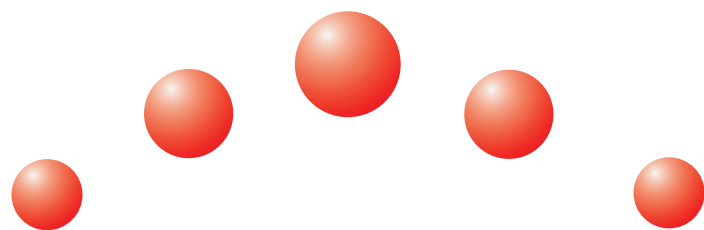
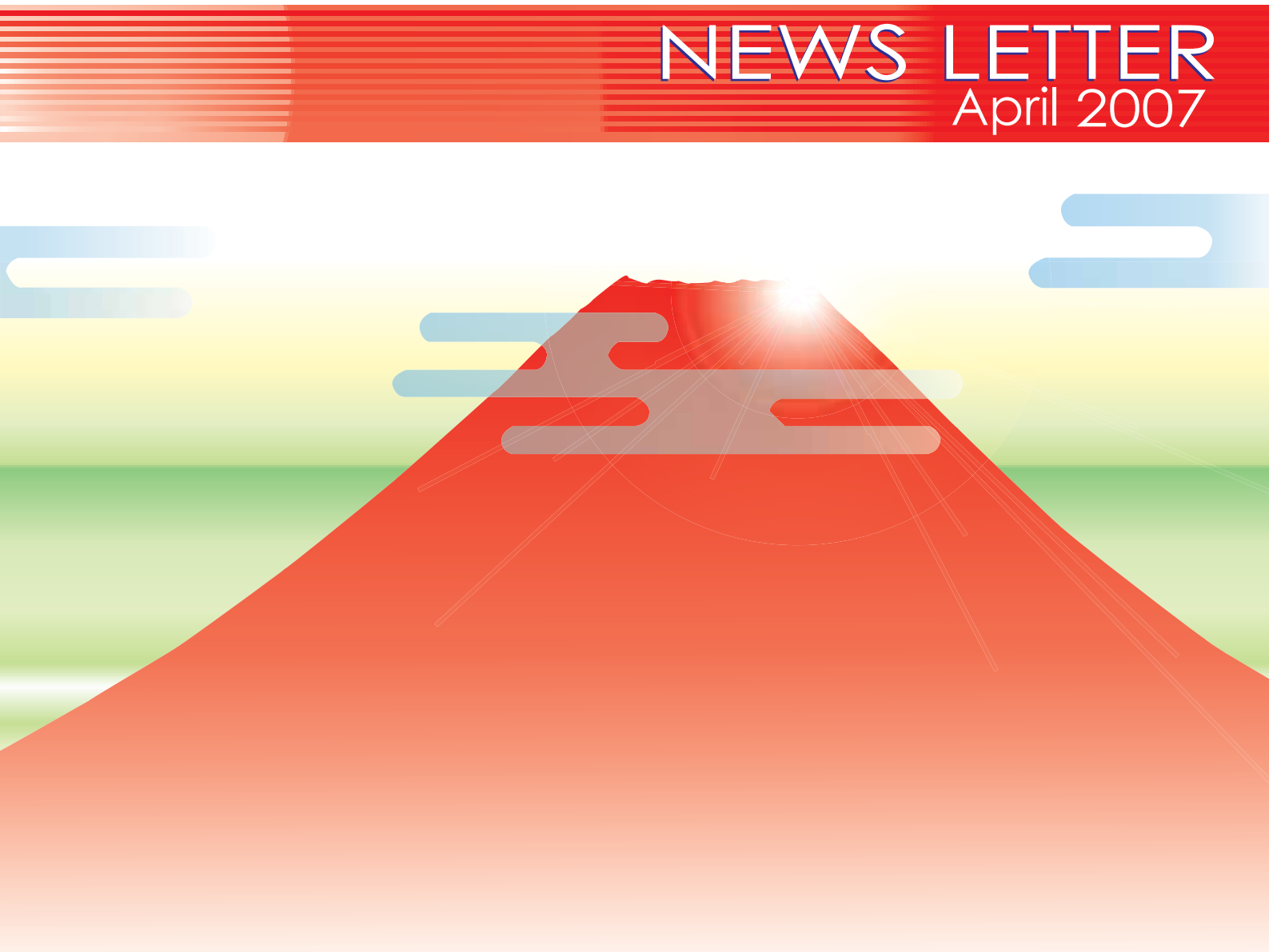


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AJCE



NEWS LETTER
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ASSOCIATION OF JAPANESE CONSULTING ENGINEERS
(FIDIC Member Association)



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AJCE and Its Activity, 2007



Akihiko HIROTANI
President, AJCE

The Association of Japanese Consulting Engineers (AJCE) was established in 1974, by the members of the Japanese Consulting Engineers Association (now called The Institution of Professional Engineers, Japan; IPEJ). Through its 33-year history, AJCE has been the sole Japanese association adhering to FIDIC and the representative consulting engineers of Japan ever since.

In recent years, a role of consultant for contributing to society changes greatly. Globalization in economy and social activities advances rapidly. Especially, powerful movement in Asian countries brings dramatic growth in economic activities of consulting industry. Under these business environment, much variable and wider engineering skills are in demand not only for construction, but also for position of solution to environmental problem, and social problem, such as population, gender, education, etc.

In Japan, we had some serious cases in last year, the bid-riggings in public projects in Miyazaki and Wakayama prefecture, and the scandal concerning falsified quake-resistance data in the private projects. These scandals were caused for the situation that price plays the most prominent priority for contracting out the construction. A new law, named the Act for Promoting Quality Assurance in Public Works had been put into force in April 2005. It emphasizes a particular clause, which specifies "cost and other items shall be taken into consideration to secure the quality of end result when necessary". The new law also specifies that designers play a very important role to quality of product, requiring consultants to keep up engineering skills at the highest level of the profession.

Among other news;

In September, the FIDIC annual conference was held at Budapest Hungary, Mr. Hirotani was elected the new chairman of the FIDIC member associations in the Asia-Pacific Region (ASPAC). Our members also played various roles at the conference that proved AJCE to be one of the major and contributing member associations at FIDIC.

In November, the annual seminar was held, with the program about important issue, FIDIC New White Book (4th Edition), Project Sustainable Management, Quality Based Selection. Many members from AJCE participated.

In December, AJCE modified its Home Page in English, making it much more attractive, and more in line with the members strong determination to contribute to higher level of activities and to assist domestic consultants to access international environment.

All of AJCE's eight committees including Ethics, Policy & Planning, General Affairs & Finance, Membership, International Activities, Engineering Development, Professional Development and Publicity & Relations have continued to be very active.

AJCE shall continue those activities in the coming year. We are also participating in the FIDIC activity, like that FIDIC/ASPAC/TCDPAP meeting at Lahore Pakistan in March, and the FIDIC Singapore Conference in September.

Collaboration with other related associations for consulting industries has been strengthened. AJCE is playing an important role in this case as importer and provider of up-to-date international topics

and news to domestic consultants. Through these activities, AJCE contributes to promote economical and technical cooperation multilaterally. AJCE shall expect encouraging advice and

comments from colleagues, clients and other related interest holders to our consulting industry in and out of the country.

Thank you.

Restoration of National Scenery after the High Economic Growth in Japan

Those who destroy, or create scenery



Dr. Yumio ISHII
Former President , AJCE

In Japan, the scenery so much admired once in the world had been severely destroyed over 60 years after the World War . As one of the civil engineering consultants responsible for these degradations, I would like to describe what caused the degradation and how we could restore beautiful scenery.

.Why were the beautiful scenery destroyed in Japan?

First, "scenery" is expression of a life-style and a sense of worth, or concept of culture. The cultural differences between Japan and Europe appear most prominently in the scenery.

Japan: The culture of giving priorities to business, which allowed industrial areas to surround Mt. Fuji, a Japanese national spiritual symbol.

Germany: The culture of putting greater emphasis on cultural symbols than on economy, which appears in the restoration of The Dresdner Frauenkirche church in 2005.

Westerners had highly acclaimed Japanese scenery in past times, even if their exoticism of Japonism had added to it. However, the history of infrastructure construction in Japan after World War was also the history of the degradation of scenery. It was only after the enactment of Environmental Policy of Ministry of Land, Infrastructure and Transport (1991) and the amendment of River Law (1997) that the people finally recognized scenery are important

infrastructure. Why did we take very long time to realize that scenery was also one of the infrastructures? What are the concerning factors?

1.The Factors in Japanese culture, history, and nature.

(1)We took too many advantages of rich nature in Japan.

Nature in Nagasaki Bay has as large capacity as the Mitsubishi dockyard could be well housed. However, in Copenhagen, also a harbor city, factories across the port are destroying the scenery surrounding the statue of Little Mermaid.

(2)Increase of Population and Human activity, too big for the capacity of nature. Population increased from 33 million in 1868, the first year when Modernization of Japan had begun, to 130 million at present.

(3)The Japanese themselves have forgotten the importance of the scenery.

The complaint about the degradation of the scenery, which had been raised against the Shinkansen route plan between Kyoto and Osaka, had been socially criticized as aiming for compensation money.

(4)Japanese culture adhering to details.

Japanese culture traditionally thinks that "Beauty lies in the details", and neglects the perspective of Beauty of Total System like scenery. People build their beautiful houses, but they do not realize that their houses are actually making the

scenery in the city. In this regard, architects have big responsibilities for the situation.

- (5) The excessive awareness of private property ownership.

People misunderstand the meaning of "Freedom", which they think they can build anything in their own land.

2. The factors in civil engineering

- (1) Modernization with haste

Since Meiji Restoration in 1868, modernization meant the introduction of Western systems. While all technologies of infrastructures were introduced from western countries with the fundamental differences in culture and nature, some features that did not meet conditions in Japan were disregarded.

- (2) Absolute shortage of resources

There had been no resources that could be utilized for environment after the World War , not to mention the 80 years from Meiji Restoration through the War. The Nihom-bashi Bridge in the center of Tokyo, which had been the symbol of the downtown Tokyo for 400 years, was covered with the expressway, and the river channels had become the expressways.

- (3) Lack of self-awareness of civil engineers and others who are concerned with infrastructure construction

They were insufficiently aware of their self-awareness that the civil engineering technology has had a greater power to influence the nature and the society.

- (4) Premature technologies of civil engineering

Engineering technologies have been considered only in dynamic stability and rationality, and prevented from the development of engineering technology useful for the social system. Scenery had been further behind in their consideration.

- (5) Deficiency of the education of civil engineering

There are few universities whose civil engineering department offers Scenery courses. Also, Aesthetics and Arts are not usually in the curriculum of civil engineering education.

. Future of infrastructure and scenery

1. Re-evaluation of civil engineers' efforts

There were some achievements even before the World War , from Meiji Restoration in 1868 through early 1930s, that civil engineers had taken the scenery elements into consideration. For example, the bridges over the Sumidagawa River such as the

Kiyosubashi Bridge Suspension in Tokyo (the designated cultural heritage in civil engineering) have been working for more than 70 years. Because of its good design, construction, and maintenance for the bridges, they have been enduring U.S air raids and recent overloading.

The Suirokaku Aqueduct in the Nanzen-ji Zen temple, Kyoto from the Biwako Lake Canal has been working over 100 years. The design blending in with the temple precincts is the one of the main attractions for tourists.

2. The collaboration with the different disciplines

Civil engineers also have some of the collaborative achievements with the different disciplines, as mentioned in the speech by Mr. Furuichi, the first President of Japan Society of Civil Engineers in his inaugural address in 1914.

The bridges for Hiroshima Peace Park were structurally designed by civil engineers, but their railings were artistically designed by Isamu Noguchi, who is internationally famous sculptor. It is this bridge design that influenced young Issei Miyake so much as to intend to be a designer.

A private railway owner also has taken into consideration of the scenery. It was very exceptional activity at that time. The Sumidagawa River bridge of Tobu Railways Asakusa Station took a unique structure called "through bridge" so that passengers could enjoy the views of both upstream and downstream side of the river without being obstructed by the bridge girders.

Consulting engineers collaborate in "Scenery" with architects, sculptors, urban and regional planners, lighting designers, and farm village planners. Symposiums called "Creating Beautiful Scenery" are held in various locations around Japan.

3. Expected actions for consulting engineers

I have to admit that consulting engineers participated in degradation of the scenery, but there are great expectations for them in creating beautiful scenery. That is because civil engineering consultants essentially have broad perspective about time and space. Civil engineering consultants design infrastructure, having an eye on 100 years and 200 years from now. Basically, they do not have the sense that they work for their company. They have strong awareness about the priceless value that something like scenery has. They learned a lesson, and are proactively working for restoring and reproducing the beautiful scenery.

There were already pioneering activities in the High Economic Growth period.

Tomei Expressway (1964): The view of Mt. Fuji from Ooi Matsuda interchange area is the best scenery on the expressway.

Furukawa Shinsui (Water Amenity) Park (1974): The polluted river that had been scheduled to be land filled was cleaned up, and became a familiar river among people.

The Megane-bashi Bridge in Nagasaki (2006): The bridge of cultural heritage swept away by the flood had been restored to the original design, and is now the main attraction for tourists.

The Nihom-bashi Bridge: Also, there have been started the movements for reviving the Nihom-bashi Bridge as the symbol of Tokyo. Local stores, corporate group, Female Office Worker Club, and

the Ministry are working with these movements.

They are very active to re-create scenery damaged by the past Tokyo Olympics, aiming at the next Tokyo Olympics.

.Conclusion, some suggestions to civil engineers consultants

- (1) Promote participation of citizens and integration of technologies.
- (2) Try to improve the people's awareness of the importance of scenery.
- (3) Recognize high responsibility as a professional
- (4) ~ especially a consultant bears heavy responsibilities as a designer
- (5) Provide art education to civil engineers.
- (6) Cooperate with experts in many different disciplines.

A Foreigner's Look at AJCE's Activities over the past decade



Eigil Steen Pedersen
PAST PRESIDENT OF FIDIC

1. Introduction

Initially I must admit that I do not have a profound knowledge of life and working conditions in Japan, having only visited the country three times over some 25 years. However, apart from these visits I feel that I have come to know Japan well through colleagues in the consulting engineering community over the same period from regular encounters at annual conferences in FIDIC, The International Federation of Consulting Engineers. Many of these colleagues - and their wives have over the years also become very good friends of my wife and myself.

The biggest experience, culturally and business wise, was our attendance at the FIDIC Annual Conference in Tokyo in 1991, followed by an unforgettable post-conference tour to Nara and Kyoto. But also my participation as FIDIC president in the World Water Forum in Kyoto in

2003, followed by interesting meetings in Tokyo, arranged by AJCE as well as visits to old friends, have added to my deep respect for Japanese culture and, indeed, for the effectiveness and progress of the Japanese consulting engineering profession, mainly represented by AJCE.

After my retirement from FIDIC leadership I try to keep contact with my Japanese colleagues at FIDIC events, but the last two years I have also had the opportunity to participate in AJCE's research on the application of Design-Build and Design-Build-Operate activities, in 2006 in general construction, and in 2007 with special focus on water supply and waste water projects.

As stated earlier I can not claim to have a profound knowledge of the working conditions of AJCE, so I beg the readers to excuse any errors in my deliberations owing to such shortcomings.

2. On AJCE

Right from my first participation in FIDIC activities I

have seen AJCE as a very active participant and contributor. No doubt, AJCE saw it as its prime responsibility to further the interests of the Japanese consulting engineering profession, but I have never seen this done at the expense of the global interests. In this connection I can confirm that the Japanese views were listened to with interest, whether by the international colleagues or by representatives of international organisations such as The World Bank or Asian Development Bank.

The most important issue over the years has no doubt been the struggle for maintaining Quality Based Selection as the preferred basis for selection of consulting engineers, whether in the domestic market or internationally. Together with its American colleagues they have been the front fighters worked actively for counteracting the tendency of using Cost as the preferred basis of selection. This campaign has not always been successful, but I would be afraid to see the situation, globally, without these efforts. Recent reports from the international development institutions seem to indicate that QBS - or some civilized versions of QCBS - Quality and Cost Based Selection - are gaining impact.

Another issue where AJCE has been front runner is the involvement of young professionals in the management of our profession, whether in the individual firms, in national associations or at international level. During my visit to AJCE in March 2003 I was impressed to learn about the activities of AJCE's task force on young professionals, and I was pleased to have AJCE's support to introducing FIDIC's Young Professionals Management Training Programme, where I have been mentor since its introduction together with colleagues from other parts of the world, including Japan. I hope that these initiatives will result in the necessary "rejuvenation" of management in the firms as well as the organisations.

My latest experience - the participation in the research on methods of contract execution - shows that AJCE has accepted the importance of bench marking its industry with its colleagues at global level. I hope that AJCE members appreciate this initiative, and that its results may assist in intensifying the very important dialogue between the association, its members and important clients. I also hope that the clients understand that such research is not only in the

interest of our profession, but ultimately extremely important for their own struggle to optimize the quality of their investments. The need for such initiatives is abundant, and I wish AJCE success in its continued efforts in this work.

Finally I take the liberty to touch one of the issues, which I feel must be dealt with in the future, but my lack of in-depth knowledge of Japanese conditions may prevent me from proposing the right solutions.

The days, where our profession was sitting silently in our office and waiting to be called to a client, are over. On one side we have to accept responsibility for being a member of society - in my opinion an important member, too. On the other side I am sure that society at large knows far too little of our skills. We have to be visible in society - to be seen and heard. It is our own responsibility to see to, that it happens. In this respect it is important that our profession has a strong spokesman.

As FIDIC president I saw many good examples of such spokesmen globally, but I also witnessed examples where the spokesman was not seen to speak for the majority of the profession, or more that one spokesman "blurred the picture". In these cases society was sometimes confused, and surely the importance of our profession was not appreciated.

I can witness that the Japanese consulting engineering profession possesses the necessary skills and integrity, and each of the existing associations, AJCE, ECFA and JCCA are strong spokesmen in their respective markets. However, I feel that a stronger coalition between them, preferably a federation, could assist in creating and supporting the institution of an all-encompassing spokesman, visible to and respected by all sectors of society.

I was very pleased to be invited to present these views. Let me finish by repeating my deep respect for the activities of AJCE - and gratitude for having been considered a good friend of my Japanese colleagues. Globally, the importance of access to top-quality impartial advice is increasingly appreciated. This poses a great opportunity for our profession, but at the same time also a challenge, a responsibility to continuously develop and maintain the skills required to accept this position in society. I am sure that the Japanese consulting engineering profession is able to accept this challenge.

Consulting Engineers Firms in Japan - Present and Future

1. Brief Profile of Consulting Firms of Japan

1.1 Their Beginning ? After World War II

After World War II, in parallel to the restoration of the government administration organization, a considerable part of the public works began to be awarded to contractors, not direct execution by the government bodies as used to be done before World War II. Accordingly, the planning and design works also began to be awarded to the engineers firms who had been engaged in a vast number of the restoration works after the war. Those firms were mainly engaged in project study, planning, survey/investigation and detailed design. In 1959, Ministry of Construction issued decrees that design and execution of works had to be carried out by different firms. By these decrees, roles of the consulting engineers firms were clearly oriented to the design works of the public works. To support the growing society needs and economy of Japan, the public works, important structures for economic growth, had been expanding. The consulting engineers firms have been expanding their activities in survey/investigation, planning and design for the growing market of public works construction.

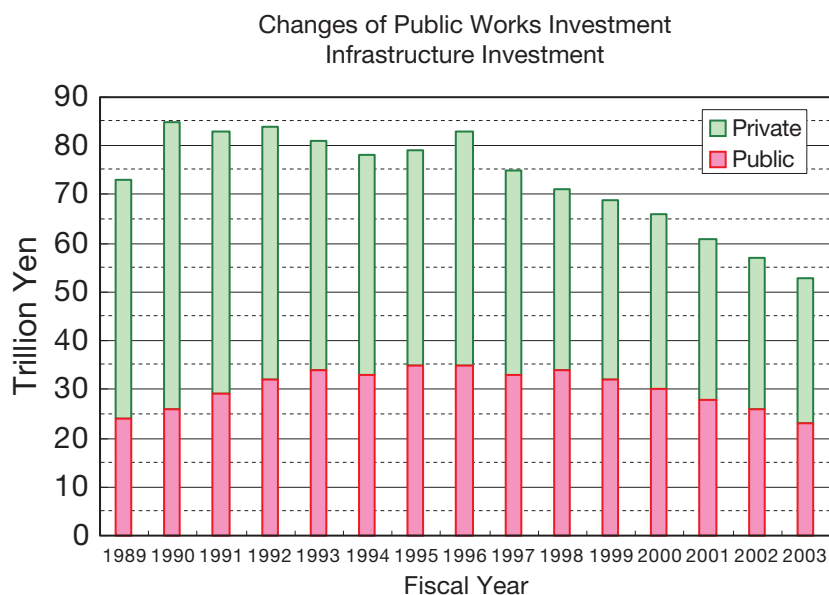
1.2 Their Status-quo

(1) Top 50 Firms

In 2003, the thirty consulting firms which capitals are more than 100 million yen have 327 employees and 7.58 billion-yen turnover both in average. Their operations are getting firmer. Responding to the recent decrease of the public works, they are creating new businesses. There are an increasing number of the firms to expand their operations outside of Japan applying their advanced technologies developed in the domestic market. MLIT chose 50 larger firms and summarized their total contract amount and number as shown in the tables below. Meanwhile, according to Japan Civil Engineering Consultants Association, their member firms accomplished in total 59.94, 57.25 and 49.82 billion yen in 2002, 2003 and 2004 fiscal year respectively.

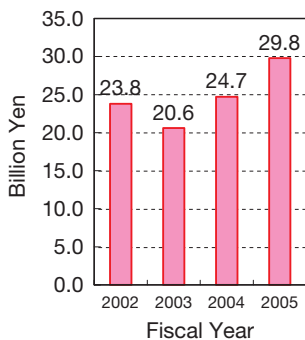
(2) Associations of Consulting Firms

As previously mentioned, design and execution of the public works have to be carried out by different firms, consulting firms have specialized themselves for study, survey/investigation, planning and design. According to their specialized fields, they have organized five business associations below:

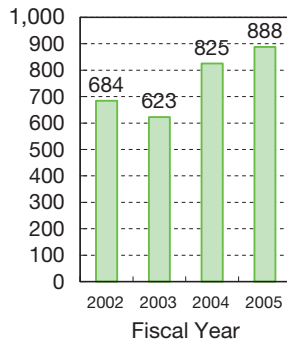


Source: based on data collected by Ministry of Land, Infrastructure and Transport (MLIT)

Contract Amount
(Outside of Japan)



Number of Contracts
(Outside of Japan)

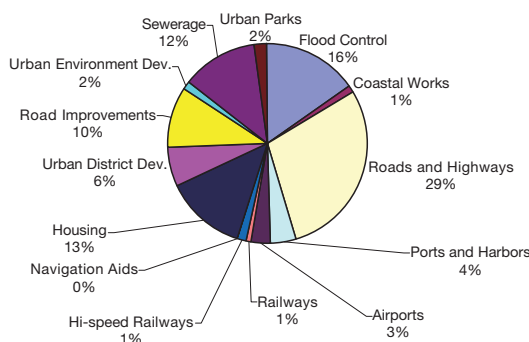


Source: based on data collected by MLIT

- Japan Civil Engineering Consultants Association (512 member firms, about 73,000 employees and 980.2 billion-yen turnover in total)
- Planning Consultants Association of Japan
- Association of Water and Sewage Consultants Japan (203 member firms)
- Consultants of Landscape and Architecture in Japan (102 member firms)
- Japan Consulting Engineers Cooperation

(3) Fields of Engineering
The planning and engineering fields of the consulting engineers firms are basically those for the public works. Percentages of the government budgets in fiscal year 2007 for each field of public works are shown in the pie graph below. From the graph, you may induce in what engineering field the consulting engineers firms are working in Japan.

Budgets for Public Works
(2007 Fiscal Year)



Source: Summary of Budgets of MLIT in fiscal 2007

1.3 Prospective Developments

There had been unique aspects in implementing the public works in Japan. Up to 1990's, there were many engineers and experts in the government offices, there was a wide range of roles for which they should act as an administrative officer and they played roles as planners, researchers, designers and supervisors. The Consulting Firms therefore, had long been played a role as surveyors, designers for details and inspectors for construction.

In 1990's, almost all the social infrastructures, which were devastatingly damaged during the war, were not only restored but also considerably upgraded to an acceptable level. However, rapid developments and changes brought about many imbalances among social sectors; especially the abrupt changes of the natural environments brought about serious impacts to the society, some of which were to an unacceptable situation.

As the general public wanted to be more prosperous, the construction of social infrastructures needed a huge amount of budget. In this regard, people's opinions on the public works gradually became altered. The priority changed from how to restore and catch-up to how to implement and manage the public works. In Japan, the opinion that the infrastructures have to be in consonance with the social environments now becomes the public consensus.

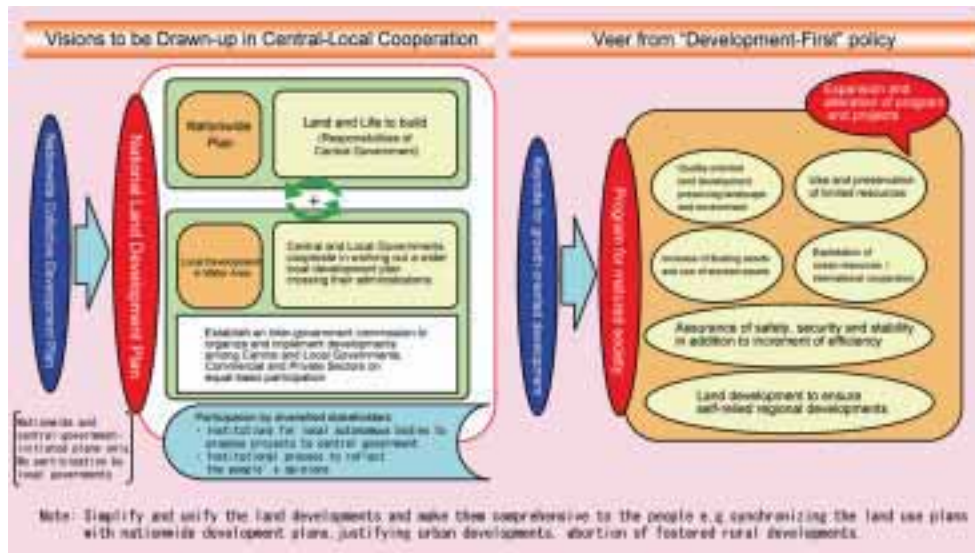
Council for Land Developments Program began to study how to create self-developing regional societies, how to advance to the international markets, how to upgrade safety and security for people's life and how to create rich natural environments.

While the implementing policy of Japan drastically changed "from construction to management," public works projects are strictly appraised in new principles as shown below:

- (1) Objectives have to be clear and the projects have to be appraised by their results.
- (2) They have to be effective and their implementation has to be transparent.
- (3) Pre-, during and post-implementation cost-effectiveness appraisals have to be carried out and, when it is reasonable, the projects may be suspended or the appraisal method should be improved.

Following the policy change, the consulting firms are equipped with appropriate kinds of software for working out measures for smooth

implementation of the public works. Shown below is the framework for the land development program of Japan.



Source: Translated by AJCE from White Paper on Land, Infrastructure and Transportation in Japan, 2005

2. Unique technical expertise of Consulting Firms of Japan

2.1 General Demands

For many years after the war, a huge investment had been continued for construction of infrastructures, especially quantitatively lacking infrastructures for transportation, flood control, water supply and sewerage. By now, social infrastructures have been almost quantitatively sufficient. At present, it is important for the consulting firms to participate in planning the projects suitable for the matured society such as blueprinted projects by Council for Land Developments Program.

2.2 Advanced Technologies developed in Japan

(1) Urban Developments

In Japan, the mountainous lands occupy almost 70% of the total area. Most people are living at the remaining 30% of low plains. In addition, a considerable part of the population concentrates at the 3 largest population giants of Tokyo, Nagoya and Osaka-Kobe and cities having more than 1 million population. As a considerable investment had been put for the urban infrastructures to mitigate chronic traffic congestion and overcrowded mass transit. In this regard, many a new technologies have been practiced in Japan.

Today, the consulting firms are engaged in the

planning stage of rather complicated infrastructure projects such as urban developments that institutionally require participation of the people, and that require sophisticated approach such as planning of a traffic node where different transport modal systems meet and more organic function is required.

(2) Environment

Sustainable Developments

A development at a certain place will generate changes of atmosphere, soils, water etc at the other places as long-term effects. Consulting firms assess the effects of those physical changes on the social environments and propose the measures to develop those projects sustainable.

Global Greenhouse Effects

The Kyoto Protocol in 1997 aims at "Carbon-controlled Society" to regulate the exhausted gas. Consulting firms in Japan are participating in establishing the mechanisms to implement the Kyoto Protocol.

Recycle-oriented Society

- At present, mass production and consumption have brought a huge quantity of wastes in Japan. Without proper measures, they might have caused contamination of soil and groundwater. To this end, not only large scale

of waste-treatments are being implemented but also new kinds of resources like incineration ashes are recycled from the process of waste-treatment. Consulting firms have acquired technologies for planning both waste treatment sites and incineration plants to best meet the demands of each project. They can apply their technologies for the demands of many countries.

Preservation of River Basin

Rivers themselves are important water resources. They provide inland waterway and vital biological environments. Their developments will cause considerable changes to the natural environments. On the other hand, they often bring disasters to the society like floods. River basin management, therefore, comprises of those for water quantity and quality control, for fishery and leisure regulation, and for flora and fauna conservation. Proper water basin policies reduce risks for the potential environment problems and, even though they are not prevented, may reduce the cost for the environmental restoration. Consulting firms have long been engaged in evaluation of river basin management.

Hydroelectric Generation by use of Small Water Head

Green house effects for example, a huge consumption of fossil fuel is threatening the global environment. Hydroelectric power generation therefore is in focus at present since it rather has less impact on the environments. In this regard, power generation technology of 1 to 200 kw/h has been developed to use 2 to 10 m rather small water head on the rivers having sufficient water quantity. This technology materializes power generation without a dam and with a less maintenance cost. It can be utilized for the electrification of remote rural areas.

(3) PFI (Private Finance Initiative), NPM (New Public Management)

Administration Reform and Private Finance/Initiatives
In these years in Japan as it is so in the developed countries, a considerable number of public works are implemented on a market economy basis to meet the demands of the society, in other words, without direct involvement of governmental administration. This is typically so in case that government

involvement is not effective and efficient, that public administration cannot properly respond to the people's demands and that implementation do not require a huge public finance. As a result, public works implementation has increasingly been utilizing private finance and initiatives. To meet the people's demands, consulting firms are providing project owners with technologies and consultation for the financial arrangements and legal requirements.

Evaluation on Governmental Administration/Scientific Approach for Decision Making
In developed countries, the similar manners and criteria as the private firms use have been introduced for evaluation on performance of the government administration. A scientific approach applied for the decision making and performance evaluation is being developed. In Japan, consulting firms are, by use of their experience for the project implementation, assisting the local governments, particularly those having financial shortage, in introducing NPM methodologies to meet the peoples' demands.

(4) Assets Management

Financial administration requires economical, effective and efficient use/maintenance of social infrastructures as they have been accumulated to support many functions of the society. For this requirement, consulting firms have developed a management system how to properly evaluate the public assets for their maintenance, depreciation and renewal.

(5) Disaster Prevention

Natural Disaster

Topography is mostly steep and mountainous; Earthquakes often shake the land; Typhoons have become more powerful in these years; Strong local rain falls and sudden outbreaks of torrents are more frequent. To cope with these particulars in Japan, consulting firms are engaged not only in planning and designing structural prevention measures but also in forecasting and preventing disasters to minimize the casualties and damages. Their involvements are as follows:

- System development to identify the risk areas and provide information to general public,
- Simulation and assessment of torrents or mud floods based on the geology including their

changes and provision of know-how for evacuation procedures, besides planning and designing of needed social and structural infrastructures, and

- Collection and analysis of records of earthquake disasters together with geology and geological strata, and preparation of a hazard map of the concerned areas, besides designing earthquake proof structures.

Social Disaster

At present, the urban activities are more complicated. It is more likely that one malfunction will disable the other activities. For preventing such potential domino effects, collective grasp on social infrastructures in the concerned area is needed. Consulting firms are engaged in establishing measures for the case that disaster takes place. They are engaged in planning and designing of shelters for refugees vacating the disaster areas, too.

(6) Information Technology

e-governments

Local governments are more and more procuring goods and services through IT networks. Procurements have been carried out on CALS/EC. Digitized data of documents, numerical numbers, and other information has decreased cost and increased efficiency. Consulting firms have been engaged in system engineering for e-governments.

e-applications and e-issuance

Application by the people and issuance by the governments for acceptance, approval, license, permission, etc. are utilizing IT networks at present. Consulting firms assist governments in designing such IT networks.

Facility Management

For effective use of social infrastructures, it is important to properly inventory them for the timely renewal and repair. This requires a system to store and process a vast number of available information in order. Consulting firms,

knowing the details of the infrastructures since they have planned, designed and inspected them, are best assisting the government offices in engineering the system.

(6) Technologies for Limited Working Space

Because of dense population and high value of real estate at the big cities of Japan, new construction is likely to cause problems to its vicinity like noise, vibration, ambient pollution, settlement of the ground, change of underground water level. Consulting firms have acquired various design and construction methods to tackle the problems. Technologies have been accumulated in Japan.

Tunnels and Underground Works

Steep mountains cover the most of the land of Japan and complicated geology exists at the most part of the land. Low plains, dense population inhabiting there, are mostly soft and having rather high elevation of groundwater. Under these natural and social conditions, construction of roads and railways, flood control, sewage systems need advanced technologies to tunnel the mountains or utilize the underground. For safety of structures at such construction sites, consulting firms have obtained know-how to deal with the settlement or movement of the ground, and to maintain the groundwater elevation.

3-dimensional Crossing

Because of dense population and multi-purpose use of land, it is unavoidable to have a crossing at a point among the transport system, sewerage system, power supply, water supply, etc. Consulting firms have developed a simulation method to forecast how each structure will be functioning under what kinds of conditions, both under construction and under use. The simulation enables consulting firms to apply highly advanced design technologies and establish the most effective work plan including timely delivery of materials to the site.

Achievement of the Year 2006
Consulting Services by AJCE Members

“Friendship Bridge II” (Mekong River) International Bridge Construction Project, Lao PDR and Thailand



Project Objectives

The Friendship Bridge II crosses the Mekong River and serves as international link to connect the countries of Lao PDR and Thailand.

In addition, the bridge also functions as an integral part of the Indochina's “East-West Economic Corridor (EWEC) which runs through Myanmar, Thailand, Lao PDR and Vietnam. The completion of the EWEC is expected to contribute greatly to the development of these Greater Mekong Subregion (GMS) countries. The bridge was opened on 20 December 2006.

Project Outlines

- 1) Bridge Type: PC Sail Type Continuous Box Girder
- 2) Foundation: Dia. 2.0m Cast-in-situ RC Piles
- 3) Length of Main Bridge: 1,600m
- 4) Length of Approach Bridge: Lao PDR 200m, Thailand 250m
- 5) Total Length of the Bridge: 2,050m
- 6) Width of the Bridge: 12.8m, 2 Traffic Lanes and 1.5m Sidewalks



- 7) Navigation Clearance: 10m above High Water Level
- 8) Traffic Changeover : On Thailand side 395m
- 9) Connecting Road: Lao PDR 1,864m, Thailand 520m
- 10) Border Control Facilities: Lao PDR and Thailand sides

Client Department of Road, Ministry Communication, Transport, Post and Construction (Lao PDR)
 Department of Highways, Ministry of Transport (Thailand)

Financed by JBIC (The first time JBIC has financed one Project for two borrower nations for Consulting Services and Constructions Works)

Achieved by Oriental Consultants Co., Ltd. (Japan), Nippon Koei Co., Ltd. (Japan), Asian Engineering Consultants Corp., Ltd. (Thailand) and Lao Transport Engineering Consult (Lao PDR)

Period

Pre-Construction Stage: June 2002- December 2003, 19 months

Construction Supervision Stage: December 2003 - December 2006, 36 months

Consulting Services

Pre-Construction Process: Prequalification Evaluation, Tendering Evaluation, and Construction Contract

Construction Supervision: Project Management Package 1: Main Bridge, Approach Viaduct and Traffic Changeover

Package 2: Border Control Facilities and Connecting Road (Lao PDR side)

Package 3: Border Control Facilities and Connecting Road (Thailand side)



Sunset view on PC Sail



Thailand Border Control Facilities



Friendship Bridge II view from Lao PDR



Friendship Bridge II, PC Sail Lao PDR

Metro Manila Flood Control Project - West of Mangahan Floodway, Philippines

Client Department of Public Works and Highways (DPWH), Government of the Philippines

Financially Assisted by Japan Bank for International Cooperation (JBIC)

Achieved by CTI Engineering International Co., Ltd.

Period November 1997- June 2007 (scheduled)

Services Briefing Construction Supervision
 The objectives of the project are: to mitigate flood damages caused by high water stages of Laguna Lake; and to enhance advancement of the general welfare of the residents of protected area through the expected improvement of living, ecology and environmental conditions.

Structural Components
 Structural components of the project constructed are:

- Dike with public road section along Laguna Lake (10.8 km long)
- Floodwalls along Napindan River (5.2 km long)
- Pumping Stations with Regulation Ponds (4 sites; 12 units of submersible type pump with a capacity of 3 m³/s in total)
- Floodgates (8 sites)
- Bridge (153 m long)



Completed Dike and Pumping Station



Inundation due to Flooding of Laguna Lake before Project (Image)



Control of Flooding of Laguna Lake after Project (Image)

Comprehensive Countermeasures against Sediment Disasters and Environmental Restoration Plan of Yunnan Xiaojiang Basin, People's Republic of China

Client JICA (Japan International Cooperation Agency)
Financed by JICA
Achieved by CTI Engineering International Co., Ltd. and Pasco Corporation
Period March 2004-February 2006
Services Master Plan Study
 Feasibility Study
 Technical Transfer

implementation and management of the master plan;
 The feasibility studies included urgent projects for the 4 high priority tributary basins;
 The flood forecasting and warning system was planned focusing on the protection of the urban area of Xincun from debris flow;
 The total cost of the urgent projects is estimated at 210 millions Chinese Yuan Renminbi (CNY).

Briefing

The objectives of the project are:
 to formulate a master plan for sediment control and environmental restoration of the Xiaojiang River Basin;
 to conduct feasibility studies on selected high-priority projects; and
 to transfer Sabo technology for the Chinese counterpart personnel.



Fan formed by Debris Flow (Jiangjiagou)



Participatory Workshop

Details

The major outputs through the project are:
 The master plan is composed of structural and nonstructural measures;
 The structural measures are anti-debris flow facilities (Sabo dams, channeling, etc.), and water and soil conservation facilities (afforestation, check dams, groundsils, terracing of sloping agricultural lands, etc.);
 The nonstructural measures are establishment of flood forecasting and warning system and creation of a new organization for

Study on Augmentation of Water Supply and Sanitation for The Goa State In The Republic of India

Client Japan International Cooperation Agency (JICA)

Financed by JICA

Achieved by Nihon Suido Consultants Co., Ltd.(JV Prime) NJS Consultants Co., Ltd. (JV Sub)

Period From March/2005 to December/2006

Services Master Plan
Feasibility Study etc.



Details

Services carried out included:

- Field Investigation (water quality, leakage survey, questionnaire survey, etc.)
- Evaluation of existing condition
- Preparation of Master Plan
- Selection of priority projects
- Feasibility study
- Preliminary design, Construction schedule, and Implementation plan
- Non Revenue Water Reduction pilot project
- Workshop

Briefing

- to formulate a master plan for augmentation of water supply and sanitation in Goa State.
- to conduct a feasibility study for priority project(s) which will be selected from the master plan
- to pursue technology transfer to the counterpart personnel in the course of the study

Towns North of Colombo Water Supply Project, Sri Lanka

Client National Water Supply and Drainage Board

Financed by Japan Bank for International Cooperation

Achieved by Nihon Suido Consultants Co., Ltd. In association with Ceywater Consultants (Pvt) Ltd.

Period From January 1998 to December 2006

Services Review of Feasibility Study
Detailed Design



Ambatale water transmission pump: 45m³/min x 850kW x 2units



Church Hill gravity water transmission main Dia. 1000mm SP & drain water pipe Dia. 600mm SP

Briefing

Construction Supervision

To conduct review of the existing feasibility study to identify stage 1 & stage 2 projects' component (0.5year)

To prepare detailed design for full scale project covering stage 1 & stage 2 works (1.5years)

To assist contracts tendering & awarding(2.5years)

To conduct construction supervision of stage 1 works, target year 2008 (4.5years)

Details

Services carried out included:

Review of feasibility study, target year 2020 with served population 350,000 & water demand 135,000m³/day

Detailed design of stage 1 & stage 2 full scale project for:

- Transmission pump facilities (45m³/min x850kW x 2units)
- Transmission pipelines (dia.1200mm to dia.500mm - 37.2km)
- 6-ground water reservoirs (total capacity V.32,950m³)
- 4-elevated water towers (total capacity V.5,000m³), distribution pump facilities (6.5m³/min x 45kW - 2 units),
- distribution pipelines (dia.600mm to dia.90mm - 451km)

Construction supervision of stage 1 works:Project costs J\5,308million+ LKR2,242million

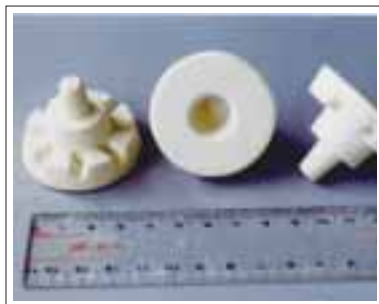


Church Hill ground reservoir: RC: L.66m x W.33m x H.9m - V.18000m³



Kandana elevated water tower: V.1000m³ x H.25m

Coral Reef Restoration using Coral Larvae Collectors in the Ryukyus, Japan



Client Ministry of the Environment, Government of Japan
Financed by Ministry of the Environment
Achieved by IDEA Consultants, Inc.
Period October 2004 - March 2006
Services Coral reef survey using aerial photographs
 Detailed design of coral transplantation
 Producing of coral seeds
 Supervision of coral transplantation
 Monitoring of transplanted corals

Briefing

- 1) Aim of the project
 To recover coral reefs degraded by severe bleaching and *Acanthaster* outbreaks since 1998.
- 2) Project site
 Sekisei Lagoon located southernmost in the Ryukyu chain, Japan

Details

New method using Larvae collector was employed for coral remediation. Larvae collector has following advantages.

- No damage to existing coral
- Large scale transplantation
- Natural diversity
- Standardized transplantation (same age, no damage)
- Few predator

Larvae collector as artificial substratum is made from ceramics, 40 mm in diameter, 40 mm in height and having a leg to allow attachment

through insertion in to a hole in the substrate made with an air drill and filled with adhesive paste.

In order to collect larvae, the collectors were piled up in groups of ten, with a total of 240 contained in a plastic cage unit (30cm x 50cm and 30cm high) fixed to the sea bottom at spawning time.



Transplantation was carried out in February 2006 using coral seeds at 18 points. Larvae collectors were sorted and contained in a plastic tank (31 cm x 44 cm x 16 cm in deep) on the bottom at the collection sites and transported to transplantation site by boat. On arriving at the transplantation point, seed tanks were descended from the boat to the bottom by divers and seeded collectors were individually inserted into holes using underwater epoxy (made by Sekisui Chemical Industry, Inc.). Three hundred seeds were transplanted at each point, totaling 5400 individuals for the 18 points. Surveys after one, three and six months in March, May and August 2006, respectively showed



average survival rate of the seeds in August was 78.5 %. Decrease of survived rate was due to death of *Acropora* seeds. Area of seed coral in August 2006 increased to twice of transplanted one.

Kalu Ganga Water Supply Project, Sri Lanka

Client National Water Supply & Drainage Board
Ministry of Urban Development & Water Supply

Financed by Japan Bank of International Cooperation

Achieved by Nippon Jogesuido Sekkei Co., Ltd.

Period 3 April 2000 ~ 31 December 2006

Services Feasibility Studies, Detailed Design, Preparation of Tender Documents, Contract Documents, Tender Evaluation, Construction Supervision Advice and Assistance

Briefing of Project

Under the Phase 1, Stage 1 of the project, the water production capacity is to be 60,000 m³/d and the water intake structure and raw water transmission main were sized for Phase I, Stage 2 capacity, which is to be 126,000 m³/d. Transmission of water to Greater Colombo service areas in Moratuwa and Panadura under Phase 1, Stage 1 is to be via a 1,200mm and 800mm diameter DIP. Also, distribution system expansions in the areas of Horana, Raigama, Bandaragama, Panadura, Keselwatte and Moratuwa were covered under Phase 1, Stage 1



Sedimentation Tank



High Lift Pump

Details of Services

Services carried out including 1) Field Investigations such as Geotechnical, Surveying and Existing Utilities etc, 2) Preparation of Contractor's Manual, 3) Review contractor's work schedule, material submittals, construction methods, working and shop drawings, 4) Review and certify work measurements and payment claims, 5) Provision of advice on claims, variation orders and FIDIC Conditions of the Contract, 6) Assist client with Commissioning and Taking-over of facilities and etc.

Red River Bridge (Thanh Tri Bridge) Construction Project, Vietnam

Client Project Management Unit Thang Long (PMU Thang Long), Ministry of Transport (MOT)

Financed by JBIC

Achieved by Pacific Consultants International

Period Jul. 1997(master plan)to Nov. 2006 (construction)

Details Services carried out included:

- Master Plan
- Feasibility Study
- Detailed Design
- Tender Assistance
- Construction Supervision
- Contract Administration
- Site Inspection
- Quality Assurance
- Quantity Measurement and Payment Certificate
- Safety Precautions and Environment Protections
- Domestic Training

Briefing The Red River Bridge (Thanh Tri Bridge) Construction Project involves construction of 18 km Elevated

Highway with Frontage Roads in the Southern Section of the Hanoi Third Ring Road (HTRR) to connect between National Highway No.1 and National Highway No.5.

Of the six packages in Project, the priority Package 1 containing the Thanh Tri Bridge commenced on 28 November 2002 and was completed 7 November 2006.

Red River Bridge (Thanh Tri Bridge): Length 3,084 m, Width 33.10 m, PC Box Girder and PC I-Girder



Project Management Consultant [PMC] for Suvarnabhumi International Airport (SIA), Thailand

Client New Bangkok International Airport Co., Ltd. / Airports of Thailand Plc

Financed by JBIC

Achieved by Pacific Consultants International

Period 1999 - 2006

Services Project Management

Details Services carried out included:
 Procurement and Tendering
 Budget and Cost Control
 Program Management
 Monitoring of progress and day-to-day control of Engineering Design and Construction.
 Contract administration activities.

Briefing

The initial Phase 1 included 4,000m and 3,700m runways and airfield pavements all capable of accommodating A380 aircraft and 76 aircraft movements per hour. The 563,000m² passenger terminal building with 51 contact gates can handle 45 Million Annual Passengers (MAP) and is the largest in the world under a single roof. A further 68 remote/cargo positions, car parking, public transport, maintenance and operations facilities are supported by hi-tec communications systems and more than 30 km of landside access roads as also associated airport infrastructure and utilities. The airport also boasts the highest Air Traffic Control Tower (132m) in the world. The Airport Master plan foresees a four-runway configuration with additional Mid-field Satellite terminals able to handle an ultimate annual capacity of 120 MAP and 6.4 million tons of freight.



Aerial view of Main Terminal & Concourses

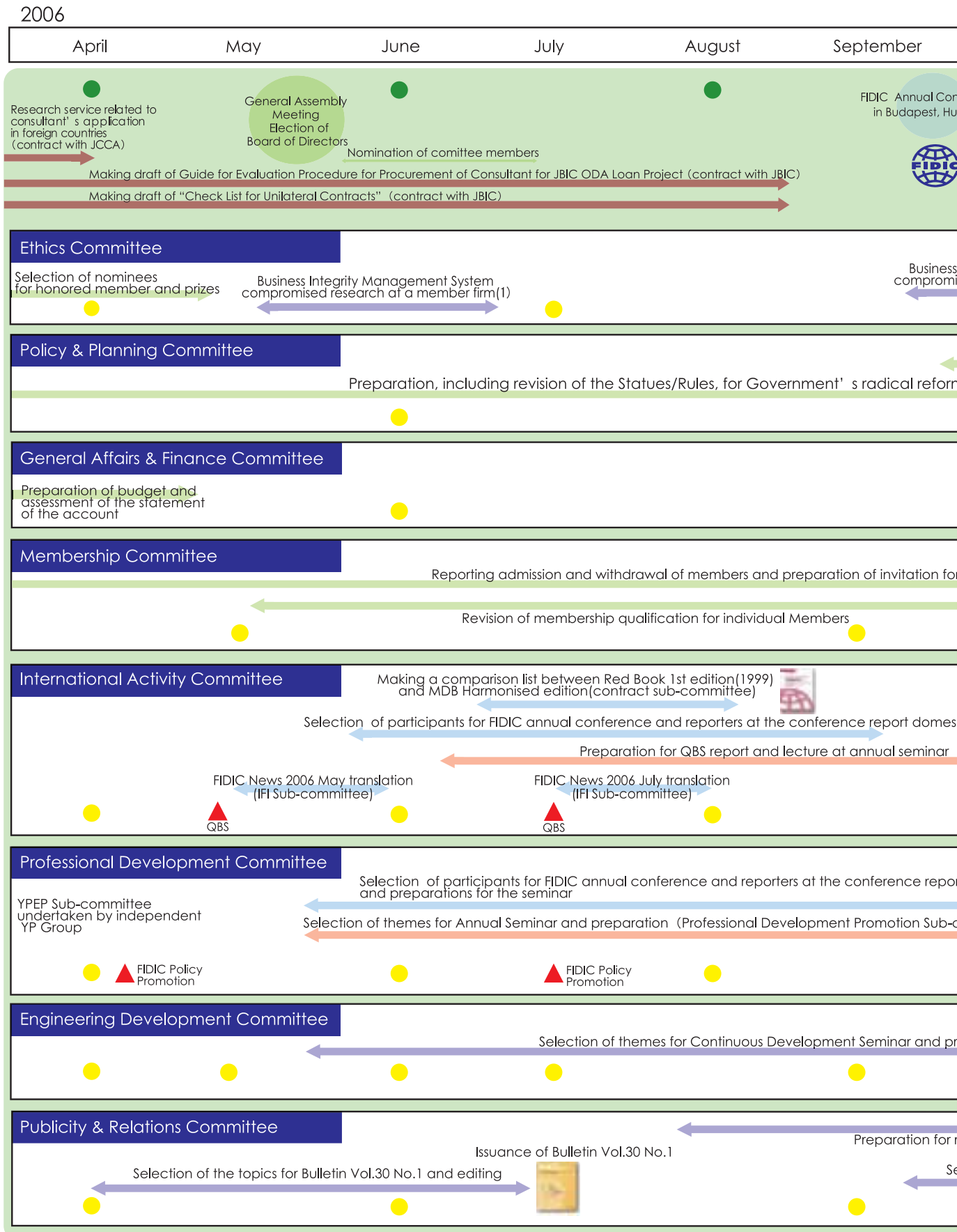


" Supertruss " at Main Terminal spans 100 m supporting the world ' s largest single roof



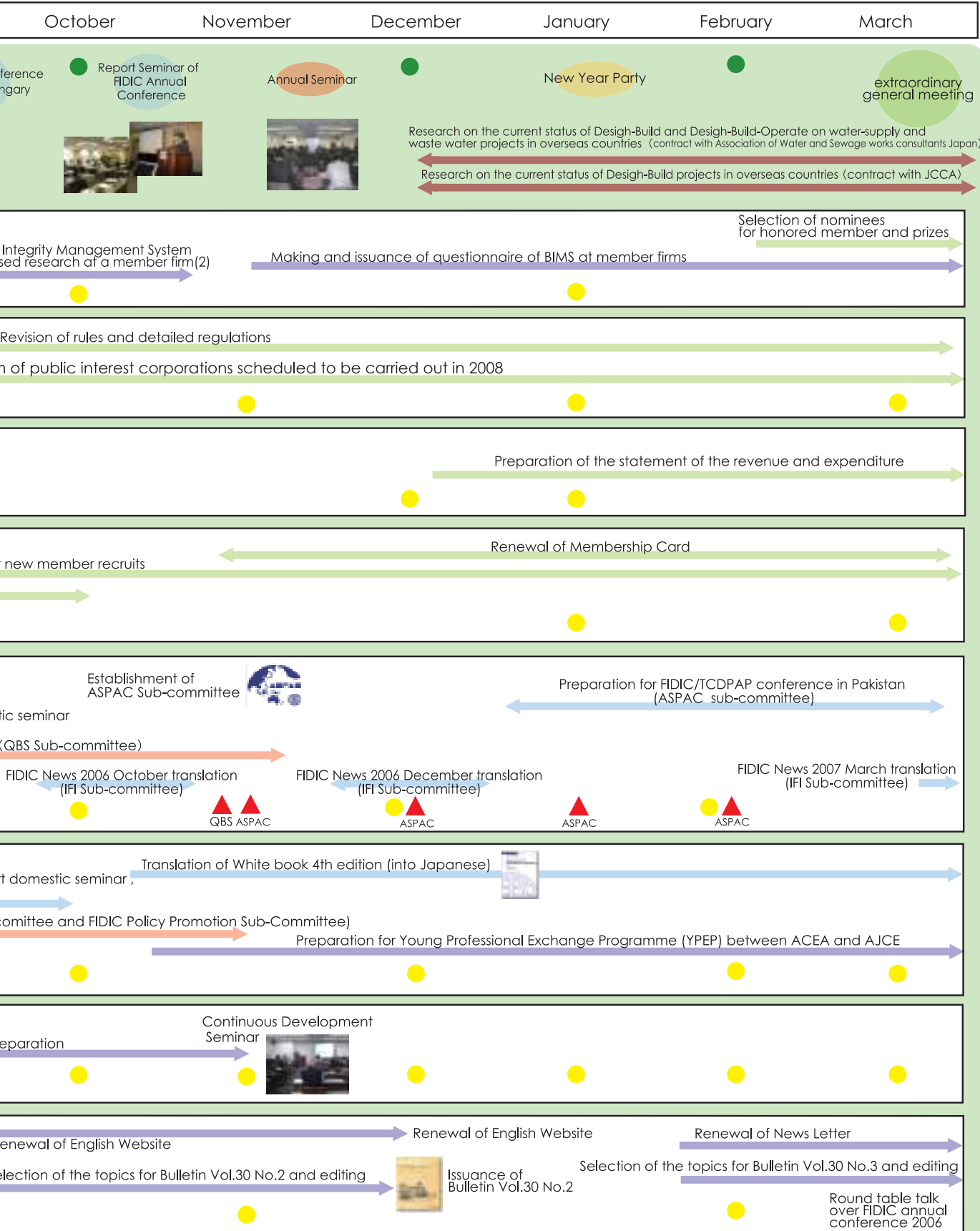
Interior view of Concourse ' E '

AJCE Yearly Activity 2006 at a glance

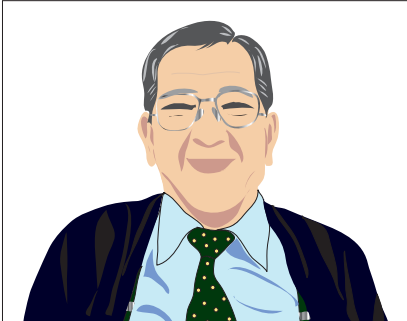


- Executive Committee
- Committee regular meeting
- ▲ Sub-committee

2007



A LETTER FROM AJCE OFFICE



During 2006 year, AJCE progressed at various fields and we recognize AJCE entering into new stage. At first AJCE grip on the relationship with FIDIC to tighten up mutual interest and coordination. AJCE did research to make clear situations at Member Associations of FIDIC in the fields of QBS realization, Design-Build Delivery System and Unilateral Conditions of Contract comparing Red-Book at ODA Business which would feed back to FIDIC and related MAs in order to make further reference for FIDIC's New Publications. These also would be basic dates for discussion with government and related industries in Japan to build suitable situation for CE Industry. Apart from the above, AJCE realized several seminars based on developed workshops at FIDIC Budapest Conference and the above research results for not only AJCE membership but also for Government Organization. In Japan, we receive one of reliable resource on overseas information and we are expected to develop further this activity.

Goro FUJIE, Secretary General



Having been working here almost for 15 years, I lately feel the time passing-by over AJCE every time I hear the name of the members who used to play an active part in our standing committee activities, now became the leaders of the member companies. Since we moved in the Ueno office in Tokyo, I have worked with the Secretary General, and 5 young temporarily workers dispatched from the member firms who took turns one by one every two or three years. Thanks to them, I can now handle computers somehow or other and enjoy every day very much.

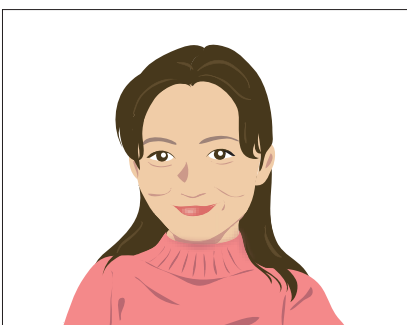
When I turn around and think about those years passed by, I deeply feel that AJCE is always supported by everyone in the member firms. Thank you very much.

Kimie YOSHINO, Secretariat



Just one year has passed since I started working here for AJCE. It was totally new to me about the activities of AJCE and FIDIC for I did not have international work experience before I came here. Day and day, I have rushed through lots of all new experience, things and encounter with lots of new people this year. I enjoy working here AJCE very much, owing to warm encouragements from Secretary General and other colleagues. I hope I can contribute to every member firm by making the best use of my experience as an engineer, as a secretariat at the same time, and brush up myself even more every day in future.

Saki TOMITA, Secretariat



The fiscal year 2006 was the third year for me working for AJCE. We had a lot of events this year, began with the election of the board of directors and reshuffling of the standing committee members which occurs every two years. Personally, I enjoyed working here communicating with committee members, taking charge of editing publication such as bulletins and renewal of the Web site and, of course, communicating with co-workers here in the office. It makes me think happily every day that how lovely it is having warm social relationship between people. I hope those valuable experiences I obtained here with AJCE will be made the best use in a lot of respects in the future, in and out of AJCE.

Miho YAMATO, Secretariat