

2017

# GSP Research



# Grants and Sponsored Research Projects

## Completed Projects

### **3R and Resource Efficiency towards Resilient Cities and Societies: Implications towards SDG**

Duration: 1 September 2016 – 1 November 2017  
Investigator: Prof. Chettiyappan Visvanathan  
Sponsor: The United Nations Centre for Regional Development (UNCRD)  
Amount: Baht 325,000

### **A Study on Urban Air Pollution Improvement in Asia**

Duration: 31 March 2015 - 31 December 2017  
Investigator: Prof. Nguyen Thi Kim Oanh  
Sponsor: Japan International Cooperation Agency (JICA) Thailand Office  
Amount: Baht 3,044,338.16

### **Climate Technology Center and Network (CTCN) Response Plan: Feasibility Study For Setting Up a Watch Observatory for Health and Environmental Risks in Pointe Noire, Republic of Congo (Brazzaville)**

Duration: 1 June 2016 - February 2017  
Investigator: Dr. Oleg Shipin  
Sponsor: UNEP/CTCN (Copenhagen)  
Amount: Baht 280,000

### **Climate Technology Center and Network (CTCN) Technical Assistance Response Plan For Nepal**

Duration: 1 November 16 - 31 December 2017  
Investigator: Dr. P. Abdul Salam  
Dr. Shobhakar Dhakal  
Sponsor: CTCN  
Amount: Baht 207,000

### **Development of Innovative Technology and Integrate Management Systems for Sustainable Sanitation in ASEAN**

Duration: 10 December 2013 – 31 August 2017  
Investigator: Dr. Thammarat Koottatep  
Sponsor: KIST-Korea Institute of Science & Technology  
Amount: Baht 2,420,000

### **Development of Water Treatment Equipment for High-rate Sedimentation Filtration System Suitable for Thailand Water Quality Characteristics**

Duration: 1 June 2015 – 30 November 2017  
Investigator: Prof. Chettiyappan Visvanathan  
Sponsor: NoxKorea, Co., Korea  
Amount: Baht 990,000

### **Development of the Co-Benefit Action Plan for Bandung City**

Duration: 1 July 2015 – 30 September 2017  
Investigator: Prof. Nguyen Thi Kim Oanh  
Sponsor: Institute of Global Environmental Strategies (IGES)  
Amount: Baht 1,197,495

### **Development of the Co-Benefit Study in Semarang City**

Duration: 1 July 2016 to 30 September 2017  
Investigator: Prof. Nguyen Thi Kim Oanh  
Sponsor: Institute of Global Environment Strategies (IGES)  
Amount: Baht 1,217,287.50

### **Efficiency Improvement of Bangkok Solar Panels**

Duration: 29 February 2016 - 31 March 2017  
Investigator: Prof. Weerakorn Ongsakul  
Sponsor: Bangkok Solar Energy Company Limited  
Amount: Baht 130,625

### **Energy Environmental Data Analysis for Low Carbon Society (EEDA)**

Duration: 12 January 2009 - 5 January 2017  
Investigator: Prof. Sivanappan Kumar  
Sponsor: MHIR Japan  
Amount: Baht 717,000

### **Reports in Drinking Water Services and Technologies in Asian countries – Phase II**

Duration: 1 April 2016 – 30 September 2017  
 Investigator: Prof. Chettiyappan Visvanathan  
 Sponsor: Japan Water Research Center (JWRC)  
 Amount: Baht 295,728.82

### **Renewable Energy Technologies (RETs) for Integrated Community Farming Systems**

Duration: 1 April 2015 - 8 June 2017  
 Investigator: Prof. Sivanappan Kumar  
 Prof. Kyoko Kusakabe  
 Sponsor: Wisions of Sustainability  
 Amount: Baht 495,651.60

### **South-South Technical Assistance Response Plan for Development of the National Low Carbon Strategy, Technology Needs Assessment, Finance in Central African Republic (C.A.R.)**

Duration: 20 December 2016 - 19 December 2017  
 Investigator: Dr. Oleg Shipin  
 Sponsor: CTCN-PCA, UNEP  
 Amount: Baht 210,000

### **Stimulating Local Innovation on Sanitation for the Urban Poor in Sub-Saharan and Southeast Asia**

Duration: 8 February 2012 – 31 December 2017  
 Investigator: Dr. Thammarat Koottatep  
 Sponsor: Bill and Melinda Gates Foundation  
 Amount: Baht 26,124,360

### **Strengthening Capacity of Policymakers in South-East Asia (SEA) to Promote Policies and Developing Plans for Improved Wastewater Treatment and Reuse in Urban and Peri-Urban Areas**

Duration: 1 December 2014 – 30 June 2017  
 Investigator: Dr. Thammarat Koottatep  
 Sponsor: United Nations Economic and Social Commission for Asia and the Pacific (ESCAP)  
 Amount: Baht 1,159,308.90

### **Sustainability Issues Due to Coal Ash from Coal Fired Power Plants**

Duration: 1 September 2010 – 31 August 2017  
 Investigator: Prof. Ajit P. Annachhatre  
 Sponsor: SDCC/AIT France Network  
 Amount: Baht 1,440,000

### **The Greater Mekong Sub Region Academic and Research network (GMSARN)**

Duration: 30 June 2012 - June 2017  
 Investigator: Prof. Weerakorn Ongsakul  
 Sponsor: Registration Revenues  
 Amount: Baht 1,400,000

### **Turning Rice Straw Into Cooking Fuel for Air Quality and Climate Co-benefit in Selected GMS Countries**

Duration: 15 December 2014 – 30 September 2017  
 Investigator: Prof. Nguyen Thi Kim Oanh  
 Dr. P. Abdul Salam  
 Sponsor: Stockholm Environment Institute (SEI) Asia Center  
 Amount: Baht 1,989,500



**Ongoing Projects****Community Scale, Decentralized Anaerobic Digestion for Energy and Resource Recovery**

Duration: 1 May 2016 - 31 October 2018  
Investigator: Prof. Chettiyappan Visvanathan  
Dr. P. Abdul Salam  
Sponsor: British Council  
Amount: Baht 12,430,000

**Development and Dissemination of Fecal Sludge Management Toolkit for Investors, Planners and Consultants**

Duration: 1 October 2014 – 30 June 2018  
Investigator: Dr. Thammarat Koottatep  
Sponsor: Bill & Melinda Gates Foundation  
Amount: Baht 35,256,773.22

**Developing an Operational Framework for River Health Assessment in the Mekong River Basin**

Duration: 1 December 2014 – 1 December 2018  
Investigator: Prof. Mukand S. Babel  
Dr. Oleg Shipin  
Dr. Sangam Shrestha  
Dr. Victor Shinde  
Sponsor: Consultative Group on International Agricultural Research (CGIAR)  
Amount: Baht 12,899,700

**Innovative Toilet City: From Reinventing to Realization at Scale**

Duration: 1 September 2016 – 28 February 2019  
Investigator: Dr. Thammarat Koottatep  
Sponsor: The Thailand Research Fund (TRF)  
Amount: Baht 5,044,150

**Pea-AIT Scholarship Program**

Duration: April 2016 - December 2020  
Investigator: Prof. Weerakorn Ongsakul  
Sponsor: Provincial Electricity Authority  
Amount: Baht 20,212,000

**Sustainable Decentralized Wastewater Management in Developing Countries**

Duration: 15 October 2011 – 31 March 2018  
Investigator: Dr. Thammarat Koottatep  
Sponsor: Bill & Melinda Gates Foundation  
Amount: Baht 149,991,660

**Technology Needs Assessment (Phase II) for Asia and CS Region - Missions**

Duration: 8 January 2015 - 28 February 2018  
Investigator: Prof. Sivanappan Kumar  
Prof. Rajendra Prasad Shrestha  
Dr. P. Abdul Salam  
Sponsor: UNEP-DTU Partnership, Denmark  
Amount: Baht 320,000

**Technology Needs Assessment (Phase II) for Asia and CS Region - Technical**

Duration: 8 January 2015 - 28 February 2018  
Investigator: Prof. Sivanappan Kumar  
Prof. Rajendra Prasad Shrestha  
Dr. P. Abdul Salam  
Sponsor: UNEP-DTU Partnership, Denmark  
Amount: Baht 2,514,000

**Technology Needs Assessment (Phase II) for Asia and CS Region - Workshop**

Duration: 8 January 2015 - 28 February 2018  
Investigator: Prof. Sivanappan Kumar  
Prof. Rajendra Prasad Shrestha  
Dr. P. Abdul Salam  
Sponsor: UNEP-DTU Partnership, Denmark  
Amount: Baht 1,744,000

**Toward an Open Resources Upon Services: Cloud Computing of Environmental Data TORUS**

Duration: 15 October 2015 – 14 October 2018  
Investigator: Prof. Nguyen Thi Kim Oanh  
Sponsor: European Union (Erasmus + Capacity Building)  
Amount: Baht 1,814,296



## Initiated Projects

### AIT BORDA Collaboration

Duration: 1 January 2017 - 30 December 2019  
 Investigator: Dr. Thammarat Koottatep  
 Sponsor: Bermen Overseas Research Association  
 Amount: Baht 5,550,000

### Assessment of Dioxin Emissions from Point Sources in Thailand

Duration: 1 November 2017 – 30 June 2018  
 Investigator: Prof. Nguyen Thi Kim Oanh  
 Dr. Ekbordin Winijkul  
 Sponsor: Integrated Consultancy on Infrastructure Development and Environmental Conservation (IDEA Consultants, Inc.)  
 Amount: Baht 865,500

### Biogeochemical Changes and Adaptation Mechanisms in response to Anthropogenic Impacts in Watersheds: A Comparative Study between Jiulong River and Chao Praya River (Thailand)

Duration: 13 July 2017 - 12 June 2018  
 Investigator: Dr. Thammarat Kottatep  
 Prof. Rajendra Prasad Shrestha  
 Sponsor: National Research Council of Thailand (NRCT)  
 Amount: Baht 1,454,000

### Creating Wider Impacts of Rice Straw Derived Fuel Use as Cooking

Duration: 1 July 2017 – 31 January 2018  
 Investigator: Prof. Nguyen Thi Kim Oanh  
 Sponsor: Stockholm Environment Institute (SEI) Asia Centre  
 Amount: Baht 195,000

### Current and Future Primary Particle Number Size Distribution Emission Inventory of On-road Vehicles in Southeast Asia

Duration: 1 May 2017 – 31 October 2017  
 Investigator: Dr. Ekbordin Winijkul  
 Sponsor: AIT Research Initiation Grant  
 Amount: Baht 50,000

### Develop a Comprehensive Background Paper on “Water Quality and Security in Asia-Pacific - What 3R and Circular Economy Can Offer?” and Substantive input to Eighth Regional 3R Forum in Asia and the Pacific

Duration: 1 August 2017 - 31 July 2018  
 Investigator: Prof. Chettiyappan Visvanathan  
 Sponsor: United Nations (UN)  
 Amount: Baht 465,000

### Development of a Thermophilic Anaerobic Membrane Bioreactor by Using PTFE Membrane for Wastewater Treatment and Biogas Production

Duration: 1 October 2017 - 30 September 2018  
 Investigator: Prof. Chettiyappan Visvanathan  
 Sponsor: Sumitomo Electric Industries, Ltd., Japan  
 Amount: Baht 225,000

### Establishment of Fecal Sludge Management Twining Program

Duration: 7 September 2017 - 31 December 2018  
 Investigator: Dr. Thammarat Koottatep  
 Sponsor: Bill and Melinda Gates Foundation  
 Amount: Baht 29,975,970.61

### Evaluating the Performance of Mitsubishi Membrane Aerated Biofilm Reactor (MABR) Lab Scale Membrane Modules

Duration: 1 June 2017 – 31 May 2018  
 Investigator: Prof. Chettiyappan Visvanathan  
 Sponsor: Mitsubishi Chemical Aqua Solutions Co., Ltd.  
 Amount: Baht 148,185

### Evidence to Action Supplement on PEER project entitled “Assessment of Impacts to the Emission Reduction Measures of Short-lived Climate Forcing Pollutants on Air Quality and Climate in Southeast Asia”

Duration: 1 September 2017 - 30 May 2018  
 Investigator: Prof. Nguyen Thi Kim Oanh  
 Sponsor: United States Agency for International Development (USAID)/ National Academy of Sciences (NAS)  
 Amount: Baht 837,750



### **Exposure visit FSM in Thailand**

Duration: 24 October 2017 – 30 April 2018  
Investigator: Dr. Thammarat Koottatep  
Sponsor: East Meets West Foundation  
Amount: Baht 139,179

### **Foundations for Climate Resilient and Sustainable Growing Settlements (U-Res)**

Duration: 1 March 2017 - 30 August 2017  
Investigator: Dr. Shobhakar Dhakal  
Sponsor: NERC/Tyndall Center  
Amount: Baht 443,020

### **Global Science Technology and Innovation Conference Series**

Duration: 1 May 2017 - 31 December 2017  
Investigator: Prof. Sivanappan Kumar  
Prof. Rajendra Prasad Shrestha  
Dr. P. Abdul Salam  
Sponsor: VITONV Belgium  
Amount: Baht 383,400

### **International Forum on Education for Rural Transformation**

Duration: 1 July - 31 December 2017  
Investigator: Prof. Sivanappan Kumar  
Dr. Mokbul Morshed Ahmad  
Sponsor: ASEAN China Corporation Fund  
Amount: Baht 7,160,400

### **Knowledge and Innovation Support for ADB's Water Financing Program**

Duration: 17 July 2017 - 29 June 2018  
Investigator: Dr. Thammarat Koottatep  
Sponsor: Asian Development Bank (ADB)  
Amount: Baht 2,038,634

### **Optimizing Decentralised Low-cost Wastewater Infrastructure by Managing the Microbes**

Duration: 1 May 2017 - 30 April 2020  
Investigator: Dr. Thammarat Koottatep  
Sponsor: Engineering and Physical Sciences Research Council (EPSRC GCRF)  
Amount: Baht 12,616,798.50

### **Reports on Drinking Water Services and Technologies in Asian Countries - Phase III**

Duration: 1 April 2017 - 30 September 2018  
Investigator: Prof. Chettiyappan Visvanathan  
Sponsor: Japan Water Research Center (JWRC)  
Amount: Baht 179,000

### **Short Term Actions 2017, BMGF project 106990**

Duration: 22 November 2017 – 31 December 2018  
Investigator: Dr. Thammarat Koottatep  
Sponsor: Subgrant from UNESCO IHE - BMGF Grant  
Amount: Baht 954,093.66

### **Solar Power Plugged in Hybrid Electric Vehicle**

Duration: 31 August 2017 - 31 December 2018  
Investigator: Prof. Weerakorn Ongsakul  
Sponsor: GMS Power Public Company Limited  
Amount: Baht 1,000,000

### **Standard Methods for the Analysis of Faecal Sludge**

Duration: 30 June 2017 – 31 August 2018  
Investigator: Dr. Thammarat Koottatep  
Sponsor: University of KwaZulu-Natal (UKZN) - BMGF Grant  
Amount: Baht 1,454,000

### **Technical Assistance for Technology transfer and commercialization support of the AIT Toilet Innovations**

Duration: 7 November 2017 – 30 April 2019  
Investigator: Dr. Thammarat Koottatep  
Sponsor: Bill and Melinda Gates Foundation  
Amount: Baht 51,283,398.95

### **Test the Efficacy of Electrochemical (EC) Control System**

Duration: 1 April 2017 - 30 November 2017  
Investigator: Dr. Thammarat Koottatep  
Sponsor: Research Triangle Institute (RTI)  
Amount: Baht 1,654,000