Summary of the Project

Outline of the 10-year Project

The core university on the Japanese side of this Project, Tokyo Medical and Dental University (TMDU), Faculty of Dentistry, has focused on nurturing leaders in dental education and research in Asia according to its basic policy in international exchange with Asian countries. Prior to the initiation of this Project in 1996, TMDU had engaged in academic exchange with major dental schools in Asia based on the academic collaboration agreements. Some of the examples of such academic exchange were training programs for Thai young faculty by TMDU faculty at Chulalongkorn University, Faculty of Dentistry (FY1992-FY1994), a symposium entitled “Recent development of dental biomaterials at TMDU, Faculty of Dentistry” (FY1993, in Chulalongkorn University), and a research project “Study of Severe Maxillofacial Defects” with an international academic research grant by the Japanese education ministry (MEXT) (FY1993-FY1995). To maximize the results gained by the above activities, this core university project was launched in 1996. Academic exchange between Japanese and Thai dental faculty, particularly young faculty, turned out to be quite active, and as a result dissemination of the achievements of Japanese dental education and research to Southeast Asia took place in the most effective way as was expected.

This Project had the following three themes in joint research.

Joint Research Theme 1: Research and Development, and Clinical Study of Dental Biomaterials
Joint Research Theme 2: Research on Severe Maxillofacial Defects
Joint Research Theme 3: Research on Physiological and Pathological State of Oral Diseases and Hard Tissues

The above themes were chosen from the standpoints of both sides. In Thailand, there were growing needs for technical improvement in dental care to better address the increase of oral diseases in response to its economic growth, while Japanese dentistry had expertise and experience required for such improvement. Severe maxillofacial defects were also a concern in Thailand, and TMDU was well known for research in this area. The third theme was adopted to cover clinical and basic dental sciences, enabling young faculty of various specialties to share ideas and experiences.

The three joint research projects during the past 10 years (FY1996-FY2005) were summarized as follows:

Joint Research Theme 1: Research and Development, and Clinical Study of Dental Biomaterials
Joint Research No.1 “Fundamental and Clinical Aspects of Biomaterials in Dentistry” (Chief
Researchers; Prof. Hitoshi Hamanaka/Assist. Prof. Kanok Sorathesn, FY1996-FY1998) covered a wide area of metallic materials used for dental treatment, while Joint Research No.3 “Fundamental Study and Clinical Application of Adhesive Dentistry” (Chief Researchers; Prof. Junji Tagami/Assist. Prof. Wasana Patanaperadej, FY1998-FY2000) focused on various organic materials used in dental treatment. The joint research in the area of dental biomaterials was especially very active, leading to a considerable achievement during the those ten years. The Thai side appreciated an increased interest not only in clinical dental science but also in basic dental science, initiating master’s and Ph.D. courses, and the establishment of their own research institution. The Japanese side could reaffirm the significance of the role of Japanese researchers in the development of clinical and basic dental sciences in Asia. Based on these results, Joint Research No.8 “Application of Titanium Alloy to Removable Partial Dentures and Biomechanical Analysis of its Properties” (Chief Researchers; Prof. Takashi Ohyama/Assist. Prof. Supaboon Purnaveja, FY2001-FY2003) and Joint Research No.9 “Biological and Mechanical Approach to Establish Minimal Invasive Tooth Color Restorations (Chief Researchers; Prof. Junji Tagami/Assoc. Prof. Vasana Patanapiradej, FY2002-FY2004) were performed with even greater results.

Joint Research Theme 2: Research on Severe Maxillofacial Defects
Joint Research No.2 “Roles of Cranial Neural Crest Cells in Craniofacial Development and Anomalies” (Chief Researchers; Prof. Takayuki Kuroda/Assist. Prof. Visaka Limwongse, FY1996-FY1999) was conducted to lay the foundation for basic research in oral and maxillofacial regions in Thailand. To better serve the purpose of this joint research, Oral Biology Research Center was established in Faculty of Dentistry, Chulalongkorn University in 1996. Joint Research No.7 “The Study of Oral Tissue Regeneration” (Chief Researchers; Prof. Yoshiro Takano/Lecturer Suconta Chareonvit, FY2000-FY2002) was conducted to build the base for future collaborative research on tissue regeneration. A seminar entitled “Regeneration of Oral Tissues” (FY2002, in Bangkok) attracted more than 200 participants, which seemed to reflect a growing interest in this frontier in Thailand. Joint Research No.10 “Study on Rehabilitation of Severe Maxillofacial Deformities” (Chief Researchers; Prof. Hisashi Taniguchi/Lecturer Atiphan Pimkhaokham, FY2002-FY2004) and Joint Research No 13 “Clinical Application of Oral Tissue Engineering” (Chief Researchers; Prof. Shohei Kasugai/Assist. Prof. Sompon Swasdison, FY2003-FY2005) raised further the level of research on severe maxillofacial deformities in Japan and Thailand.

Joint Research Theme 3: Research on Physiological and Pathological State of Oral Diseases and Hard Tissues
Joint Research No.4 “Biochemical/Immunological Aspects and Treatment of Periodontal Disease” (Chief Researchers; Prof. Isao Ishikawa/Assoc. Prof. Nualchavee Hongprasong, FY1999-FY2001) and Joint Research No.5 “Establishment of New Endodontic Treatment System” (Chief Researchers; Prof. Hideaki Suda/Assoc. Prof. Surasith Kiatponsan, FY1999-FY2001) were
implemented concurrently with a symposium on each research topic. Joint Research No.6 “Clinical Management of Hypertensive Patient in Oral and Maxillofacial Surgery, Sedative Aspect” (Chief Researchers; Prof. Masahiro Umino/Assist. Prof. Kobsuke Sombatpium, FY2000-FY2003) was started to respond to the growing interest in dental care for the aged in Thailand where the population is also aging quite rapidly. Joint Research No.11 “Community-based Study of Oral Disease Prevention and Health Promotion” (Chief Researchers; Prof. Yoko Kawaguchi/Assoc. Prof. Verasakdi Luangjarmekorn, FY2003-FY2005) and Joint Research No.12 “Study on the Infection of Stomatological Pathogens to Child’s Oral Cavity” (Chief Researchers; Prof. Yuzo Takagi/Prof.Sommai Chobisara, FY2003-FY2005) were implemented with an emphasis on oral disease prevention for children, which constituted one of the growing interests in Thailand.

In addition to joint research projects, scientists in various specialties engaged in different types of exchange. In recent years, the number of Thai students studying in postgraduate courses of TMDU has rapidly increased (2 in FY1992, 10 in FY1996, 22 in FY2005). This trend was regarded as a positive sign leading to an even richer collaboration between young researchers of both countries in the future.