

DEVELOPMENT OF HYDROGRAPHIC WORK IN SIAM FROM THE BEGINNING UP TO THE PRESENT.

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by

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PRESIDENT OF THE DIRECTING COMMITTEE,
PRESIDENT OF THE CONFERENCE,
DIRECTING COMMITTEE,
DELEGATES OF STATES MEMBERS,
GENTLEMEN,

I have the honour and great pleasure to give you an outline of the development of the Hydrographic work of Siam from the beginning up to the present. Although I intend to go through the subject as briefly as possible, I am afraid that it will take some time before I can come to a conclusion. Therefore much of your patience will be needed, not less than your sympathetic readiness to understand me, for which I beg to tender my warmest thanks in anticipation.

It may be said that the Hydrographic work of Siam started in 1856, when Master John Richards and Commander A.J. Loftus of the British Navy with their assistants, effected the first marine survey in Siamese waters.

For practical purposes, the development of our Hydrographic work may be divided into four periods, namely :—

THE FIRST PERIOD. From 1856 to 1911 —

During that time a certain number of foreign naval officers had been called to form parties in order to survey different parts in Siamese waters.

From reliable sources and authentic documents available, those foreign officers were of British, American, French and Danish Nationalities. In some parties they were accompanied by Siamese Naval Officers.

Surveying sheets were then constructed and the reproduction of the charts for navigational purposes was entrusted to the British Department..

The details of the above are mentioned in the book named "Survey-Work in Siamese Waters from the beginning until the creation of the Hydrographic Department in the year 1922" compiled by Rear-Admiral Fritz Thomsen, who was Director General of the Hydrographic Department, Royal Siamese Navy, from 1922 to 1926.

The Siamese Hydrographic Department had caused the said book to be sent to all Hydrographic Departments of the States Members of the International Hydrographic Bureau in 1925. Should any Hydrographic Institutions not have received it, the Hydrographic Service of Siam, upon application, will be glad to supply it free of charge.

THE SECOND PERIOD. From 1912 to March 1926 :—

In 1912, it was found necessary to have a certain number of Siamese Naval Officers who could independently make a survey. Therefore, the Royal Siamese Ministry of Marine made necessary arrangements with the Royal Danish Navy, resulting in obtaining Danish Naval Officers to act as instructors to Siamese Naval Officers and train them at the same time in surveying work.

By the courtesy of the Royal Danish Navy, Commander F. Thomsen and Commander M. Bojesen were appointed instructors and Chiefs of Surveying. The first survey started at Bangkok-Bar in 1912. From this date may be reckoned the introduction of an organized system in the surveying of Siamese waters.

Following the first survey of 1912, the first chart was drawn at the Royal Danish Hydrographic Office, then reproduced at the Royal Danish General Staff Department at Copenhagen and finally published in 1913.

The adopted principles of instruction and practice of surveying were as follows :—

First year (1912). The Siamese Naval Officers sufficiently acquainted themselves with theoretical and practical surveying, after which they were attached to Commander F. Thomsen and Commander M. Bojesen to work in the field.

Second year (1913). The Siamese Naval Officers effectively took part in the survey-work under the supervision of their Chiefs.

Third year (1914). The Survey-work was carried out, under the supervision of the chiefs, by the Siamese Naval Officers themselves in accordance with the instructions previously received.

Fourth year (1915). The Siamese Naval Officers started and finished the work by themselves, the result of which was duly submitted to their Chiefs.

Fifth year (1915). The Siamese Naval Officers were wholly responsible for their survey-work.

After the fifth year, the Siamese Naval Officers were in a position to do all field-work, as well as office work.

In March 1913, a surveying office was created, under the administration of the Naval Science Department, for the purpose of promoting surveying, and also of providing charts, instruments and nautical books for the Royal Siamese Navy.

In 1914 the office was given the Siamese name of "Kong Utok Satr" being equivalent to "Hydrographic Office". Two surveying divisions were then formed, one for the East Coast of the Gulf of Siam and Puket Province, on the West Coast of the Malay peninsula, during N.E. Monsoon, and the other one for the West Coast of the Gulf of Siam during S.W. Monsoon.

In 1915, the survey work was, for various reasons, separated from the Kong Utok Satr or Hydrographic Office. The Surveying Office became an independent organ and assumed responsibilities for surveying and producing new charts of Siamese Waters, while the Kong Utok Satr or Hydrographic Office only undertook to provide and keep in order foreign charts, instruments and books for use in the Royal Siamese Navy.

In September 1915, the Royal Siamese Ministry of Marine sent two naval officers to Denmark to study drawing and the construction of charts. They were attached to the survey branch of the Danish Hydrographic Department (Sokort-Arkivet) Copenhagen. In due course they were instructed in different methods of chart reproduction at the General Staff of the Danish Army. In spite of their relatively limited period of instruction in Denmark, those two officers won the admiration of their Danish instructors who highly appreciated the diligence and interest they had shown in their work, as well as the progress they had achieved in the study of this special science.

Upon their return to Siam in 1917, a Drawing-School was inaugurated at the Hydrographic Office, with the object of instructing students in the art of chart drawing and chart reproduction.

In 1916, the two Surveying Divisions and the Hydrographic Office were again united as the Seventh Division of the Naval General Staff Department under the command of the Naval General Staff.

In the months of June and July 1919 Captain Phra Pradiyat Navayuth, Royal Siamese Navy, who took great interest in, and supported, Hydrographic work, attended the First International Hydrographic Conference in London, in the capacity of Representative of Siam.

The first chart constructed and drawn by a Siamese Naval Officer, who had studied in Denmark, was reproduced on a flat-bed press at the Royal Siamese Military Survey Department and published in 1921.

In 1920, by Royal command, the Light and Beacon Service was transferred from the Harbour Department to the Ministry of Marine, and annexed to the Seventh Division of the Naval General Staff Department.

As the work of the three services, namely the Light and Beacon Service, the Surveying Office and the Hydrographic Office developed and became more important, it was deemed expedient to have them grouped into a single independent unit, alleviating at the same time the task of the Naval General Staff in keeping control over them as heretofore.

For this purpose his Majesty the King, in 1922 was graciously pleased to proclaim the establishment of an independent Department to be known as "Krom Utok Satr" or Hydrographic Department under the direct order of the Ministry of Marine, with Commodore F. Thomsen, Royal Siamese Navy, as Director General.

In the following year, this senior officer was promoted Rear-Admiral.

In 1922 the Hydrographic Department was provided with a prismatic Camera and modern flat-bed press. It was then possible to have all constructions and reproductions made in this Department itself.

After the International Hydrographic Conference held in London in the months of June and July 1919, His Majesty the King, upon the suggestion of the Hydrographic Office was graciously pleased to order Zone-Time (7 hours in advance of Greenwich Mean Time) to be introduced in Siam from April 1920 and at the same time the first number of the "Notices to Mariners" was published both in the Siamese and English languages.

As Siam is one of the States Members of the International Hydrographic Bureau, the Hydrographic Department has constantly endeavoured to carry out all work in accordance with the agreements and resolutions adopted by the International Hydrographic Conference.

About the time of the organization of the International Hydrographic Bureau in 1921, with its seat at Monaco, the organization of the Hydrographic Department has been the object of many reforms, as may be seen in the function chart of this Department No. 1 (*).

THIRD PERIOD. From April 1926 to August 1945 :—

Admiral F. Thomsen had carried on the Hydrographic Work of Siam for about fifteen years very efficiently. In the field and office, his energy and capacities combined with his constant source of encouragement to all who had the honour to serve under him. Admiral Thomsen was put on the retired list on 1st April 1926, and since then no foreign naval officer has been assigned to work in the Hydrographic Department. Since Siam became one of the States Members of the International Hydrographic Bureau, French and English have been extensively used in correspondence and Circulars as the international medium among Hydrographic Institutions. The Hydrographic Department of Siam was fully aware of the delicate position in which it found itself, owing to the lack of a staff sufficiently acquainted with foreign languages. However, the gap was temporarily filled between 1925 to 1932 by Captain Phra Riem Virajaphak, Royal Siamese Navy, docteur ès Lettres, diplômé d'Etudes supérieures d'Histoire et de Géographie, who was then Instructor and Chief of the Naval Historical Division of the Naval General Staff Department. During the above-mentioned period, this officer efficiently acted as assistant in foreign correspondence to the Hydrographic Department.

In some cases, during our intercourse with different Hydrographic Institutions all over the world, we have experienced technical difficulties in connection with some branches of Hydrographic knowledge. Therefore, in May 1929 the Royal Siamese Ministry of Marine decided to send two naval officers to the United States of America in order to perfect themselves in Hydrographic knowledge.

It will not be out of place to mention that, before sending these two officers to America, we approached Rear-Admiral Albert Parker Niblack, United States Navy, President of the Directing Committee of the International Hydrographic Bureau at that time, for the purpose of obtaining his views and assistance in the matter.

Admiral Niblack was then on "sick leave" from the Bureau, and was staying in France. Nevertheless, we obtained his consent within a short time, and he kindly took up the matter with the authorities concerned and necessary arrangements were made accordingly.

The time of study for the two officers in the United States, including touring other countries, was fixed at four years, but later it was deemed appropriate to cut off one year owing to the prevailing general depression. These two officers returned from the United States in June 1932.

During their stay in the United States, the said officers studied in every section of the Hydrographic Office, Naval Observatory, and were subsequently attached to the United States surveying ship *Nokomis* at Port de Padre, Guantanamo, in Cuban Waters, as well as to the U. S. Coast and Geodetic Survey, Bureau of Lighthouses and Weather Bureau.

About two weeks after the return of the two officers from America, Siam became a Constitutional Monarchy.

(*) Not reproduced here.

As the financial situation of the country was still serious, owing to the general depression, the budget of the Hydrographic Department was cut down and consequently the Hydrographic Department became Hydrographic Office again, but was given back the status of Hydrographic Department in 1933.

The scope of the Hydrographic work varied according to allotted budgets. For the sake of convenience, it was decided in 1934 to adopt "Hydrographic Service" as the permanent English equivalent to the Siamese "Krom Utok Satr" and it is intended to remain as such.

In 1933 two officers of the Hydrographic Service were sent to study practical meteorology at Manila, Philippine Islands, for a period of approximately two years, including visits to the meteorological stations in Java, India, Japan and China.

They came back to Siam in 1935.

For the sake of chronology, it may be mentioned that, in December 1934 the French Surveying Ship *Octant* made a marine survey in an area lying between Cambodia and Siam.

On the first of July 1935 the Meteorological work under the administration of the Royal Irrigation Department was transferred to the Hydrographic Service as Meteorological Section of the Section of Oceanography. On the 6th of August 1936, the Meteorological Section became known as Section of Meteorology in the Hydrographic Service.

After this modification the function of the Hydrographic Service may be seen in the chart No. 2 (*).

In 1937, both the Director and the Assistant Director of the Hydrographic Service visited the Hydrographic, Oceanographic and Meteorological Departments in England and on the Continent, after which they attended the Fourth International Hydrographic Conference at Monaco, in the capacity of Delegates of Siam.

On the way back to Siam, the Director visited the Hydrographic Office and Coast and Geodetic Survey in Washington D.C. as well as the Hydrographic Department in Tokyo.

At the end of 1937, the Department of Commerce requested the Royal Siamese Navy to send two officers of the Hydrographic Service to Germany to study, in connection with Harbour Work, the method of investigation of the Tide, Current and Cross Section of a River for a period of about eight months so as to apply this knowledge to Bangkok-Bar Dredging.

In 1939 the Section of Channel Investigation of the Department of Commerce was transferred to the Hydrographic Service, as its activities related to the Oceanographical work in the Hydrographic Service.

In 1938 one of those two officers who had studied meteorology in the Philippines, was sent to America to improve his meteorological knowledge, so as to ameliorate our meteorological work in the wake of the Institute of Technology, California. On his way back to Siam, he visited the Meteorological Department in Tokyo in 1942.

At the end of the year 1938, an officer of the Hydrographic Service was sent to France to study Hydrographic work in the French Hydrographic Service, but owing to the outbreak of the Second World War in Europe, the French Government had to cancel his admittance. That officer therefore took up the study of Astronomy (for Observatory work) and Geodesy in the University of Marseille for two and a half years after which he went to study Hydrographic work in America for about six months at the same Institution as those two officers who studied from 1929 to 1932. He then visited the Hydrographic Department in Tokyo in 1942, on his way back to Siam.

In 1933, the British Government requested permission from the Siamese Government to survey the Waters of Puket Province, West Coast of Malay Peninsula.

Permission was granted accordingly, but the survey did not start until May 1934; it lasted till May 1938, and during that time four naval officers of the Siamese Hydrographic Service were attached, each in rotation, to the Surveying Ships *Endeavour* and *Stork*.

In 1942 an officer was about to be sent to study Oceanography in America, but the critical situation in the Far East caused the plan to be cancelled.

On the 25th of June 1943, the Status of the Section of Meteorology of the Hydrographic Service was raised to that of an independent Department, namely the Meteorological Department and was under direct control of the Royal Siamese Navy. Subsequent changes in the functions of the Hydrographic Service may be seen in the present organization chart No. 3 (*).

(*) Not reproduced here.

During the Third Period, besides the activities already mentioned, a comprehensive scheme had been drawn up to carry on the Hydrographic work, the five main items of which are as follows :—

- 1° Administration and Personnel ;
- 2° Education ;
- 3° Instruments and Apparatus ;
- 4° Technical Work ;
- 5° Building and Office.

All that has been achieved by the Hydrographic Service in connection therewith may be seen in the following :—

1° ADMINISTRATION AND PERSONNEL

A Card filing system for all records has been adopted and qualified official personnel appointed.

2° EDUCATION

1° In 1934 a special course of instruction, both theoretical and practical, on the mechanical theory of the clock and practical repairing of clocks, watches, chronometers and pendulums was set up. After one year, minor repairs could be effected by our mechanics.

2° In 1938 a school of Hydrography was established. Admission to this school was granted only to those Cadets who had gone through the three years' course at the Naval Academy, during which period they had been taught Mathematics, Science, Navigation, Seamanship, Nautical Astronomy, Pilotage as well as the English language. In the fourth year, they had to take courses in the Hydrographic Service, Geodesy, Practical Astronomy, Theoretical Marine Surveying, Practical Meteorology, Principle of Oceanography, Charts construction, reproduction and printing.

At the end of the fourth year, those who had passed their examination successfully, were graduated Sub-Lieutenants and listed as Reserved Surveyors.

After graduation, they were sent to practice in the field for at least two years, so as to be able to work as Surveyors and continue to work as such in the field.

The first group of young officers of this category graduated in August 1941, and the school continued to function until February 1943, when it was closed temporarily, owing to a sufficient number of trained surveyors. The school may re-open again whenever the need for more surveyors is felt.

3° INSTRUMENTS AND APPARATUS

1° In 1934 and 1935 a modern Transit Instrument and Astronomical Pendulum with chronograph were installed for observation of accurate time which is required by the Navy for a time service to rate its chronometers.

2° In 1936 a modern Offset press was installed for charts printing.

4° TECHNICAL WORK

From 1935 to 1941 some sections have undergone important changes so as to be in keeping with modern requirements.

5° BUILDING AND OFFICE

Before 1935, the Offices of the Hydrographic Service were separately located, either in wooden houses or in brick buildings, but from 1939 to 1944 they had been removed into four adjacent reinforced concrete buildings constructed for the purpose, each having two storeys. The seat of the Hydrographic Service is situated, on the northern side, quite close to the wall of Wat Aroon, the well-known temple which is so greatly admired by foreigners and tourists for its architectural beauty. On the southern side is an inside road with flowerbeds, running along the wall of the old Naval Academy. On the eastern side, Chow Phya River, with a jetty, almost touches the main entrance. The whole compound has an approximate area of 6400 square metres.

The plan and pictures of both the new building and old offices are self-explanatory (*).

THE FOURTH PERIOD.

This period will extend from the 16th of August 1945, up to the date when one of the present young surveyors will have been appointed Director of the Hydrographic Service :—

(*) Not reproduced here.

The reason for starting the Fourth Period on the 16th of August 1945, is due to the fact that peace was proclaimed on that day. A new era therefore began to dawn from that date with a will to carry on the work without interruption, with a better trained staff and improved materials.

Siam is a small country, with a small Navy and a strictly limited budget for the Hydrographic work.

The Hydrographic Service of Siam is but a mere child in comparison with those of the big countries, such as the United States of America, Great Britain and France. The following facts will serve as basis for comparison, namely :—

- 1° The French Hydrographic Service was established on the 20th of November 1721 ;
- 2° The Danish Hydrographic Department was established on the 22nd of October 1784 ;
- 3° The British Hydrographic Department was established on the 12th of August 1795 ;
- 4° Coast and Geodetic Survey was established in 1807 ;
- 5° The American Hydrographic Office was established on the 12th of June 1830.

For Siam, the first marine survey started in 1856, that is 136 years after the establishment of the French Hydrographic Service, while the Hydrographic Service of Siam came into existence on the 1st of April 1922, being therefore only 25 years old. But young as it is, it will not refrain from following the footsteps of its elders whose guidance and assistance will always be received with a deep sense of gratitude.

It may be mentioned here that the Centralisation of Notices to Mariners at the Port of Bangkok was transferred from the Harbour Department to the Hydrographic Service as from the 1st of January 1947. This decision was unanimously welcomed by mariners to whom the Hydrographic Service is better known than the Harbour Department.

During the second World War, owing to the lack of ships and some instruments, as well as the fact that our officers could not be sent to further their studies abroad, our Hydrographic work could not be carried out according to the adopted scheme.

Our present task, therefore, consists in ameliorating the above situation.

With the good will and assistance of those who have been so kind to our Service in pre-war time, we feel quite confident in the future and hope to be able soon to contribute more fully to the activities of the International Hydrographic Service which proves to be so beneficial to sea-faring people in every part of the world.

It is indeed a pleasure and an agreeable task for me to stress once more the importance of the continued assistance which we have received from those countries whose Governments and authorities concerned have always stood by us. Without them, the development of the Hydrographic work of Siam would have been greatly delayed.

From all that has been said here, it may be seen that, since the foundation of the International Hydrographic Bureau, Siam has brought many an alteration and improvement in the organization and the carrying out of the work of her Hydrographic Service. In this connection, the noble figure of the late Admiral Niblack, United States Navy, stands eminently in our midst. To him the Hydrographic Service of Siam owes so much that words can hardly express how deep is our gratitude for him. May he accept, from the better world than ours where we wish him to be, the expression of our never failing admiration and esteem.

May I be allowed to stress here the immense service derived from the International Hydrographic Bureau ever since its foundation up to the present moment. Past and present Presidents and Directing Committees have been instrumental, through their constant energy and far-sightedness, for the success achieved in different fields of work. All the States Members will certainly agree with me that they have largely benefited by what has been achieved by this organization.

As everything is progressing so rapidly, it may not be out of place to state that with the Statutes of the Bureau thus revised, it is to be seen how the result will be in the next five coming years.

In conclusion, on behalf of the Royal Siamese Navy and in my own name, I beg all of you to accept the expression of our deep appreciation and grateful thanks for the precious assistance and co-operation that you have accorded to our Hydrographic Work so unsparingly.

Gentlemen, once more, I thank you.

