Newsletter

University of Malaya-Kyoto University Secretariat

This program is funded by:

JSPS Asian Core Program
Research and Education Center for the Risk Based Asian Oriented Integrated Watershed Management

MINISTRY OF EDUCATION MALAYSIA

August 2015
Issue 13 Vol. 5

*The 9th **Steering Committee Meeting (SCM9)** was held at UKM Langkawi Research Centre (PPL UKM), Kedah Darul Aman, Malaysia on 21 May 2015. Ten participants from Malaysia and 16 participants from Japan attended the meeting.*

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A) SCM9 Gift exchange ceremony, Prof. Yoshihisa Shimizu on the left and Prof. Nik Meriam on the right.
B) Sharing the moment among the Malaysian and Japanese delegates in SCM9 at PPL UKM Exhibition Gallery.

University of Malaya-Kyoto University Secretariat is an international bilateral collaboration under:

UNIVERSITY OF MALAYA
SUSTAINABILITY SCIENCE CLUSTER

JSPS Asian Core Program
9th Steering Committee Meeting (SCM9)

21 May 2015

UKM Langkawi Research Centre, Kedah Darul Aman, MALAYSIA

On 21 May 2015 (Thursday), the 9th Japanese Society for the Promotion of Science Asian Core Program Steering Committee Meeting (SCM9) was held at the UKM Langkawi Research Centre, Kedah Darul Aman, Malaysia. The JSPS Asian Core Program is an international collaboration between Japanese and Malaysian universities under the research theme of "Research and Education Centre for the Risk Based Asian Oriented Integrated Watershed Management." The JSPS-ACP Steering Committee Meeting is a bi-annual event, with Kyoto University taking turns to organize the meeting. A total of 23 participants (16 Japanese and 10 Malaysian delegates) comprising the coordinators and group leaders, researchers and administrators attended the meeting. The participants:

Participants of Malaysian side:

Prof. *Nik Meriam Nik Sulaiman,* Coordinator, UM
Prof. *Zulkifli Yusop,* Leader of Group 1, UTM
Prof. *Md. Ghazaly Shaaban,* Leader of Group 2, UM
Prof. Datin *Azizan Baharuddin*, Leader of Group 4, IKIM
Prof. *Salmaan Hussain Inayat-Hussain,* Member of Group 2 and 3, PETRONAS
Assoc. Prof. *Noor Zalina Mahmood,* Member of Group 4, UM
Dr. *Goh Choo Ta*, Member of Group 3, UKM
Ms. *Rozita Rosli*, Principal Assistant Director, MOE
Dr. *Nobumitsu Sakai,* Member of Group 1, 3 and 4, JSPS-UM
Mr. *Azizi Abu Bakar,* Research Officer, UM

Participants of Japanese side:

Prof. *Yoshihisa Shimizu*, Coordinator, KU
Prof. *Minoru Yoneda*, Leader of Group 3, KU
Prof. *Masahisa Nakamura*, Leader of Group 4, Shiga University
Assoc. Prof. *Sunmin Kim*, Member of Group 1, KU
Assoc. Prof. *Hiroshi Yamamoto*, Member of Group 3 and 4, The University of Tokushima
Assoc. Prof. *Keisuke Sato*, Member of Group 1 and 2, Ritsumeikan University
Dr. *Tadao Mizuno*, Member of Group2, KU
Mr. Daigo Shimizu, PhD student, Member of Group 2, KU
Mr. *Taishi Yazawa*, PhD student, Member of Group 1 & 2, KU
Mr. *Hiroki Hashimoto*, Master's Student, Member of Group 2, KU
Mr. *Shang Shen*, Master's Student, Member of Group 2, KU

Ms. *Satoko Handa*, Director, Promotion of Science and Technology Division, KU
Mr. *Yasuhiro Yoshida*, Deputy Director, Promotion of Science and Technology Division, KU
Ms. *Naoko Onishi*, Administrative Officer, KU
Ms. *Chiaki Hamada*, Administrative Officer, KU
Ms. *Yuka Yano*, Administrative Officer, KU

During the meeting, JSPS Asian Core Program Coordinators from Japan and Malaysia, Prof. Yoshihisa Shimizu and Prof. Nik Meriam Nik Sulaiman delivered their opening addresses with an overall summary of past activities until May 2015. Then, Group Leaders from both countries presented their group research progress. After a discussion on other matters, the meeting was adjourned and concluded with a gift exchange ceremony and photography session.

Photos taken during SCM9 at UKM Langkawi Research Centre (PPL UKM). (A,C) Both countries representative presenting their research group's progress. (E) Both Coordinators of the program (B) Malaysian delegates (F) Japanese delegates (G,H) Assoc. Prof. Sunmin Kim attended the meeting from Kyoto University through Skype. (D,I) Gift exchange among Malaysian and Japanese.

The Ecosystem Service Shared Values Assessment (ESSVA) for Sungai Selangor Watershed

23 - 30 August 2015

Kyoto & Shiga Prefecture, JAPAN

Dr. Nisfariza Mohd Noor
Department of Geography,
Faculty of Arts and Social Sciences,
University of Malaya,
50603 Kuala Lumpur, Malaysia

Introduction and Objectives

The Cooperative Research Program (CRP) The Ecosystem Service Shared Values Assessment (ESSVA) in Sungai Selangor Watershed was held from 23rd to 30th of August 2015. This CRP program was hosted by Professor Masahisa Nakamura from Shiga University. The venue for the Sungai Selangor ILBM-ESSVA Workshop is listed below:

24th – 26th (Shiga University, Otsu, Japan)
27th (ILEC, Kusatsu, Japan)
28th (Kyoto University, Otsu, Japan)

CRP is one of the international collaboration programs between University of Malaya-Kyoto University in order to seek for the new perspective of river governance to be implementing in Sungai Selangor because the governance or river watershed for the long term ecosystem service. The objective of this workshop are to plan and developed a questionnaire surveys of Ecosystem Service Shared Values Assessment (ESSVA) for ecosystem service awareness that acts as a platform for a more compressive approach of watershed management of Sungai Selangor. The ESSVA is not to produce an answers to the watershed management but to contribute to the basin stakeholders and make change for the better. The concept of ecosystem service is very much relevant to the Group 4 Output (governance platform). In this scientific visit, a technological transfer includes learning curve on the KJ Method (thematic mapping concept); ESSVA concept and implementation, data analysis of the pilot study on ESSVA and future direction of research.

Results and Discussion

The implementation of KJ Method as one of the way to make a right direction of addressing problems, weaknesses, strengths, action and many more. The idea is to make sense of the cards – take one at a time, pile of cards of the same similar ideas will be collated. Collective thinking – of different people in one theme – towards the thematic mapping using the KJ method. Each and every cards (notion/ experiences) is taken into account and has somewhere to go

KJ-Method was suggested by Professor Nakamura for the work for the perceptional profile of people who has been working with Sungai Selangor Watershed. Duplicated cards shows a critical observation, carefully listen to the cards will help in filling the gap of ideas within the conceptual framework. In this manner all falling ideas will be digested and developed into a sense of ideas and notification as seen in Figure 1.

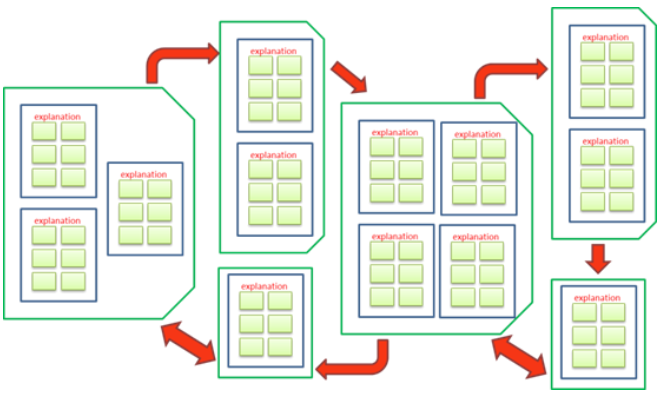


Figure 1 : KJ Conceptual Diagram

The current KJ-cards were able to categorised and mapped the ideas into several island (categories) of ideas, namely:

Acknowledge, seek, comprehend the situation & facts
Stakeholders & governance roles

- Necessary Conditions for Governance Improvement
- Scientific Data – Lack of Data & Information
- Possibilities & limitations of ESSVA Ecosystem Service
- Knowledge Sharing Promotion
- From Information to Action

The designing of the new ESSVA questionnaire is basically reflected from the analyzed results and outcome of the pilot study. However the implementation strategy is important to motivate the respondents. The target group will be identified and we need to provide questionnaire to the respondent; prior and after showing facts of our research on the state of Sungai Selangor in order to close the perception gaps between the upper/middle/lower streams.

In order to deploy ESSVA in this manner, identified target organization is important, so that we will have an opportunity to give a priory questionnaire, provide prove of upper/middle/lower streams conditions and conflicts (from our research works Group 1, 2, 3, 4); provide a second questionnaire (if the respondents want to change their minds) process the results of surveys in situ and show immediate results with radar diagram of their answers. This type of exercise is more to respondent oriented, it is very important at this point to capture the attention of all respondents and make them aware of the DPSIR of Sungai Selangor which was embedded in the ESSVA questionnaire.

Conclusion or/and Future Plan

This program has enhanced the governance of river watershed to be implement with the correct way in order to conserve the water resource for example Sungai Selangor Watershed. As a conclusion, the ESSVA questionnaire is appropriate as a tool to close or narrow the gap between policy and science. Currently, there are lack of communication between the policy and science of watershed management. Thus, taking opportunity of ACP role to present the dedicated study of Sungai Selangor watershed and translate the academic point to institutional policy and governance.

Hence the further plan of this research is to develop the new policy that suitable with the current condition of Sungai Selangor and its surrounding environment. Future plans includes mapping the Ecosystem Service Fact Profile (ESFP) into spatially reference system as well as integrating the ILBM platform processes in Sungai Selangor Watershed. In this stage a more comprehensive approach can be adopted in sharing the ESSVA output with the participating stakeholders such as local authority, government bodies, LUAS and etc.

Visit to Kyoto University

Explanation from Prof Nakamura regarding to KJ-Method

Visit to Aqua-Biwa Museum

Visiting to Research Center for Environmental Quality Management at Otsu

Visiting to Biwako Seikei Sport College

Sharing knowledge session with Mdm. Yukiko Kada

Mdm Kada brief about the quality status of Lake Biwa water

Watershed Modeling towards Future Integrated Management of Malay Peninsula

2014 - 2015

Peninsular MALAYSIA

Prof. Yoshihisa Shimizu
Research Center for Environmental Quality Management,
Department of Environmental Engineering, Kyoto University

Mr. Daisuke Mizuochi
Research Center for Environmental Quality Management,
Department of Environmental Engineering, Kyoto University

Introduction and Objectives

There are various water-related issues in Malaysia. Integrated watershed management, which can be made by cooperation among whole stakeholders, is necessary to solve those water issues effectively. Watershed models can be used as a method for the integrated watershed management. Integrated Watershed Management is a concept to achieve sustainable development, and it cannot be achieved without the cooperation of residents. Watershed models are useful for residents to understand those water issues because it shows the results quantitatively and visually.

Watershed models need inputs on various data of watersheds such as elevation, land use, weather, and observed water quality/quantity parameters. A calibration must be performed through comparing observed and calculated data to increase the accuracy of the model so that the simulation becomes more accurate and reliable. Thus, watershed models enable us to estimate impacts of climate change and provide effective information for policy making.

My research object is to formulate a distributed watershed model that considers surface runoff into rivers and could apply to all river basins in Malay Peninsula. To achieve this goal, a watershed model in Johor River Basin was constructed by Hydrological Simulation Program Fortran, and the developed model was applied to Selangor River Basin for verifying whether it is applicable to other river basins in Malay Peninsula. In particular, flow rate is an important factor for considering material balance in river basins as the pollution load changes in accordance with the flow rate. Hence, the simulated flow rate was validated in both river basins as a first step.

Messages from Supervisor
(*Prof. Yoshihisa Shimizu*)

"The author, Mr. Daisuke MIZUOCHI have been working hard to formulate the watershed model to estimate the future hydrology and water quality of the watersheds in the Malaysian Peninsula. Although the results are not fully satisfactory now, I strongly believe that continuous help from Malaysian researchers as well as his enthusiasm and effort will give him a bright light forward"

Remarks
(*Mr. Daisuke Mizuochi*)

"It was a great chance for me to collect data and explore Malaysia from various points of view. I would like to appreciate for your kindness and help so much. I also would like to appreciate for all the generous help and support by Professor Nik Meriam, Ms. Kalai and all the relevant staffs in Faculty of Science and Engineering of UM. I also would like to thank Professor Salman, Dr. Zeeda, Mr. Affan, Ms. Nadhiah, Mr. Mohd Redzuan and Mr. Azizi for all the kind supports to make my stay productive. I would like to say thank you to Mr. Roslan, Ms. Rorzela and all the relevant staffs in Department of Veterinary Services in Malaysia.
Finally, I would like to say my best thank you to Dr. Nobumitsu Sakai for his big support and help and also to his wife, Ms. Mika Sakai and their children, Ms. Ritsuki Sakai and Mr. Kyusei Sakai for their supports".

Results and Discussion

Fig 1 shows the results of daily flow rate at Kota Tinngi in Johor River Basin. The parameter was calibrated with flow rate data in 2009 provided from the Department of Irrigation and Drainage Malaysia (DID). Also, the verification of reproducibility was confirmed by using flow rate data in 2010 provided from DID. The model values were similar to the observation values in terms of the shape of hydrograph.

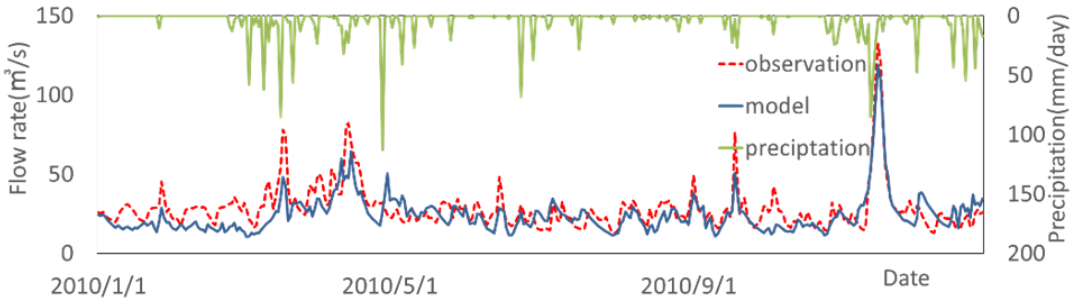


Fig 1. Daily flow rate at Kota Tinggi in Johor River

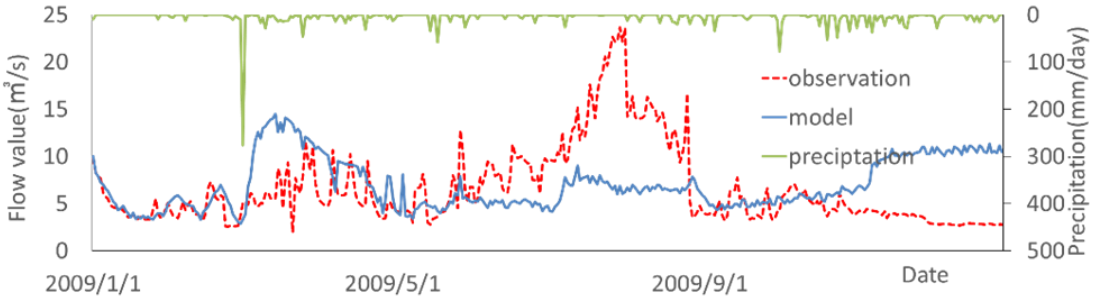


Fig 2. Daily flow rate at Ampang Pecah in Selangor River

They showed an acceptable reproducibility on the flow rate in Johor River Basin ($R^2 = 0.59$).

The developed model was applied to Selangor River Basin to evaluate the validity. The flow rate data in Selangor River Basin was provided from DID. Fig 2 shows the results of daily flow rate at Ampang Pecah in Selangor River Basin. The model values were not similar to the observation values in terms of the shape of hydrograph. They showed an unacceptable reproducibility on the flow rate in Selangor River Basin ($R^2 = 0.02$). Especially, the observed data at the maximum precipitation during the dry season (*i.e.* August 2009) were not responded well by the model.

The low reproducibility in Selangor River was considered to be attributed to Langat Dam. The dam is located at the upstream of Ampang Pecah, and the role is to control water volume. Hence, it was suggested that water was released from the dam during the dry season due to water shortage, whereas it was stored in the dam during the rainy season to mitigate flood. Accordingly, the simulated flow rate was overestimated during the dry season and underestimated during the rainy season as shown in Fig 2.

Conclusions and Future Plan

To build a distributed watershed model for all river basins in Malay Peninsula, it is necessary to improve the simulation on the flow rate with more data.

Future plan is to create an advanced distributed watershed model which covers the impact of Langat Dam and fulfils an acceptable reproducibility on flow rate in Selangor River Basin. It is expected that the balance of water supply in these river basins can be assessed by the developed model.

Safe Product Supply Chain for Cleaning Agent and Paint

15 November 2014

Selangor, MALAYSIA

Dr. Goh Choo Ta
LESTARI,
University Kebangsaan Malaysia
(UKM)

A group of students and research assistants under supervision of Dr. Goh Choo Ta from Institute for Environment and Development (LESTARI), Universiti Kebangsaan Malaysia (UKM) participated the SPEAK UP Competition 2014 – Category B: Safe Product Supply Chain. The SPEAK UP Competition 2014 was jointly organised by Department of Standards Malaysia and Malaysian Association of Standards Users, and supported by Ministry of Education Malaysia.

As one of the competition requirements is to form a team of 5 people (including one lecturer as advisor), the team was lead by Mohamad Mahathir Bin Amir Sultan, and the members are Ms. Nur Liyana Binti Ali, Ms. Farhah Bt Abdillahil, and Ms. Nurhazirah Bt. Ab. Aziz. Dr. Goh served as the group advisor. The title selected by the team is 'Safe Product Supply Chain for Cleaning Agent and Paint', where the team has conducted studies on the adverse effects posed by hazardous chemicals (in paint and cleaning agent) on human health and environment, and to ascertain the roles of Malaysian Standards to promote safe product supply chain management. The team has conveyed the findings to school students, university graduates, retailer and the community. Such initiatives was recognised by the Asian Core Programme (ACP) – Research and Education Centre for Risk Based Asian Oriented Watershed Management.

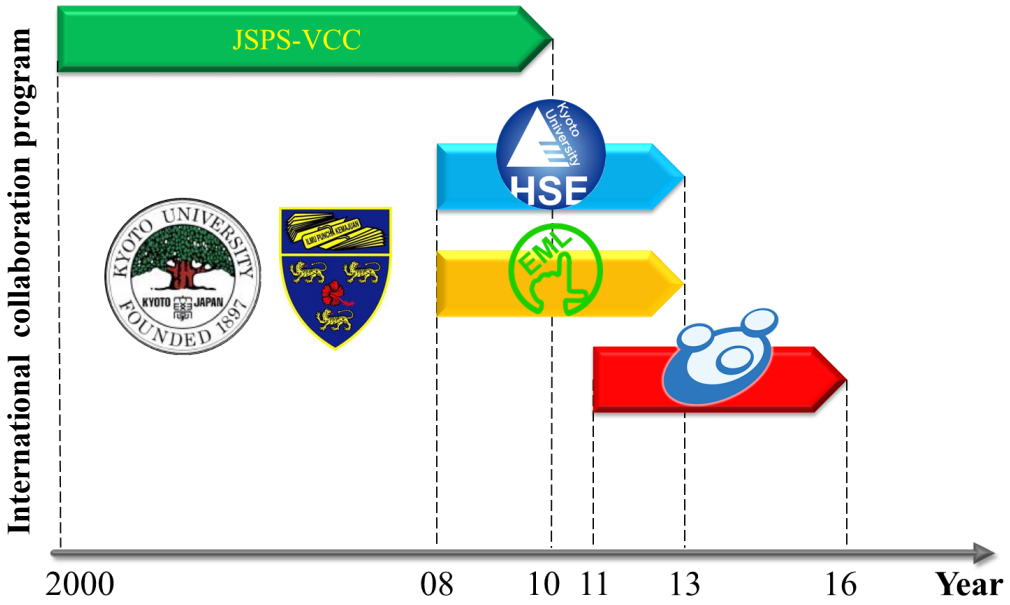
From left: Ms. Farhah Bt Abdillahil, Mr. Mohamad Mahathir Bin Amir Sultan, Dr. Goh Choo Ta, Ms. Nur Liyana Binti Ali, and Ms. Nurhazirah Bt. Ab. Aziz

The team was awarded second prize for the SPEAK UP Competition 2014 – Category B on 15 November 2014.

Mr Mahathir is explaining to the Vice Chancellor of UKM - Datuk Dr. Azlan Ghazali the importance of Malaysian Standards in promoting safe product supply chain management for cleaning agent and paint during the UKM4BANGI Carnival

Ms. Liyana is explaining to the school students regarding the use of hazardous chemicals in paint.

Outreach of 'Safe Product Supply Chain for Cleaning Agent and Paint' to one of the secondary school located in Bangi.



Programs and its duration under international collaboration between Kyoto University and University of Malaya

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