

京都大学教育研究振興財団助成事業 成 果 報 告 書

平成 年 月 日

公益財団法人京都大学教育研究振興財団
会 長 辻 井 昭 雄 様

所属部局・研究科： 工学研究科

職 名・学 年： 博士後期課程3年

氏 名： TALCHABHADEL Rocky



助成の種類	平成 29 年度 ・ 国際研究集会発表助成		
研究集会名	37th IAHR WORLD CONGRESS 第37回国際水圏環境工学会世界大会		
発表形式	<input type="checkbox"/> 招待 ・ <input checked="" type="checkbox"/> 口頭 ・ <input type="checkbox"/> ポスター ・ <input type="checkbox"/> その他()		
発表題目	Experimental Study on Tidal Basin Management : A case study of Bangladesh		
開催場所	マレーシア		
渡航期間	平成 29 年 8 月 13 日 ～ 平成 29 年 8 月 18 日		
成果の概要	タイトルは「成果の概要／報告者名」として、A4版2000字程度・和文で作成し、添付して下さい。「成果の概要」以外に添付する資料 <input type="checkbox"/> 無 <input type="checkbox"/> 有()		
会計報告	交付を受けた助成金額	150000 円	
	使用した助成金額	150000 円	
	返納すべき助成金額	0 円	
	助成金の使途内訳	ビザ申請料	17400 円
		往復航空券代	65170 円
		関空ー京都往復交通費	8200 円
		国内交通費	6280 円
宿泊料(5日間)	34950 円		
日当(6日間)	18000 円		
当財団の助成について	(今回の助成に対する感想、今後の助成に望むこと等お書き下さい。助成事業の参考にさせていただきます。)		

成果報告書および成果の概要は、財団に郵送(あるいは持参)するとともに、Excel・Wordファイルでメール送信して下さい。メール送信分の印鑑は不要です。

成果の概要／TALCHABHADEL Rocky

Program: 37th IAHR World Congress

Venue: Putra World Trade Center, Kuala Lumpur, Malaysia

Date: Aug 13 – Aug 18, 2017

Title of my Presentation

Experimental Study of Tidal Basin Management: A Case Study of Bangladesh

Report: 37th IAHR World Congress Visit

The International Association for Hydro-Environment Engineering and Research (IAHR), founded in 1935, is a worldwide independent organization of engineers and water specialists working in fields related to the hydro-environmental sciences and their practical application. Activities range from river and maritime hydraulics to water resources development and eco-hydraulics, through to ice engineering, hydro-informatics and continuing education and training. IAHR stimulates and promotes both research and its application and by doing so it strives to contribute to sustainable development, the optimization of world water resources management and industrial flow processes.

The 37th IAHR world congress which was held in Malaysia, is the first IAHR World Congress organized in the region of South East Asia. The Congress theme “Managing Water for Sustainable Development - Learning from the Past for the Future” focuses on seven themes: river and sediment management, flood management, environmental hydraulics and industrial flows, coastal, estuarine and lakes management, urban water management, water resources management, and hydroinformatics/ computational methods as well as experimental methods. How past experiences and latest technologies can be combined to solve hydro-environmental issues are particularly emphasized. The latest participation count stands at about 1,200 participants from 60 countries over the world. For the Congress, 772 papers were presented and all these papers are published as congress proceedings.

My oral presentation included my PhD research topics related to experimental and numerical study on Tidal Basin Management falls under the theme river and sediment management. The date of my presentation is 17 August 2017. I presented the experimental and numerical investigation of Tidal Basin Management (TBM) process for sustainable sediment management in estuarine basins. TBM is the process of temporary de-poldering to allow sedimentation in designated low land. De-poldering and then controlled flooding in a particular flooding plain as the tidal basin is not a new way of sediment management. But it involves taking full advantages of the natural tide movement in rivers. Tidal basin acts as tidal storage basin which allows natural tidal flows up and down in the river system. This sedimentation would occur into the riverbed if it is not utilized for storage as sedimentation trap. Moreover, the natural flow as low tides coming back to the river benefits in the river declination.

An attempt is made to explore the influence of different dimensions of opening size of the link canal in the rate of the sedimentation in the designated low land by carrying out laboratory

experiments. Numerical simulation was developed to represent the experimental condition and to explore the different implications in the actual field. It is found that if the natural river is not intervened by human interactions and civil structures, the recommended size of the link canal is more or less equal to the natural width of the river. Additionally, if the upstream river flow is reduced or made nil, the attached side basin has better movement of up and down of the tidal movement resulting in more sedimentation. It suggests the crossing dam should be constructed during low flow period to allow maximum natural tidal movement in selected tidal basin. For this, a control structure to divert the upstream flow may be needed. The numerical simulation can be used to evaluate the better position of link canal, suggest the appropriate number of link canals and to suggest the appropriate time to shift from one link canal to another. The developed model can be used in ongoing TBM basin and proposed basins to estimate the effectiveness of the options of the link canal, sequence of the operation of the link canals and ultimately the life span of the tidal basin.

During the congress, I had a very good discussion and interaction with the experts of my field. I attended the varieties of presentations and key note lectures which inspired me with new ideas. All these learnings are very much helpful to improve my work in coming days.



Photo : Snap of the program