Tapping the power of Taiwan's rivers is the

'Hydro'

By GERALD

Author and Lecturer; Wife

IN A mountain valley in Taiwan, where shouts of construction workers and the roar of motors fill the air, a well-groomed onlooker pauses thoughtfully to survey his latest accomplishment. Typhoons and earthquakes and rock slides have tested the temper and abilities of his men, but now, from the floor of a narrow gorge strewn with giant splintered rocks, a massive new dam still in its scaffolding looms toward the sky. Above the dam, suspended from a threadlike cable, a gray-stained cylinder edges into the thin air, hesitates, and discharges 12 tons of concrete into a waiting form. On roads carved into the steep hillside above the structure, men and vehicles appear as moving dots in the swarm of activity.

The observer is Huang Hui, engineer and administrator. As president of the Taiwan Power Company (TAIPOWER), the Government-controlled power corporation of Nationalist China, he directs the expansion of an already impressive network of dams and hydroelectric- and thermal-power plants undergirding the industrial needs and economy of Taiwan. To Westerners, who like to put family names after given names, he's known as Hui Huang. To fellow Rotarians of Taipei, who often nickname Club members according to their classification, he is "Hydro" Huang—"Hydro" because he is really "Mr. Hydroelectricity" on the island.

In "Hydro" Huang's work is reflected an exciting story of progress for the Republic of China and its 11 million people on Taiwan—more than a million of whom came here from the Chinese mainland as a result of Communist successes which finally forced Chiang Kai-shek to move the stricken Nationalist armies and central Government to the island. Today half a million soldiers still stand guard there, and every young man is required to serve two years in the Army.

In 1945, when Taiwan and the Pescadores were restored to China, the Government took over the island's power facilities from the former Japanese company. The original Japanese staff was retained until May, 1946, when the present Taiwan Power Company was organized. The National Government holds 58 percent of the stock, the Provincial govern-

Huang Hui, known as "Hydro" Huang to fellow Rotarians, directs Taiwan's extensive hydroelectric system, supervises the building of great dam projects in the island's mountains, like Wu-sheh (above).

assive job of a man named for his task—

Huang

NE FITCH

Rotarian, Taipei, China

ment 34 percent, while the rest is privately held.

The Japanese had built eight thermal and 25 hydroelectric plants with a maximum load of 177,000 kilowatts, but Allied bombings and devastating floods had cut power output to one-fifth of that. Rebuilding the system to its former peak took until the end of 1950. Since then, as fertilizer, cement, aluminum, and steel plants have been erected, the Taiwan Power Company has kept pace with an annual 18 percent increase in power demand. Today, as a result of two Four-Year Development Plans pushed by "Hydro" Huang, there are 11 thermal stations and 26 hydroelectric stations with a total output surpassing 700,000 kilowatts. A third Four-Year Plan will see the completion of complexes of dams, reservoirs, and power stations on two of Taiwan's longest rivers—the Ta-chia and the Tan-shui.

The Ta-chia system, destined to be the backbone of Taiwan's power supply, will feature a 778-foot thin-arch dam—54 feet higher than America's Hoover Dam. Rainfall will be impounded in a huge reservoir to operate six power stations with an ultimate output of nearly 1,400,000 kilowatts, double the present output of Taiwan's entire power system. Irrigation will be supplied for 130,000 acres of fertile land. The 110-million-dollar project, begun in 1960, is being partially financed by 40 million dollars from the U. S. Development Loan Fund. Interest and principal are to be paid back into a counterpart fund supported by both the United States and Chinese Governments, the money being reused in other projects.

On the Tan-shui River, the 460-foot-high rock-filled Shihmen Dam is on the way. In addition to electricity, it will provide water for 141,000 acres of land to boost Taiwan's rice production, control flood waters, and provide enough tap water for 100,000 people. Because the dam site is only 32 miles by good road from Taiwan's capital city of Taipei, it is popular with tourists and visiting dignitaries. As part of his duties, "Hydro" Huang escorts touring VIP's interested in Taiwan's power facilities. Such guests have included King Hussein of Jordan, President Ngo Dinh Diem of Vietnam, the Shah-an-Shah of

Island-born Taiwanese engineers survey at the Wu-sheh Dam site. The 380-foot-high dam, started by the Japanese and completed in 1960, was constructed despite typhoons, rock slides, and earthquakes.

As president of Taiwan Power Company, "Hydro" escorts Republic of China President Chiang Kai-shek (right) on tour of dam.

Iran, and André Coyne, great French dam designer.

"Hydro's" personal history reflects the traditional past of Old China. Born in South China in 1903, he was the youngest of eight children, son of a wealthy man who devoted his time to literary pursuits. In the huge Huang family, as many as 270 persons of five generations lived together under adjoining tile roofs. They had their own school with private tutors, even the equivalent of their own Boy Scout troop.

Hui was sent to the naval college near Foochow, but did not aspire to a life at sea. He transferred to Chiao Tung University in Shanghai to study electrical engineering, earned his master's degree in the U.S.A. at Cornell University, worked as an engineer in America for two years, and then spent three more years in special study in Switzerland and Germany. Returning to China, he served his Government on the National Resources Commission (Chairman at one time: Chiang Kai-shek) and made a journey to the U.S.A. to discuss the possibility of harnessing the Yangtze River. In 1945 he was assigned to his

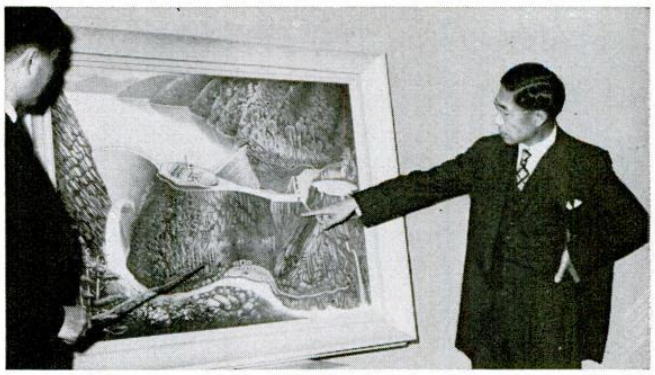
The Huang family—except for Anna, 26, who is in America —gathers for a picnic. Harry, now 5, is the youngest child.

A group of friends (mostly visitors) gathers

"Hydro" and Taipower board chairman C. Y. Yang (right) show Che

talk in the garden of Huang home in Taipei.

Cheng, Republic of China Vice-President, through underground station.

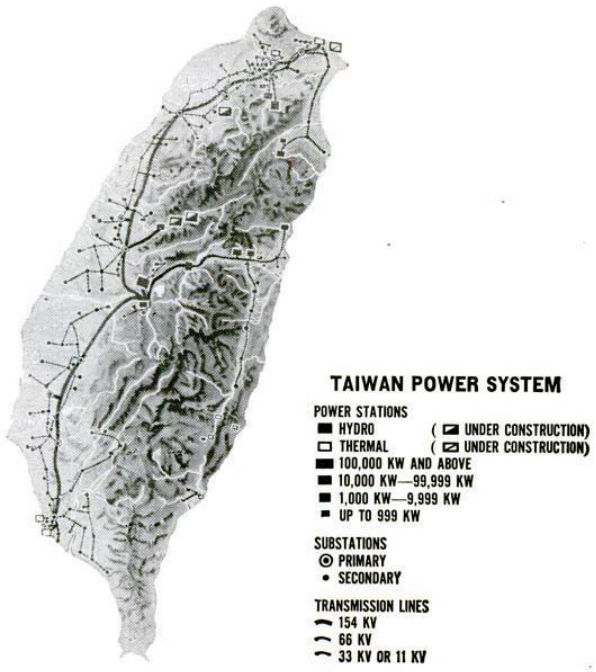


With Chief Engineer Y. S. Sun, "Hydro" discusses the layout of their great Ta-chien Dam project, using a Chinese-type painting.

present post in Taiwan, and in 1949 was invited to become a member of the newly organized Rotary Club of Taipei. He is president of the Chinese Institute of Engineers.

"Hydro" and Mrs. Huang, daughter of a Government official, have had eight children, named alphabetically from Anna to Harry. One, Bela, died at age 3. Anna, 26, is a graduate of Cornell University, and Cora, 22, is now studying there, while the younger children attend Taiwanese schools.

A devoted family man, a mover behind community youth-service projects, "Hydro" is nevertheless immersed in his work. A dam is often a battlefield of man's tenacious struggle against the perversity of Nature, and "Hydro" can relate many tales of such struggles—of creeping rock face, cascades of rocky debris that covered up previous gains, of a typhoon that drove trees and rocks into a penstock, destroying much of a year's work. But the dams are rising, new power stations are whirring into action to supply a rapidly developing nation's needs.



Glossary

This article was edited by Herbert K. Lau (劉敬恒) (Rotary China Historian) on 1 May 2014.

(1) Geraldine Fitch = 作者是扶輪夫人，丈夫是費吳生(George Ashmore Fitch)，中華民國上海扶輪社社長 1930-1931；重慶扶輪社社長 1942-1943；臺北扶輪社社員 1952-1963；大韓民國漢城扶輪社社員 1947-1949，榮獲大韓民國總統李承晚授予最高勳章。
(2) "Hydro" Huang Hui = 黃煇，字則輝
(3) Taipei Rotary Club = 臺北扶輪社，國際扶輪 345 地區創始成員
(4) President of Taiwan Power Company = 臺灣電力股份有限公司總經理
(5) Wu-Sheh Dam; Wu-Sheh Reservoir = 霧社壩；霧社水庫
(6) Tai-chia River = 大甲溪
(7) Tan-shui River = 淡水河
(8) Shihmen Dam = 石門水壩
(9) President Ngo Dinh Diem of Vietnam = 越南共和國第一任總統吳廷琰/吳廷炎/吳庭艷
(10) Republic of China President Chiang Kai-Shek = 中華民國總統蔣中正(蔣介石)
(11) Taipower Board Chairman C. Y. Yang = 臺灣電力股份有限公司董事長楊家瑜
(12) Chen Cheng, Republic of China Vice President = 中華民國副總統陳誠
(13) Chief Engineer Y. S. Sun = 總工程師孫運璿
(14) Ta-chien Dam = 達見水壩，1974 年 9 月完工時，蔣中正總統重新命名為「德基水庫」。

黃煇（1949 年參加臺北扶輪社） 臺灣電力股份有限公司第二任總經理(1950 年 5 月-1962 年 4 月)

黃煇，字則輝，祖籍福建泉州南安。1903 年 12 月生於大清國福建省福州的富裕家庭，是八個孩子中的最小。在福州完成中學教育後，到上海進大學，畢業於中華民國交通部南洋大學電機科(國立交通大學前身)。其後到海外進修，先後入美國普渡大學(Purdue University)研究院、瑞士聯邦工程學院(Eidgenössische Technische Hochschule)研讀，在美國康乃爾大學(Cornell University) 獲碩士學位。1933 年在德國西門子電機廠(Ernst Werner von Siemens)實習時，應國民政府建設委員會電邀返國，歷任全國電氣事業指導委員會委員兼科長，湘江電廠廠長，資源委員會簡任技正兼全國水力發電勘測總隊隊長。1945 年太平洋戰爭結束，日本帝國撤出臺灣。往臺灣協助國民政府接收日本資產的電力事業，任臺灣電力公司協理、總經理。歷任臺灣中國工程師學會、中國電機工程學會理事長，交通大學校友會理監事。1962 年於臺電退休後，應聘入世界銀行(World Bank)任職，負責審核指導開發中國家的電力發展。因為奠定臺灣電力網絡基礎，獲美國普渡大學授予榮譽工程博士學位。1974 年返臺灣，任臺灣電力公司、中興工程服務社顧問。1979 年擔任泰興工程顧問股份有限公司董事長。