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Administrative report of TC30 – Coastal geotechnical engineering

Compte rendu technique de la No. CT 30 – Géotechnique côtière

T.Tsuchida – *Takashi, PHRI, Japan*

R. Thiel – *DGGT, Germany*

ABSTRACT: The expansion of cities and the progress of industrialization have been triggering a number of construction projects in the coastal areas, where it is often the case to confront with the thick alluvial soft soils accumulated. As the geotechnical engineering has been playing a major role in the coastal development, TC30, which is focusing on the various engineering problems closely related to the actual construction projects, was established in 1994.

1 ACTIVITIES IN THE FIRST TERM 1994-1997

Terms of reference of TC30 in the first term 1993-1997 were as follows:

1. To survey the recent geotechnical achievements applied to the coastal engineering constructions, focusing on the priority needs as far as research and development are concerned.
2. To collect and publish some selected case histories focusing on the peculiarities related to the soil investigation, design, construction and monitoring.
3. To participate actively in the International Symposium on Compression and Consolidation of Clayey Soils to be held in Hiroshima in 1995.
4. To promote the organization of GEOCOAST II to be held in 1996 or 1997.

In 1993-1997, the following activities were carried out:

1. TC30 sponsored IS-Hiroshima Symposium, titled as "Compression and Consolidation of Clayey Soils" which was held in Hiroshima, Japan in May, 1995. The members worked actively, as lecturers, session chairpersons, or secretaries. Case histories of high quality were collected in the symposium proceedings.
2. The small-sized symposium, named "International Symposium on Characterization of Soft Marine Clays", was held in February, 1997 at Port and Harbour Research Institute. TC members, particularly those from Japan and Canada, had been conducting comparison studies of clay properties and the sampling method in various countries and regions. A number of in-situ and laboratory tests of well-known clays, such as Drammen (Norway), Bothkennar Clay (United Kingdom), Quebec Clay (Canada), and Ariake Clay (Japan) were carried out with different methods. The symposium was held in order to share the obtainment from this research with all TC 30 members. About 80 researchers took part in this 3 days symposium.

Geo-Coast 2 was decided not to be held during the first term, because: in IS-Hiroshima 95, the papers on similar topics were collected, which were conducted to discussions and the case studies in the coastal area were presented. Two or three international symposiums (IS series) were held in Japan in each year between 1995 and 1997. Therefore considering the facing situations, the organization of another symposium was resolved to be unreasonable.

2 ACTIVITIES IN THE SECOND TERM 1997-2001

At the TC meeting in Hamburg Conference in 1997, the following terms of reference for the second term was determined as ;

1. To collect and publish some selected case histories focusing on the peculiarities related to the soil investigation, design, construction and monitoring.

2. To promote the international symposium on "Design Parameters and Case History in Coastal Geotechnical Engineering" in 2000.

In 1999, Characterization of Soft Marine Clay, the Proceedings of International Symposium on Characterization of Soft Marine Clays held in 1997, was published from A. A. Balkema. 16 papers of 270 pages were included in the following chapters ;

- General characteristics
- Ageing and environmental effect
- Shear strength
- Large scale test

The 12th Asian Regional Conference was held in Seoul, Korea in August 1999. TC 30 meeting was held during the conference and the topics were presented as ;

- Introduction of the activity of TC30, Prof. Nakase
- Development of the fiber drain method and the case studies, Dr. Inoue, T., Fukken Corporation, Ltd.
- Prediction of settlement and volume change of dredged and reclaimed soft clay during self weight consolidation, Prof. Nam-Jae, Yoo, Kang-Won Univ.
- Improvement of soft Bangkok Clay, Prof. Bergado, D. T., AIT
- Evaluation of strength of Pleistocene clays and the stability of seawall structures in Kansai International Airport Project 2nd phase, Dr. Watabe, Y., PHRI
- Comparison of quality of "undisturbed" sample from the universal point of view, Dr. Tanaka, H, PHRI
- Correlations in Geotechnical Engineering with special reference to the soft ground, Prof. Yudhbir, Indian Institute of Technology
- Introduction of IS-Yokohama 2000, International Symposium on Coastal Geotechnical Engineering in Practice, Dr. Tsuchida, T., PHRI

The main activity of TC30 in 2nd term was the organization of IS-Yokohama 2000. The international symposium on 'Coastal Geotechnical Engineering in Practice (IS-Yokohama 2000)' was held between 20th and 22nd of September, 2000, at the Education and Culture Hall of Yokohama National University in Yokohama, Japan.

This symposium was sponsored both by TC30 and Japanese Geotechnical Society(JGS) in collaboration with Port and Harbour Research Institute and Yokohama National University. The symposium was opened with the opening address by Prof. H. Kishida, the president of JGS, Prof. S.K. Kim, vice president of ISSMGE and Prof. G. Imai of Yokohama National University. The symposium attracted 310 delegates with 36 from 14 over-

seas countries including USA, England, Italy, Island, Norway, Canada, Indonesia, India, Bangladesh, Korea, Singapore, Taiwan, Thailand and China, and 274 from Japan.

A total of 130 papers were published by A. A. Balkema in the Symposium proceedings Volume I, which was previously prepared before the conference and distributed to the participants during the registration. And 42 of those papers were presented by the oral session and 82 papers by the poster session.

The themes for five presentation sessions of the Symposium were ;

1. Determination of design parameters
2. Applications and limitations of numerical analysis
3. Use of geo-materials from solid wastes in the coastal areas
4. Consolidation and compaction techniques
5. Case studies in soft ground construction.

Together with the presentation sessions, two special discussion sessions were arranged in the symposium in order to bring the concentrated discussions on two issues. For special discussion session 1, Dr. D. Hight, Prof. J. Locat, Mr. T. Lunne, Dr. F. Cotecchia, Prof. T. S. Tan and Prof. A. Sridharan presented on the 'Comparison of engineering properties between glacial(European) and non-glacial(Asian) deposits' and for special discussion session 2 on the 'Characteristics features of soft ground engineering in Asia', were presented by Prof. Siddique, Dr. D. Hight, Prof. W. Teparaksa, Mr. C. S. Jang and Prof. V. Choa. In addition, two keynote addresses by Dr. H. Tanaka and Dr. H. Hanzawa, two project reports by Prof. T. S. Tan & Prof. C. F. Leung, and Dr. M. Kobayashi, and three special lectures by Dr. T. Tsuchida, Prof. S. Leroueil and Prof. R. Jardine, were included in the symposium program.

During the symposium, the meeting of technical committee, TC-30 took place and there it was decided to promote continuously the research activity of coastal geotechnical engineering and to enlarge the range of research scope into broad geotechnical problems.

At the closing ceremony, Prof. K. Ishihara, president of ISS-MGE made a speech with encouraging remarks and closing of the symposium was addressed by Prof. S. Leroueil attended with esteemed guests.

On September 23, the next day after the closing of the symposium, technical tour to Kansai International Airport site was arranged and joined by 10 participants to witness facilities and the construction of the world largest man-made island.

The deepest regret of all the members of TC30 was that the chairperson, Prof. Akio Nakase, passed away in the morning of November 18 in 2001. Prof. Nakase had been diagnosed as cancer soon after his retirement from the post of Executive Manager of the Nikken Sekkei Nakase Geotechnical Institute (NNGI) in October 1999. Soon he was hospitalized and received medical cares without delay. He once recovered from the illness so well that he was able to leave the hospital and resumed his work. However, he became worse again in September 2000 and was unable to attend the IS-Yokohama 2000. After having received home treatments until the end of October, he was again hospitalized. All the members of TC30 appreciated Prof. Nakase for his remarkable contribution to the progress of geotechnical engineering, including TC30.

The symposium proceedings, volume 2 will be available by October of 2001, and will include the presented papers at keynote addresses, special lectures and special discussion sessions. In association with IS-Yokohama 2000, the Journal of Japanese Geotechnical Society, Soils and Foundations, also publish an edition of special issues on the same themes in October 2001.

3 FUTURE ACTIVITY OF TC30

Resolutions made during the meeting at IS-Yokohama2000 were;

- Agreement on the importance of Coastal Geotechnical Engi-

neering as a research theme and on the continuous activity of TC30 was made.

- TC30 has been laid emphasis on the researches on the evaluation of design parameters for soft clay ground. However, with the mutual opinions on the inevitability of Coastal Geotechnical Engineering Researches to the far-reaching scope, it was agreed to extent the field of TC30 such as to the foundation of Offshore structure.
- Dr. Tsuchida, the secretary of TC30, proposed for better activations of the committee to turn over the host of TC30 at the next term to another country from Japan that has performed as the host country of 2nd term. To this proposal, Prof. Tan from Singapore who attended the meeting as a representative of Prof. Yong, a member of TC30, suggested the intention of taking the next host to Singapore. Attendants to this meeting made a provisional resolution on turning over the host country to Singapore from the next term.
- In recent years, the projects related to the construction and energy development in coastal areas in Southeast Asia, coastal district of China and South Asia have been lively in progress. Among those countries in above areas, Singapore is one of the leading countries with well-organized research groups and environment. For this, it would be appropriate for Singapore University to act as a next host institute leading by Prof. Tan as a chairman.

Prof. Tan who works currently as the chief of the Research Institute for Soft Ground Development of Singapore University, has been also working as an executive member of TC30 playing an active role to the preparation of TC30 and to giving lectures in TC30 Activities. All the members of Japan will participate continuously in the activities of TC30 as member with strong intention.

TC30 LIST OF MEMBERS

Chairman:

Prof. Akio Nakase, Japan

Secretary:

Dr. Takashi Tsuchida, Japan

Members:

Prof. F. Baguelin ,France
 Prof. Victor Choa, S. E Asia
 Dr. H. Hanzawa, Japan
 Prof. Serge Leroueil, Canada
 Dr. Phienwej Noppodol ,S. E. Asia
 Prof. G. Mesri, USA
 Prof. Zhao, Weibing ,China
 Prof. Yudhbir ,India
 Prof. F. B. J. Barends, Netherlands
 Prof. T D Bergado, S.E Asia
 Dr. F. Cotecchia, Italy
 Prof. J. De Rouck, Belgium
 Mr. K. Karlsrud , Norway
 Prof. Soo-Sam Kim , Korea
 Prof. M. S. Rahman ,USA
 Mr. C. D. Thatte ,India
 Prof. P. I. Yakovlev ,Russia
 Prof. Kwet-Yew Yong , S.E Asia

Supporting members from Japanese Geotechnical Society

Mr. T. Inoue
 Dr. M. Kobayashi
 Prof. O. Kusakabe
 Prof. M. Mimura
 Prof.. T. B. S. Pradhan
 Prof. J. Takemura
 Dr. H. Tanaka
 Dr. M. Terashi
 Prof. A. Yashima
 Prof. K. Yasuhara