Session Report:

PROJECT I

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Dr. John C. Li

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Offshore Artificial Island Construction in Japan - Example of Offshore Airports
by Mr. Taiji Kawakami
Construction Management of the Inchon International Airport Construction Project
by Mr. Sang Wook Park
Railway Dreams and Realities in the Philippines
by Mr. Rene S. Santiago

Mr. Taiji Kawakami

Mr. Sang Wook Park

Mr. Rene S. Santiago

1. Summary

This summary highlights technically interesting issues on construction management in various projects, presented at this session on Project I in Construction Management. The authors presented practices of the project management system in their huge projects. Their presentation titles are as follows.

1) Mr. Taiji Kawakami (Central Japan International Airport Co., Ltd., Japan):
Offshore Artificial Island Construction in Japan - Example of Offshore Airports –
2) Mr. Sang Wook Park (Inchon International Airport Corporation, Korea):
Construction Management of the Inchon International Airport Construction Project
3) Mr. Rene S. Santiago (CSM and Associates, Philippines):
Railway Dreams and Realities in the Philippines

Mr. Kawakami stated that technical problems encountered when airports were constructed offshore in Japan. In Japan's three major metropolitan areas, it has become difficult to acquire an airport site in inland areas, chiefly due to aircraft noise problems. Therefore, as an alternative, artificial islands for offshore airports were being constructed.

Mr. Park also introduced an airport construction project. He states that the construction management system was indispensable to Incheon International Airport construction project, and this was due to efforts of the participants in the construction and a more effective operation of the system breaking the construction practices.

Mr. Santiago explained rail network projects in Philippines. Many of them are unlikely to materialize, but would attract attention. He sorts out these rail projects into those with good fundamentals and therefore could become realities in the next ten years, and those that will remain dreams.

2. Presentation Highlights

In the three major metropolitan areas in Japan, it has become difficult to acquire an airport site in inland areas, chiefly due to aircraft noise problems. Therefore, as an alternative, artificial islands for use as offshore airports, namely, Kansai International Airport (KIA) in Osaka Bay, Tokyo International Airport (TIA) in Tokyo Bay and Central Japan International Airport (CJIA) in Ise Bay, are being constructed.

When constructing an offshore artificial island for use as an offshore airport, particular attention should be paid to consolidation settlement of the island itself and differential settlement of sites for the principal airport facilities. In addition, attention must be paid to the construction impacts on the water environment of the area. Mr. Kawakami mentioned that the ultimate surface elevation of reclaimed land must be determined and construction in line with both consolidation settlement predictions and settlement monitoring during construction must be undertaken, to consider countermeasures against consolidation settlement of the offshore artificial island. He also stated that as countermeasures against differential settlement of sites for the principal airport facilities, foundation improvement is necessary so that any consolidation settlement of the offshore artificial island after airport opening can be minimized, and that any differential settlement of ground can also be minimized.

The Incheon International Airport (IIA) construction program has been divided into four phases beginning in 1992 with final completion in the year 2020. IIA construction is an extremely

complicated project with a huge scale and state-of-the-art facilities and the introduction of Construction Management system has been made at the beginning stage of the project. With over 200 packages in design and construction, an efficient coordination of interfaces of design and construction of the facilities was the primary concern and especially an arrangement of the environment facilitated to be monitored in a systematic, timely manner was identified as the key issue for the successful performance of the construction. The Program Management System of IIA construction was established the procedures of Quality Assurance, Design & Engineering Management, Cost & Schedule Management, Contract / Procurement Management, Equipment & Material Control, Site Operation Management, Safety Management, Document Management, Environment Management, and to support those procedures a computerized Construction Management System has been developed.

Mr. Park stated that the introduction of Construction Management System improved in quality of construction management and provided a transparency of construction management as well as a predictability of project progress planning and future changes, presenting a fundamental way to progress the second phase of the project.

The Philippine rail sector has an insignificant share in the total transport market as a country of about 7,100 islands simply can not have an expanded rail sector.

Mr. Santiago explained three groups of rail projects, 1) those having higher chances of being implemented, 2) those that could be materialized beyond 2004 - if properly planned and the obstacles on their tracks are overcome, and 3) Those belonging to "the realm of fantasies". He explained the obstacles against rail projects, namely, the funding, railroad organizations, a long-term development policy and the possibility of subways. Then, he described the projects proposed for Metro Manila that will dominate rail investments in the Philippines over the next 20 years.

3. Conclusion

Each speaker summarized his presentation as follows:

Mr. Kawakami concluded that two issues when undertaking construction work of offshore artificial islands for airport use are technically important ones, that is, the countermeasures against consolidation settlement and the countermeasures against the differential settlement. Furthermore, he pointed out that factors influencing the water environment must be taken into consideration as the sheer size of the offshore artificial island is massive.

Mr. Park stated that the introduction of Construction Management System was indispensable to the biggest national multi-complex project, secured transparent management system and successfully accomplished the project goal in the conservative environment of construction.

Mr. Santiago finally said," Many of the Philippine rail plans are in the realm of dreams, and several are fantasies fanned by rail suppliers, supported by local mandarins, encouraged by flawed government decision-making, and perhaps, fueled by dreams of the fast buck".

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