

SUSTAINABLE  
TROPICAL ENVIRONMENTAL  
DESIGN EXHIBITION  
(STEDEX 15/16)



SUSTAINABLE TROPICAL  
ENVIRONMENTAL DESIGN EXHIBITION

**STEdex 15/16**

VOLUME 7 · 2016 ISSN 2180-0635

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Print 2016

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Perpustakaan Negara Malaysia  
Cataloguing-in-Publication Data

This Catalogue is published in conjunction with:  
STEdex 15/16 : Sustainable Tropical Environmental Design Exhibition  
held at Galeri Serdang, Faculty of Design and Architecture,  
Universiti Putra Malaysia on 1 March 2016 - 30 March 2016  
*Tropical Environment*  
*Design Studio*  
*Sustainable Product Design*  
*Environmental Design*  
*Sustainability*

Volume 7: 2015-2016. ISSN 2180-0685

All views expressed in this book are those of the authors and do not necessarily reflect the views of the Faculty or the University.

Type face : Code Light / Helvetica  
Text font size : 10/12

Published by:  
Universiti Putra Malaysia Press  
Universiti Putra Malaysia  
43400 Serdang  
Selangor, Malaysia  
[www.upm.edu.my](http://www.upm.edu.my)

Printed by:  
Percetakan Mesbah Sdn Bhd  
No. 11, Jln Tun Perak 6  
Taman Tun Perak  
43200 Cheras  
Selangor Darul Ehsan  
Tel.: 03-91056473  
Fax: 03-91056469

Indexed in:  
Design and Applied Arts Index  
Virtual Library Museum Pages

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MORPHOLOGY OF PLANT'S  
ROOT SYSTEM ALONG  
RIVERBANK AS A KEY FOR  
ECOLOGICAL BALANCER

IMRAN @ ZAHIRIN MOHAMAD TARAM, SUHARDI MAULANA  
AND CHRISTOPHER TEH BOON SUNG



Historically, cities were created along the rivers but overtime many of those rivers in the cities have been neglected. The rivers become merely as drains for the urban storm water management. However, rivers in the cities could be ecological hubs where the riverbank and riparian wetland act as habitat for local flora and fauna. In addition, the riparian wetlands will also act as sponges to absorb and mitigate floodwater and water surface runoff. Rivers are actually an ecological balancer for the cities but one of the issues with river riparian is the river embankment erosion. River embankment erosions cause sedimentation thus making the river shallow and destroy the ecological functions of the rivers. Nevertheless, the most significant ele-

ment that can to hold the river embankment is a plant. Plant rooting system holds soil tightly together but at the same time giving a space to liquid and gasses for environment. The question is; what type of plants is suitable as erosion controller? One of the factors to be considered is the plants root morphological system that is categorized by its distribution, widespread, depth and size. These different types of plants rooting system morphology have significantly proven to be able to control soil-water-embankment erosion. Essentially, it will become a starting point in creating a database for ecosystem-friendly plant for riverside settlement and as a flood controller in the tropics.





Root installation - 2016



