

The United Nations Special Fund and the Developing Country: A Case Study of Taiwan's Experience in the 1960s

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Abstract

The United Nations Special Fund was established in October 1958 by the United Nations General Assembly under Resolution 1240 (XIII), and it commenced its activities in 1959. The Special Fund concentrated on surveys of resources, the establishment of vocational and advanced technical training institutions and industrial research centers, all of which were intended to lead to investment or to greater productivity. In 1960 the government of the Republic of China on Taiwan concluded a basic agreement with the United Nations Special Fund. From all submitted project requests eighteen projects were approved. This study attempts to examine the implementations of these projects before Taiwan withdrew from the United Nations in October 1971. I will argue that the Special Fund's assistance helped Taiwan achieve economic growth in the 1960s and 1970s.

Introduction

The formations of the League of Nations and the United Nations (UN) in the 20th century marked great milestones in the course of human history. The League of Nations was formed shortly after World War I, and 63 nations were granted the membership. The high amount of member nations was distinctive of this organization, but what really made this organization unique was its goal to promote international cooperation through building communications between nations, in attempt to bridge the economic and cultural gap between nations and therefore achieve world peace in a short time. This goal was deemed meaningful and therefore, in 1939, the Bruce Commission in its report "recommended the expansion of the existing economic and social activities of the organisation, and the establishment of a high-powered council within the League to organise this work." ¹ The United Nations that was formed during World War II clearly replaced the League of Nations with a higher amount of members, a more structured organization, and a more powerful function, and also with a special focus on international cooperation.

The Republic of China (ROC) was one of the founding members of the League of Nations and had frequent contact with its member nations from 1920s to early 1940s through technical cooperation. The experts that were sent to China by the League helped improve the medical, education, economic situation and contributed to the modernization of infrastructure in China.² When the UN was formed, the Republic of China was not only one of the founding nations but also a permanent member of the United Nations Security Council, and the international status of ROC was therefore greatly promoted. However, the Chinese civil war broke out, and the

ROC government moved to the island of Taiwan in 1949. Although the ROC remained a member of the UN and a permanent member of the UNSC until October 1971 when the People's Republic of China (PRC) took over the seat of China in the UN, the ROC depended heavily on the United States of America (USA) for its international status and even its existence since 1949.

Taiwan was a Japanese colony before it was restored to the ROC government. During the Pacific War, its developing economy and infrastructure was heavily damaged. To support the army and the refugees that fled to Taiwan in 1949, the ROC government put much attention on building both the economy and the infrastructure. From 1950s to mid-1960s, although the USA played a major role in aiding the ROC government, the government also sought funding from different international organizations. The UN formed the United Nations Relief and Rehabilitation Administration (UNRRA) after World War II to aid nations for post-war recovery efforts, and the ROC was one of the nations that received the fund. Throughout 1950s and 1960s, the UN approved funding for the ROC through four programs:

1. The United Nations Technical Assistance Regular Program (UNTARP): The purpose of this program was to hire experts to provide service in Taiwan and to send people abroad to study. By the end of 1970, ROC received a total amount of US\$ 479000 from the UNRRA, an annual average of US\$ 60000.
2. United Nations Expanded Programs of Technical Assistance (UNEPTA): The purpose was to hire experts to Taiwan, provide fund for people to study abroad, and to buy equipments. By the end of 1970, the ROC received a total amount of US\$ 4180000, on an average of US\$ 300000 per year.
3. United Nations Special Fund (UNSF): The purpose of this fund is to provide for the need of human resources, equipments, and study programs for the construction and economic development plans. 18 plans that the ROC proposed were approved, and the ROC received a total amount of more than US\$ 12 million.
4. United Nations Industrial Development Organization Program: The purpose was to provide support for industrial plans and to hire experts to serve in the ROC and send people abroad to study. The amount granted was different each year, and the ROC received a total amount of US\$ 300000 from 1967 to the end of 1970.³

This paper focuses on the technical assistance to Taiwan through the UNSF. The UNSF was formed in 1959, and it concentrated its assistance on the projects intended to lead to investment or to greater productivity, such as the surveys of resources and the establishment of vocational and advanced technical training institutions and industrial research centers. The source of the Special Fund and all the above mentioned programs came from UN members, so, after its proposal was approved, a nation not only received funding from the UN but also must provide counterpart contribution for its own proposal and must complete the proposed projects within a limited time frame.⁴ The UNSF and the UNEPTA merged into United Nations Development Program in 1965 and the assessment and execution methods remained the same.

Throughout 1960s, the ROC applied for funding from either the technical assistance programs or the Special Fund each year to fund its infrastructure and

economic development projects. The Ministry of Foreign Affairs (MOFA) originally led the proposal efforts until, in September 1963, when the Council for International Economic Cooperation and Development (CIECD, now Council for Economic Planning and Development) was formed under the Executive Yuan to organize, assess, and compile projects proposed by other government offices. The compiled project was then submitted to the Ministry of Foreign Affairs which then submitted the project to the Special Fund Governing Council for review. It normally took a year for the Governing Council to reply the final result. After being granted the fund, a plan of operation was signed between the nation and the UNSF. During the course of operation, the government project representative and all related government offices had to be close cooperation with the CIECD and the MOFA for the success of the projects.⁵

The table below shows the 18 ROC-proposed projects that were granted with the Special Fund.

Projects in Taiwan approved by the UNSF

<i>Projects</i>	<i>Duration</i>	<i>UNSF Allocation (US\$)</i>	<i>ROC Government Counterpart Contribution (US\$)</i>
Hydraulic Development Projects	1960-1962	321, 450	198,475
Training and Research Center for Telecommunication and Electronics	1961-1965	334, 825	278,000
Auto Technician and Instructor Training Center	1962-1966	657,300	506,600
Metal Industries Development Center	1963-1968	1,039,100	1,045,195
Hydraulic Development: Zhoshui and Wu Basins	1964-1967	855,000	700,000
Hydraulic Development: Tidal Land Reclamation	1964-1965	202,600	214,000
Development of Livestock Production on Marginal Land	1965-1970	880,200	731,400
Maritime Development Institute	1965-1969	1,276,963	6,368,850
Forest and Forest Industry Development	1965-1968	694,900	377,100
Pilot Project for the Expansion of Typhoon and Flood Warning Services	1966-1970	616,100	718,000
Food Processing Institute	1967-1971	829,200	1,082,100
Urban and Housing Development	1966-1969	603,500	678,300
Vocational Training Institute	1968-1971	1,078,700	1,015,000
Sewerage Planning in the Greater Taipei Area	1970-1971	474,300	560,100
Pig Research Institute	1969-1971	804,500	1,513,000
Plant Protection Center	1970-1971	1,058,100	2,227,000
Consolidated Community Development	1970-1971	442,200	27,900
Union Industrial Research Institute	1971	510,000	741,000

These projects are categorized into six categories and discussed in later sections of this paper.

Hydraulic Projects

The UNSF Governing Council started to accept special fund requests in 1959, and 31 out of 120 proposals were approved. The Hydraulic Development Projects proposed by the ROC government was one of the approved projects. The ROC government had then “been improving the overall irrigation equipments and hydropower output to accommodate the increasing need in farming and industrial development.”⁶

The Hydraulic Development Projects lasted from October 1960 to March 1962, and a total of six experts were sent to Taiwan to conduct sub-project assessments and provide consultations for the ROC government. The sub-projects included: (1) The multi-purpose project of Zhuoshui River in central Taiwan and the multi-purpose project of Beinan River in Taitung County; (2) The groundwater drilling projects aiming at drilling 200 wells in Yuanlin County and 300 wells in Changhua County; (3) Flood prevention and land reclamation projects that aimed to create 500 to 600 km² of reclaimed land in Yuanlin County; (4) Advising lab projects in the hydraulic engineering lab to conduct structure experiments on modeled bridge and dam and silt-laden water test; (5) Silt control project that, among other purposes, sought to build a silt survey network, to manage dam silting, and to control drainage basin. (6) Hydrographic and geographic studies.⁷

During the course of the project, the experts who were sent to Taiwan surveyed Zhuoshui River, Wu River, and Dajia River, inspected the groundwater drilling constructions at Daguang, Jugong, Wushe, Tienlun, Dajian, Jiji, and Douliu, and advised local hydraulic engineers.⁸ This project also sponsored three people to study abroad on fields such as cost-benefit analysis, engineering geology, and hydraulic model test.⁹

After this project, the Technical Assistance Board of the United Nations sent over three additional experts to stay for another year and aided in dam design, construction plan, and land reclamation projects. The ROC government also applied funding for the Expanded Hydraulic Development Projects from the Special Fund during this time, and, before the funding was approved, the ROC government funded for more experts sent by the UN Technical Assistance Board to serve in Taiwan.¹⁰

The Special Fund Governing Council approved the Expanded Hydraulic Development Projects proposed by the ROC government and renamed the project as Hydraulic Development: Zhoshui and Wu Basins. The goal of this project was to integrate and develop the basins of Zhoshui River and Wu River into one multipurpose basin that could provide for water, irrigation, and electricity needs, prevent flood, build land reclamation projects upon, and develop tourism industry. It proposed to build four dams – named Chinyuan, Shenlong, Guoshin, Puli – that would reserve water from Zhoshui River and Wu River for irrigation and power needs in the downstream area.¹¹

Under this project, 13 experts were sent to Taiwan from January 1964 to May 1967 and nine from Taiwan sent to Europe, USA, or Japan to study. Experts sent by the UN posed questions on some of the sub-projects and proposed substitute projects.

The ROC government studied the substitute projects but did not completely follow the sub-projects proposed.¹²

In August 1963, the Food and Agriculture Organization (FAO) of the United Nations sent A. de Vajda to Taiwan to assess the feasibility of the land reclamation project proposed by the ROC government. The Special Fund Governing Council then approved this project, and it ran from January 1964 to the end of 1965. This project brought experts to Taiwan to study the 540 km² of reclaimed land along Taiwan's west coast. The project comprised both investigation and research tasks:

1. Investigation: The hydrology, meteorology, tidal and wave activities, drifting sand, ocean currents, topography, soil, and construction methods of the reclaimed land were investigated;
2. Research: Researches concerning coastal erosion and accretion, reclamation methods, soil improvement, sandstorm stability, farm layouts, and water source development were conducted.¹³

A total amount of ten foreign experts were sent to Taiwan to work on this project and six from Taiwan sent abroad to study related fields. The United Nations also donated instruments for hydrological and meteorological observations, aerial surveys, and soil testing to aid in the project. The ROC government also accepted most of the suggestions raised by the foreign experts.¹⁴

Agriculture, Forest, and Livestock Industries

In regards of the agriculture, forest, and livestock industries, the Special Fund was granted to four projects. The first was the Development of Livestock Production on Marginal Land approved in January 1964. Based on UN surveys, it was feasible to utilize the 3000 km² of mountain regions for livestock productions that in terms would increase food production, job opportunities, and national income and decrease the need to us foreign reserves.¹⁵ This project commenced in January 1965 and was divided into two phases that lasted for 5 years in total. The first phase lasted for 12 months, during which two experts were sent to Taiwan by the United Nations to study the potentiality of mountain region livestock industry in Taiwan and prepare a development plan. The second phase lasted for four years. In this phase, a research and training center and a demonstration ranch were established in Shinhua of the Tainan County. The two facilities served to train livestock industry professionals, veterinarians, and promotional professionals. The project also included plans for livestock production and dairy products production, distribution, and sales.¹⁶

In addition to development in livestock production, the UNSF also funded the Forest and Forest Industry Development. This project began from a report "A Survey of the Forest and Forest Industry Situation in Taiwan," written by Dr. J. Harry G. Smith who was associate professor at the University of British Columbia, Canada, and an expert sent to Taiwan by the FAO. There were three sections to this report: (1) Suggestions on improving the forest industry in Taiwan; (2) Application of the UNSF on surveying forest and improving forest industry in Taiwan; (3) Plans on surveying forest and improving forest industry in Taiwan.

In the conclusion of this report, Smith pointed out: "Through the cooperation of different institutes, Taiwan can really become a place with rich forest resources. Much wealth can be gained in the near future if modern business management methods were adapted. Lumbering with forest creation can definitely create great

value for forests here and even benefit future generations. What must be done now is to make proper land classifications to both nourish forest industry and preserve forest. The need for land classification is urgent, for otherwise the beauty of Taiwan will be no more.” The application of the Special Fund in developing forest industry in Taiwan was also Smith’s idea. The ROC government applied funding for “Forest Industry Development Project” in December 1963, and Smith believed that the fund would be granted in January 1964.¹⁷

However, John N. Corry, the Regional Representative of the United Nations Technical Assistance Board in the Far East, thought that the proposed project length of one year was too short and suggested to modify and resubmit the proposal. In May 1964, forest industry and economy expert B. Husch was commissioned by the FAO through the Special Fund to survey the forest and forest industry in Taiwan. In June of the same year, the proposal of: “Forest and Forest Industrial Development in Taiwan” was submitted to the UNSF.¹⁸ The new proposal was accepted and approved and was set to commence in July 1965. The tasks involved in this project can be categorized into four categories: (1) Review and improvement of regulations and laws related to the forest industry; (2) Improvement of operation methods of forest industry and of lumbering techniques; (3) Improvement and research of forest byproducts; (4) Foreign and domestic market expansion of forest products. 14 forest industry experts were sent to Taiwan during the three-year span of the project, and 13 from Taiwan were sent abroad to receive forest-related professional training.¹⁹

The Pig Research Institute was also an idea raised by the Food and Agriculture Organization of the United Nations commissioned experts. The drive behind this idea was to build upon Taiwan’s already well-established pork industry and therefore make contribution to the rest of the world. The Asia Science and Research Center for Pig was the first step in this project, and the research center was established in Taiwan Sugar Corporation’s Dapu Ranch in Chunan Town, Miaoli County. The funding for the Pig Research Institute in Taiwan was later approved by the United Nations, and related projects started in 1970 and lasted for five years. The major tasks of this project included:

1. Solutions for raising pigs. Sub-tasks included: (1) improvement on breed; (2) improvement on feed nutrition; (3) improvement on pig research facilities; (4) prevention of pig-related diseases; (5) reduction on production and management cost; (6) research on feed production techniques; (7) research on the chemical and physical reactions of pork; (8) research on pork production factory management and pork inspection; (9) the logistics and marketing of pork sales;
2. Promotion and application of research results;
3. Providing specialized training for both Taiwan and countries in Ear Asia;
4. Exchanging research results and experience with the United Nations funded Singapore-based Pig and Poultry Research Institute.

Under this project, Taiwan was provided a total of 179 man-months expert service and sponsored with 294 man-months of fellowship to study abroad. In addition, because of Taiwan’s advanced pig industry, the United Nations also agreed that those granted with scholarship to study abroad in fields such as breeding, genetic engineering, veterinary, and animal nutrition could obtain Master’s degree and even Ph.D. This is different from the studying options in other UN-granted projects.²⁰

The fourth project under this category was the Plant Protection Center headed by Sino-American Joint Commission on Rural Reconstruction. The purpose of this center was to control pest and botanic diseases and therefore decrease damage to agriculture. The center also has another mission to solve the pesticide residues problem. This project started in 1970 and lasted for five years, and the major goal was to boost agricultural production and sales.²¹

Industries

In industries, the UNSF first approved the plan for Telecommunication and Electronics Training and Research Center. The planning for this center started as early as 1958 when the Directorate General of Telecommunications of the Ministry of Communications started the initial research on electronics and telecommunications. The plan for the center received approval from the Ministry of Foreign Affairs, the Ministry of Communications, the Ministry of Education, and the Executive Yuan and was submitted to the United Nations for funding. The plan was granted with the Special Fund, and experts in telecommunications and electronics, physics and electronics, computer science, and vacuum tubes were sent to provide expert service in Taiwan.²²

The Telecommunication and Electronics Training and Research Center was one of the many long-term projects that the ROC government had, and its main goal was to fund for telecommunication and electronics equipments for educational purposes and for future research. The center was built in National Chiao Tung University in Xinzhu, under the management of the Department of Electronics Engineering. The center offered two-year postgraduate program and recruited 20 students each year. The focus of the first year of the program was theories, and students were expected to develop mathematics-based problem-solving abilities. Lab-based courses and other electives were available in the second year of the program and aimed to provide for the experiment needs of students' theses, in addition to developing student's ability in analyzing and designing for specialized telecommunication and electronics problems. The center started to offer short-term advanced telecommunication and electronics training program two years into the project, and it received from organizations, institutes, and businesses 80 students who had at least Bachelor's degree each year. A computer science department was also established to provide for the educational needs. The center also often hosted seminars that lasted for four to five weeks that provided a platform for idea exchange among both domestic scholars and scholars from neighboring countries.²³

A four-year Auto Technician and Instructor Training Center project was later granted by the United Nations to develop the transportation industries in Taiwan. The United Nations appointed the International Labour Organization (ILO) as the project executing agency, and an agreement between the ILO, the ROC Ministry of Communications, and the Taiwan Provincial Government, represented respectively by the acting Director-General Francis Blanchard, the head of the Department of Railways and Highways of the Minister of Communications Yan-guon Chu, and the head of the Department of Communications of the Taiwan Provincial Government Sheng-huang Chen, in Taipei on December 25, 1962. This four-year project provided auto technician training classes in Zhonghe, Taipei County and aimed at

training 100 instructors in automobile maintenance, 200 driving instructors, 80 instructors in diesel-based equipment maintenance, 360 maintenance team leaders, 60 instructors in heavy-machinery maintenance, and 140 driving trainers.²⁴ Six experts in project management, teaching methods, automobile and machinery maintenance, team management, diesel machinery, and heavy machinery were sent to Taiwan, and a total of eight were sent abroad to study, each in the field of teaching methods, automobile machinery, automobile electrical studies, chassis, diesel machinery, team management, and heavy machinery, and one was trained to lead the center.²⁵

In 1962, the Organizing Group for Industrial and Mining Projects under the Ministry of Economic Affairs headed the proposal of the UNSF on the Metal Industries Development Center project. The purpose of this center was to provide training, technical services, and solutions in equipment design, heat treatment, and metallurgy for the metal industries. This project was granted the fund in January 1963, and the plan of operation was signed in October. The United Nations sent in experts that served as project manager and acting project manager and provided services in supervisor training, technologies management, field training, and machining. The center was established in Kaohsiung, and it focused on developing industries in mechanical products, base metal research, metal refinery, research in five kinds of metals, electrical products, and transportation products.²⁶

The economic development in Taiwan experienced a man shortage in the mid-1960s. Based on a government report, advanced and precision industries required trained and high-level technicians, but the education system then was not able to provide for such needs and therefore restricted further industrial development. A human resource expert who was hired to assess the human resource status in Taiwan in 1965 by the UN also concluded that the vocational institutes in Taiwan could not provide for the human resource need in the coming five years.²⁷ Based on this review, the ROC government submitted the plan of building National Vocational Training Center to the Special Fund. The UN sent two experts to Taiwan in August 1966 to discuss and modify the proposal, and, in 1967, the ROC government resubmitted the proposal that was later approved. In April 1968, the plan of operation of National Vocational Training Plan was signed between the Special Fund and the ROC, and the vocational training promoting organization Association of Vocational Training was formed based on this plan. Chairman of Formosa Plastic Company donated land owned by the affiliated Ming Chi College of Technology (now Ming Chi University of Technology) for the association to build the training center.²⁸

In the food industry, exports of canned pineapple and canned mushroom had been increasing since 1963. In 1966, businesses pleaded the establishment of a national research center to improve processed food quality. The Sino-American Joint Commission on Rural Reconstruction, with support from the Economic Cooperation Board, proposed the plan of building the Food Processing Institute to the Special Fund and received approval in January 1967. This four-year project focused on the development of food processing technologies and the expansion of the kinds of processed food, in attempt to increase the competitiveness of the Taiwanese food industry in the global market. Under this project, 152 experts were hired to provide expert service in Taiwan. The Institute for Food Processing Industry Development and an affiliated processing center were also established under this project.²⁹

Maritime Industry

As an island, Taiwan relies heavily on the ocean for its economy. Taiwan's economy had been growing and exports increasing since mid-1960s. The Ministry of Communications, in attempt to lower the cost of renting foreign cargo ships and to grow the nation's freight industry, decided to apply for the UNSF in establishing the National Maritime Development Institute, and the proposal was approved in January 1965. The mission of the institute was to assist the government in maritime management and administrative tasks, to improve the efficiency of all Taiwan-based maritime businesses, to provide additional training for crew members and administrative workers, and to train high-standard crew members. The project lasted for four years, during which the UN sent 12 experts to provide expert service in Taiwan, and Taiwan sent abroad ten senior maritime industry professionals to study abroad. The institute was taken over by the ROC government after the four-year period.³⁰

The National Maritime Development Institute was established in Taipei on July 17, 1965. The institute received requests from major maritime companies not long after its establishment to create the advanced (Class-A) crew member training program. The first session focused on ship operation training and admitted 120 students. The students received six months of mock training and were dispatched by the National Association of Chinese Shipowners to field training on domestic and foreign operating ships. The students then took the certificate exam to obtain the certificate to operate ships.³¹ In early March of 1966, the institute planned a 3-year advanced crew member training program that targeted at recruiting undergraduate students majoring in science and engineering. The institute intended to provide one year of offshore training and two years of onboard training in this program. The plan was later canceled, and the institute cooperated with Keelung Maritime Institute to set up a three-year vocational program in the institute that accepted 120 students in navigation training and 80 in turbine and mechanical training. The three years of the program were divided into 2-year offshore training and 1-year onboard training. The onboard training was conducted on three training ships of 10-thousand gross tonnages that were provided by the China Merchants' Steam Navigation Company. These ships were operating between the USA, Japan, and East Asia.³²

Although the National Maritime Development Institute was establish to assist and stimulate the development of maritime industries in Taiwan and to provide professional training, many maritime business owners could not adapt to this new idea. Many of the UN-commissioned experts were not pleased with the rather fixated mindset of the maritime business owners who opposed much of what was planned. The Special Fund ceased its support for the National Maritime Development Institute in April 1969, and the institute was transformed into a legal entity and was funded by the maritime industry.³³

Urban and Community Development

In the 1960s, because of the concerns raised by many UN experts on urban planning, the ROC government also began its urban planning projects. In August 1964, the ROC government invited urban planning expert Donald Monson to provide expert service in urban planning in Taiwan. Monson compiled and submitted a report on Taiwan Urban Planning and Public Housing three months

later and suggested that the government applied for the UNSF to fund the proposed projects. The ROC government submitted the Urban Planning and Housing Project that later incorporated suggestions and modifications made by Kenneth Watts, the UN technical adviser for the Asian region. This project was later approved and lasted from August 1966 to July 1969. Monson pointed that the rapid development of the ROC economy was a model for the rest of the East Asian countries; however, because of the rapid economy growth and urbanization, population also grew rapidly and centralized in the urban areas. This in terms created problems in transportation, land planning, and community development, and these problems could only be solved through cooperation of all related institutes and organizations.³⁴ The purpose of this project was to assist the ROC government in regulating and promoting laws and executing projects related to urban and regional building construction and public housing. The project also planned training programs for public servants working on public housing and regional construction and for undergraduate students.³⁵

To support the project, the Economic Cooperation Board also established the Urban and Housing Development Committee (UHDC) that constantly employed six to eight UN-commissioned experts. Monson served as the project manager in this committee, together with his wife Astrid Monson – also a famous urban sociologist – and other experts in urban transportation, public housing, city administrative database and urban planning. The ROC government appointed experts from Taiwan to partner with these UN-commissioned experts to cooperate in projects, and students who were training in the urban planning field were also selected and grouped to assist and learn from the experts. The experts delivered work progress reports weekly and opened classes on urban planning theories and practices from developed countries for their associated students and students from other institutes at night. This type of project was the first kind that the UNSF supported under the Urban Planning and Housing project, and Watts was very satisfied with the outcome.³⁶

The UNSF also funded the project of Sewerage Planning in the Greater Taipei Area. Zhangqing Wang, a member who worked on the proposal, recalled that the briefing on the reconstruction of the London sewerage system after World War II delivered by officials from London local authority from an UN-sponsored European observatory trip in the UK in 1961 really motivated him. So much so that when he headed the Public Works Department of Taipei City in 1968, he wished to build a modern sewerage system that would symbolize the modernization of Taipei.³⁷ As early as 1962, however, the World Health Organization had assisted Taipei in planning a sewerage system that included plans for both Taipei City and its satellite cities. This system was not built because of budget concerns.³⁸ In October 1968, the UNSF Governing Council approved the project of Sewerage Planning in the Greater Taipei Area that was estimated to be completed in two years. The project planned to build the sewerage system that would extend to Xizhi in the East, to Sanchong in the West, to Xindian in the South, and to Yangming Mountain in the North. The primary objectives of this project were to: (1) Outlining the initial and long-term projects for the sewerage system in Taipei; (2) Training professionals in planning, design, construction, operation, maintenance, and management; and (3) Drafting for the governing and financial regulations and organization structure. This project also stated that the validity of the regulations would expire in year 2000, and modifications would have to be adapted by then.³⁹ The actual construction of the sewerage system was contracted to the Boston-based Camp-Dresser-McKey Consultant Company.⁴⁰

In 1967, the ROC Ministry of the Interior applied for the UNSF for the establishment of a Preparation of a Consolidated Community Development Program. The purpose of this center was “to analyze current community problems and to observe and absorb the community development experiences and solutions of the United Nations and countries that have established such programs for these problems; to develop systematic research methods and engage in experiments based on the observed experiences and solutions so that solutions suitable for the domestic community can be derived; to provide training to community development workers and local leaders for an unified set of ideas and methods be taught; to build cooperation between all government organizations and institutes to maximize outcome and minimize waste.” This project lasted for six years, and the center was transferred to the National Taiwan University and renamed as Institute of Community Development. The UNSF Governing Council approved the project in January 1970.⁴¹

Typhoon and Flood Disaster Prevention

Accompanied by storm and pouring rain that often bring about heavy damage and fatalities, typhoon has always been a constant natural threat to the island of Taiwan. Typhoon Gloria that stormed Taiwan in September 1963 caused great damage – 300 fatalities and over \$175 million USD in total damage – because of the lack of a warning system. Mainly motivated by this great damage, the ROC government applied for the UNSF in early 1965 to fund for two radar stations, one built in Hualien and the other in southern Taiwan and six hydrological stations around the island. The government also wanted to invite agriculture and meteorology experts to conduct researches in Taiwan and to setup scholarship program to fund for local experts to study abroad.⁴² The ultimate goal was to improve meteorological equipments and train experts so that damage caused by typhoons could be minimized.

The Governing Council of the Special Fund approved the application in May 1965 and appointed World Meteorological Organization as the executing body and the Weather Bureau of the Taiwan Provincial Government as the co-executing body. This project lasted for four years. In addition to two radar stations that were established in Hualien and Kaohsiung, six rain intensity detection and reporting stations were built along the Danshui River and Zhoushui River. The data collected by the new detection and reporting stations together with the older ones was integrated with the radar stations to provide information for forecast of typhoon course, precipitation rate, precipitation length and periods, and flood peak. With this available information, the Weather Bureau of the Taiwan Provincial Government could collaborate with other government units on disaster prevention measures. During the course of the project, the organization structure and equipments of the Weather Bureau were also greatly improved, and qualified researchers and technicians were also trained for future researches and equipment maintenance.⁴³

Conclusion

The ROC withdrew from the United Nations in October 1971, and all of the ongoing projects came to an immediate halt. Looking back at the development of Taiwan in 1960s, the support from the Special Fund played a major role and was of

historical significance. After the establishment of the Special Fund, the ROC government applied for the fund almost every year, making it a major foreign investment source after the US stopped material support in mid-1960s. The 18 approved projects belonged to different specialized fields and were of major impact to the transformation of the economy in Taiwan in 1960s and to the rapid development in 1970s.

Some of the 18 approved projects were of provisional nature, and some of which ceased operating after the UN withdrew from projects. Examples of the latter include the National Maritime Development Institute and the plan for the hydraulic development in the Zhoushui and Wu Basins. Many of the approved projects, however, have been in operation even till this day. The Telecommunication and Electronics Training and Research Center has now transformed to the Institute of Communications Engineering at the National Chiao Tung University. The Metal Industries Development Center was transferred to the ROC government in October 1968 and was transformed to Metal Industries Research and Development Center in May 1993. The center now hosts researches in the production and management of the metal industries and the promotions of the research results, with a mission to advance the Taiwan metal industries to be globally competitive. The Pig Research Institute was supported by the Taiwan Provincial Government and the Council of Agriculture after the UN withdrew from the project. It was privatized in 1994 and is still in operation today. The ROC government also continued the operation of the Plant Protection Center after the UN withdrawal. It was transferred to the Taiwan Provincial Government Department of Agriculture and renamed as Taiwan Agricultural Chemicals and Toxic Substances Research Institute, and the main responsibility was changed to the research of pesticide and toxic substances.

Although Taiwan is today not a member nation of the United Nations, the support from the United Nations Special Fund is still an important part of the history of Taiwan.

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