



FIDIC Centenary Awards
Nomination Form for Leading Consulting Engineers
(for Individuals or Firms)

Please enter all information requested below for each entry (MAs signatures authorising submission of nominations are required). Names and information should be typed or printed.

Applications should be accompanied by a picture of the person nominated or logo of the firm (JPG format).

Please return this form by email as PDF for the attention of Italo Goyzueta, FIDIC Deputy Director at igoyzueta@fidic.org or by Fax at +41 22 799 4900

Note: Only FIDIC Members can submit nominations.

Leading Consulting Engineer

Name: Mr. Yutaka Kubota

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FIDIC Member, Association of Japanese Consulting Engineers (AJCE)

(name of the association or firm submitting the nomination)

hereby authorises submission of this nomination into the FIDIC Centenary Awards.

Name of President or Managing Director: Noriaki Hirose

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Please outline this person's/firm's significant contributions to the consulting engineering industry and to the well-being of humankind. Please use additional sheets if needed.

Please refer to the attached sheet for details.

Why do you think this person/company should receive an award? How does this person/firm meet the criteria of being recognised as an innovator that have turned a vision into reality, an ambassador of the consulting engineering sector, demonstrated that have generated employment and contributed to industry growth, and that have substantially contributed to the progress of society? Please use additional sheets if needed.

Please refer to the attached sheet for details.



Yutaka Kubota

Nomination of Leading Consulting Engineer

Nominee : Yutaka Kubota

Country : Japan

1. *Please outline this person's/firm's significant contributions to the consulting engineering industry and to the well-being of humankind.*

■ Profile



Kubota Yutaka was born in 1890 in Kumamoto, Japan. After graduation from Tokyo Imperial University (Faculty of Engineering, Department of Civil Engineering), he was involved in the development of electric power and the construction of large-scale hydroelectric power projects on the Korean peninsula from 1930 to 1945. After the end of the World War II, he drew upon his experiences in Korea to establish Nippon Koei Co., Ltd. which is the first engineering consultant firm in Japan. He devoted himself to the realization of a variety of projects on the world stage, including the construction of hydroelectric power plants in the Southeast

Asia, and was a member of the United Nations Mekong River Basin Development Survey Team. Until the age of 90, he continued to direct projects all over the world and to contribute to the development of developing nations. In 1984, he invested his own resources to establish the Kubota Foundation for cultivation of young engineers in the developing countries. In 1985 he was awarded the Grand Cordon of the Order of the Rising Sun. He died in 1986 at the age of 96.

■ Contributions to the Consulting Engineering Industry

- Kubota Yutaka has gained a historic reputation as a great civil engineer in Japan, ranking together with Aoyama Akira and Hatta Yoichi. Furthermore, the scale of his work and its impact on society go beyond the limits of a mere engineer. From the 1930s to the 1940s, Kubota directed and supervised construction work on huge power plants on the Korean peninsula. After the war he consistently used that experience to promote consulting services pertaining to development overseas.
- From the Meiji period on, Japan had developed almost all its key industries - iron and steel, electric power, railways, communications, ports, roads, etc. - as government enterprises.



Eventually public works under the direct control of government offices were commissioned to private contractors, and at the time design and construction were kept separate from the standpoint of the transparency and fairness under the works contract. It was not until after the war that design was commissioned to the private sector.

- Unlike in the West, where the profession of consulting engineer holds a secure position within the social framework, the importance of the profession was for a long time not acknowledged in Japan. Wishing to somehow put an end to this situation in Japan, Kubota worked hard to establish the position of consultant firms in Japan, building on the achievements and trust gained from his overseas development projects. It was Kubota who introduced to Japan the business code of the Association of Consulting Engineers, founded in Great Britain in 1913.
- Kubota also attempted to make the Ministry of Trade and Industry of Japan understand the importance of the consultant. These efforts paid off, and from 1963 the Ministry of Trade and Industry hammered out, as a long-term measure for the promotion of exports, the policy of greatly encouraging the overseas activities of consulting firms, and all kinds of measures came to be put in place. As a part of this policy, in 1964 the Engineering and Consulting Firms Association was established to promote the overseas activities of consultants. Its first chairman was of course Kubota. From then on, Kubota focused on the development of the industry from a global viewpoint, for example actively introducing to Japanese companies the FIDIC standard contract forms.
- Today consulting companies in Japan have gained a sound status both at home and abroad, with increased recognition of the importance of the role they play.

■ Contributions to the Well-being of Humankind.

- Throughout his life, Kubota Yutaka directed and supervised an enormous number of development projects large and small, mainly overseas and mainly involving hydroelectric power generation. Below are listed some of the more representative projects which are outlined in Appendix A.
 - 1930-1945: Yalu River Basin Development (Pujon-gang Dam, Changjin-gang Dam, Supung Dam), Korea
 - 1946-1980s:
 - ◇ Baluchaung hydropower generation project, Burma
 - ◇ Da Nhim general development project, South Vietnam
 - ◇ Nam Ngum multipurpose dam project, Laos



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- ✧ Brantas river integrated development project, Asahan multipurpose dam project, Indonesia
- In addition to the above, in the 1950s Kubota served as a consultant to the United Nations Mekong Committee and as a leader of the Japanese committee's survey team, drawing up the blueprint for the integrated development of the Mekong River Basin, which became the foundation for the subsequent development projects for the area.

Each and every one of the development projects undertaken by Kubota Yutaka is at the present time operating as an important part of the infrastructure of the country where located; each one is greatly appreciated by the country and its people, and Kubota's achievements are valued highly. The principle commendations awarded to Kubota are listed in Appendix B and the major awards given by the foreign countries are as below:

- 1958: Order of Merit of the Kingdom of Cambodia
- 1962: Mining Industry Award of the Minister of Labor of the Republic of Burma
- 1964: Order of the Golden Perfume (2nd Class) of the Republic of Vietnam
- 1965: Order of the Million Elephants 2nd Class of the Kingdom of Laos
- 1971: Order of the Silver Badge of the Kingdom of Laos
- 1973: First Order of Merit for Public works, Transport and Communications of the Republic of Vietnam

A Christian, Kubota Yutaka was particularly enthusiastic about technology transfer and the development of human resources. This was because of his firm belief that independence and self-help were essential for the sustainable growth of the developing nations, and that for this the transfer of technology to the country and the development of human resources were important. Finally Kubota decided to provide financial support to allow young engineers to visit Japan from their own developing country, study in companies, schools and research institutions and on returning home draw on what they had learned and experienced to contribute to the development of their countries. In 1984 he invested his own resources to establish the Kubota Foundation. To date a total of 246 ambitious engineers from 34 countries have been awarded grants, the total amount coming to some 240 million yen. This is one more way in which the convictions of Kubota Yutaka have contributed to the well-being of humankind.



2. *Why do you think this person/company should receive an award? How does this person/firm meet the criteria of being recognized as an innovator that has turned a vision into reality, an ambassador of the consulting engineering sector, demonstrated that he has generated employment and contributed to industry growth, and has substantially contributed to the progress of society?*

■ **As an Innovator that has turned a Vision into Reality**

- Before and during the World War II, the development plans for the Korean peninsula drawn up and put in to practice by Kubota Yutaka were, within the limits of the national strength of Japan at that time, huge and innovative. Driven by his passion and faith, he directed and supervised very difficult engineering works, and the fact that he brought to completion essential power-generating facilities and other public works is nothing less than amazing.
- After the war he consistently played a leading role in growth of Japanese consultant industry on the model of spirit of CE promoted by FIDIC. The bulk of his achievements were in development projects overseas, but at the same time it was Kubota who essentially created the mechanism for present-day assistance projects undertaken through Japanese ODA. It can be said that it was through projects like Da Nhim in Vietnam and Brantas in Indonesia that the present-day international yen loan-based project schemes came into being. Appreciation of this point makes it clear that the development projects Kubota worked on overseas were landmark events not only for the beneficiary countries and their people, but also for Japan.
- Japan has now at last begun to initiate public-private partnerships (PPP) for infrastructure development projects, but Kubota Yutaka was already a pioneer of this kind of scheme in the Asahan development project in Indonesia.

■ **As an Ambassador of the Consulting Engineering Sector**

- Kubota Yutaka was always a man ahead of his time, who was the driving force behind consulting companies in Japan. The Mekong River development plan and other development plans in Asia pioneered by Kubota led to Japanese consulting companies making aggressive advances overseas. This aspect alone is indicative of Kubota's immeasurable contribution as an ambassador of the consulting engineering sector.

■ **Generation of Employment**

- In 1945 after the Potsdam Declaration was issued and Japan was defeated, Kubota and his colleagues, subordinates and engineers were repatriated to Japan with nothing but the clothes on their backs. Japan too had been reduced to ashes. Greatly concerned for his



Yutaka Kubota

3,000 workers who were in need of employment and payment, Kubota set up a corporation and stock company to provide jobs for those who had been repatriated. This stock company is the present-day Nippon Koei Co., Ltd., and he had served as a president till 1973 and a chairman till 1986.

- At the present time Nippon Koei together with its group companies employs some 2,950 persons; coincidentally the approximately same number as the number of repatriates who were with him at the end of the war.

■ Contribution to the Industry Growth

- Throughout his life, Kubota Yutaka considered the promotion of industry to be essential for the growth of society, and moderately-priced, stable hydroelectric power an effective means. With this as his core belief, he turned his energies towards the stabilization of the developing countries through flood control and the promotion of agricultural development. Essential to this is the existence of a consultant able to carry out site surveys, plans and evaluations and make proposals. Through Nippon Koei, and through various organizations, Kubota put this idea before the world. No discussion of the growth of the Japanese consultant business is possible without mention of Kubota.

- Kubota's own words:

“It is consultancy work that is really rewarding. The uniquely human power to create - it's the consultant that embodies that. The path the consultant walks is hard and forbidding.”

■ Contribution to the Progress of Society

- As a young boy, Kubota Yutaka came across his first electric lamp, was impressed by the marvel of electricity coming from the power of water, gazed on a waterfall and dreamed of generating hydroelectricity. That dream remained unchanged throughout his life and was something of which he was always reminded at every period of his life. And beyond that dream were societies in which hundreds of thousands, millions, of people could live happy and productive lives. Kubota devoted his life to making his dream a reality.

- Kubota's own words:

“A project without vision has no appeal, and will never be a sustainable undertaking. In particular, there should be vision and hope for children and the young people who are the next generation. If those in a position to provide vision have no vision of their own, what is going to happen? We need to have a shared vision to come up to the challenge.”

- As was mentioned above, Kubota Yutaka considered the education of the younger generation to be essential for the sustainable growth of the developing countries, and used



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his own resources to establish a charitable trust fund (Kubota Foundation), from which some 246 young nation-builders from 34 developing countries have benefited to date.

- The many of the young engineers expressed their gratitude to the Kubota Foundation that they could continue their study and research comfortably in Japan with its great support. They also mentioned they will devote continuous efforts to the development of their countries after their return home. All of them are following in the footsteps of Kubota Yutaka.

Appendices

Appendix A : Outline of the Project that Mr. Kubota Initiated

Appendix B : List of Decorations and Medals

Appendix A

Outline of the Project that Mr. Kubota Initiated

1. Yalu River Basin Development (Pujon-gang Dam, Changjin-gang Dam, Supung Dam), Korea



The total power generating capacity of the completed project, including the Supung Power Plant that at the time was acclaimed as the largest in the world, was in excess of 1.6 million kW, and the power-generating projects still in the design/construction stages reached 2.5 million kW. In combination with his implementation of

the power generation project, Kubota also devoted himself to the realization of railways and other public infrastructure. These projects are still in operation today, and are deemed to form the basic infrastructure of the Democratic People's Republic of Korea; the Supung Dam is portrayed as a symbol of the country on the coat of arms of the Democratic People's Republic of Korea.



2. Baluchaung Hydropower Project, Burma



The concept of the power generation project on the Baluchaung River, a tributary of the great River Salween in Myanmar, was to develop the fast-flowing section of the river in three stages to generate 240,000 kW of electricity. It was decided to first construct the No 2 Power Plant, where the difference in elevation was most effective (Phase 1 work), and Kubota Yutaka directed and supervised the project in its entirety, from the planning to the design and construction supervision. He also single-handedly undertook the financial preparations and the negotiations with Burma and Japan, leaving a powerful impression at home and abroad of the role of the consultant. The Phase 1 Work was completed in 1960, but the ever-increasing demand for electricity in Myanmar due to the promotion of industrialization could not be met by the No 2 Power Plant alone; financed through Japanese ODA, construction of the No 1 Power Plant upstream went ahead, and was completed in 1992. The Baluchaung Power Plant remains even today an important source of energy, accounting for some 20% of all the electrical power generated in Myanmar.

3. Da Nhim General Development Project, South Vietnam

France had already done the surveying and planning for the Da Nhim development project in what was at the time South Vietnam, but Kubota Yutaka offered his own original power generation scheme. The Vietnamese government of the time entrusted the decision regarding the appropriateness of the proposals put forward by Japan and France to the United Nations. As a result, the scheme proposed by Kubota was adopted, after which time Nippon Koei took on the task of consulting for the project. The plan was to create a reservoir at an altitude of 1,000 m in the upper reaches of the Dong Nai River which joins the Saigon River and to construct the No 1 Power Plant to generate 160,000 kW by diverting the water from the reservoir towards the eastern seacoast. In addition, the plan involved channeling the water discharged from the power plant to the Phan Rang Plain to promote an irrigation scheme (19,600 ha) and using the natural harbor of Cam Ranh Bay located some 50 km north of the power plant to promote industrialization.

The Da Nhim Power Plant was completed ahead of schedule, in 1964. In 1975 at the end of the Vietnam War it continued in operation as a major power plant of the Southern Power Corporation; even today it has an annual operating rate of 75% and provides a stable electricity supply of 1,100 GWh per year. This project became the model for later assistance schemes under Japanese ODA.



4. Nam Ngum Multipurpose Dam Development Project, Laos



The Nam Ngum multipurpose development project was a development project based on a study report prepared by Kubota Yutaka at the request of the United Nations Mekong Committee. With Nippon Koei taking on the task of consultant and under the direction of Kubota a large reservoir with a capacity of 7 billion tons,

the largest in the Mekong River Basin, came into being. Of special note is the fact that under an electric power exchange agreement between Laos and Thailand, electric power for the initial work was provided from Thailand and since completion of the Nam Ngum Dam surplus power is sold to Thailand. Even today electricity continues to be sent across the Mekong River, providing Laos with an important source of foreign currency.

5. Brantas River Integrated Development, Indonesia



Indonesia's second largest city Surabaya is well known as the country's leading breadbasket. However, fifty years ago this area was constantly plagued by flooding and drought. The cause was inundation by the great Brantas River. In addition volcanic eruptions from Mt Kelud caused huge amounts of matter emitted from the volcano to flow into the river: local farmers were constantly at the mercy of the elements. Kubota Yutaka

came up with the concept of preventing natural disasters through afforestation of the mountainside, flood prevention work and irrigation, and in addition turning the surrounding area, with its naturally fertile soil, into a huge breadbasket. He proposed the integrated development of the river basin, including the development of a flood control/irrigation dam as the first step in flood prevention, agricultural/irrigation planning, river improvement and the provision of an urban and industrial water supply. This was the first river basin comprehensive Master Plan. The Karangkates multipurpose dam project, the Kali Konto multipurpose dam project and four other projects considered priority projects under this plan were picked out and put into execution. Nippon Koei took on the task of consultant, and has served as consultant ever since, for over fifty years.

The Brantas River Basin development project became a Japanese ODA Loan Project; in 1973 the second Master Plan was drawn up, and in 1986, the third. In the 40 years to 1999, 23



projects for the development of the Brantas River Basin and six projects for the development of Surabaya City have been executed. Agricultural and irrigation projects have increased rice production to nearly twice what it was, and today the Brantas River Basin has come to account for thirty per cent of all rice production in East Java.

In carrying out the Brantas River Basin development project, efforts were made to ensure that technology was transferred to the Indonesian engineers. Through the surveys, design and



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engineering work the implementation structure and organization of the Indonesian side was strengthened and at every level technology transfer and human resource development were implemented, making this an outstanding example of successful capacity building. It is reassessed today as an assistance project typical of Japanese ODA.



6. Asahan Multipurpose Dam Development Project, Indonesia.



The Asahan development project is the largest-scale engineering works to have been carried out in Indonesia following Independence; a monumental enterprise completed by a taskforce of several hundred Japanese and Indonesian engineers, 5,000 workers in the power generation sector and some 10,000 Indonesian engineers in the aluminium smelting sector, overcoming differences in language and customs to work together in unity and cooperation.

It was in 1942, the year after he had completed the Supung Power Plant, that Kubota first surveyed Lake Toba and the Asahan River in Sumatra. The end of the World War II meant that Kubota once withdrew from the project, but in 1953 he proposed to the government of Indonesia a plan for the construction of a hydroelectric power plant and various fertilizer plants. Against Kubota's wishes the scheme went ahead as an aid project of the USSR, but was brought to a halt due to a change of government. Kubota implemented his own Asahan investigation and with the permission of the government put together an Asahan development project plan that combined hydroelectric power generation with aluminium smelting, and at long last the project became a reality. The realization of the Asahan multipurpose integrated development project brought about not only the development of aluminium-related enterprises but also the economic and social development of the whole of northern Sumatra, through the construction of industrial infrastructure - electricity, ports, roads etc. - and the provision of social infrastructure, such as schools and hospitals.





7. Mekong River Basin Integrated Development

In October 1945 the United Nations was established, and in the following year the Economic Commission for Asia and the Far East (ECAFE, now ESCAP, the Economic and Social Commission for Asia and the Pacific) was established as a regional commission. Until the conclusion of the Geneva Convention the activities of ECAFE were performance restricted, but in 1955 the holding of the general meeting in Tokyo provided the occasion for the start of initiatives aimed at the reconstruction of Indochina. The Mekong Lower Basin Study Group was established, and Kubota Yutaka, who was already working on Baluchaung and Da Nhim, was invited to be a special advisor. In 1957 the Mekong Committee was formed under ECAFE, and Kubota four times carried out field surveys as leader of the Japanese Committee Inquiry Commission (Mekong River Development Committee). The report compiled in 1961 was highly praised by the Mekong Committee.



The report explains the development concept for 34 main tributaries by country, evaluates, selects and proposes projects that offer good potential as development projects. It also presented a development concept not only for the tributaries but also for the main stream of the Mekong. The plan aimed to promote industry through electrification of the region by providing a moderately-priced, stable supply of electric power and to stabilize agricultural production, using reservoirs to both control flooding and provide irrigation with a view to self-sufficiency and the processing/export of surplus agricultural produce. The plan also proposed the use of the rivers for improved inland water transport. The Mekong Committee accepted this report and carried out feasibility studies for one project in each country, financed by the United Nations Special Fund (UNSF, later the UNDP). The projects selected were the Nam Ngum multipurpose dam development project for Laos, the Nam Phong multipurpose dam project for Thailand, the Battambang River Basin development for Cambodia and the Upper Sesan River development project for Vietnam.

The series of studies carried out under the United Nations made the name of Kubota Yutaka known throughout the world.

Appendix B

List of Decorations and Medals

	1941	Korea Government-general Culture Prize
	1942	Asahi Shinbun Cultural Award, Japan
	1942	Daido Denryoku Memorial Prize, Japan
	1942	Third Order of Merit of Manchuria
	1955	Blue Ribbon Medal, Japan
	1958	Order of Merit of the Kingdom of Cambodia
	1962	Mining Industry Award of the Minister of Labor of the Republic of Burma
	1964	Order of the Golden Perfume (2 nd Class) of the Republic of Vietnam
April	1965	Second Class Order of the Sacred Treasure, Japan
	1965	Order of the Million Elephants 2nd Class of the Kingdom of Laos
May	1970	Japan Society of Civil Engineering Merit Award
	1971	Order of the Silver Badge of the Kingdom of Laos
	1971	First Order of Merit for Public Works, Transport and Communications of the Republic of Vietnam
April	1974	First Class Order of the Sacred Treasure, Japan
December	1982	The Most Puissant Order of the Gurkha Right Arm Second Class of the Kingdom of Nepal
October	1984	Republic of Korea Golden Pagoda Award for Industry
April	1985	Grand Cordon of the Order of the Rising Sun, Japan
September	1986	Senior Grade of the Third Court Rank (posthumous) , Japan