

The Birth of Kansai International Airport

By Uno Maki

Following a long and difficult delivery, the Kansai International Airport was finally born. Twenty-five years after the initial announcement of plans to build the airport, Osaka—a commercial center once called “Japan’s kitchen” and the country’s second largest city—at long last has a new symbol.

What does a first-time arrival to the airport see when gazing out of the airplane window? A small, rectangular manmade island, 4.3 kilometers long by 1.2 kilometers wide lying in the waters of the inland sea with the sole function of serving as an airport. Looking at the clear, straight lines of roads and runways intersecting the island, one wonders if such a purely functional island exists anywhere else in the world, or if any other island could look unnatural.

What is KIX?

The Kansai International Airport (KIX) was built five kilometers off Senshu, a southern section of Osaka. The sea floor in this area consists of a 20-meter-deep layer of alluvial deposits, providing a weak, watery foundation for construction. Below this lies a layer of diluvial deposits, which provides only a slightly firmer base. Geologically speaking, at least, the spot was by no means an appropriate place for building an island.

The primary consideration for constructing the airport here was noise pollution, a problem which surrounds airports located close to urban areas. Prior to the opening of KIX, the Osaka International Airport (or Itami Airport),

located 30 minutes from downtown Osaka, was the window to the skies of Osaka and the Kansai region. During nighttime approaches, cabin lights are turned down so passengers can drink in the beautiful view of the city.

A location close to Osaka’s heart may provide a wonderful night skyline for night fliers, but it also means that it is closer to a high concentration of homes whose residents suffer from the constant noise of low-flying planes.

When air traffic networks increased and the number of flights began to explode in the late 1960s, the issue of noise pollution around airports first came to light and local residents initiated lawsuits against the government. To date the government has poured ¥6 trillion into noise pollution measures.

pollution, with high expectations. Ultimately, however, the enormous costs involved in the building of manmade islands were too high and none of the plans were pursued. Japan, however, pushed ahead with its offshore airport for the simple reason that with 70% of its land covered by mountains, it really had no other choice. Thus, KIX was born.

An accumulation of high-technology

The island which holds the Kansai International Airport is sinking at the rate of 1 millimeter per day. The dumping of fill to form the 511-hectare island began in 1988 and was completed three years later in 1991. With such a rush job, it should come as no surprise that the

ground continues to settle today. Still, more than a few people have a gut fear at the thought of landing on a sinking island. During a pre-opening tour of the airport, the president of one European airline was even heard to ask “Won’t [the settling] break up the runways?”

Of course provisions for the settling of the foundation are part of the airport plans and settlement will have no effect on landings and take-offs. There is, however, the problem of uneven settling.

The passenger terminal, for example—a long, narrow building

designed by Italian architect Renzo Piano—stretches for 1.7 kilometers. If left to nature, uneven settling would cause the building to lean this way and that. As a preventive measure, 360,000 tons of iron ore were spread out under



Kansai International Airport will link the local region with 21 countries around the globe. Will it become a new Asian air hub?

Photo: Kansai International Airport, Co., Ltd.

Since then, locating bothersome facilities offshore has gradually become the solution.

At one time, many countries drew up plans for offshore airports, which solve most of the problems concerning noise

the building. In addition, the building was built on 900 pillars, each having the capability of being jacked up independently. A computer system regularly monitors and corrects any misalignment of the building by jacking up pillars to compensate for uneven ground settling. When a pillar is being jacked up, the creaking of the moving building echoes throughout the huge terminal.

Problems of a privately-run airport

KIX is Japan's first airport run as a corporation. In the past, the Japanese government set five-year development plans for airports and took charge of developing the country's airports. Financial resources came from airport use fees paid by airline companies, which were pooled to create an airport special budget. Though the idea of airports as a business enterprise was new to Japan, the timing of planning for the Kansai International Airport coincided precisely with calls in Japan for "belt-tightening" and "private sector vitality." Consequently, the airport was set up as an independently-run, profit-making enterprise.

The problem came with financing. The project drank up money as fast as the sea drank up the fill for building the island. Construction costs hit ¥1.5 trillion. Loans covered 70% of these costs, resulting in interest payments of ¥200 million per day.

With the prevailing economic and business sentiments of the day, the upshot of this experiment is showing up now in the airport's unbelievably high user fees, with landing fees as a prime example. Each time an airplane lands, the airline pays a landing fee to the airport. Every airport around the world sets its own fees.

The landing fee at KIX—¥900,000 for a jumbo jet—is outrageously high. For comparison, Germany's Frankfurt Airport, which has a reputation as an expensive airport, has a landing fee half that of KIX. At other airports the landing fees are even lower—¥50,000 for a jumbo jet at the San Francisco International Airport and ¥70,000 at London's Heathrow Airport. KIX's high

fees exist for one reason—to recover the enormous construction costs.

KIX's fees ran into trouble with the International Air Transport Association (IATA), an organization which negotiates these fees and to which all airlines belong. IATA finally granted approval for the fees just three weeks before KIX opened, but only with the condition that the fees be once again reviewed in two years.

KIX is trying to make back its money by boosting other fees as well. The toll charged to cross the 3.75 kilometer-long bridge that provides the only access to the airport is ¥1,700 for a round trip; it costs ¥800 per person to use the observation deck to see off departing friends or relatives; passengers on international flights pay a ¥2,600 "airport tax." What will people think of all these extra costs?

Hopes for KIX

The Kansai region has at its center three unique Japanese cities—the bustling commercial center of Osaka, and the center of tradition and culture located in Kyoto and Kobe, long a center of international trade. Along with the Kanto region centered around Tokyo, the Kansai area developed as one of Japan's two great metropolitan centers. However, with the increased concentration of economic power, information and population in Kanto—the center of Japan's political world—the gap between the two regions has widened. Hopefully, the Kansai International Airport is just the thing needed to knock Kansai out of its doldrums vis-à-vis Tokyo and the Kanto region.

As airplane technology develops, so does the importance of airports as an urban infrastructure. Singapore, a country of few natural resources dependent on international trade, implemented policies to turn itself into a nation built upon its airports. In a mere 10 years since its opening, Singapore's Changi Airport has developed into one of the world's top air-

Landing Fees at Airports Around the World (for a Boeing 747-300 [372 tons])

United States	J.F.K. Airport	¥252,560
	San Francisco Airport	¥49,800
France	Charles de Gaulle Airport	¥378,965
Germany	Frankfurt Airport	¥443,219
Britain	Heathrow Airport	¥69,263
India	New Delhi Airport	¥260,739
Thailand	Bangkok Airport	¥164,845
Hong Kong	Hong Kong Airport	¥274,746
Japan	Kansai International	¥892,560

Source: Civil Aviation Foundation, January 1994.

ports, with planes landing and departing from 53 different countries. Singapore now sits securely as the door to the steadily developing countries of Southeast Asia.

The Kansai metropolitan area is also aiming to revitalize itself around a vibrant airport like Changi's. More than 400 projects related to the new airport are now being developed along the bay that faces KIX—at a total cost of ¥40 trillion. New urban centers with office buildings and convention facilities are going up one after another. These projects were brought to a temporary halt in the midst of Japan's worse business climate in decades, but now that business conditions are beginning to brighten, project development is reviving.

People passing through the airport will bring money and information that will lead to business. According to the forecast of one economic research center, the Kansai region's total production will increase by ¥20 trillion in the first five years following the airport opening. Predictions like this clearly include many unknowns, but it is also clear that the Kansai International Airport, the new symbol of the vitality and future of the Kansai region, has taken the first step towards becoming Japan's window to the skies. ■

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