

At first, I would like to express my sincere thanks to the Editor of the JSCE Concrete Committee Newsletters for giving me the opportunity to contribute to this Readers Voice column. It is really my great pleasure and honor to be one of the guests. Also, as the secretary general of the Thailand Concrete Association (TCA), I should not forget to thank the JSCE Concrete Committee for allowing TCA to electronically distribute the Newsletters to our TCA members since early this year. I believe the information in the Newsletter will be much useful to our TCA members.

I was delighted when I saw the information in the column Special Report by the Editors : Perspective on Concrete Research in the Vol. No.12, January 2008, in which the number of papers presented at the annual conference of JSCE each year since 1980's was illustrated. It was indicated that during recent years, the number of papers in the field of durability has become the largest in comparison with those in other fields. Also, the proportion of papers in the field of inspection, diagnosis, repair and maintenance, has become one of the major contributions while the papers in the field of environmental aspects have shown drastic increase. This surely emphasizes the trend toward more sustainability in concrete construction practices. In fact, we all realize the importance of moving toward more and more sustainability. However, at the moment, practices in the non-sustainable ways are still being observed in many parts of the world. Thailand is not the exception. We are still seeing various improper practices leading to unnecessarily over consumption of natural resources, ignorance on reducable emission and lower quality and shorter service life concrete structures than their possible potential performance each day.

In recent years, various authorities in Thailand have been attempting to push forward more sustainable construction practices. For example, we all know that in order to obtain a long life structure, practices in the stages of design, material selection and specification, construction and erection as well as maintenance should be well conducted. In regard of the design, durability and service life design concept will be, in the very near future, enforced as a compulsory standard of practice rather than to introduce it as an optional one. This is thought to be the fastest and most effective way to upgrade the quality of newly constructed structures. Certainly, to maximize the efficiently in the process to educate design engineers, the design processes will be made in a designer-friendly manner by introducing many design charts and tables in addition to design equations.

In the material aspect, more appropriate material standards to fit the condition and way of practice in Thailand are being demanded. Cement is an example. The Thai Industrial Standard for cement has not been revised for many decades. The standard does not take into consideration many major required durability performances which suit the needs of the country. As a very simple example, there is no standard for steel corrosion resisting cement but only standard for sulfate resisting cement is available although the problem of chloride-induced corrosion is much severer than that of the sulfate attack problem in Thailand. Also, the consumption of steel corrosion resisting cement is expected to be much larger than that of the sulfate resisting cement. In addition, the standard does not include various types of blended cement. This is a very unfortunate situation in Thailand in the sense that it has missed great opportunity to introduce various eco-friendly and durability cements to the construction industry.

For the maintenance aspect, concerns have been raised since many years on the spending of Thailand to keep the existing concrete infrastructures safely serviceable and long-last. It is a bit difficult to estimate the expense Thailand spends annually for inspecting, diagnosing, repairing, maintaining and strengthening structures. This is just simply because there is no ministry of construction in Thailand, so construction activities are individually conducted and then their data are separately kept. However, the ratio is estimated to be approximately 30% of the overall construction expenses and is believed to increase gradually year by year. Maintenance of existing structures is a relatively new field for civil engineers in Thailand. It is very essential to build a good foundation for this field in order to cope with the increasing stock of the existing structures which will become more and more serious in the near future.

To move a little closer to my activities, let me introduce to the readers a research center under my supervision. It is named "Construction and Maintenance Technology Research Center or CONTEC" which was just established in late 2007 under the Sirindhorn International Institute of Technology, Thammasat University. All things mentioned in the above few paragraphs are what I have been encouraging the researchers in CONTEC to put their best efforts to create research outputs for. Up to now, we have succeeded in introducing our concept of durability and service life design for concrete structures into the Thailand Building Design Codes of the Department of Public Works and Town and Country Planning, which is expected to be effective soon. At present, CONTEC is conducting various research projects with their outputs be adopted into various standards of the country in the near future. In addition to this category of research, CONTEC is also conducting projects to solve problems for the construction industries such as optimizing concrete mix proportion, designing proper casting and curing procedures by computer-aided method, diagnosing cracking and other deterioration problems, service life prediction of deteriorated structures, recommending repair and maintenance solutions and providing proper maintenance planning/management program to our project providers. We are also conducting researches for various material suppliers to create innovation products and also to provide technical back up information for launching their products into the Thai construction and maintenance market. In addition to the research activities, we also provide education and training to the practical engineers in order to upgrade and update their knowledge. CONTEC is also providing scholarships to graduate students who want to pursue their Master's or PhD degrees at its network universities in Thailand.

At last, I wish the Concrete Committee of JSCE to continue its high standard activities and keep its roles in providing useful information via, but not limited to, this Newsletter to various concrete engineering societies around the world.

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