significant potential because it was rich in natural beauty, history and culture. With over three meters of rainfall each year, the emerald-green mountain forests, paddy fields, and plantations had inspired National Geographic to rate Kerala on its list of the top 50 "must see" destinations in the world. The National Geographic report had gone so far as to call Kerala "God's own country", a description that the state government quoted with obvious pride in its publicity brochures. Visitors could tour the coastal canals on houseboats or walk along miles and miles of the most beautiful and unspoiled tropical beaches in the world. Kerala's food was renown, and its people cheerful and friendly.

Despite these assets, Kerala attracted only 90,000 foreign visitors in 1992, only 7 percent of the foreigners coming to India. Foreign visits to India increased gradually during the 1990s, but Kerala's share of India's total remained stubbornly at 7 percent (Exhibit 5). Roughly half of Kerala's foreign tourists came from Western Europe, with the balance from various other regions (Exhibit 6). The demand was seasonal, moreover, with two-thirds of all visitors arriving during the fourth and first quarters of the year. Worse, it was fair to say that most of Kerala's foreign tourists were budget travelers who relied primarily on trains and buses; only a third used air as their main mode for entering Kerala (Exhibit 5). As a result, tourism infrastructure in the state was under-developed.

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[8] T.M.T. Isaac, "Economic Consequences of Gulf Migration", pp. 249-269 in K.C. Zacariah and S.I. (eds.) *Kerala's Demographic Transition: Determinants and Consequences* (New Delhi: Sage Publications, 1997).

The State Government was committed to developing foreign tourism, and as part of that effort successfully lobbied the central government to have Trivandrum designated as an international airport in 1990. But the flights added at Trivandrum were mainly to the Middle East and to other parts of South Asia, especially Sri Lanka, which was close by and had close links to India (see Exhibits 7-10). Part of the problem was that Air India and Indian Airlines, the central government's two main carriers, had severe capacity and operational problems in the late 1980s and early 1990s. Air India was responsible for international routes and Indian Airlines was responsible for domestic routes. The tourism industry had long complained that the two airlines did not have enough capacity to service key routes, and matters were made much worse in 1990 when the fatal crash of an Indian Airlines A320 caused the government to ground its entire A320 fleet during the lengthy accident investigation.

Trivandrum's failure to develop tourist-oriented flights may have been also due to the classic dilemma of emerging tourist destinations: a strong commitment by airlines may be required to realize a market's potential, but airlines are motivated by profits and want to see evidence of established markets. Experience elsewhere suggests that the "chicken and egg" situation is more easily resolved when the government is pro-active about tourism development and initiates market research, promotion and training activities. Airlines and tourism developers need credible data on tourism potential and they want to see that the community is fully behind the tourism sector. In any event, despite the government's efforts, Kerala fell far short of the target of 550,000 foreign visitors that it had set for 1999, the year CIAL opened for business.

The Initial Cochin Airport Plan

After the central government refused to fund the development of a new airport at Cochin in 1991, the Cochin Chamber of Commerce and Industry pressed the State of Kerala to find an alternative solution. From the central government's perspective, the decision not to fund the new airport was entirely reasonable. The total needs of India's airports far outweighed the resources of the AAI, and Kerala was served by two other airports besides Cochin. The airport at Trivandrum was only three hours to the south of Cochin by car, and the airport at Calicut was about the same distance to the north. Even with its capacity constraints, the old Cochin airport was busier than the other two: in 1992 it served 285,000 passengers, making it India's 9th busiest domestic airport. But the other two airports were not small: Trivandrum was India's 11th busiest domestic airport and Calicut was the 19th busiest (for 1998-99 figures, see Exhibit 11).

For the Cochin business community, however, the decision seemed a disaster. If the Cochin airport was closed, the Chamber feared that future development would gravitate to Trivandrum and Calicut. The Chamber pressed the Kerala Government to assign the District Collector the task of developing a replacement airport. In 1992 Mr. Kurian commissioned a preliminary consulting report that estimated that basic airport facilities could be built at the Nedumbassery site for a cost of about Rs1 billion, or about US$50 million at the exchange rates of the time[9].

Mr. Kurian and the Cochin community leaders immediately hit on the idea of raising the money from the airport's potential users, and particularly from the roughly 3 million Keralite's working abroad, about half of whom were in the Gulf area. Most Keralites who worked abroad hoped eventually to return permanently, when they had saved enough to start a small business or retire. In the interim, they needed places to invest their savings. Why not invest in an airport that would make their journeys to and from their foreign jobs more pleasant? An airport might be a relatively risky investment, but given the numbers of NRIs only a modest amount would be needed from each. There was a precedent, moreover, in as much as the Government of Kerala had enjoyed previous success getting businesses and wealthy individuals to make small contributions toward the construction of schools and hospitals. Only India's international airports made any money, moreover, so Cochin might have a better chance of repaying its investors if it built an airport big enough to handle international traffic.

The initial plan was to raise the Rs1 billion in loans of Rs5,000 from 200,000 people. It would be difficult to reach the large number of small investors needed to meet the financing requirement, particularly since most of the potential investors lived overseas. But if Kurian got close to Rs1 billion, the Chamber of Commerce might be counted on to raise the balance. Although AAI was skeptical, it gave approval in principle and agreed to engage an experienced air transport planner to prepare a more detailed feasibility report. Shortly thereafter, in June 1993, the "Kochi International Airport Society" was established to accept the interest free deposits. To emphasize the importance of the project, the Kerala Chief Minister agreed to serve as the Airport Society's Chairman. Kurian was appointed as the Managing Director of the Airport Society and was relieved of his other responsibilities as District Collector to work full-time on the airport project.

Two issues were pressing: land acquisition and money. The AAI had identified 1,300 acres of land needed for the new facility, but the site was owned by 2,600 landowners and included over 800 homes that had to be demolished. The State Government had the legal authority to acquire the land, but by October Kurian had raised only Rs10 million, far short of what was needed to compensate landowners. Kurian traveled to the Gulf on a ticket supplied by Air India with the stated objective of raising the Rs100 million, but managed to raise only another Rs30 million. Although the total of Rs40 million was enough to get land acquisition started, much more funding was needed urgently. Kurian's efforts were complicated because Calicut had responded to Cochin's initiative by forming its own airport society to promote Calicut as an international gateway, and both airport societies were competing for the same pool of investors.

The Search for Additional Financing

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[9] Exhibit 10 provides details about exchange rates and inflation rates. In the remainder of this case, all amounts will be given in Indian Rupees in current values (ie. not updated for price level changes).

The Gulf trip convinced Cochin's leaders that it would be impossible to raise all the money they needed through the Airport Society. Instead, they decided to incorporate a public limited company with the Government of Kerala and the Airport Society as promoters. In March 1994, the Cochin International Airport Ltd. (CIAL) was registered to construct, own, operate and maintain an airport of international standards at Cochin. The leadership structure of the new corporation was similar to the Airport Society, with the Chief Minister of Kerala as the Chairman of the new company and Kurian as Managing Director. In addition, the Board of Directors included several other Government officials as well as prominent industrialists, NRI's, and bankers.

CIAL had authorized capital of Rs900 million and the Rs40 million that had been received as interest free loans was converted into equity shares. To keep the project moving forward, CIAL arranged for a Rs100 million bridge loan from the Federal Bank of India. The Kerala State Government guaranteed the loan since CIAL was incorporated as a special purpose vehicle and had nothing to offer as security for the debt. The bridge loan was only a short-term solution, however. By this stage, the projected cost of the airport had more than doubled to Rs2.1 billion, partly due to inflation and partly due to more realistic cost estimates and designs.[10] CIAL hoped to finance one-third of the cost in equity and the balance in long-term debt.

Beyond the financial constraints, the process of purchasing property was complicated and bitter. Land needed to be acquired in several different municipalities, with 52 elected representatives, all ready to take up the causes of their constituents. After 32 rounds of negotiation, the Government of Kerala and CIAL finally came up with a "rehabilitation package" that guaranteed free land to each displaced household on top of the fair market value of their land-holding.

The project crept forward despite its precarious financial situation. At one point, CIAL tendered for the Rs500 million runway contract when it only had Rs20 million in hand. By the end of 1994, however, the project was beginning to mobilize financial resources. When CIAL 'shares were offered in a private placement, over 10,000 shareholders ultimately subscribed to the offering raising over Rs50 million. The Housing and Urban Development Corporation of India (HUDCO) provided a much-needed term loan of Rs1 billion after the Kerala State Government agreed to guarantee the debt. The loan was provided at a fixed interest rate of 18 percent for 10 years, with repayments scheduled to begin in 2000, after the project was operational. CIAL used a portion of the HUDCO term loan to repay the Federal Bank bridge loan and clear up its outstanding short-term debts. Although there was still a long way to go, the perception of the feasibility of the project began to improve and more resources became available to CIAL.

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[10] The general rate of prices in India rose by less than 20% over this same period while the Rupee devalued by nearly 30% against the US dollar. However, prices were rising at an average rate of 10.9% per annum in Kerala between 1991 and 1996, and inflationary pressures were particularly strong in land and construction. Wages in Kerala doubled in the first half of the 1990's.

One sticking point that remained was the state government's participation in the authorized shares of the company. Initially, the government was expected to buy 26 percent of the authorized shares (at a cost of 234 million rupees), and between 1994 and 1996 CIAL made repeated requests to the government to contribute at least a portion of that amount. After several rounds of meetings, the State agreed to release 60 million rupees, but again no funds were disbursed. In March 1996, CIAL threatened to remove Kerala's nominee from the Board of Directors unless the state government invested in at least 15 percent of the equity, as set out in CIAL's incorporation papers. The government responded by releasing only Rs10 million to buy equity[11].

The situation changed in May 1996, however, when the Communist Party won control of the state government. The incoming administration recognized the importance of the airport to the development of the region, but the Communist Party's policy was that major infrastructure projects should be controlled by the public sector. In the end, the administration fashioned a compromise. The new Chief Minister would become Chairman of the Board of Directors of CIAL, giving the State substantial control over the company. In return, the State would become the major equity partner in CIAL investing an extra Rs292 million in equity. An additional Rs20 million in equity was provided by the Kerala State Industrial Development Corporation and other Government-supported institutions committed smaller amounts.

To raise the balance of the equity, Kurian approached companies that were interested in operating facilities at the new airport. After a lengthy negotiation, Bharat Petroleum, the large oil company that had been nationalized by the Indian Government in 1976, paid Rs50 million for the right to install an automatic hydrant refueling facility[12]. In addition, CIAL would receive 0.25 percent of the total turnover as a royalty.

Similarly, as an independent airport, CIAL was not bound to work with the India Tourism Development Corporation, which had the exclusive rights to run the duty-free shops in AAI's international terminals. Instead, CIAL offered its duty-free concession as a public tender, and Alpha Travel Retail, the UK's largest provider of airport retailing, won out against several other prospective operators. To secure the deal, Alpha agreed to provide Rs30 million in equity, an interest-free deposit of Rs65 million (that could be converted to equity), plus a fee of 3.8 percent of gross revenues.

The greatest controversy surrounded the tender for the exclusive contract for ground handling services. Approximately 80 percent of the ground handling in India was done by Air India. However, Khambatta Service outbid Air India by offering an equity contribution of Rs50 million, plus an additional Rs110 million that could be retained as an interest free loan and a 15 percent royalty to be paid on an annual basis. During subsequent negotiations, Air India was permitted to increase its bid to match the Khambatta offer and the ground-handling contract was awarded to them. Kurian noted that Air India had been helpful to the project early on by providing a free ticket for him to

[11] In fairness, the Government of Kerala had guaranteed most of the loans that were supporting the project.
[12] Bharat Petroleum invested an additional 200 million Rs to construct a state of the art hydrant facility with programmable logic control.

travel to the Gulf and defended the negotiation by pointing out that Air India has a "proven ability." This assessment of Air-India's qualifications was not universally held, however. Jet Airways, a private domestic airline that initiated operations in 1993, maintained that the laid back approach of the public sector airline did not meet its standards. In October 2000, the Monopolies and Restrictive Trade Practices Commission ruled that the contract between CIAL and Air India was an unfair restriction on trade and that Jet was free to perform its own ground handling.

Cochin International Airport Opens

Cochin International Airport opened on May 25, 1999. The project was almost two years behind its original timetable, and the costs had increased to Rs2.3 billion. Nevertheless, everyone thought that Cochin had accomplished nothing less than a miracle given the many obstacles the project faced and the increases in property and construction costs in Kerala in the intervening years[13]. The new airport was the most modern in India and could operate around-the-clock without load or other restrictions on aircraft operations. Cochin had the second longest runway in the nation, giving it the capability to deal with the largest, long-range jets. The domestic terminal had 110,000 square feet of space and the international terminal had another 135,000 square feet. Both terminals were fully air-conditioned and equipped with modern facilities and shopping centres. A cargo complex (40,000 square feet) was under construction and 80 acres of land has been set aside for development as a "cargo village" where shipper and government offices could be located together for easy booking, storing, clearing and ancillary activities. Other commercial developments on and around the airport were planned, including an international hotel. CIAL's traffic projections (Exhibit 13) envisaged that the domestic terminal would be operating at full capacity in 2009 and that the international terminal would reach this stage in 2007. If traffic grew as projected, a second phase of expansion was planned. The expansion would cost Rs900 million which CIAL thought could be funded through internally generated surpluses.

Air India immediately announced it was introducing seven weekly flights between Cochin and the Gulf effective June 10, 1999. Three of these services were to Dubai, one of these being via Abu Dhabi, two to Dhahran and one each to Muscat and Doha/Bahrain (see Exhibit 14). CIAL's first passengers arrived on Air India flight from Dharhan on the June 19, 1999. Indian Airlines operated its first flight a few days later from Cochin to Sharjah and, together with its domestic rival, Jet Airways, it commenced flights within India on the July 1, 1999.

Babu Rajeev replaced V.J. Kurian as CIAL's Managing Director in November 1999, when Kurian was rotated to another post, a standard practice for senior members of the Indian Administrative Service. Mr. Rajeev inherited an impressive airport, but one in difficult financial straits. By the end of 1999, domestic passengers were about at the levels expected, although only because the airlines were operating larger aircraft and flights were more heavily loaded than expected (Exhibit 15 and 16). International

[13] In terms of US dollar amounts, though, the increase in costs was only 15% in view of the declining value of the Rupee.

passengers were 62 percent below forecast, both because there were fewer flights and because they were lightly loaded (Exhibit 16). Air India and Indian Airlines liked to operate aircraft with 300 to 350 seats in international routes, but international flights were departing and landing with an average of only 70 passengers.[14] Operating revenues were running 68 percent below forecast, partly because the lower traffic volumes had reduced landing and passenger fees and produced a ripple effect on other sources of revenues (Exhibit 17). The cargo terminal was also not completed yet, and the duty free shops had not opened either.

Mr. Rajeev claimed that CIAL was generating positive cash flows from operations, but it was falling far short of meeting its debt service requirements. By January 2000, capital expenditures had increased to Rs3 billion, largely because CIAL had defaulted on its loans to HUDCO and because missed payments were being treated by CIAL as loans (Exhibit 18). CIAL's balance sheet, showed the debt to equity ratio had risen from a planned 2.0 to 2.4 (Exhibit 19). HUDCO had agreed to restructure its loans to increase the term and reduce the interest rate from 18 to 13 percent. And CIAL was pressing the State of Kerala to invest in more equity so that some of the debt could retired and the debt servicing costs reduced further. But even those concessions would not be enough unless CIAL could generate more cash flow from operations.

In the spring of 2000, Mr. Rajeev imposed a Rs500 fee on international passengers, a strategy that promised to raise an addition Rs10 million per month.[15] He also moved to accelerate the commissioning of the cargo village, the commencement of duty-free sales and the development of the airport's excess land for ancillary projects and he began negotiations with Air India about the opening of a pilot training facility at CIAL. But Mr Rajeev's major effort was to increase international traffic at Cochin both by attracting some of the Air India and Indian Airways international flights using Trivandrum and by courting foreign airlines and securing permission for them to land at Cochin.

Mr. Rajeev's efforts to attract more international business was complicated by the fact that Indian aviation policy was in flux. India began to embrace more liberal, pro-competitive policies in the late 1980's and the process of policy change was still being pursued. In the case of international air cargo, India unilaterally declared "open skies" in 1989 and Lufthansa soon established itself as India's number one cargo carrier. This more liberal approach was also applied to passenger air charter operations, so the door was open for CIAL to develop its air cargo business and charter passenger businesses. However, the situation for international scheduled passenger services was more complex and CIAL's future prospects depend to a large extent on aviation policies decided in New Delhi. A foreign airline first had to gain traffic rights to operate to Cochin and that

[14] On routes to the Middle East, Air India typically preferred to operate one of its older B747s, for example, while Indian Air might operate an A340.

[15] As was customary practice among airports, the passenger service fee was collected from outbound passengers only.

involved re-negotiation of the bilateral air services agreements between its government and India.[16]

A related issue was that New Delhi was in the midst of evaluating its options for privatizing a struggling Air India and Indian Airlines, including the possibility of picking strategic airline partners. It was well known that Air India's losses would be much larger without its profitable routes to the Middle East, and it was unlikely that the Government would allow foreign airlines to erode Air India's revenue at this crucial stage. Indeed, there were sensitivities even between Air India and Indian Airlines. Indian Airlines had been carrying passengers between Calicut and the Middle East since 1993, but in November 2000 the Ministry of Civil Aviation decided to hand the routes back to Air India now that it had the aircraft capacity and could use Calicut Airport's upgraded facilities. Indian Airlines was reluctant to give up one of its most profitable routes without a fight, however, and had listed the sectors in its schedule for next season.

CIAL seemed to receive a sign of approval in June 2000 when the central government released a draft of a revised list of international gateway airports. Although Trivandrum had been previously designated as Kerala's international gateway, it was replaced on the draft list by Cochin. In August, Babu Rajeev seemed to increase the pressure by announcing that nine international airlines had indicated their interest in flying to Cochin, including British Airways, Oman Air, Qatar Airways and Singapore Airlines (SIA). In October 2000 he claimed that the Ministry of Civil Aviation would allow two foreign airlines to fly into Cochin. Several months later, however, there had been no formal confirmation of the revised gateway list or of new rights for foreign airlines.

The speculation in the press was that New Delhi was unlikely to act on foreign rights until it had selected strategic airline partners for Air India and Indian Airlines. Even so, CIAL's opportunities were likely to be greater where the foreign carriers were willing to substitute landing rights at Cochin for rights at other Indian airports or where they were prepared to pioneer completely new routes not served by Air India or Indian Airlines. The betting also was that New Delhi would find it hard to delist Trivandrum as an international gateway. Neither the State nor the Central Government wanted to choose sides in the rivalry between the communities of Calicut, Cochin and Trivandrum, and the State Government had guaranteed loans for development of all three airports. Air India claimed that there was sufficient traffic to maintain international operations at all three Kerala airports, but others were more skeptical.

In the meantime, CIAL had attracted more cargo operations and some charter flights serving haj pilgrims. The duty-free stores were expected to open in May 2001 and the Port of Cochin's plans to target cruise ships was a positive sign that a new market for fly-cruise passengers might develop. But the future of the airport was still in doubt.

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[16] The process of liberalization begun in the late 1980s had involved domestic traffic too. In 1989, the Central Government allowed private Indian-owned airlines to enter domestic routes. Although the government had placed some obstacles in their way, by the mid-1990s several private domestic carriers were reasonably well established, the most significant being Jet Airways.

Exhibit 1: Map of India

Exhibit 2: Map of Kerala

Note: Cochin is shown on this map as Kochi, Trivandrum is shown as Thiruvananthapuram, and Calicut is shown as Kozhikode.

Exhibit 3: Airport Privatization Schemes in Asia

Model	Cases	Comments
Contracting-out	Seoul's Inchon International Airport	Marketing function outsourced during construction phase
Management contracts	Seoul's Inchon International Airport	Majority-owned by government
	Jakarta's Soekarno-Hatta International Airport	30-year concession awarded to Amsterdam Schiphol. Government's stated objectives were to improve efficiency.
BOT scheme (BOOT, BOT, etc)	Macau International Airport	Majority owned by the regional government
	Seoul's Inchon International Airport	Commercial developments associated with the airport (eg. Hotels)
	Terminal 3 at Manila's Ninoy Aquino International Airport	25-year concession to build terminal. Piatco joint venture company includes Frankfurt airport operator Flughafen Frankfurt.
	Cambodia - Pochentong Airport, Phnom Penh	Upgrading works under a 20-year concession for works costing $250 million
	Bangalore International Airport, India	Development officially started in January 2001
BOO	Cochin International Airport	Majority owned by government of Kerala
Capital markets	China – Xiamen, Hongqiao Beijing Capital, Guangzhou Baiyun International, Huangtian International Airports	The companies usually are majority-owned by the regional government, but it is notable that airlines also own significant stakes of their hubs.
	Malaysian Airports Sdn. Bhd.	Majority-owned by national government with 30-50 year concession agreement subject to discretionary regulation.
Joint venture	Kansai International Airport	Majority-owned by government

Exhibit 4: Indian Migrant Workers in Middle East Countries

	Migrant workers from all of India	Migrant workers from Kerala
1979	501,000	250,000
1981	599,000	299,000
1983	916,000	458,000
1987	957,000	478,000
1990	1,235,000	617,000
1991	1,650,000	825,000
1996	2,800,000	1,400,000

Source: Ministry of External Affairs as reported in B.A. Prakesh, "The Economic Impact of Migration to the Gulf," in B.A. Prakesh (ed.), *Kerala's Economic Development* (New Delhi: Sage Publications, 1999)

Exhibit 5: Numbers of Foreign Visitors to India and to Kerala 1993 to 1999

Year	Foreign Visitors		Kerala's share	Kerala's visitors
	India	Kerala	of total for India	using air as main mode
1993	1442.6	95.2	6.6%	34%
1994	1886.4	104.6	5.5%	36%
1995	2123.7	143.0	6.7%	35%
1996	2287.9	176.9	7.7%	33%
1997	2374.1	182.4	7.7%	36%
1998	na	190.0	Na	
1999	na	154.6	Na	

Source: Ministry of Tourism, India and Department of Tourism, Kerala.

Exhibit 6: Origins of Foreign Visitors to Kerala 1996 to 1999

Region	1996	1997	1998	1999
Western Europe	73,837	89,351	102,145	92,114
South Asia	38,642	32,405	32,176	18,243
North America	14,941	18,815	19,224	12,912
North East Asia	3,869	5,785	7,468	6,820
Pacific	3,620	5,187	8,019	5,852
Middle East	-	4,867	5,240	5,493
Other source regions	41,946	21,905	1,1251	11,278
Total foreign visitors	176,855	182,427	189,941	154,626

Source: Kerala Department of Tourism, Trivandrum.

Exhibit 7: Growth of International Traffic at Trivandrum Airport 1990/91 to 1998/99

Year	Passengers ('000)	Cargo ('000 tonnes)	Aircraft ('000)	Passengers per aircraft
1990/91	273.7	5.5	1.9	142
1991/92	427.3	9.4	3.7	117
1992/93	547.5	12.4	3.8	143
1993/94	575.3	15.0	4.4	132
1994/95	629.4	16.8	4.9	129
1995/96	785.8	20.8	6.0	132
1996/97	846.6	21.1	6.2	137
1997/98	842.2	22.5	6.8	124
1998/99	828.2	24.9	6.4	129
AARG 1991/92 to 1998/99	9.9%	14.9%	8.4%	

Source: Annual Report 1996/97, Director-General of Civil Aviation, Government of India, New Delhi and *Infrastructure*, Centre for Monitoring Indian Economy Pvt Ltd. Economic Intelligence Service, December 1999.

Exhibit 8: Tourist Charter Flights to Goa, Trivandrum and India 1992/93 to 1996/97

	1992/93	1993/94	1994/95	1995/96	1996/97
Flights					
Goa	171	232	285	282	274
Trivandrum	0	0	0	22	51
All India	317	748	936	844	834
Passengers					
Goa	57,048	70,748	111,324	121,348	129,403
Trivandrum				8,556	21,960
All India	95,106	146,604	165,562	169,624	188,916
Passengers per flight					
Goa	167	152	195	215	236
Trivandrum				194	215
All India	150	98	88	100	113

Source: *Annual Report 1996/97*, Director-General of Civil Aviation.

Exhibit 9: Number of Passengers Travelling on Scheduled Flights Between Indian Cities and Selected World Regions, 1996/97
(sum of passengers in both directions in thousands)

City	Middle East	Europe	South Asia	South East Asia	North East Asia	North America	Other Regions	Grand Total
Ahmedabad	41	0	0	0	0	0	0	41
Amritsar	0	0	4	0	0	0	0	4
Bangalore	10	0	0	23	0	0	0	33
Calcutta	13	38	299	173	6	0	18	547
Calicut	123	0	0	0	0	0	0	123
Chennai	237	117	300	504	0	0	0	1,159
Delhi	661	991	499	350	155	154	204	3,016
Goa	7	0	0	0	0	0	0	7
Hyderabad	89	0	0	0	0	0	0	89
Bombay	2,366	822	170	298	158	194	266	4,274
Trichy	4	0	27	0	0	0	0	31
Trivandrum	488	0	266	13	0	0	0	767
Varanasi	0	0	64	0	0	0	0	64
Total	4,039	1,969	1,627	1,361	319	348	489	10,155

Source: Annual Report 1996/97, Director-General of Civil Aviation, Government of India, New Delhi.

Exhibit 10: International City-Pair Passenger and Cargo Traffic - Kerala's Airports 1996/97 (sum of both directions of travel)

	Passengers (thousands)			Cargo (tonnes)		
Region/City	Calicut	Trivandrum	India	Calicut	Trivandrum	India
Middle East						
Abu Dhabi	0	83	329	0	2,858	7,755
Bahrain	12	61	258	7	3,445	10,518
Dhahran	0	39	229	0	1,132	7,274
Doha	12	27	161	45	1,202	4,230
Dubai	0	87	915	0	2,351	27,970
Fujaraih	2	0	2	0	0	0
Kuwait	14	69	497	26	2,451	13,568
Muscat	0	121	515	0	1,433	9,470
Ras Al Khama	3	0	3	3	0	3
Sharjah	80	0	196	109	0	35,478
Sub-Total	123	487	3,104	190	14,872	116,266
South Asia						
Colombo	0	121	494	0	522	4,643
Male	0	145	145	0	3,564	7,735
Sub-Total	0	266	639	0	4,086	12,378
South East Asia						
Singapore	0	13	734	0	363	44,492
Total	123	766	4,476	190	19,321	173,136

Source: Annual Report 1996/97, Director-General of Civil Aviation, Government of India, New Delhi.

Exhibit 11: Domestic Airport Traffic at Top 15 Airports in 1998/99

		Passengers		Cargo		Aircraft Movements	
Rank	City	Number ('000)	AARG 7 years	Number ('000)	AARG 7 years	Number ('000)	AARG 7 years
1	Bombay	6,181	5.6%	59	18.9%	66	11.3%
2	Delhi	4,091	4.7%	48	5.1%	45	8.1%
3	Calcutta	1,911	1.5%	27	3.3%	18	2.3%
4	Bangalore	1,855	6.6%	22	9.4%	25	0.5%
5	Chennai	1,788	4.0%	15	3.6%	21	8.3%
6	Hyderabad	1,170	4.6%	9	9.3%	13	na
7	Ahmedabad	630	6.8%	6	16.4%	10	9.7%
8	Goa	515	18.9%	3	43.1%	6	9.1%
9	Cochin	395	4.8%	2	5.2%	6	3.2%
10	Guwahati	371	0.1%	5	4.2%	6	-9.2%
11	Pune	314	11.0%	1	10.9%	6	87.8%
12	Trivandrum	310	2.0%	6	5.5%	3	1.6%
13	Jammu	243	9.8%	1	-5.3%	4	11.5%
14	Jaipur	232	2.8%	1	-6.5%	6	3.8%
15	Calicut	224	7.8%	2	50.5%	3	13.8%

Source: Annual Report 1996/97, Director-General of Civil Aviation, Government of India, New Delhi and Airports Authority of India.

Exhibit 12: Selected Economic Indicators - India

	Exchange Rate	Price Level Changes			GDP at Factor Cost	Population
	Rs per US$	Industrial Workers General Index 1981-82=100	Urban Non-Manual Employees (1984-85=100)	Wholesale Price Index (1981-82=100)	(Rs. billions in 1980-81 prices)	(millions)
1990-91	18.0	193	161	183	2123	849.6
1991-92	24.5	219	183	208	2140	867.8
1992-93	29.0	240	202	229	2252	883.9
1993-94	31.4	258	216	248	2391	899.9
1994-95	31.4	279	232	275	2577	916.0
1995-96	33.5	313	259	295	2761	934.2
1996-97	35.5	342	283	315	2968	949.9
1997-98	38.2	366	302	330	3119	965.6
1998-99	41.5	414	337	353	3306	981.3
1999-00	43.1	421	347	359	3504	996.9

Sources: The World Bank (1998). India. 1998 Macroeconomic Update. Reforming for Growth and Poverty and and Department of Economics and Statistics (2000). Statistical Outline of India 1999-2000, Tata Services Limited, Bombay.

Exhibit 13: CIAL Forecasts

	Year				
	1	2	3	4	5
Number of passengers (thousands)					
International	651	757	876	1,010	1,161
Domestic	434	512	600	701	817
Flights	*6,305*	*7,394*	*8,406*	*9,779*	*11,338*

Source: Forecasts prepared by Kerala Industrial and Technical Consultancy (KITCO), Cochin for CIAL.

Exhibit 14: Air India Initial Schedule for Cochin International Airport June 1999

	Notes	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
From Cochin to:								
Abu Dhabi								14:30
Baharian	Mon. via Doha	18:45						
Doha		18:45						
Dhahram		14:30			13:05			
Dubai	Sun. via Abu Dhabi		13:15				18:25	14:30
Muscat				8:30				
Trivandrum								
To Cochin from:								
Abu Dhabi								
Bombay	To int'l connects	17:45						
Baharian			6:15					
Doha								
Dhahram		11:40			11:00			
Dubai	Sat. via Trivandrum						17:00	
Muscat				7:30				
Trivandrum							17:00	

Exhibit 15: Domestic Airline Schedules for Cochin International Airport
Direct Flights May 2000

	Airline	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
From Cochin to:								
Agatti	Indian Airlines	09:15	09:15	09:15	09:15	09:15	09:15	-
Bangalore	Indian Airlines	-	-	-	04:45	-	04:45	-
	Indian Airlines	14:55	14:55	14:55	14:55	14:55	14:55	14:55
	Jet Airways	08:20	08:20	08:20	08:20	08:20	08:20	08:20
Chennai	Air India	-	-	11:55	-	-	-	-
	Indian Airlines	-	10:30	-	-	-	10:30	-
	Jet Airways	14:00	14:00	14:00	14:00	14:00	14:00	14:00
Calicut	Indian Airlines	-	-	08:15	-	-	-	08:15
Coimbatore	Indian Airlines	-	03:15	-	03:15	-	03:15	-
Goa	Indian Airlines	13:15	-	-	-	13:15	-	-
Bombay	Air India	-	02:30	14:30	-	-	-	-
	Indian Airlines	12:20	12:20	12:20	12:20	12:20	12:20	12:20
	Jet Airways	08:35	08:35	08:35	08:35	08:35	08:35	08:35
	Jet Airways	10:30	10:30	10:30	10:30	10:30	10:30	-
	Jet Airways	13:30	13:30	13:30	13:30	13:30	13:30	13:30
Tiruchirapalli	Indian Airlines	-	03:55	-	03:55	-	03:55	-
Trivandrum	Indian Airlines	11:35	11:35	11:35	11:35	11:35	11:35	11:35
To Cochin from:								
Agatti	Indian Airlines	11:15	11:15	11:15	11:15	11:15	11:15	-
Bangalore	Indian Airlines	10:00	10:00	10:00	10:00	10:00	10:00	10:00
	Indian Airlines	-	-	18:50	-	18:50	-	-
	Jet Airways	06:30	06:30	06:30	06:30	06:30	06:30	06:30
Calicut	Indian Airlines	-	16:00	-	-	-	16:00	-
Coimbatore	Indian Airlines	-	-	-	16:40	-	-	16:40
Goa	Indian Airlines	-	08:40	-	-	-	08:40	-
Bombay	Air India	12:15	-	-	-	-	-	-
	Indian Airlines	10:00	10:00	10:00	10:00	10:00	10:00	10:00
	Jet Airways	05:55	05:55	05:55	05:55	05:55	05:55	05:55
	Jet Airways	08:15	08:15	08:15	08:15	08:15	08:15	08:15
	Jet Airways	11:15	11:15	11:15	11:15	11:15	11:15	11:15
Tiruchirapalli	Indian Airlines	16:35	-	16:35	-	16:35	-	-
Trivandrum	Indian Airlines	13:50	13:50	13:50	13:50	13:50	13:50	13:50

Exhibit 16: Actual vs. Projected Monthly Passengers and Flights
(actual are averages for November 1999-January 2000)

	Passengers/month		Flights/month		Passengers/flight	
	Internat'l	Domestic	Internat'l	Domestic	Internat'l	Domestic
Actual	20,727	36,276	147	208	141	174
Projected	54,250	36,167	190	335	285	108
Difference	-33,523	+109	-57	-127	-144	+66
	(62%)	0%	(23%)	(38%)	(51%)	61%

Source: PriceWaterhouseCooper report to CIAL

Note: One flight is equivalent to one landing and one takeoff of an aircraft. Therefore the number of passengers per flight is the sum of the incoming and outgoing passengers on one flight.

Exhibit 17: Actual vs. Projected Monthly Revenues in Millions of Rupees (actual are averages for November 1999-January 2000)

	Landing & allied charges	Pass. service fees	Cargo hand. Charges	Fueling operat's	Ground services	Duty free shop	Parking & other rents	Total
Actual	8.62	1.65	0.00	0.28	2.85	0.00	1.51	14.91
Projected	15.97	11.75	1.56	0.39	6.88	5.34	4.37	46.26
Difference	-7.35	-10.10	-1.56	-0.11	-4.03	-5.34	-2.86	-31.35
	(46%)	(85%)	(100%)	(28%)	(58%)	(100%)	(65%)	(68%)

Source: PriceWaterhouseCooper report to CIAL

Exhibit 18: CIAL Actual vs. Projected Capital Expenditures in Millions of Rupees

	Actual by 2000	Projected in 1995
Land	712.61	550.00
Land development & civil works	831.24	628.50
Terminal building	400.24	222.60
ATC tower	96.36	98.20
Cargo complex	70.08	20.00
Ground lighting system	18.07	24.80
Electrification & stand-by power	105.86	51.40
Vehicles/miscellaneous assets	106.87	10.00
Contingencies	0.00	52.78
Preliminary & pre-operative expenses	700.64	386.54
Total:	3041.97	2044.82

Source: PriceWaterhouseCooper report to CIAL

Exhibit 19: CIAL Actual vs. Projected Capital Structure in Millions of Rupees

	Actual in 1999	Projected in 1995
Debt		
Term loans from financial institutions and banks	1816.0	1363.1
Equity		
Airport Society, Gov't of Kerala, & State Government owned entities	304.5	334.0
Banks and financial institutions	87.5	177.2
Central Government owned entities	102.5	0.0
Private investors	269.8	170.4
Subtotal Equity	764.3	681.7
	2580.3	2044.8
Debt/equity ratio	2.38	2.00

Source: PriceWaterhouseCooper report to CIAL