

INTERNATIONAL CONFERENCE ON COMMUNICATION AND ENVIRONMENT: TRANSFORMATION FOR A SUSTAINABLE TOMORROW

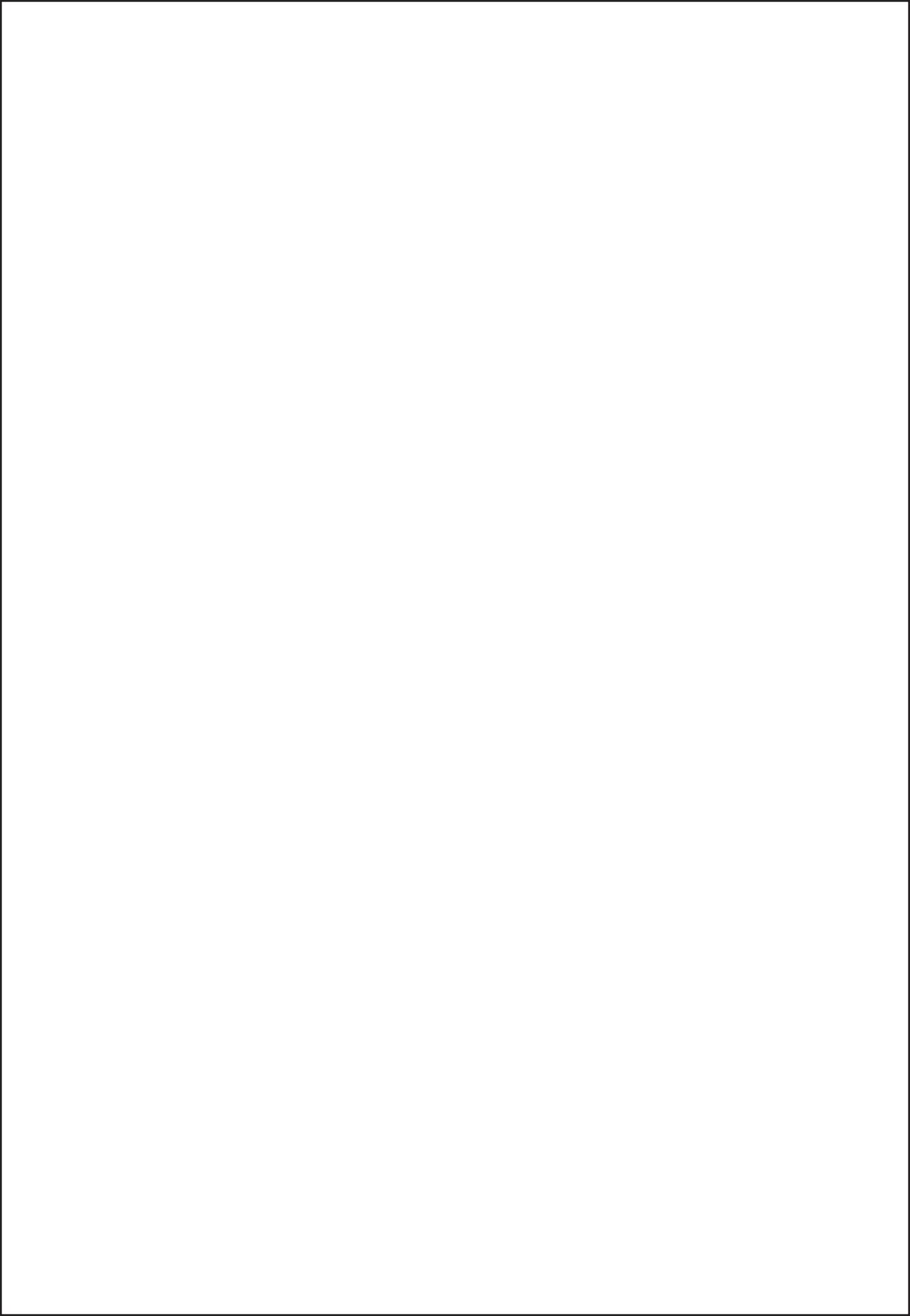
9 - 11 December 2009

Parkroyal Hotel
Penang, Malaysia



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FOREWORD

Vice Chancellor, Universiti Sains Malaysia



At the turn of the new millennium, global issues have spurred most countries, governments and institutions to take stock of their human resources and infrastructure in order to respond to the issues of sustainable development and the promotion of sustainable future. For an educational institution such as Universiti Sains Malaysia (USM), such response could be wide-ranging. As stated by the Organisation for Economic Cooperation and Development (OECD, 2007), the role of a university should include (i) generating human capital through their learning and education programmes, (ii) acting as a source of experience through research, consultancies and demonstrations, (iii) playing a brokerage role in bringing together diverse regional actors and elements of capacity to the sustainability process, (iv) demonstrating best practices through on-campus management and development activities, strategic planning, building design, waste minimisation, and (v) recognising and rewarding staff for their involvement in sustainable development.

Within the context of Education for Sustainable Development (EfSD), the role of universities in sustainable development is further defined. EfSD was first espoused in the Brundtland Report in 1987 and later expanded as a major component of Agenda 21 introduced at the Earth Summit in Rio de Janeiro in 1992. In recognising the importance of EfSD, the United Nations declared 2005-2014 as the UN Decade of Education for Sustainable Development (DESD). The two goals of DESD are to refine and promote the vision of, and transition to,

sustainable development – through all forms of education, public awareness and training, and to give an enhanced profile to the important role of education and learning in sustainable development. Both goals provide an important platform for the integration of sustainable development into the educational system so that future generations can be nurtured and imbued with the need to embrace ecological protection, conservation of resources and human development.

Taking cognisance of the above, Universiti Sains Malaysia (USM) has taken steps to promote sustainable development into its programmes. The approach taken is to optimise its internal strengths which ensures sustainability of the programmes. At USM, the internal strengths are promoted through several initiatives namely (i) Kampus Sejahtera (or Healthy Campus) programme, (ii) the University in a Garden, (iii) the transdisciplinary approach in promoting teaching and research activities, (iv) community action, and eventually (v) as a global player.

The International Conference for Communication and Environment (ICCE09) is an extension of what has been espoused by the OECD and the United Nations, i.e. for USM, as a major tertiary education institution in Malaysia, to play a wider role in promoting sustainable development vis-à-vis connecting and networking with others who share similar visions and goals, sharing its research and consultancy experiences, demonstrating the best practices and so forth.

I applaud the School of Communication for organising ICCE09.

Thank you.

A handwritten signature in black ink, appearing to be 'Dzulkipli' with a stylized flourish at the end.

Professor Dzulkipli Abdul Razak, *Tan Sri Dato'*

WELCOME

Dean, School Of Communication



First and foremost, I would like to extend a warm welcome to all participants to the International Conference on Communication and Environment 2009 (ICCE09). To all our international friends, Selamat Datang to Penang, Malaysia. This conference aims at bringing together scholars, scientists, researchers and activists from all over the world to discuss one of the most important issues today that would determine the future – the environment.

Today environmental communication has gained prominence and is fast becoming one of the areas of focus in the field of communication. We are beginning to see many academic programmes and research activities related to environmental communication sprouting in many parts of the world. In Malaysia, Universiti Sains Malaysia is the only institution which has a dedicated programme on environmental communication, via its master's degree programme specialising in environmental communication.

It is said that mass media 'discovered' the environment in the sixties. However, it was after the 1992 Rio de Janeiro Earth Summit, when the environment received more media attention. The media certainly needs to play a much bigger and effective role in order to ensure sustainable environmental practices for the future. Media and communication scholars, professionals and activists need to bring to the forefront riveting messages that would impact on the overall state of our environment.

The theme of this conference - communication for sustainable tomorrow - reflects and reverberates the USM's transformation plan theme that is – transforming higher education for a sustainable tomorrow. USM, as an APEX-status university is now at the forefront promoting sustainability as the main thrust

in the transformation plan and aspires to be known as a sustainability conscious university. We all gathered here in this conference because we are particularly concerned about the state of our environment. Throughout this conference, we will explore different aspects and issues of concern within and beyond the area of environmental communication. Since environmental science is transdisciplinary, this conference has attracted scholars and researchers from diverse fields including engineering, built environment, geography, tourism and many more. Although initially the organising committee began with a narrow focus on communication, but due to overwhelming requests and submission of abstracts from scholars and researchers from outside the discipline of communication, we decided to open up the conference to also include papers in engineering and built-environment. We believe we had made the right decision in turning this conference into a truly transdisciplinary gathering of environment conscious scholars. Our hope is that this opportunity of hosting a gathering of scholars from various disciplines would provide a deeper and holistic understanding of our environment. For communication scholars and researchers, this is a unique opportunity for us to gain insight into pressing issues, by according prominence during the conference to those who are directly involved in shaping our environment.

Finally, I would like to take this opportunity to thank our Vice Chancellor and Deputy Vice Chancellor (Research & Innovation) and various departments within USM for their encouragement and support. To all the sponsors, government agencies, organisations, corporate bodies and many other contributors and well wishers whom I am not able to mention here in full, we deeply appreciate your generosity and assistance. Last but not least, to the organising committee members headed by Prof. Ramli Mohamed and all the staff of the School of Communication, my sincerest appreciation and gratitude for their dedication, commitment and enthusiasm in ensuring the success of this conference.

Thank you

Assoc. Prof. Dr. Adnan Hussein

Conference Programme

Day One

Wednesday, 9 December 2009

- 0900 – 0930** **Inaugural Session: Welcome Remarks and Officiating Addresses**
(Andaman Ballroom)
- (Moderator: Dr Shuhaida Md. Noor)
- Arrival of Participants and Guests
 - Arrival of Guest of Honour
 - Welcome Address by the Dean of the School of Communication, Universiti Sains Malaysia
Assoc. Prof. Adnan Hussein
 - Officiating Address by the Vice Chancellor
Universiti Sains Malaysia
Professor Tan Sri Datuk Dzulkifli Abd. Razak
- 0930 – 1030** **Keynote Address**
(Andaman Ballroom)
- Time to Organise! Why We Need to Form a New Professional Association for Environmental Communication*
Prof. Stephen P. Depoe, University of Cincinnati
USA and Founding Editor,
Environmental Communication: A Journal of Nature and Culture
- 1030 - 1115** **Photography Session,
Visit to Exhibition Booths
Morning Tea** (Sponsored by CIMB Bank)
- 1115 - 1300** **Parallel Session A1**
(Andaman Ballroom)
- Theoretical and Conceptual Issues**
Chairperson: Assoc. Prof. Mustafa Kamal Anuar
- Jan Michael Alexandre Bernadas (University of the Philippines) and Jaime Manuel Q Flores (Ateneo de Manila University)
Mapping the Field of Environmental Communication: A Content Analysis of Research Work Produced in Three Philippines Communication Schools.
 - Nik Norma Nik Hasan (Universiti Sains Malaysia, Malaysia)
Embedding Sustainability in Journalism Programme
 - Spahic Omer (International Islamic University, Malaysia)
Islam on Environmental Protection: Some Observations
 - A. Jasmine (Thassim Beevi Abdul Kader College for Women, India)
Environmental Ethics

1115 - 1300

Parallel Session B1

(Jintan Room)

Media Content and the Environment

Chairperson: Dr Azman Azwan Azmawati

- Cüneyt Binatli, Zeliha Hepkon and Oya Aki Aydin (Istanbul Commerce University, Turkey)
Constructing Environmental Awareness: Ecological Newsmaking in Turkey
- Hamidah Abd. Hamid, Adnan Hussein, Kamaliah Hj. Siarap and Haroon Hj. Awang (Universiti Sains Malaysia, Malaysia)
Covering the Environment: Treatment of Environmental Stories in the Malaysian Malay, English and Vernacular Newspapers
- Haluk Birsen and Özgül Birsen (Anadolu University, Turkey)
How are Environment News Changed?
- Haroon Hj. Awang, Kamaliah Hj. Siarap, Hamidah Abd. Hamid and Adnan Hussein (Universiti Sains Malaysia, Malaysia)
Voicing Concerns about Environmental Issues – A Study of Letters to the Editor in the Malaysian Newspapers

1115 - 1300

Parallel Session C1

(Lawang Room)

Corporate Social and Environmental Responsibility

Chairperson: Dr Jamilah Hj. Ahmad

- Hassan Farid Islahudin and Hamisah Zaharah Hasan (Apex Communications Sdn. Bhd. and Universiti Putra Malaysia, Malaysia)
Unveiling the trends of CSR disclosure in Malaysian Government Linked Companies
- Güzin Kıyık (Anadolu University, Turkey)
An Analysis on How Public Relation Works in Environmental Management by Companies in Turkey
- Hamisah Zaharah Hasan and Nurani Kamaruddin (Universiti Putra Malaysia, Malaysia)
CSR from the Employees' Perspective
- S. Sumayaa (Thassim Beevi Abdul Kader College for Women, India)
Green Entrepreneurship

1300 – 1415

Lunch

1415 - 1630

Parallel Session A2

(Andaman Ballroom)

Politics, Communication and the Environment

Chairperson: Dr Mahyuddin Ahmad

- Adnan Hussein, Nik Norma Nik Hasan and Azlan Abdul Rahman (Universiti Sains Malaysia, Malaysia)
The Environmental Discourse, Rhetoric and Reality in Malaysia: Case Studies of River Pollution in Kinabatangan, Batu Pahat and Juru
- Rohani Hashim, Ramli Mohamed, Adnan Hussein, Wong Chow Jeng, Kamaliah Hj. Siarap, Mohamad Md. Yusoff and Mariani Ali Amran (Universiti Sains Malaysia, Malaysia)
The Roles and Communication Strategies of Environmental NGOs in Handling Freshwater and River Issues in Malaysia
- Emma ter Mors, Mienke W. H. Weenig, Naomi Ellemers, and Dancker D. L. Daamen (Leiden University, the Netherlands)
Effective Communication about Carbon Dioxide Capture and Storage (CCS): The Role of Source Perception
- Ravi Mahalingam and Khairiah Salwa Mokhtar (Universiti Sains Malaysia, Malaysia)
The Environment and the Making of the National Biotechnology Policy: The Stage of Agenda Setting
- Noor Azizi Borhan (Universiti Darul Iman, Malaysia)
The Effectiveness of Communication Strategies in Environmental Management on Tourist Islands

1415 - 1630

Parallel Session B2

(Jintan Room)

Media Content and the Environment

Chairperson:

- Jan Michael Alexandre Bernadas and Jaime Manuel Q. Flores (University of the Philippines)
Communicative Dialectics in Environmental Discourses: A Critical Discourse Analysis of Editorial Columns on the 2006 Guimaras Oil Spill
- Prasana Rosaline Fernandez, Lean Mei Li and Khor Yoke Lim (Taylor's College and Universiti Sains Malaysia, Malaysia)
A Critical Discourse Analysis of the News Coverage of the Bukit Antarabangsa Landslide in Malaysia
- Şule Yüksel Öztürk (Anadolu University, Turkey)
The Environmental Journalist in the Media: Factors that Affect the Quality of Environmental Journalists
- Hamidah Abd. Hamid, Kamaliah Hj. Siarap, Adnan Hussein, Haroon Hj. Awang and S. Aishah Mohamad (Universiti Sains Malaysia, Malaysia)
Constraints and Challenges of Environmental Journalism in Malaysia: Interviews With Journalists
- Lee Lih Su (Universiti Kebangsaan Malaysia, Malaysia)
Environmental Concerns among Audiences of Different Cultures: A Reception Analysis on Lankayan Island

1415 - 1630

Parallel Session C2

(Lawang Room)

Corporate Social and Environmental Responsibility

Chairperson: Assoc. Prof. Mohamad Md. Yusof

- Pranee Chitakornkijasil (National Institute of Development Administration, NIDA, Thailand)
Marketing Ethical Implications and Social Responsibility
- Gözde Ö.Dikmen (Istanbul Commerce University, Turkey)
Consumer Responses to Green Advertising in Turkey
- Kavita Mathad (IFIM Business School, India) and T. Girish (IDC Accenture, India)
Understanding the Economics of E-Waste for a Greener Growth in the Present Era of Globalisation: A Case of India
- Musa Hassan and Rossilawaty Sheriff (Universiti Putra Malaysia, Malaysia)
TV Advertisements on Recycling Campaigns: Can The Public be Influenced?
- Heba Mosaad (University of Bahrain, Bahrain)
Consumer Innovativeness: An Opportunity for Environmental Advertising Claims in Bahrain

1800 - 2300

Conference and Cultural Show at Universiti Sains Malaysia

- Bus departs to Universiti Sains Malaysia campus
- Tour of USM campus
- Arrival at Balai Pesiban Agung, Universiti Sains Malaysia
- Welcome speech by USM Vice Chancellor
- Dinner commences
- Cultural show
- Dinner ends
- Bus departs to Parkroyal Hotel

Day Two

Thursday, 10 December 2009

0845 - 0945

Plenary Session 1

(Andaman Ballroom)

The State of Environment in Malaysia

Chairperson: Assoc. Prof. Adnan Hussein

Panelists: Dr Noor Azlin Yahya, Forest Research Institute, Malaysia
Ms Daria Mathew, World Wildlife Fund for Nature
(WWF-Malaysia), Freshwater Coordinator
Dr Nurul Salmi Abdul Latip, Universiti Sains Malaysia

0945

Morning Tea

1000 - 1145

Parallel Session A3

(Andaman Ballroom)

Politics, Communication and the Environment

Chairperson: Assoc. Prof. Dr. Khor Yoke Lim

- Mustafa Kamal Anuar, Azman Azwan Azmawati, Wang Lay Kim and Mahyuddin Ahmad (Universiti Sains Malaysia, Malaysia)
Politics of Environmental Reporting in Malaysia
- Wang Lay Kim, Mustafa Kamal Anuar, Azman Azwan Azmawati and Mahyuddin Ahmad (Universiti Sains Malaysia, Malaysia)
Environment, Minorities and the Media: Case Studies of the Selangor Dam and Broga
- Chantana Thongprayoon (Sukhothai Thammatirat Open University, Thailand)
Communication Convergence for Environmental Sustainability
- Moris Morrison (Mercu Buana Universitas, Indonesia)
Campaign Strategies of Non-Governmental Organisations in Mitigating Environmental Destruction in Indonesia

1000 - 1145

Parallel Session B3

(Jintan Room)

Media Content and the Environment

Chairperson: Dr Rohani Hashim

- N. V. Prasad, Muhammad Hatta Muhammad Tabut, Thomas Jayaprakash Yesudhasan, Mohd. Zain Dollah and Gowri Sritharan (Universiti Sains Malaysia and Curtin University, Malaysia)
Environment News Broadcasts in Malaysia: An Analysis of Prime-Time News Coverage in Local Television Channels
- Juliana Abdul Wahab, Jamilah Hj. Ahmad, Hamidah Abd. Hamid, Hasrina Mustafa (Universiti Sains Malaysia)
Environment Issues and the Malaysian Media: A Study of the Malaysian Television Audience

- Levent Özkocak and Yavuz Tuna (Anadolu University, Turkey)
Environment Themes and Tools in Magazine Advertisements: A Content Analysis of the Doğuş Broadcast Group
- Huseyin Altunlu (Anadolu University, Turkey)
Send Plants Online, Save the World: Impact of the Internet on Improving Awareness to Environmental Issues

1000 - 1145

Parallel Session C3

(Lawang Room)

Citizen Participation, Human Rights and the Environment

Chairperson: Dr Hasrina Mustafa

- James Scott Brew (Rocky Mountain Institute, Boulder, Colorado, USA)
The Power of Community and Story: Transcending Climate Change Through Communication
- Ramli Mohamed, Rohani Hashim, Adnan Hussein, Kamaliah Hj. Siarap, Mohamad Md. Yusoff, Wong Chow Jeng, Mariani Ali Amran and Nurul Aaina Che Aziz (Universiti Sains Malaysia, Malaysia)
Media Advocacy and Source-Media Relations: A Study on the Interface between Media and NGOs in Environmental Reporting in the Malaysian Media
- Gerald Goh Guan Gan, Kirksman Teo (Multimedia University, Malaysia), Azrina Jamal Mydin, Farizah Azmah Ridzuan, Tan Hong Xin and Annie Teoh Sie Chin (Han Chiang College, Malaysia)
Assessing the 5Rs of Green Computing among College Students
- Azliana Abdul Aziz and Vilashini Somiah (University of Malaya, Malaysia)
Popularising the Planet's Plight

1145 - 1315

Parallel Session A4

(Andaman Ballroom)

Citizen Participation, Human Rights and the Environment

Chairperson: Dr Bahiyah Omar

- Haliza Abdul Rahman (Universiti Sains Malaysia)
Civil Society Participation in Environmental Matters in Malaysia
- Carlie Wiener (Hawaii Institute of Marine Biology, Hawaii, USA)
Communicating Marine Sciences to Management and Community
- Haluk Birsen, Tuncay Dogeroglu, Hicran Altuğ and Wim Van Dorn (Anadolu University, Turkey)
Awareness of Eskisehir's Public Opinion Against Air Pollution
- Hasan Bahanan (Universitas 17 Agustus, Indonesia)
Promoting Multi-Stakeholders' Participation in Clean Air Management: A Case Study in Surabaya
- Kamaliah Hj. Siarap, Adnan Hussein, Ramli Mohamed, Rohani Hashim, Mohamad Md. Yusoff, Wong Chow Jeng and Mariani Ali Amran (Universiti Sains Malaysia, Malaysia)
Handling of Environmental Issues by NGOs: An Analysis of Strategies and Activities

1145 - 1315 **Parallel Session B4**
(Jintan Room)

Media Content and the Environment

Chairperson: Ms Hamidah Abd. Hamid

- Jessada Salathong (Waseda University, Japan)
Climate Change Coverage in Thailand's Newspapers: The case study of Thairath, Matchon and Bangkok Post in 2007
- Azman Azwan Azmawati, Mahyuddin Ahmad, Mustafa Kamal Anuar, Wang Lay Kim (Universiti Sains Malaysia, Malaysia)
Voices in the Malaysian Environmental Reporting: A Case Study of the Broga Incinerator Project
- Mohamed Talhah Idrus (Universiti Sains Malaysia)
Words Matter
- P. Govindaraju, V. Ratnamala and N. V. Prasad (Manonmaniam Sundaranar University, India and Universiti Sains Malaysia, Malaysia)
The Nature of Coverage of Environmental Issues in the Online Editions of Leading Dailies from Tamil Nadu

1145 - 1315 **Parallel Session C4**
(Lawang Room)

Environmental Health

Chairperson: Mr Ismail Hashim

- Muthukumar Kanasan (Tunku Abdul Rahman College, Penang, Malaysia)
The Dilemma among Plantation Workers on the Use of Paraquat
- Sholehah Ismail (University of Malaya, Malaysia)
Influence of the Environment and Climate towards the Spread of the Dengue Epidemic in 2009: An Initial Finding
- Safiah Mohd Hashim (University of Malaya, Malaysia)
Using the Geographic Information System Approaches to Identify Asthma Risk Factors in the Klang Valley
- H. Rahemtulla, M. Haklay, C. Ellul, L. Francis and C. Whittaker (McGill University, Canada and University College London, UK)
Interactive Community Mapping in London

1315 **Lunch**

- 1415 - 1800** **Special Workshop Session**
(Andaman Ballroom)
- Nature as the Backdrop, Product and Process:
Understanding Environmental Appeals in Product Advertising”**
Facilitator: Prof. Stephen P. Depoe
Chairperson: Prof. Ramli Mohamed
- 1415 - 1600** **Special Parallel Session SS1: Built Environment**
(Jintan Room)
- Chairperson: Assoc. Prof. Aldrin Abdullah
- Archana Sharma (University of Tennessee, USA)
Sustainable Design Practice: Staking Claim
 - Roya Shokoohi, Noor Rosly Hanif, Melasutra Md. Dali
(University of Malaya, Malaysia)
Towards Sustainable Transportation in Tehran
 - Saeedeh Rezaee (University of Malaya, Malaysia)
*The Effects of Urban Environmental Factors to Prevent
Vandalism in Tehran, Iran*
- 1415 - 1600** **Special Parallel Session SS2: Engineering and the
Environment**
(Lawang Room)
- Chairperson: Assoc. Prof. Mahamad Hakimi Ibrahim
- Siti Baizura Mahat (Universiti Teknologi Malaysia, Malaysia)
Treatment of Pharmaceutical Wastewater by Anaerobic Process
 - Bart W. Terwel, Fieke Harinck, Naomi Ellemers and
Dancker D. L. Daamen (Leiden University, Netherlands)
*Carbon Dioxide Capture and Storage (CCS) as a Solution to
Climate Change: The Role of Trust in CCS Stakeholders*
 - Davood Eradatmand Asli (Islamic Azad University, Iran)
*Effect of CO2 Enrichment on Non-Structural carbohydrates
Contents in Wheat*
 - Noor Rosyidah Sajuni (Universiti Sains Malaysia, Malaysia)
*Efficiency of Nitrification of Freshwater Fish Aquaculture
Wastewater Using Different Filter Media*
- 1600** **Afternoon Tea**

1615 - 1800

Parallel Session A5

(Andaman Ballroom)

Citizen Participation, Human Rights and the Environment

Chairperson: Dr Nik Norma Nik Hasan

- Ronzi Mohd. Yusoff and Hasrina Mustafa (Han Chiang College and Universiti Sains Malaysia, Malaysia)
The Effects of Forced Compliance on the Level of Knowledge, Attitude and Practice in the "Say No to Plastic Bag" Campaign in Universiti Sains Malaysia
- Hasrina Mustafa, Hamidah Abd. Hamid, Jamilah Hj. Ahmad, Juliana Abd. Wahab, Suriati Saad (Universiti Sains Malaysia, Malaysia)
Rural-Urban Differences in Environmental Knowledge, Attitudes and Practices among Malaysians
- Yavuz Tuna and Levent Özkocak (Anadolu University, Turkey)
The First Step to Communication with Environmentally Responsible Consumers: Measuring the Environmental Consciousness of Turkish Consumers
- Wong Chow Jeng, Rohani Hashim, Ramli Mohamed, Adnan Hussein, Kamaliah Hj. Siarap, Mohamad Md. Yusoff and Mariani Ali Amran (Universiti Sains Malaysia, Malaysia)
The Role of NGOs for Natural Resources and Environmental Protection in Sabah
- Liwayway Memije-Cruz (Polytechnic University Of The Philippines)
Environmental Advocacy Programs Catalyzed Through Cultural Communication And Art Education: (Art For The Environment)

1615 - 1800

Special Parallel Session SS3: Built Environment

(Jintan Room)

Chairperson: Assoc. Prof. Abu Hasan Abu Bakar

- Wan Mohd. Arif Bin Wan Sobri (University of Malaya, Malaysia)
The Influence of Anthropogenic Factors on Incidents of Flash Floods: A Hydrological Analysis Using the GIS in (TTDI Jaya), Shah Alam
- Julaihi Wahid and Bhakti Alamsyah (Universiti Sains Malaysia, Malaysia)
New Urbanism: A Comparative Analysis between the Traditional Village and the Housing Estate
- Loganathan Krishnan (Universiti Tunku Abdul Rahman, Malaysia)
The Traditional Environment Versus the Modernised Environment
- Julaihi Wahid, Bambang Karsono and Abdul Hadi Harman Shah (Universiti Sains Malaysia, Malaysia)
Dimension in the Public Space: The Case of Lapangan Gazibu

Day Three
Friday, 11 December 2009

0845 - 1030

Plenary Session 2
(Andaman Ballroom)

**Media -- Environmental NGOs Interface: Media
Advocacy and Source-Media Relations**

Chairperson: Prof. Ramli Mohamed
Panelists: Tan Sri Datuk Dr. Salleh Mohd Noor -
Malaysia Nature Society
Mr S. M. Mohamed Idris -
Consumer Association of Penang
Mr Karam Singh Walia - TV3
Ms Jaswinder Kaur Kler -
Sabah Journalists Association

1030

Morning Tea

1045 - 1230

Workshop 1
(Jintan Room)

The Ecological Cycle (conducted by Friends of the Earth
Malaysia (SAM)
Facilitator: Mr Mohd. Nizam Mahshar

1045 - 1230

Workshop 2
(Lawang Room)

**Best Practices in Educating the Public on
Environmental Issues** (conducted by Malaysian
Nature Society)

Facilitators: Mr I. S. Shanmugaraj
Mr Ahmad Azri
Mr Prasad Vasudevon
Mr Maichal Isytiben

PAPER ABSTRACTS

Wednesday 9 Dec
1115 – 1300
Andaman

Parallel Session A1

Theoretical and Conceptual Issues

Jan Michael Alexandre
Bernadas and
Jaime Manuel Q Flores

Mapping the Field of Environmental Communication: A Content Analysis of Research Work Produced in Three Philippines Communication Schools

Universities are storehouses of knowledge. Data generated and constructed by students and teachers aim to help policymakers arrive at informed solutions to political, social, economic, and environmental issues. This research aims to examine the theoretical and conceptual convergence of communication studies and the environment. Based on Holsti's trends in communication content framework, this paper focuses on how three communication schools — the University of the Philippines Diliman, the University of the Philippines Los Banos, and the Ateneo de Manila University — treat environmental communication-related issues through their students' research outputs, in both the undergraduate and graduate levels. Results map the territory of environmental communication in the Philippines, particularly in academic institutions. Implications include environmental policy-making and environmental literacy. *Key words: communication studies, convergence, environmental communication*

Nik Norma Nik Hasan

Embedding Sustainability in Journalism Program

The 21st century is the age of environmental awareness and the concept of sustainability offers a framework for discussion and action around an integrated perspective on the ecological, social, economic and cultural aspects of development. In this sense, sustainability education (SE) has become part of the educational system in many western countries since two decades ago. Recently, this trend has been infused gradually into the higher education system of Malaysia and the region. However, the traditional role of academic educational establishment at only providing a certain degree of employability has limited the potential of sustainability education (SE) to be nurtured within the system. Therefore, the challenge is embedding the component of sustainability in the courses and makes it relevant to students' education, careers and quality of living. This paper attempts to explain the development of Science and Environmental Journalism (SEJ) program at master level in USM - the challenges and strategies to consolidate elements of sustainability within journalism courses in order to nurture students to be able to communicate effectively and to educate the public on environmental related issues through reporting. *Key words: sustainability, journalism, higher education, sustainable development.*

Spahic Omer

Islam on Environmental Protection: Some Observations

This paper illuminates several aspects of the position of Islam on the subject of environment and its sustainable use. The paper concludes that, according to the message of Islam, man is a vicegerent on the earth (khalifah) created to live a good and productive life, worshipping his Creator and Lord. The environment is God's creation too. Its role is two-fold: to worship its Creator, in ways assigned and suitable to it, and to serve man, so that man is enabled to smoothly carry out his honorable task of vicegerency. Man's rights over the environment are the rights of sustainable use based on moderation, balance and conservation. The rights of that environment over man are that it be safe from every misuse, mistreatment and destruction. The importance of the environment in the Islamic worldview necessitates that the issues about our environment and a peaceful coexistence with it play a prominent role in the educational philosophy and systems of Muslims.

Key words: Islam, environment, Prophet Muhammad, Man as the vicegerent on earth

A. Jasmine

Environmental Ethics

Ethics are values in life. Environmental ethics are moral values one should have to lead a harmonious life with nature. It is nothing but our healthy interaction with the environment. Apart from plants and animals, human beings are also biological components of our ecological system. This biotic component is inseparable from the environment. As humans, we are totally dependent on other biotic factors of the environment (plants and animals) and abiotic factors (light, temperature soil air). The relationship is reciprocal. Any modification done to the environment (pollution, climatic change, soil erosion) will affect us in turn (global warming, water scarcity, decreased soil fertility). It is crucial that we know what to do with the environment and what not to in a broader sense. To bring back the lost glory of nature, we must first create an awareness of the environmental problems, their causes and the control measures to be taken. This paper discusses seven major points of environmental ethics.

Key words: environmental ethics, create awareness, control measures

Wednesday 9 Dec
1115 – 1300
Jintan

Cüneyt Binatli,
Zeliha Hepkon and
Oya Aki Aydın

Parallel Session B1

Media Content and the Environment

Constructing Environmental Awareness : Ecological Newsmaking In Turkey

It was only after the 20th century that we witnessed any form of social consciousness about environmental issues. Industrialisation and the urbanisation process have together caused a great amount of pollution in the environment. Since all humanity has to share the same air, water, soil and other natural sources, the pollution caused by industrialised countries threatens our future. Only in the last ten years have we been able to see an increased awareness towards our environment. In democratic countries, the media as information sources for the society are expected to cover important issues about the environment and try to form awareness. In this respect, as an industrialising country, in Turkey, only after 2000 did issues about environmental problems appear in the media. There are even thematic programmes and articles covering this subject. The aim of this paper is to investigate the development line of ecological newsmaking in Turkey. For this purpose, we are seeking to analyse the lexicon, the place and length of news texts, formation of specialised professionals for ecological newsmaking as the indicators of socially constructed awareness for environmental problems.

Key words: social consciousness, environmental issues, mass media, ecology news

Hamidah Abd. Hamid,
Adnan Hussein,
Kamaliah Hj. Siarap and
Haroon Hj. Awang

Covering the Environment: Treatment of Environmental Stories in the Malaysian Malay, English and Vernacular Newspapers

Studies have generally found that newspapers are one of the most predominant sources of environmental information available to the public. Research has also indicated that the nature of environmental reporting can vary from one newspaper establishment to the other. In a country with different segments of its population relying on different language newspapers, how different is the coverage of the environmental issues? This paper reports the findings of an ongoing study of how Malaysian newspapers catering to different audiences cover the environment. Selected newspapers (*The Star, Utusan Malaysia, Nanyang Siang Pau, Tamil Nesan*) were analysed for the year 2002 to 2006 to determine the categories of environmental news, story prominence, types of reporting, sources used and news origin. Overall, the findings indicate that news of disasters top the list of environmental news in all newspapers. In terms of story placement, environmental news normally appeared on the inside pages except when major disasters pushed coverage onto the front pages. In terms of main sources used, government and politicians were the dominant choices while social activists and non-governmental organisations were the least used. The individual voices of the masses were occasionally sourced. This study concludes that despite overwhelming similarities there were some differences among the different language newspapers' coverage of the environment in Malaysia.

Key words: environmental news, Malaysian Malay, English, vernacular newspapers

*Haluk Birsen and
Özgül Birsen*

How are Environment News Changed?

Environmental problems can take place in people's agenda with the help of the media. Air pollution, water pollution, the animal, ozone layer, other problems and related ideas are carried by the media to the public. If the people today have an environmental agenda, this is realised by the media. This study investigates this process (of transferring the environmental agenda to the public) in a time line from 1980. For this purpose, observation is made on the change and development of news in *Hurriyet*, one of the older and popular newspapers of Turkey. This content analysis of *Hurriyet* gives an example of how environment news in Turkey have changed.

Key words: people's agenda, mass media, environmental news

*Haroon Hj. Awang,
Kamaliah Hj. Siarap,
Hamidah Abd. Hamid and
Adnan Hussein*

Voicing Concerns about Environmental Issues – A Study of Letters to the Editor in the Malaysian Newspapers

Letters to the Editor have been a dominant carrier of political and social discourse in the print media. They are an open forum for the public to give their opinion on issues of concern to readers. Usually letters chosen for publication are only a sample of letters submitted on a specific issue. A study of Letters to the Editor, hence, would provide an indication of public's interest on certain issues. This paper is based on a study which examines Letters to The Editor regarding environmental news and issues in selected Malaysia major newspapers in 2006.

Key words: Letters to the Editor, environmental issues, major newspapers

Wednesday 9 Dec
1115 – 1300
Lawang

Parallel Session C1

**Corporate Social and Environmental
Responsibility**

*Hassan Farid Islahudin
and*

Hamisah Zaharah Hasan

Unveiling the trends of CSR disclosure in Malaysian Government-Linked Companies

Today, as public scrutiny of corporations intensifies, corporate social responsibility (CSR) and its disclosures have become an increasingly important communication channel between the corporation and its stakeholders. The legitimacy theory provides the basis to explain why and how companies make CSR disclosures. This paper is based on an empirical study aimed at examining the CSR disclosure practices of selected Malaysian public-listed Government-Linked Companies (GLCs) through the examination of their corporate annual reports. Specifically, the study examines the amount, content-category themes, methods and news value of disclosures made by the companies. The findings indicate that there is indeed an overall growing trend of CSR disclosures. However, while all the companies studied make environmental disclosures, the quantity and quality of these disclosures leave a lot to be desired. The study also shows that the disclosures made have been overwhelmingly represented by declarative, good news disclosures. It can be surmised that despite the growing public awareness of environmental issues and the impact of businesses on the environment, large Malaysian GLCs have yet to respond adequately and meaningfully with respect to CSR disclosures made.

Key words: CSR, Government Linked Companies, content analysis, annual reports

Güzin Kıyık

An Analysis of Public Relation Works About Environmental Management by Companies in Turkey

Since the 1980s, the term “environmental management” has used to connote the sensitive approach to the environment by businesses. Although its coverage is limited to reactions for environmental protection and a series of rules, recently the number of institutions approaching it from the public relations (PR) perspective has steadily increased. This paper is based on a study which is aimed at analysing PR approaches in different sectors. By designing projects under the titles of social responsibility for forestation, effective usage of natural resources, contribution to ecological balance, protecting endangered species and developing new technologies to produce environmentally friendly products, companies carry out green implementations sometimes to become and sometimes just to be perceived as environmentally friendly. The content analysis examines news relating to the sampled companies as shown in the Internet and the printed publications and information shared by these institutions on their own websites to answer questions.

Key words: environmental management, environmentalist public relations approach

Hamisah Zaharah Hasan
and
Nurani Kamaruddin

CSR from the Employees' Perspective

Corporate Social Responsibility (CSR) explains the process of communicating the social and environmental effects of organisations' economic actions to particular interest groups within society as well as to society at large. CSR also discusses how businesses align their values and behaviour with the expectations and needs of stakeholders such as customers, investors, employees, suppliers, community regulators, special interest groups and society. With the current trend of globalisation, organisations are realising that to compete effectively in a competitive environment, there is a need for them to clearly define their business practices with a sound focus on public interests. To gain strategic initiative and to ensure continued existence, business practices should not just focus on profit but should also stress public goodwill and responsible business etiquette. This paper is based on a study which examines the perception of employees towards CSR, specifically on the level of employee knowledge of the CSR activities in their organisation, their attitude towards CSR activities and the perceived effectiveness of the communication modes of CSR activities.

Key words: CSR, public interests, stakeholders' need, employee knowledge

S Sumayaa

Green Entrepreneurship

Green is all pervasive word, which denotes – environment friendly, eco-friendly or sustenance growth. The adoption of more friendly environmental business practices provides an additional range of opportunities for entrepreneurs. The move to more sustainable business activities can allow some firms to gain a competitive advantages in the field of product and service innovation, in the development of new industries in marketing the firm to customers, in winning the strategies support of government and gaining an advantage over existing technologies. Wide spread illiteracy, low level of literacy, bulging population, poverty, inadequate research and development, and lack of awareness among masses are the sources of the serious impediments in promoting green entrepreneurship. Our greatest challenge, however, lies on making the free markets for the poor. The traditional role of business, Government and civil society has inhibited development of enterprise based solution to poverty reduction. Markets can provide a positive socio economic inclusion, quality of life and environment value protection. The programs such as the "Sweat Equity" where by a village helps in the installation of pipe work in return for drinking water and providing market benefits to poverty stricken areas by linking them with other markets are examples of public private partnerships, involvement of the poor and let them reap the benefits of globalisation.

Key words: environmental friendly, sustenance growth, innovation, entrepreneurship

**Wednesday 9 Dec
1415 – 1600
Andaman**

Parallel Session A2

Politics, Communication and the Environment

*Adnan Hussein,
Nik Norma Nik Hasan and
Azlan Abdul Rahman*

The Environmental Discourse, Rhetoric and Reality in Malaysia: Case Studies of River Pollution in Kinabatangan, Batu Pahat and Juru

This study analyses the discourse and rhetoric related to the environment, in particular, rivers. The central interest of the study is examine how different social and political groups related to river development in Malaysia articulate their arguments. Using discourse analysis and rhetorical analysis, the study seeks to understand how rivers, as part of environmental issues, are discussed, verbally or culturally, mediated or face to face. Using the rivers of Kinabatangan, Juru and Batu Pahat as case studies, this study analyses media reports, discussions and data from in-depth interviews with various stakeholders – the community, policymakers, NGOs and government officers, looking at controversies, arguments and counter arguments, opinions and chains of reasoning that underline the discourse and rhetoric on rivers in Malaysia.

Key words: environment, discourse and rhetoric, river development, media reports, discussions, in-depth interviews

*Rohani Hashim,
Ramli Mohamed,
Adnan Hussein,
Wong Chow Jeng,
Kamaliah Hj. Siarap,
Mohamad Md. Yusoff and
Mariani Ali Amran*

The Roles and Communication Strategies of Environmental NGOs in Handling Freshwater and River Issues in Malaysia

The importance of environmental education and awareness related with freshwater and river management has been a tremendous responsibility to the environmental NGOs (ENGOS) in Malaysia. ENGOS which are very active in dealing with freshwater and river issues are Water Watch Penang (WWP), Sustainable Network Malaysia (SUSDEN) and the Environmental Action Committee (EAC). In the past decades, these NGOs have witnessed distinct freshwater and river challenges in Malaysia. The NGOs are currently exploring a variety of options to address these issues. WWP promotes a water saving society, SUSDEN launches plans to restore the freshwater lake of Tasik Chini and EAC embarks on a massive proactive river preservation and management campaigns. The “water literacy” campaigns are also conducted in order to move from education to action by engaging the communities in local water study groups to empower communities to take responsibility for their own water quality and availability.

Key words: river management, freshwater conservation, environmental, NGO, communication strategies

Emma ter Mors, Mieneke
W. H. Weenig, Naomi
Ellemers, and Dancker D.
L. Daamen

Effective Communication about Carbon Dioxide Capture and Storage (CCS): The Role of Source Perceptions

Climate change is among the biggest challenges the world faces today. Given the far-reaching negative consequences of climate change, political leaders from industrialised countries have committed themselves to reduce their CO₂ emissions. The implementation of novel carbon dioxide capture technology (CCS) is considered to be an important step in the reduction of these emissions. In short, CCS involves the capture of CO₂ emissions that result from various industrial processes, the transportation of the CO₂ to underground storage sites (e.g., depleted gas fields) and its subsequent permanent storage in these sites. Currently, the development of CCS enters the stage in which the technology is to be tested in the field. At this point, it is important to consider how information about CCS can be effectively communicated to the general public, in such a way that awareness and deeper understanding is created. The present work disseminates the results of a 4-year research project on how the effectiveness of communication about CCS depends on who (e.g., industrial stakeholders, non-governmental organisations) provides the relevant CCS information to the public. This paper will show that in order for communication about CCS to be effective, it is important that stakeholders who serve as information sources are trusted by the public.

Key words: effective communication, carbon dioxide capture technology (CCS), information sources, trust

Ravi Mahalingam and
Khairiah Salwa Mokhtar

The Environment and the Making of the National Biotechnology Policy: The Stage of Agenda Setting

Malaysia is in the state of exploring new high technology to utilise the advantage that it possesses while at the same time protecting the environment. Therefore, biotechnology has been identified as an appropriate tool that can deliver economic gains through research and development, creation of entrepreneurial opportunities for industrial growth, improvement of food security, health and environmental sustainability. This paper addresses the stage of agenda setting in the Malaysian style of policy making, in reference to the National Biotechnology Policy. The argument is presented through the mapping out of the symbiotic relationship between research and policy in general. The paper also presents the ideological sequence involved in the stage of agenda setting during the formulation of the policy, focusing on the role of the environment. The triangulation approach, which consists of elite interviews, archival data and observations, is deployed as a tool to examine the process of policy development and policy changes. The analysis shows that agenda setting and policy initiation in Malaysia are propelled into public concern by the politicians and policy elites through various ways of communications such as forums, conferences and roundtable discussions.

Key words: agenda setting, the National Biotechnology Policy, the triangulation approach, policy making, policy development, policy elites

The Effectiveness of Communication Strategies in Environmental Management on Tourist Islands

This paper is based on a study to examine the effectiveness of a communication strategy introduced by an agency of the Terengganu state government known as TREVICOSTA. The role of this agency is to ensure the islands within the state remain clean and in good order as well as to undertake measures that would preserve the environment and promote environmental-friendly activities. This quantitative study measures the perception of the local population and tourists to the islands of Perhentian and Redang on the protection and preservation of the environment surrounding those islands. The role of TREVICOSTA as an agent of change is also examined.

Key words: communication strategy, agent of change, perception, the environment

Wednesday 9 Dec
1415 – 1600
Jintan

Parallel Session B2

Media Content and the Environment

Jan Michael Alexandre
Bernadas and
Jaime Manuel Q. Flores

Communicative Dialectics in the Environmental Discourse: A Critical Discourse Analysis of Editorial Columns on the 2006 Guimaras Oil Spill

The study explores how contested knowledge production about the 11 August 2006 Guimaras Oil Spill is constructed in selected editorial columns of major broadsheets in the Philippines. Using the Invitational Rhetoric Theory of Foss and Griffin (1995), along with Foucault's (1977) post-structuralist ideas on knowledge and power, this study examines the potential role of editorial columns in promoting multi-sectoral discourse in searching for multiple explanations and solutions about the calamity. In order to understand how contested knowledge production is manifested in the selected editorial columns of *Philippine Daily Inquirer*, *Philippine Star*, and *Manila Bulletin*, this research uses textual analysis, particularly, the constant comparative method. It examines how the indicators of communicative dialectics (Murphy, Eisenberg, Wears and Perry, 2008) are constructed based on certainty versus vulnerability and deference versus challenge. Implications include theoretical and methodological alternatives in the study of environmental communication.

Key words: multi-sectoral discourse, editorial columns, contested knowledge production, textual analysis

Prasana Rosaline
Fernandez, Lean Mei Li
and Khor Yoke Lim

A Critical Discourse Analysis of the News Coverage of the Bukit Antarabangsa Landslide in Malaysia

In the intersection between communication and crisis, the mass media play a significant role in influencing not only public definition and interpretation of the situation but also evaluation of responses from relevant agencies, decision makers and those affected. The media is not dominated by one actor but represented by multiple actors and discourses, each negotiating to ensure that their views predominate and able to influence people's interpretation and understanding. This paper, based on critical discourse analysis (CDA), will examine a Malaysian newspaper's coverage of a landslide in an upper middle class housing area in Kuala Lumpur. The "Bukit Antarabangsa tragedy" which occurred on 2 December 2008, killed four persons and evacuated thousands of families. The paper investigates how discourse representation is carried out, examining which voices are privileged or systematically excluded and how voices are recontextualised and framed in relation to each other and in relation to the writer's voice. In this analysis, CDA as a research methodology enables us to examine the structures of reporting of the various dominant actors, namely, the ruling central government, the opposition state government, the previous state government aligned to the ruling dominant party, victims of previous landslides, current landslide victims and landslide experts, to legitimise or challenge specific responses, actions and decisions.

Key words: environment crisis, mass media, public discourses, landslides

Şule Yüksel Öztürk

The Environment Journalists in the Media: Factors that Affect the Quality of Environmental Journalists

The primary agenda of developing countries has become an economic development. Environmental issues in these countries are usually approached from an economic standpoint and news about the environment are related to the environmental investments of corporations. Environmental issues are not discussed in the media except in cases where life is threatened. Turkey is a developing country. Due to its geopolitical situation, the news agenda centres on its relationship with the European Union, Iraq, the Middle East and also news about internal affairs like terrorism and economical events. Turkey's environmental problems are on a non-returnable path because of industrialisation, irregular urbanisation and increasing energy needs. Attention to these problems and creating a public opinion about environmental issues are roles of the media. Advertisers, agencies, media organisations, news routines, editorial processes and qualities of journalists affect the status of environmental news in the media. All these factors contribute to the news production process. This study looks at how journalists can influence the dynamics of the news production process. The aim of this study is to make a profile about environment journalists. Data will be provided by in-depth interviews with journalists who work as environmental reporters. Collected data will be analysed in the ideological dimension of the current agenda generated by journalism, nature, news routines, organisational structures and advertisers, companies, politicians, the government and the NGOs. *Key words: environmental journalism, environment journalists, the environment news process*

Hamidah Abd Hamid,
Kamaliah Hj. Siarap,
Adnan Hussein,
Haroon Hj. Awang and
S Aishah Mohamad

Constraints and Challenges of Environmental Journalism in Malaysia: Interviews With Journalists

This paper presents the findings of in-depth interviews with twelve environmental journalists working in two Malay language newspapers in Malaysia. The study findings shed light on the journalists' characteristics and how they coped with internal and external constraints in producing environmental news. Among the constraints and challenges articulated by these journalists are time and space constraints, newsroom routines and pressures from corporate advertisers and politicians with linkages to media owners. The findings also recorded the journalists' aspirations to be better trained for improved coverage of the environment. *Key words: constraints, challenges, journalists, environmental news, Malay newspapers*

Environmental Concern Among Audience of Different Cultures: A Reception Analysis on Lankayan Island

Visual images have been used heavily in conservation communication to create peoples' consciousness on the environment. For this purpose, two groups of people were exposed to a series of photographs in the book *Turtle Islands: Balinese Ritual and the Green Turtle*. This paper is based on a perception study which investigated audiences' reading positions, interpretation and construction of meaning as well as to understand the perception from different socio-cultural backgrounds. Audience reception on conservation is studied according to sociological, demography and psychological factors, as well as audience involvement and reading context. The result showed that interpretation of conservation efforts involved a two-staged process, i.e., socio-cultural and psychological backgrounds and self-involvement and reading context. Thus, interpretation is constructed differently among local employees and foreign tourists. Their depth of reading contributed towards enriching individuals' knowledge and experience.

Key words: visual images, audience perception, audience involvement, audience knowledge

Wednesday 9 Dec
1415 – 1600
Lawang

Parallel Session C2

Corporate Social and Environmental Responsibility

Pranee Chitakornkijasil

Marketing Ethical Implication and Social Responsibility

Communication involves an ethical mind. Unethical communicators distort or withhold information, as well as misrepresent plans. Advertising tries to convince the audience to do something. If an advertising product violates ethical standards, customers are able to exert pressure by refusing to buy the product. The morality of green marketing is organisations integrating green marketing programmes within concepts of social responsibility for the provision of environmental benefits through marketing activities presented as a moral duty for the organisations. In fact, environmental issues are either not properly, or not realistically, within the excuse of businesses and of the market, and then, ought to be handled at a governmental level. Company organisations should introduce green marketing programmes to indicate ethical motives of social responsibility. Social responsibility is augmenting shown in terms of a brand value rather than as moral principle. Green marketing is recognised as a moral correspondent with a true deep ecology position. Green communications may be looked upon as part of the wider process of maintaining legitimacy. Credible green marketing may move forward if companies are willing to be supportive of their suppliers. Environmental audit is important to accomplish cleaner production in manufacturing. The academic world ought to concentrate more on what determines the most effective green advertisements. Green marketers must be honest in presenting policies and programmes.

Key words: communication, ethics, green marketing, environmental audit

Gözde Ö. Dikmen

Consumer Responses to Green Advertising in Turkey

An awareness of environmental degradation has taken a long time to arise all over the world and also in Turkey. The rapid growth of the population and the world economy have created a consumption culture in many developed and developing countries. So, companies have expanded their capacities to increase production and to market new products ever so often. As a result, natural resources are becoming inadequate and the environmental pollution is gradually growing. These issues are creating pressures on companies and consumers to go green. Consequently, green advertising is seen as one of the tools for sustainable development and satisfaction of companies. The purpose of this study is to examine how consumers in Turkey perceive and respond to green advertising. The profile of the consumers responding to green advertising will be distinguished in terms of variables directly related to their demographic backgrounds, income levels, purchase behaviour such as price consciousness (the intention to pay higher prices), involvement levels, interest in new products and brand loyalty. Randomly selected consumers will be questioned according to the advertising of green products commonly taking place on several media such as the print media (newspapers and magazines), the broadcast media (television and radio), outdoors and the Internet. The results will be evaluated using SPSS 15.0. Based upon our findings, suggestions will be discussed for green *advertising efforts*.

Key words: environmental awareness, consumers, green advertising

Kavita Mathad and
T. Girish

Understanding the Economics of E-Waste for a Greener Growth in the Present Era of Globalisation: A Case of India

Electronic waste is one of the environmental challenges posed by the ever-advancing technology in the world of electronic products. With the increasing pace of globalisation and tremendous pressure of businesses, new electronic gadgets and appliances have infiltrated every aspect of our daily lives. Rapid technological innovations and a higher obsolescent rate compounded by dumping from developed countries, are leading to a substantial rise in e-waste along with rapid depletion of natural resources. E-waste broadly covers waste from all electronic and electrical appliances and involves highly complex and toxic constituents, thus posing a serious challenge in disposal and recycling processes, especially in the extraction of gold and copper, for both developed and developing nations. Like China, India is now confronted with a huge problem of e-waste both locally generated and internationally imported. This hazardous waste is still typically dismantled and recycled by hand in India in unorganised scrap yard settings that lack safeguards and government guidelines. On the business front, the comparatively high profits associated with the trade of e-waste are attracting more and more entrepreneurs. Recognising the intensity of the problem, this study will mainly concentrate on the problems associated with computer waste, economics of e-waste trade, trade practices and the environmental regulations of India, in order to map out feasible suggestions for required local and global actions. The paper will also discuss these issues through a case study undertaken in Bangalore, the silicon valley of India.

Key words: E-waste, economics, globalisation, environmental regulations

Musa bin Hassan and
Rossilawaty binti Sheriff

TV Advertisements on Recycling Campaigns: Can the Public be Influenced?

The Ministry of Housing and Local Authority of Malaysia launched a Public Service Announcement on Recycling Campaigns in the year 2000 with a slogan "Think First Before You Throw". The message of the campaign which portrayed a child singing the theme song while showing to the audience how the campaign was conducted is one of the examples to educate the public to appreciate the earth and the environment. This paper will focus on the recycling advertisement shown on television to study how the advertisement can create awareness to the viewing public and whether they support the campaign by participating in it. It will also determine any other factors that influence their action towards the campaign. The analysis of data will be done by questionnaires distributed to 200 selected respondents. The results of the study will outline the effectiveness of the recycling advertisement as to how people react and suggest ways to improve public awareness of environmentally responsible activities such as recycling.

Key words: PSA, Recycling Campaigns, effectiveness, recycling advertisements

Consumer Innovativeness: An Opportunity for Environmental Advertising Claims in Bahrain

Since the 1980s, green marketing has been growing around the world. As a result a parallel rise in environmental advertising claims (EACs), promoting various green versions of consumer products, has evolved. Meanwhile, Arab countries have witnessed a different situation where different green products have been sold in some hyper or supermarkets but with no EACs promotion for such products. The present study attempts to study such a strange inconsistent relationship between the presence of green food products (as new low involvement products) and the absence of EACs to promote these new patterns of products in Bahrain taking into consideration consumer innovativeness. This study examines consumer innovativeness following Rogers' theoretical framework in the diffusion process. An experimental study is designed where 120 undergraduate students at Bahrain University are exposed to environmental advertisements containing both affective and cognitive claims being displayed on the computer screen. The experiment contains a questionnaire before and after exposure (built on HEP-NEP questions) to measure the level of consumer innovativeness on the basis of environmental knowledge (familiarity-expertise) and compatibility. The experiment also contains a questionnaire (an after-ad exposure) to measure consumer attitudes towards green advertisements, consumer attitudes towards advertised green products, intention to purchase an advertised product, relevance of the advertised product to respondents' daily lives, usefulness perceived of the advertised product and perceived credibility of the advertised claims.

Key words: innovativeness, green products, green advertising, diffusion process

Thursday 10 Dec
1000 – 1145
Andaman

Parallel Session A3

Politics, Communication and the Environment

Mustafa Kamal Anuar,
Azman Azwan Azmawati,
Wang Lay Kim and
Mahyuddin Ahmad

Politics of Environmental Reporting in Malaysia

Environmental degradation has emerged as a growing environmental concern ever since nations, particularly those in the South, underwent rapid socio-economic transformation that witnessed increasing industrialisation and urbanisation. This in turn gives rise to situations such as reckless clearing up of virgin land for so-called development projects that have less concern for the priceless flora and fauna, which often also triggers off social and physical dislocation of especially the rural folk concerned, the powerless and the marginalised; and lax law enforcement or lack of laws to protect the environment that allows for indiscriminate disposal of industrial effluents into rivers and sea, and which consequently affect fish and other forms of marine life. Reporting of environmental degradation is a challenging one in Malaysia given the wider social context in which the mainstream media operate, in particular the ownership of the mainstream media that is very much concentrated in the hands of a few who are either part of the ruling coalition or economic allies of the powers-that-be. Additionally, media-related laws may also affect the tone or flavour of environmental reporting. In this paper, we examine the background to the whole issue of environment; discuss the theoretical framework that informs this study; assess the Malaysian context in which the reporting of environmental degradation takes place; and provide a preliminary assessment of the reporting of selected issues of environmental degradation.

Key words: environmental degradation, media ownership, politics, media-related laws

Wang Lay Kim,
Mustafa Kamal Anuar,
Azman Azwan Azmawati
and Mahyuddin Ahmad

Environment, Minorities and the Media: Case Studies of Selangor Dam and Broga

Development issues were first brought to the agenda when many newly independent countries became UN members during the 1960s. As often repeated in history, minority groups such as the Orang Asli and women were excluded from discussion of development issues. The First Development Decade, for example, did not include women in the agenda. However, subsequent international conferences culminating in the Beijing Conference in 1995, women's issues and concerns were given recognition. As a result local governments had to take cognizance of recommendations and make specific commitments. It is in this context that this paper assesses the space given to these various stakeholders through different channels, including the media, in the planning and decision-making processes, their perspectives on the development process and its impact on their lives. Specifically, this paper will first provide the context by evaluating the potential of minority groups in contributing to development activities, including environmental conservation. Secondly, it will evaluate the representation of minority groups in two environmental issues, the Selangor Dam and the Broga Incinerator issue in Malaysian newspapers. Thirdly, it will evaluate how political and economic pressures on the media can misrepresent or under-present minority groups and whether there are avenues for empowerment with these political and economic constraints.

Key words: development issues, Orang Asli, environmental conservation, economy, media

Chantana Thongprayoon

Communication Convergence for Environmental Sustainability

The admirable outcomes of the environmental sustainability are to reduce excessive consumption except the ones that are necessary to meet human needs fairly and efficiently in order to preserve nature. The far-reaching positive outcome will be a state of balanced ecology where all live on earth as equal beings. This is a concern for the quality of life rather than that of standards of living. This article has the objectives of recommending the means to a desirable outcome of environmental sustainability. It narrates the current environmental crisis, relevant causes of environmental problems, the results of environmental sustainability and solutions to reach the state of sustainability. The recommended solution to the ultimate outcome of the environmental sustainability is to use communication convergence. The senders of the communication process should come from all global sectors – governments, private sectors and civil citizens. The messages of the process should be designed to build up the receivers' knowledge while cultivating the positive affective domains related to the consciousness and attitudes of environmental affiliation and preservation. It is further suggested that all available media should be used with a convergent approach to strengthen the means to a desirable end. An analysis of the receivers is also suggested in order to be able to address the messages directly through all convergent media channels.

Key words: environment, sustainability, communication, convergence, senders, message, media, receivers

Moris Morissan

Campaign Strategies of Non-Governmental Organisations in Mitigating Environmental Destruction in Indonesia

It is now widely recognised the global perspective of environmental issues. The spreading deforestation, for example, can affect significantly not only regional climate change but also global. The increasing populations combined with wide-scale poverty have been key factors in prompting the rampant environmental destruction in many developing countries, especially in Indonesia. The dire environmental conditions have brought some non-governmental organisations (NGO) to intensify their effort to curb the ongoing environmental destruction. Among their many efforts are campaigning toward mitigating environmental destruction in many places. This study will explore campaign strategies of some NGOs in Indonesia and their impact toward environmental improvements. From communication perspective, two important aspects of the environmental campaign program are development of the message and the media strategy. Message development, often referred to as creative strategy, and involves determining the basic appeal and message the NGO wishes to convey to the target community. Media strategy involves determining which communication channels will be used to deliver the message to the receivers. Decisions must be made regarding which types of media will be used. This study will examine the message and the media strategy that have been chosen by NGOs in Indonesia in their efforts to create awareness among communities in preserving and protecting environment. The final stage of campaign process is monitoring, evaluating, and controlling. It is important to determine how well the campaign program is meeting communication objectives and helping the NGO accomplish its overall goals and objectives. The NGOs' campaign planners need to know not only how well the campaign program is doing but also why.

Key words: deforestation, communication campaigns, environmental destruction, NGOs, media strategy, environmental messages

Thursday 10 Dec
1000 – 1145
Jintan

Parallel Session B3

Media Content and the Environment

N. V. Prasad,
Muhammad Hatta
Muhammad Tabut,
Thomas Jayaprakash
Yesudhasan,
Mohd. Zain Dollah and
Gowri Sritharan

Environment News Broadcasts in Malaysia: An Analysis of Prime-Time News Coverage in Local Television Channels

In the present media setting, broadcast television plays a major role in informing and maintaining public concern for the environment. This research, carried out in the Malaysian context, contributes to the understanding of news media and how the environment is being covered in local Malaysian television channels especially in their prime-time news broadcasts. To know how the environment is treated in the local television channels, it is essential to investigate the framing effects of environmental issues, frequency of coverage and the role of the narrative in reporting. For this research, samples of television news episodes are collected by video recording telecasts and subsequently, a set of coding elements is developed and the data analysed to arrive at the findings. This paper focuses on how the environment is conceptualised, portrayed and communicated through Malaysian broadcast news channels. Overall, the present study seems to suggest that a variety of narrative styles and patterns of reporting environmental news have been adopted in local Malaysian channels. In particular, the discussion and findings explore the various environmental issues and themes covered. Results of the analysis reveal that many of the local environmental stories intersect with science, economics, politics and social issues.

Key words: television broadcasts, environmental reporting, news analysis, prime-time news

Juliana Abdul Wahab,
Jamilah Hj. Ahmad,
Hamidah Abd. Hamid and
Hasrina Mustafa

Environment Issues and the Malaysian Media: A Study of the Malaysian Television Audience

Television is perceived as an important medium to reach a larger audience. In other words, public understanding towards issues portrayed on television largely depends on the social meaning that is constructed and disseminated through television, which in turn sets the framework of understanding to the larger audience; enabling them to make sense of issues concerning the environment. Research about audience understanding of environmental messages/issues in Malaysia has been rather limited. This is largely due to the bulk of the past research that focused too much on the quantitative approach to the extent of neglecting the meaning that the general public makes about environment issues. Thus, the aim of this paper is to report the perceptions of the Malaysian audience towards environment issues seen on local television. For this purpose, a series of (preliminary) studies were conducted on various audiences with the ultimate goal of investigating critical readings and interpretations of the environment issues depicted on Malaysian television.

Key words: environmental issues, the Langkawi Declaration, audience understanding and perception

Levent Özkocak and
Yavuz Tuna

Environment Themes and Tools in Magazine Advertisements: A Content Analysis of the Doğuş Broadcast Group

A growing number of consumers actively seek environmentally friendly products. Although the latest environmentally friendly products have been advertised, it is found that too many products advertised claim to be “clean” and “green” for the environment. While this clearly is not the case today, producers are claiming more and more that their products are environmentally friendly. The study described here is undertaken to assess the degree to which magazine advertisements depict environmental tools on products. Analyses are conducted to determine which environmental issues are emphasised and the extent to which producers’ advertisements appear in Doğuş Yayın Gurubu (Doğuş Broadcast Group) magazines. Samples of advertisements have been chosen from *National Geographic* and *National Geographic Kids*, *CNBC-e Business*, *Billboard*, *Robb Report*, *Motor Boat and Yatching*, *EVO*, *Slam*, *NTV Tarih* (NTV History) and *NTV Bilim* (NTV Science) in June, July and August of 2009. The Doğuş Broadcast Group is chosen because it has “green screen” TV programmes all day long since 15 June 2009 on NTV, the national broadcast television.

Key words: “green” consumer, magazine advertisements, the Doğuş Broadcast Group, “green screen” TV programmes

Huseyin Altunlu

Send Plants Online, Save the World: Impact of Internet on Improving the Sensitivity to Environmental Issues

The world has become a “Global Village” through the Internet, as McLuhan said in the 1960s. As a result of technological developments, the Internet is an important part of daily life. By sharing information on the web, problems concerning other people anywhere in the world will become local. The Internet has also made it possible for people to increase their awareness of issues and sensitivities towards the environment, globally. Facebook, one of the biggest social networking sites, allow users to discuss with other people various topics through groups, applications or messaging. Some applications on the Facebook, like “Green Patch”, “Sunshine Ranch”, “Save the Planet” etc., try to bring people together to fight against global warming, save the rainforests or for the cause of clean drinking water. Application providers, through their sponsors, also donate money to organisations that highlight environmental issues. This study tries to analyse which environmental issues these applications focus on, how these applications try to improve sensitivity about environmental issues (games, online gifts) and how users interact with each other. Lastly, this study can help develop web-based applications for environmental issues.

Key words: alternative media, environmental issues, Facebook, web-based applications

Thursday 10 Dec
1000 – 1145
Lawang

Parallel Session C3

Citizen Participation, Human Rights and the Environment

James Scott Brew

The Power of Community and Story: Transcending Climate Change Through Communication

Climate change, community, and story offer a powerful convergence that can help us transcend the challenges we are facing. People working together, in old and new collaborative behaviors offers a hopeful picture of human adaptation and transition from a fossil fuel based economy to a low-carbon, high-value, regenerative economy. With more than half the world's population living in urban environments, our cities, communities and neighborhoods offer a setting for most of the heavy lifting of sustainability. And story may serve us well as a framework for learning, motivating and taking action to transcend and adapt our lives and location to a low carbon lifestyle.

Keywords: climate change, power of community, change, communication.

Ramli Mohamed,
Rohani Hashim,
Adnan Hussein,
Kamaliah Hj. Siarap,
Mohamad Md Yusoff,
Wong Chow Jeng,
Mariani Ali Amran and
Nurul Aaina Che Aziz

Media Advocacy and Source-Media Relations: A Study on the Interface Between Media and NGOs in Environmental Reporting in the Malaysian Media

The issue of media access by environmental NGOs goes beyond the need to get the attention and/or memberships of the public as well as to create public opinion. It is based on the belief that "if you don't exist in the media, for all practical purposes you don't exist." Furthermore, access to the media will help extend advocacy which will in turn influence policymakers and subsequently accomplish the social change set out in the first place. Source-media relations deal with symbiotic and synergistic relations between the media organisations and the environmental NGOs and provide a useful avenue to understand why some pressure groups become sources and are easily accessible to the media while others are not. Media advocacy, on the other hand, attempts to provide the knowledge and skills for individuals and organisations to undertake systematic planning to get their messages across to the media in order to influence public debate and build public opinion as well as put pressure on policymakers. This paper discusses (i) the procedures, strategies and processes undertaken by the NGOs to cultivate healthy and collaboration relations with the media organisations, and (ii) the level of their satisfaction about these attempts and activities as well as their perception on the state of media reporting and coverage of environmental issues in Malaysia.

Key words: media advocacy, source-media relations, environmental NGOs, media-NGO interface, media competency

Gerald Goh Guan Gan,
Kirksman Teo,
Azrina Jamal Mydin,
Farizah Azmah Ridzuan,
Tan Hong Xin and
Annie Teoh Sie Chin

Assessing the 5Rs of Green Computing among College Students

With growing public environmental awareness as well as an increase in corporate social responsibility initiatives, many organisations in developed countries are taking the lead in drawing up programmes that focus on ensuring sustainable practices. It is, however, a different case in many developing Asian countries that are just beginning to consider and adopt environmentally-sustainable practices. In order for organisations in developing Asian countries to place an even greater emphasis on these initiatives, there is a crucial need for the populace to be both knowledgeable and supportive of them. While many public as well as privately-initiated environmental-sustainability programmes are beginning to take shape in Malaysia and its neighbouring countries, green computing initiatives have more often than not been sidelined and overshadowed by the other more-established and more-observable environmental programmes. Green computing aims to create positive and the least negative relationships between computers and their impact to the environment in which it moves from cradle to grave. This study therefore aims to gauge the awareness and practices of college students regarding green computing issues. Using a stratified random sampling method, self-administered surveys will be distributed to 300 students in a college. The survey will assess their awareness and practices on the 5Rs of green computing strategies which include reusing, recycling, reduction, reconstitution, reparation and rethinking their computer use and practices. The findings of this study are significant as they would allow educators to assess the awareness and practices of the students vis-a-vis green computing issues. This in turn would pave the way for targeted green computing awareness and education programmes to be integrated in academic programmes to empower the future workforce with knowledge that would make a significant difference to the betterment of our environment.

Key words: environmental awareness, 5Rs, green computing, college students, awareness and practices

Azliana Abdul Aziz and
Vilashini Somiah

Popularising the Planet's Plight

The reason behind universal customs, as many may believe, is due to the popular culture theory within the media. The popularity of any products or issues oftentimes relies on how the media imbed it into the awareness of the masses. This can sometimes prove to be a necessary thing. The issue of the environment, and especially that of climate change, is one that needs to be addressed as promptly and as actively as possible. As with many important issues, its popularity or the level of public awareness regarding it generally runs parallel with the effectiveness of the mass media in spreading information. From the year 2007, we have seen an obvious effort in incorporating the issue into the facets of popular culture in the media. Starting with the Al Gore documentary, Hollywood and subsequently the local media have rapidly followed suit addressing and highlighting the importance of environmental awareness. Even so, raising awareness towards the issue is but one of the challenges faced in popularising environmental concerns. Information without action is rarely constructive. As such, examples of how action is to be taken to battle this predicament that the earth is in as effectively as possible should also be addressed. The researchers will study the effectiveness of popular culture in spreading the message and will endeavour to pinpoint the mediums and methods that prove to be most efficient in getting word across to the Malaysian public.

Key words: popular culture, public awareness, climate change, environmental concerns

Thursday 10 Dec
1145 – 1300
Andaman

Parallel Session A4

Citizen Participation, Human Rights and the Environment

Haliza Abdul Rahman

Civil Society Participation in Environmental Matters in Malaysia

The international community has long sought to define as a human right the right to participate in environmental matters. Participation can be defined as developing processes of collective learning that change the way people think and act. These range from passive participation, where people are told what is to happen and act out predetermined roles, to self-mobilisation, where people take initiatives largely independent of external institutions. The participation and involvement of public or local people in the sustainable management of environment matters will benefit them in terms of their livelihoods, recreation, socio-culture or spiritual resources and peaceful existence in the community. The public should be given authority and facilitation in identifying problems, deciding solutions, planning and implementing, monitoring and evaluation. They should also be involved in decisions regarding measures to address problems and opportunities. Only then will it be possible to enhance sustainability of management activities. Participating in solving environmental matter problems is a costly and time consuming process. For that reason, the development of necessary knowledge, attitudes, skills and commitment is needed to motivate people to be proactive in environmental matters.

Key words: civil society, participation, environment matters, sustainable management

Carlie Wiener

Communicating Marine Sciences to Management and Community

Increasing advances in science have created a rising disconnection between management and scientific findings. As larger amounts of information are generated, a stronger focus is needed on better translating this information to ease communication lines between managers and scientists. This presentation will highlight the accomplishments of a successful programme based at the Hawai'i Institute of Marine Biology (HIMB), specifically with the Northwestern Hawaiian Islands Coral Reef Research Partnership. The Northwestern Hawaiian Islands serve as an excellent forum for marine science as they are some of the world's largest fully marine protected areas. Managing this area using an ecosystem-based approach takes a team comprising natural and social scientists, managers, educators and policy-makers. HIMB is distinctive in that its faculty has been conducting ecosystem-based research in the Monument for over five years. Unique and biologically important science is used to promote an understanding of complex ecological systems and topics such as biodiversity and climate change to management and communities within the Hawaiian Islands. Successfully amalgamating marine science concepts using interdisciplinary approaches, this programme has worked to develop a sense of place in the community, strengthening relationships between schools, neighbourhoods and society. The partnership serves as a microcosm of many case studies as it includes numerous complexities that would rarely be found

within a single partnership. This presentation will directly relate ecosystem-based management and science through evaluation of communications and interface between research programme activities.

Key words: marine science, ecosystem-based approach, biodiversity, climate change, Hawai'i Institute of Marine Biology

*Haluk Birsen,
Tuncay Dogeroglu,
Hicran Altuğ and Wim
Van Dorn*

Awareness of Eskisehir's Public Opinion Against Air Pollution

Experiences on efforts to reduce air pollution show that there is no single solution to the crisis. Pollutants and victims are a different subject altogether, which is why integrated and cooperative movements are necessary. This paper explores an interdisciplinary study of "Togetherness and Towards Clean Air in Eskisehir and Iskenderun" that worked on environment engineering, education, and communication dimensions. The Awareness of Eskisehir's public opinion against air pollution study is one of the sub-headlines in the communication dimension. While determining the awareness level of Eskisehir's public opinion against air pollution, 27 questions are applied to 400 people. Questions focus on their knowledge resources and attitudes. Results of similar surveys conducted in Iskenderun, Erzurum, Samsun and elsewhere are compared with the results of this study. According to the data about participants' knowledge, resources show that their personal relations are primary information resources about local environmental problems. The mass media are now accepted as information resources. Most of the participants indicated that noise and air pollution are the most significant environmental problems in Eskisehir. The survey data show that although citizens are aware of urban air pollution in the region, they behave incompatibly with this awareness level. Even if public awareness on the environmental subject is satisfactory, environmental protection awareness is not available as yet.

Key words: environmental awareness, air pollution, mass media, environmental protection

Hasan Bahanan

Promoting Multi-Stakeholders Participation in Clean Air Management: A Case Study in Surabaya

Surabaya is the second biggest city in Indonesia with 3.5 million people and an increasing number of motor vehicles (cars and motorcycles). Surabaya is now facing heavy traffic and air pollution problems. The source of urban air pollution can be deduced from many factors, such as economic development, urbanisation, human mobility, increasing demands of efficient, comfortable and individually owned vehicles, the absence of mass rapid transport (MRT), poor public awareness campaigns, etc. There must be an integrated and complete understanding on many factors and sources influencing the process of ambient air quality management; formulating common perceptions among all stakeholders on what, why, and how the process of gas emission occurs; health impact and the social and economic losses derived from polluted ambient air. The city, for several years, has initiated many studies and preventive steps to comply with air pollution including the establishment of a multi-stakeholders' forum. This multi-stakeholders' forum on clean air initiatives is expected to encourage participation of potential groups (local initiatives) in promoting ambient air management.

The activities of this forum are expected to: (1) Raise stakeholders' awareness and involvement in campaign activities; (2) Provide regular information on the impact of air pollution to human life; (3) Encourage citizens to use public transportation; (4) Promote vehicular gas emission tests; (5) Promote stakeholders to provide education and training courses on air quality; (6) Raise stakeholders' financial support to pay for public awareness campaigns; (7) Promote the use of environmental friendly fuels, unleaded gasoline and CNG.

Key words: Surabaya, air pollution, public awareness campaign, multi-stakeholders' forum

*Kamaliah Hj. Siarap,
Adnan Hussein,
Ramli Mohamed,
Rohani Hashim,
Mohamad Md. Yusoff,
Wong Chow Jeng and
Mariani Ali Amran*

Handling of Environmental Issues by NGOs: An Analysis of Strategies and Activities

This paper presents the findings of a research "Social Movement and Environment: The Roles and Communication strategy of Environmental Non-Government Organisations in Malaysia". The objective of this paper is to discuss activities conducted by environmental NGOs (ENGOS) in handling environmental issues and also to investigate their strategies to make environmental issues an agenda of various parties. The specific objective of this paper is to evaluate the roles, communication strategy and ENGO activities to create awareness of environmental issues in this country. The findings show that the ENGOS under MENGOS are divided into community-based organisations (CBOs) and non-government organisations (NGOs). Every single ENGO has its own way and methods in dealing with environmental issues. The programmes implemented are promoted by various media such as print, broadcast and the Internet. The ENGOS also produce their own media such as media releases, press conferences, brochures, pamphlets, talks and campaigns. They also engage the community in conducting environmental programmes like workshops, seminars, information sessions, educational activities in schools, institutes of higher learning and local communities. The Ministry of Natural Resources and Environment and MENGOS are under the opinion that the media play an important role as communication channels to promote the environmental agenda to the society, organisations and government bodies.

Keywords: environmental non-government organisations, environmental issues, media promotions, environmental programmes

Thursday 10 Dec
1145 – 1300
Jintan

Parallel Session B4

Media Content and the Environment

Jessada Salathong

Climate change coverage in Thailand's newspapers: The case study of Thairath, Matichon and Bangkok Post in 2007

Thailand, like many other developing countries, suffers from various environmental problems. To help overcome these problems, the media should be deployed to promote people's environmental awareness and knowledge. Although environmental issues can be seen in various media in Thailand and environmental journalism has been developed and becoming more recognised, environmental journalism in Thailand is still facing many challenges and problems. There are few studies dedicated to environmental journalism in Thai media. Since the academic basis of this field is not well established, it would be difficult to systematically develop environmental journalism which is one of the channels that can help raise environmental awareness in society. This study aims to provide a clearer picture of the formation of environmental journalism in Thailand, a holistic view of the current situation as well as suggestions on challenges and choices of environmental journalism in the country. Document research and interviews with related informants are conducted in this study to shed light on the status quo of environmental journalism in Thailand. Many environmental issues are discussed, including the climate change coverage in Thai media.

Key words: environmental problems, awareness, knowledge, Thai journalism

Azman Azwan Azmawati,
Mahyuddin Ahmad,
Mustafa Kamal Anuar and
Wang Lay Kim

Voices in the Malaysian Environmental Reporting: A Case Study of the Broga Incinerator Project

The news media coverage plays a crucial role in the immediate reaction to environmental issues, the shaping of policy and also the efforts to prevent future environmental disasters. Political, economic and commercial pressures impinge upon news production through the process of selection, treatment and portrayal of news. The news production process hence becomes a contesting site for ideological views and assaults. Sources then become a very crucial element in determining the framing of the news. This paper will be looking at the treatment and selection of the Broga Incinerator Project news in two selected Malaysian newspapers: The *New Straits Times* (NST) and *Utusan Malaysia* (UM) in order to investigate the voices in the reportage. This paper will map out the patterns and trends of the voices given to the sources with the purpose of examining the representation of "balanced" or "unbalanced" reporting on environmental degradation in Malaysia. The dynamics of the sources through their "given" voices will be able to demonstrate the nature of environmental reporting in Malaysia, taking the Broga Incinerator Project as the main case study.

Key words: media coverage, environmental disasters, Malaysian newspapers, environmental reporting

Mohamed Talhah Idrus

Words Matter

It is quite evident that Malaysians, especially Malays, are gradually being estranged from the environment partly as a result of changes in their language. Malay terminologies have undergone tremendous changes in the past decades. In the context of environmental communication, names of plants and animals, which were familiar to locals, are totally strange to the digital generation which has to deal with translated terminologies for objects which were once well communicated. Environmental terminologies of past generations are blocked from benefiting the present generation via drastic and sometimes ridiculous translations. This paper will discuss this disturbing phenomenon by highlighting some of the words that have gone out of vogue and those that have been directly translated. It proceeds to invite concerned individuals and parties to manage the environment by sustaining the purity of the Malay language.

Key words: Malay, terminologies, plants, animals, environmental communication

P. Govindaraju,
V. Ratnamala and
N. V. Prasad

The Nature of Coverage of Environmental Issues in the Online Editions of Leading Dailies from Tamil Nadu

Worldwide people are increasingly aware of and concerned about the environmental issues and its impact on the humanity. The mass media should play a proactive role in creating awareness and persuading the masses in favour of a greener and eco-friendly world. An attempt is made to study how responsible are our media in the coverage of environmental issues in India. For this purpose, two English dailies (online versions) published from Tamil Nadu namely *The Hindu* and the *New Indian Express* were identified based on their circulation and popularity in the State. Content Analysis was employed to study the extent of environmental news coverage given by these two newspapers addressing the following questions: What is the proportion of environment news in the two online versions of English newspapers? What are the content characteristics of environment news? What is the amount of space devoted to environmental news? How often government authorities and influential personalities support news? What is the average story depth (number of sources in each story, angle of coverage, tone of coverage and pictorial support)?

Keywords: Online journalism, responsible journalism, environmental reporting, Tamil Nadu, content analysis

Thursday 10 Dec
1145 – 1300
Lawang

Parallel Session C4

Environmental Health

Muthukumaran Kanasan

The Dilemma among Plantation Workers on the Use of Paraquat

Over the decades, plantation workers in Malaysia have contributed tremendously to the nation's economic sustainability. Additionally, they have made huge sacrifices to the nation from the socio-economic standpoint. Nevertheless, some of their plights and grievances have fallen on deaf ears especially those on the effects of paraquat. Paraquat was first introduced into the rubber plantations in 1961. Its use has since become widespread. Notably, the use of paraquat has been a subject of controversy for at least two decades, especially regarding the safety of farmers and agriculture workers in developing countries. This is because paraquat is a bipyridylium herbicide and classified as WHO Class II (Moderately Hazardous) for acute toxicity. Thus, paraquat has been banned by 13 countries but according to the manufacturers, it is still used in over 120 countries. In developing countries such as Malaysia, the plantation workers are still exposed to this hazardous pesticide; even worse, there exists the danger of suicidal cases due to easy access. The aim of this paper is to explore further the effect of using paraquat among oil palm plantation workers. The study will also determine the extent paraquat is widely used in the plantations. It then proceeds to explore the reasons paraquat is still being used despite its hazardous effects. The study will include the management's perception on this matter, i.e., the handling of paraquat, health, safety and working conditions of plantation workers. Finally, the paper explains the details of the findings and the possible outcomes to address the dilemma faced by plantation workers.

Key words: plantation workers, socio-economic, hazardous pesticides, paraquat Malaysia

Sholehah Ismail

Influence of the Environment and Climate Towards the Spread of the Dengue Epidemic in 2009: An Initial Finding

Transmission of dengue fever (DF) is constrained in space and time by environmental variables, land use changes, population distribution and climate. The spatial information on the course of diseases and mosquitoes breeding is very important to implement appropriate actions. Knowledge of new information offered by spatial analysis will increase the potential for public health action. The geographic information system (GIS) provides an effective tool and integrated processes within one framework for investigating the relationship between such variables and disease transmissions. The main objectives of this research are to describe the effective usage of the GIS to study the spatial distribution of the dengue epidemic of 2007-2009 in Kuala Lumpur. This study focuses on the spatial distribution area of the DF, defining the risk areas and analyses these risk areas and the dispersal area of the DF in the Federal Territory of Kuala Lumpur. The study methodologies include the mapping of the dispersal areas of DF patients compared to the density of population, using the GIS overlay of land use in Kuala Lumpur. Spatial analysis is performed to study the distribution.

Key words: dengue fever (DF), the geographic information system (GIS), the dengue epidemic

Using the Geographic Information System Approach to Identify Asthma Risk Factors at Klang Valley

A study is conducted to determine the clinical factors that affect the quality of life in asthmatic patients. Two cohorts of 100 asthmatic patients each will be selected from Kuala Lumpur and Selangor. Their medical history will be scrutinised so that a comparative profile can be made between the patients of the two areas. Groups of patients based on similarities between the two areas will be identified. A correlation will then be made for the different cohorts of patients between air quality and the asthma patients' degree of well-being. Similar tests will be carried on those in Kuala Lumpur to try and eliminate other factors such as an urban lifestyle, stress and the influence of weather. Based on these tests and other parameters, an estimate of a map of risk for the well-being of asthmatic patients will be developed using the geographic information system (GIS) for the Klang Valley for different monthly periods. A sample survey of asthmatic incidences will be undertaken to see the accuracy of the risk estimates. The GIS captures, stores, manages, analyses and displays data using specific geographical references. The technology offers the potential to understand the relationships among these factors. (i) GIS-based models to identify locations where people might be at higher risk for asthma, and (ii) develop a model based on the GIS to integrate highly localised geographic data with other health, demographic and environmental data to analyse local health issues in the Klang Valley.

Key words : environmental health, asthma, GIS and map of risk

H. Rahemtulla,

M. Haklay,

C. Ellul, L. Francis and

C. Whittaker

Interactive Community Mapping in London

In the United Kingdom, the areas of East London and the Thames Gateway are facing huge and accelerating changes. If local people and communities are to engage effectively with the processes of change, they need to know what is going on, to understand how proposed changes may affect them and to feel confident to play a positive role in those changes. Currently, these communities face change in their areas with limited means (institutions and knowledge) to assess and influence decision-making processes. Many people feel excluded and alienated from the changes that are going on, and if they do get involved, they report that discussions are too technical and time-consuming. This leads to a situation where some stakeholders are missing from project discussions. Mapping Change for Sustainable Communities (MCSC) is a collaborative initiative between an environmental NGO and UCL, using participatory mapping to create interactive web-based community maps with community groups across London. The initiative promotes mapping as a tool to empower local communities and raise their social capital by helping them monitor change in their areas, communicate various local issues and access vital planning information. The maps draw together a variety of information gathered by local people and highlight priorities identified by the community. This project builds on the wider literature on participatory GIS and advances the field by using new techniques. The maps are enhanced both by an area specific wiki and a mobile spatial messaging service known as EcoTEXT. The maps will become a valuable resource and should over time, improve service provision, resourcing and knowledge transfer, advocacy, as well as support communities to express their concerns and strengthen community participation in decision making.

Thursday 10 Dec
1415 – 1600
Jintan

Parallel Session SS1

Built Environment

Archana Sharma

Sustainable Design Practice: Staking a Claim

There has been no clear and strong reference to the role of design in ongoing discussions on sustainable development. Yet, the contemporary design world is abuzz with the word “sustainable”. This indicates that the design profession is taking responsibility for its role in supporting sustainable development. This paper presents a cohesive perspective on the current understanding pertaining to “sustainable design” as abstracted through a snapshot of multiple mediums of information sharing and knowledge dissemination. Conclusively, the paper makes an argument for the acknowledgement of the role of design practice in the realm of sustainable development and suggests communication strategy to stake that claim.

Key words: sustainable design, urban design, landscape, sustainable development, contemporary trends

Roya Shokoohi,
Noor Rosly Hanif and
Melasutra Md. Dali

Towards Sustainable Transportation in Tehran

Processes of rapid urbanisation in Tehran the capital city of Iran with a population of more than seven million people, did not see the necessity principles of urban sustainability within development. Moreover, lack of an accurate and unique urban management has caused many urban environmental problems such as traffic congestion, air pollution, noise pollution and overcrowding streets in this city. There is a worldwide concept to redevelop streets around local school zones to make it safe for children to walk. It is an attempt to encourage children to choose an active travel mode and use less private car transportation provided by their parents. Statistics show that more than 20% of daily commuters in Tehran are related to school travelling; so encouraging children to walk to school by developing safe routes can reduce the traffic and will lead to less air pollution. The first part of this paper introduces sustainable cities, then focuses on sustainable urban transportation. The second part talks about traffic congestion in Tehran, the results and reasons for this environmental problem, and existing strategies to solve it. The third part discusses the worldwide concept of building safe routes to school and the relation between developing this concept and improving environmental problems in Tehran. Finally, the paper concludes that developing safe routes to school through changing urban environments is necessary to obtain sustainable urban transportation. It may encourage children to walk to school, but it is not enough.

Key words: sustainable transportation, safe routes to school, improving environment, walk to school, Tehran

The Effects of Urban Environmental Factors to Prevent Vandalism in Tehran, Iran

Crime, fear of crime and anti social behavior are major concerns for societies today. With the increased incidence of crime rates, an increasing number of cities and population explosion, it is essential to prevent criminal activities and violence before they are committed. It is established that making changes to environmental conditions and operational practices can discourage crime. Light is one of the most important factors in built environment designing; undoubtedly it has psychological and physical effects on human beings and can be used to create a safe atmosphere. Explaining the nature of crimes will answer the question why street lighting has been suggested as a means of reducing them. This paper attempts to present a critical review of the effectiveness and cost benefit of street lighting interventions to reduce crimes and anti-social behaviour. Even though some studies and reviews show the positive effects of improved street lighting on crime rates, there is still a need to study the effects of improved street lighting on crimes based on the link between the existing light quality, lighting system technology, existing crime rates, population, time of experiments, type of changes, periods of experiment, culture and characteristics of the community.

Key words: sustainability, street lighting, crime, CPTED (Crime Prevention Through Environmental Design)

Thursday 10 Dec
1415 – 1600
Lawang

Parallel Session SS2

Engineering and the Environment

Siti Baizura Mahat

Treatment of Pharmaceutical Wastewater by Anaerobic Process

Pharmaceutical wastewater is a highly polluting wastewater that pollutes the environment if discharged directly owing to its high chemical oxygen demand (COD) and biochemical oxygen demand (BOD) concentration. The treatment of pharmaceutical wastewater to the desired effluent standards has always been difficult due to the wide variety of the products that are produced. Variable wastewater composition and fluctuations in pollutant concentrations cannot be treated by conventional treatment methods such as the aerobic process. On the other hand, the anaerobic process shows a promising alternative for the treatment of high organic content wastewater. Accordingly, this paper discusses the development of the Stage Anaerobic Reactor (SAR) system for the treatment of pharmaceutical wastewater. The reactor system is incorporated with stages to represent separate compartments similar to the Anaerobic Baffled Reactor (ABR) for better removal of organic pollutants. Stage reactors can provide high treatment efficiency and with phase separations (acidogenesis and methanogenesis stages), the SAR can be used to improve process performances. The various anaerobic treatments of pharmaceutical wastewater, factors that influence the operation of anaerobic treatments and the results from SAR system (e.g., COD and BOD removal efficiencies) are highlighted in this paper.

Key words: pharmaceutical wastewater, environmental pollution, anaerobic process and treatment

Bart W. Terwel,
Fieke Harinck,
Naomi Ellemers and
Dancker D. L. Daamen

Carbon Dioxide Capture and Storage (CCS) as a Solution to Climate Change: The role of Trust in CCS Stakeholders

Climate change is among the most important issues on the current political and scientific agenda. Scientists and other experts in the field almost unanimously recognise that climate change is caused by ever-increasing carbon dioxide (CO₂) concentrations in the atmosphere. Strategies to prevent climate change from happening should therefore focus on the reduction of CO₂ emissions. In addition to saving energy consumption and making more extensive use of sustainable energy sources, the implementation of CO₂ capture and storage (CCS) is currently and globally considered as an important third climate change mitigation strategy. It involves the capture of CO₂ that is released in major industrial processes (e.g., power plants) and its subsequent transport to and storage in geological formations (e.g., depleted gas fields). Whereas several technological and regulatory issues still need to be dealt with before CCS can be implemented, both the scientific community and policymakers are also aware that public acceptance will be crucial for successful implementation of CCS. The present work centers around the main hypothesis that public acceptance of CCS will depend on people's trust in CCS stakeholders (e.g., environmental

NGOs, industrial organisations, political decision makers). It consists of survey and experimental studies that examined (1) how communications by CCS stakeholders instigate public trust, (2) how trust affects public acceptance of CCS, and (3) how characteristics of the decision-making procedures that are used to arrive at CCS decisions raise or destroy trust in policymakers. As such, this work has important theoretical as well as practical value.

Key words: climate change, carbon dioxide concentrations, sustainable energy sources, CO2 capture and storage

Davood Eradatmand Asli

Effect of CO2 Enrichment on Non-Structural carbohydrates Contents in Wheat

Field-grown wheat (*Triticum aestivum* L. cv. PBW-343) is exposed to ambient and elevated CO₂ concentrations (1.5 and 2 times ambient) in open-top chambers. Contents of non-structural carbohydrates are analysed enzymatically in leaves, stems and ears four times during the growing season. The impact elevated CO₂ on wheat carbohydrates is non-significant in most harvests. However, differences in the carbohydrate contents due to elevated CO₂ have been found in all plant compartments. Before anthesis at the growth stage, the plants grown in elevated CO₂ contain significantly more water soluble carbohydrates (WSC), fructans, starch and total non-structural carbohydrates (TNC) in the leaves in comparison with the plants grown in ambient CO₂. It is hypothesised that the plants from the treatments with elevated CO₂ are sink-limited at the growth stage. After anthesis, the leaf WSC and TNC contents of the plants from elevated CO₂ start to decline earlier than those of the plants from ambient CO₂. This may indicate that the leaves of plants in the chambers with elevated CO₂ senesce earlier. Elevated CO₂ accelerated grain development, 2 weeks after anthesis, the plants grown in elevated CO₂ contain significantly more starch and significantly less fructans in the ears compared to the plants grown in ambient CO₂. Elevated CO₂ has no effect on ear starch and TNC contents at the final harvest. Increasing the CO₂ concentration from 360 to 520 $\mu\text{mol mol}^{-1}$ has a larger effect on wheat non-structural carbohydrates than the further increase from 520 to 680 $\mu\text{mol mol}^{-1}$. The results are discussed in relation to the effects of elevated CO₂ on yield and yield components.

Key words: CO2 enrichment, non-structural carbohydrates, WSC, wheat

Noor Rosyidah Sajuni

Efficiency of Nitrification of Freshwater Fish Aquaculture Wastewater Using Different Filter Media

Amidst the aquaculture industry intensively develops, its environmental impact increases. Besides, success in aquaculture requires the maintenance of good water quality and need for reliable treatment systems. However, maintaining the clarity of the water can become difficult. Various types of biological filters media are commonly used in aquaculture filters. Several factors are important in the function of biological filters. But the most important is to choose the correct types of filter media. Laboratory studies were conducted to evaluate the nitrification performance and to construct the optimum filter medium for mechanical and biological filtration

which gives the maximum toxicants removal of four different types of filter media which are Ceramic Ring A, Ceramic Ring B, Japanese Filter Mat and Filter Wool. The biological treatment unit was conducted with batch test of multiples biological attached media for 7 weeks in relation to ammonia removal and water quality. The filter media was tested at different ammonia loading rates of 20 until 120 mg/L. Results showed that Ceramic Ring A was efficient in removing toxic ammonia and in maintaining the quality parameters within the acceptable and safe limits for growth and survival. It was found that the ammonia removal efficiency is about 94.6% with the temperature fluctuate in a range of 27.0 to 32.0 C. The nitrite level in the effluent is remained 4 mg/L while the nitrate remained below acceptable value (90 mg/L). This treatment approach which enables the wastewater from fish tank is to be treated, recovered and reused. *Key words: aquaculture, pure culture, freshwater fish, wastewater, nitrogenous compound*

Thursday 10 Dec
1615 – 1800
Andaman

Parallel Session A5

Citizen Participation, Human Rights and the Environment

*Ronzi Mohd. Yusoff and
Hasrina Mustafa*

The Effects of forced compliance on the Level of Knowledge, Attitude and Practice in the “Say No to Plastic Bag” Campaign in Universiti Sains Malaysia

Communication campaigns normally utilise the Learning Model by Albert Bandura, which is based on the sequential process of creating awareness or knowledge, followed by transformation and modification of attitudes and practice. This model of behaviour change is also known as the KAP model. Despite the pervasive use of the model in various campaign planning, there are other campaigns that do not religiously follow such a sequential process especially campaigns that use coercive enforcement by the authorities in order to make people comply with certain behaviour. In other words, it begins with practice, followed by knowledge and attitude formation (the PKA model). The “Say No to Plastic Bags” campaign that has been strongly promoted by Universiti Sains Malaysia since August 2008 is also based on such a model. In the campaign, the university authorities enforce the prohibition of free use of plastic bags within the campus without giving sufficient knowledge regarding the dangers of plastic to the campus community, especially to the new students. Therefore, the purpose of this research is to investigate on the effectiveness of the “Say No to Plastic Bags” campaign in USM and the effects of coercive enforcement on the levels of knowledge, attitude (cognitive, affective and intended behaviour), practice (within/outside campus and short-term/long-term) among a sample of 300 first-year students. Overall, the impacts of the campaign are considered moderate based on the level of knowledge, attitude and practice of the students. However, it is discovered that the coercive enforcement by the authorities has caused inconsistent practice outside the campus with the possibility of discontinuation of practice in the long run.

Key words: communication campaign, learning model, knowledge, attitude and practice

*Hamidah Abd. Hamid ,
Hasrina Mustafa,
Jamilah Hj. Ahmad,
Juliana Abd. Wahab and
Suriati Saad*

Rural-Urban Differences in Environmental Knowledge, Attitudes and Practices

Studies in western countries have generally found rural residents to be less concerned about environmental issues and problems than their urban counterparts (Tremblay and Dunlap 1978; Van Liere and Dunlap 1980; Lowe and Pinhey 1982). Yet contrary findings were uncovered by studies done by Arcury & Christianson 1993, Williams Jr & Moore 1991 and Berenguer et al 2005. This paper discusses a study designed to examine and clarify the relationship between residence and environmental concerns which also incorporate knowledge, attitudes and practices in the Malaysian context. The findings indicated no significant difference in terms of knowledge between rural-urban respondents. Both groups scored moderate

level. However, rural respondents were found to have more positive attitudes towards the issues of environment compared to those in urban areas. Nevertheless, the positive attitudes by the rural respondents did not adequately translate into real practices, as results further showed significantly higher level of good environmental practices among the urban respondents.

Key words: Rural-urban differences, environmental knowledge, attitudes and practices.

*Yavuz Tuna and
Levent Özkocak*

The First Step to Communication with Environmentally Responsible Consumer: Measuring Environmental Consciousness of Turkish Consumers

In the communication process, it is very important to know the awareness level of a person in terms of the effectiveness of the communication. In recent years, with the global warming and environmental issues coming to the forefront, people are sensitive to green marketing and the other issues concerning the environment. The determination of the level of consciousness of people related to the environment will be helpful in directing the communication sources and establishing proper marketing communication strategies. The purpose of this paper is to discuss a study to explore the attitudes of Turkish consumers regarding both their current environmental consciousness and willingness to adopt environmentally friendly consumption behaviour. The study is based on an empirical investigation of consumer attitudes for a sample of students from Turkish universities. The study plans to investigate the level of concern of young Turkish consumers about various environmental issues and to determine whether their pro-environmental attitudes are sufficient to turn good intentions into actual buying actions. The study stresses the need to link consumers' good intentions to actual buying behaviour through a green marketing strategy, which focuses on the unique characteristics of green products and how they impact the environment, within the cultural context of the Turkish consumer. Over time and via healthy communication, this study hopes that these efforts can lead to a culture of green consumerism within a framework of environmental responsibility.

Key words: Turkish consumers, environmental consciousness, green marketing strategy

*Wong Chow Jeng,
Rohani Hashim,
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Adnan Hussein,
Kamaliah Hj. Siarap,
Mohamad Md. Yusoff and
Mariani Ali Amran*

The Role of NGOs for Natural Resources and Environmental Protection in Sabah

The state of Sabah is well known for its rich natural resources such as flora, fauna, forestry, fisheries, coral reefs, petroleum, gas and minerals. This has made Sabah attractive for economic development activities. With these economic development activities, many natural resources have been depleted and the environment has also encountered degradation. In the third Malaysia Plan (1976-1981) to the present Ninth Malaysia Plan (2006-2010), the Malaysia government outlined some guidelines to achieve a sound and sustainable development for protect natural resources from depletion and environments from degrading. However, the implement status is still not satisfactory, thus recent years have

seen a proliferation of non-governmental organisations (NGOs) in Sabah with a mission to help redress various depletions of natural resources and environmental problems. Campaigning groups have been key drivers of inter-governmental negotiations, ranging from the regulation of deforestation to a ban on the coal-fired power plant project at Lahad Datu and wildlife hunting. NGOs also conduct some environmental education and natural resources repletion programmes through ecotourism, tree planting campaigns, river environmental restoration campaigns and the like. All these activities are the efforts and reflect the role played by NGOs in Sabah to encourage nature appreciation and environmental protection. The ultimate aim is to protect the natural resources and environment in Sabah from depleting and degrading.

Key words: natural resources, environmental protection, non-governmental organisation (NGO), negotiations, environmental education

Liwayway Memije-Cruz

Environmental Advocacy Programs Catalyzed Through Cultural Communication And Art Education: (Art For The Environment)

Experts continuously improve ways to measure the state of our environment and things like population growth that affect it. But the information does not get out to most of us. We get regular reports on the weather and stock markets but we rarely hear news of world grain yields or species extinction. Most people know that we cannot continue in the future as we have in the past. We can see that our deserts are expanding, the forests are diminishing, and the agricultural land is becoming less fertile and leached of its trace minerals, while the population of the world is increasing. If we do not change our ways, nature will check us in its own way. We have to do our share in saving the earth. What we think will be. The power of the mind and the will to change things can prevent the big disasters. And big disasters can be avoided if people join together with possible thoughts and love. Who says we cannot save Mother Earth...? If we have the political will and discipline... Yes we can!

Key words: advocacy, cultural communication, arts, saving mother earth

Thursday 10 Dec
1615 – 1800
Jintan

Parallel Session SS3

Built Environment

Wan Mohd Arif Wan Sobri

The Influence of Anthropogenic Factors on Incidents of Flash Floods: A Hydrological Analysis Using the GIS in TTDI Jaya, Shah Alam

Rapid changes of land use in the Klang Valley will cause environmental problems. Later, they will pose a danger to mankind. Flash floods are environmental problems in highly developed areas such the Klang Valley. These phenomena can be associated with natural as well as anthropogenic factors which develop on river basins that are not well managed. Weak urban drainage systems contribute to drainage failures hence resulting in flash floods. As such, this research is carried out to identify and analyse the direct causes of flash floods that are associated with anthropogenic activities in Taman Tun Dr Ismail Jaya (TTDI Jaya). The study area in the Klang Valley river basin experiences frequent flash floods. The devastating incident in February 2006 contributed to damages of public properties and facilities, requiring a government allocation for mitigation. Land use changes over time influence changes in the natural system and the hydrographic characteristics which contribute to the flash floods in the study area. The hydrological analysis of the characteristics of urban drainage is integrated with the software of the Hydrological Engineering Centre-Hydrological Modelling System (HEC-geoHMS) and the GIS, namely, ArcGIS 9.3 (3D Analysis and Spatial Analyst) to show the changes before and after anthropogenic activities in the study area. Finally, from the modification of land use, a hydrographic model from 1990 to 2008 and a three-dimension basin map (3D model) will be produced in this study to view the changes of human activities. The model also analyses whether flash flood management has been developed effectively and sustainably for various land uses in Taman Tun Dr. Ismail Jaya (TTDI Jaya).

Key words: Taman Tun Dr. Ismail Jaya (TTDI Jaya), the geographical information system (GIS), the Hydrological Engineering Centre-Hydrological Modelling System (HEC-geoHMS)

Julaihi Wahid and
Bhakti Alamsyah

New Urbanism: A Comparative Analysis between the Traditional Village and the Housing Estate

Rapid urbanisation has been a critical issue in urban environments. The most immediate and critical urban environment problems faced by several cities, such as Jakarta and Surabaya, are drinking water, sanitation, traffic and industrial pollutions, land degradation and traffic congestions. These problems are not only faced by the Indonesian cities but the third world at large. New urbanism is thought to be an alternative approach in the development of new towns and to address the above issues. However, the traditional village which has been the habitat for the rural population is seldom discussed in relation to its impact on the planning and design of community developments. On the other hand, the traditional village has shown its sustainability of the community and the living environments of

the people. The daily activities and the lifestyle of the people seem to focus on the socio-cultural aspects of the link between the people and the environments. This paper also discusses the physical and social characteristics of the two settlements, i.e., the housing estate and the traditional village. The comparative analysis will be discussed further by using case studies. The issues on new urbanism will then be related to the other aspects of new developments in the future.

Key words: housing estate, traditional village, new urbanism.

Loganathan Krishnan

The Traditional Environment Versus the Modernised Environment

In contemporary times, the idea of an ideal environment is dictated by modern man. The modern man considers that an ideal environment is a modernised environment. Therefore, laws and policies have been drawn to legalise and operationalise the vision and mission of the government. To the modern man, this is a desired approach for national development to progress to become a developed nation. The modern man has used his own views and ideas as a yardstick, to draw up policies and laws. Nevertheless, the concern is whether the approach encompasses the views of the aboriginal community. This is because the aboriginal community lives in a traditional environment, closely associated to the natural environment. The natural environment is linked with herbs, plants, trees and animals. Nevertheless, this has been viewed as a laid back and outmoded lifestyle, unsuitable to contemporary times. Additionally, there have been gradual pressures on the aboriginal community to adopt to a modernised environment and its benefits. Thus, this study begins by scrutinising the concept of the traditional environment and the modernised environment. The study then examines the conflicts between the aboriginal community and the policy-makers as to what amounts to an ideal environment. Notably, laws and policies will be examined to determine how the laws and policies contribute to the ongoing conflicts. The study will then draw appropriate measures to overcome the conflicts. There has to be a transformation on this matter, otherwise modernised environment will not sustain the cultural environment of the aboriginal community which will eventually lead to loss of cultural rights.

Key words: modernised environment, traditional environment, development, aboriginal community, adapt, conflict

*Julaihi Wahid,
Bambang Karsono and
Abdul Hadi Harman Shah*

Dimension in the Public Space: The Case of Lapangan Gazibu

Space and society are integral parts in the study of urban design. The intangibility of space is difficult to conceive without a social dimension to provide its context and the relationship is best conceived as a continuous two-way process in which people and societies create and modify space, influenced by users in a multiplicity of ways through time. Social relations are constructed, constrained and mediated by space, whilst the shape of the built environment is influenced by the pattern of human activities and social life. Public space, such as streets, squares and parks, creates a form in tandem with the ebbs and flows of human exchange. Throughout history, communities have developed public space according to their needs, be it a market, a place for sacred celebrations or sites for local rituals. This paper focuses on Lapangan Gazibu, a favourite public place in Bandung that supports the needs of urban dwellers. The uniqueness of Lapangan Gazibu is spatio temporal fluidity where the usage of space changes throughout the week. Activities are planned through collective agreement that results in a festive atmosphere of the place. On Sunday mornings for example, the place turns into an informal market place. The paper also delves into the unique social movements and interactions of the Sunday market in Lapangan Gazibu. The research applies various techniques in gathering the data and presents findings in line with the various socio-spatial dimensions.

Key words: public space, spatio temporal fluidity, informal market, social interaction, Lapangan Gazibu, Bandung

**Wednesday 9 Dec
1000 – 1115
Jintan**

Keynote Address

Prof. Stephen P. Depoe

Time to Organise! Why We Need to Form a new Professional Association for Environmental Communication

Environmental communication, as a field of study, has existed for a couple of decades. Scholars from North America and around the world have published articles and books examining the symbolic and material dimensions of what humans have come to know as “the environment”. A journal has been started, conferences held and textbooks written. Yet, the impact of this scholarship on environmental policy making has been limited. Now is the time to move this scholarly activity forward by forming an international professional association to improve connections among environmental communication researchers and practitioners.

Prof. Stephen P. Depoe is a Professor of Communication and is currently serving as the Director of the Graduate Programme. He is the Founding Editor of *Environmental Communication: A Journal of Nature and Culture*. His research areas include environmental and risk communication, particularly the role of the public in environmental decision making and public communication. His recent work includes the co-edited volumes *Nuclear Legacies: Communication, Controversy, and the U.S. Nuclear Weapons Complex* (Lexington Press, 2007) and *Communication and Public Participation in Environmental Decision Making* (SUNY Press, 2004). Prof. Depoe teaches courses in Environmental Communication, Rhetorical Theory, Rhetoric of Social Movements, Rhetorical Research Method and Seminar in Public Address. He obtained his doctoral degree from Northwestern University in 1986, specialising in rhetoric and public communication.

Thursday 10 Dec
0845 – 0945
Andaman

*The State of the
Environment in Malaysia*

Plenary Session 1

In Malaysia, the state of environment reporting that describes conditions and trends across the country occurs at the national and state levels. One of the roles of the reporting is that it serves as a tool to increase public knowledge and awareness in order to empower the public in decision making. Besides the role of the government in promoting this effort, the non-governmental organisations (NGOs) and academicians are seen as the “other important players” who could contribute to the same goal. However, their different approaches in handling environmental issues might also lead to different perceptions toward the “real” state of the environment in Malaysia. Therefore, this plenary session aims to act as a platform for the three groups of experts to deliberate on the status of the environment and propose solutions to environmental problems.

Friday 11 Dec
0845 – 1030
Andaman

*Media Environmental
NGOs Interface:
Media Advocacy And
Source-Media Relations*

Plenary Session 2

The purpose of this panel session is to bring together two groups of professionals who define the significance and impact of environmental communication, not only in Malaysia but elsewhere as well. Journalists and other media practitioners are seen as a group of people who can spearhead and be the vanguard in protecting the environment. The environmental NGOs, on the other hand, are seen to be the advocates and conduit to this protection. Both have to develop relationships in their need to promote and publicise environmental awareness as well as to change the behaviour of the people for environmental protection. Both have to work together in order to gain the attention of the decision makers, politicians and so forth and make them do something about it.

By bringing these groups together, we hope to deliberate on several critical issues pertaining to media advocacy and media-source relations with regard to communication and the environment in general and environmental journalism in particular. Some pertinent questions which will be addressed by the panel include:

- Influence and impact of the media and NGOs in the protection of the environment;
- Status and standard of environmental journalism in Malaysia;
- Quality and competency of media and NGOs to be the environmental “definers”;
- Over- and imbalanced access to the media and the NGOs; and
- Sufficiency and adequacy of human and physical resources allocated for environmental reporting in Malaysia.

The ultimate aim of this session is to undertake a substantive review of the relationships between the media and the environmental organisations, what connects them together and how better synergy can be established to ensure their relevance and the future of the Malaysian environment.

CONFERENCE WORKSHOPS

Thursday 10 Dec
0845 – 0945
Andaman

*Nature as Backdrop,
Product and Process:
Understanding
Environmental Appeals in
Product Advertising*

Special Workshop Session

The use of “nature” in product advertising is growing each year. In words and images, advertisers are presenting potential customers with environmentally-related claims in order to assist product sales and enhance the corporate image. How do these claims work? This workshop will explore this growing global phenomenon with an eye toward helping classroom instructors to present and discuss the subject with their students.

Friday 11 Dec
1045 – 1230
Jintan

The Ecological Cycle

Conference Workshop 1

The primary goal of this workshop is to discuss basic ecological aspects in a holistic manner. Another goal includes helping participants to analyse and critically evaluate the origins and consequences of the environmental problems and how an emerging ecological worldview can bridge the divide between human (cultural) and non-human (natural) dimensions.

The workshop will be presented in the form of a short lecture and discussion. Workshop resources will be provided and participants will be divided into a few groups to discuss the types of ecological cycles before presenting their views and suggestions to the group.

Friday 11 Dec
1045 – 1230
Lawang

*Best Practices in
Educating the Public on
Environmental Issues*

Conference Workshop 2

The workshop will be divided into three sections as follows:

- (i) Environmental communication with children;
- (ii) Environmental communication with grass root communities, and;
- (iii) Training sessions: passing the environmental message through enjoyable and entertaining environmental activities.

The objectives are to provide a platform to share the MNS experience in environmental communication with the distinguished participants and to train them to conduct environmental education activities as environmental communication tools.

OTHER CONFERENCE ACTIVITIES

Wed – Fri

9 - 11 Dec

Throughout
conference sessions
Andaman Ballroom Lobby

Environmental Film Screening

In conjunction with the conference, films related and relevant to the environment will be screened throughout the conference hour throughout its duration. The screening will cover artistic works that focus on environmental and social issues in the form of documentary, experimental and short films made by local and foreign filmmakers. The films provide diverse perspectives on global environments and address fundamental environmental issues such as pollution, solid waste management, electronic waste, the conflict between human and nature, hillside disaster and the extinction of marine life. These interesting films are geared at motivating greater awareness of our planet. These films invite viewers to consider our precious and magnificent natural treasures and the implications for human survival of our abusive exploitation of resources.

Presented in cooperation with the EcoKnights (a non-profit environmental organisation in Kuala Lumpur) and the School of Communication, Universiti Sains Malaysia, the screening will take place at the Andaman Ballroom lobby. There are no reservations or tickets for this free screening and seating is on a first-come, first-served basis.

Wed – Fri

9 - 11 Dec

Throughout
conference session
Andaman Ballroom Lobby

Conference Exhibition

In conjunction with the conference, several exhibition booths have been set up to enable the display and sales of reading materials and products relevant to the environment. The incorporation of environmental information with products based on the environment should raise awareness about the correlation between humans and nature. A relationship of understanding and dependency between the two will thus be formed and sustained.

Friday, 11 Dec

Tour time:
1430 – 1830
RM95.00/person

Conference Tour: Visit on Sustainable Initiatives at Kampung Perlis

Kampung Perlis or Perlis village is a small Malay village located at Balik Pulau, that is about 25-min drive from Universiti Sains Malaysia (USM). The tour will visit a few sustainable initiatives manage by the 'orang kampung' or villagers such as the Going Bananas project, the herb farm, home for disabled and traditional nutmeg enterprise. The Going Bananas project is initiated by USM to help local villagers recycle their banana waste and add value to their banana crops - produced innovative banana flour and produced banana paper from the banana tree fiber. This tour is for participating delegates and accompanying persons attending the conference.

Thursday, 10 Dec

Activities time:
0900 – 1200
RM60.00/person

Spouse Activities

This tour is for delegates' spouses. Discover the wonders of old Georgetown through the Discovery Walking tours of the Penang Heritage Trust. Delegates will discover the mystery and beauty of this quaint old city. At the end of the tour, the group will be brought around downtown Penang for sight-seeing and shopping.

ORGANISERS AND SPONSORS



Universiti Sains Malaysia

Universiti Sains Malaysia (USM) was established in 1969 and now enjoys wide recognition as a leading institution of higher learning in the region. It has almost 30,000 undergraduate and postgraduate students (including almost 1,000 foreign students coming from 52 countries) spread over 25 schools of study. Since 2004, USM has adopted the concept of University in a Garden as its vision in its development. The concept promotes the preservation of the environment as integral to the development of the intellect. This is in line with Kampus Sejahtera (Healthy Campus Programme) another unique USM innovation, initiated in 2001, which encompasses ideas for sustainable development.

In 2005, USM was accorded as ASEAN's only Regional Centre of Expertise (RCE) on Education for Sustainable Development by the United Nations University, signaling that the university is set to reinvent itself as a valued global institution. Two years later, the University was anointed as one of four research universities by the government through a rigorous evaluation process elevating its status to the top of more than 100 public and private universities and colleges in Malaysia. In the same year too, USM was rated as the only 'excellent' (or 5-star) university in the Academic Reputation Survey conducted by the Malaysian Qualification Agency (MQA). Further, in 2008, USM was conferred an APEX university status by the government of Malaysia, i.e. an institution of higher learning to be accelerated for excellence and to be nurtured for world-class standing. This submission is most timely as USM looks forward to its impending 40th anniversary in 2009 as an autonomous university given its wide-ranging accomplishment since its establishment.

School of Communication

Communication programme was introduced in 1971 and it is a pioneer communication programme in Malaysia. It emphasizes on a philosophy of education which is geared towards meeting the needs of the communication industry in the country.

The School of Communication, established in 1995, offers three areas of specialisations at Bachelor level i.e. Film & Broadcasting, Journalism and Persuasive Communication. Apart from Bachelor programmes, the school offers a range of postgraduate studies that further augment the need of the industry. The Master of Arts (Communication) is a broad-based programme aimed at meeting the needs of a wide range of candidates. The programme is offered via two modes: mixed mode (coursework plus dissertation) and research mode. The Master of Communication in Screen Studies (by Coursework) is designed for students who wish to develop theoretical knowledge and production skills in film & video in the context of new media technology. The Master of Communication Science and Environmental Journalism (by Coursework) is to prepare students for a professional career as science and environmental writers, reporters and editors in the media industry, research institutions and environment related organisations. In this regard, the School of Communication, USM is the only institution of higher learning in Malaysia, and in the region to offer a study programme in this field.



Ministry of Natural Resources And Environment

Ministry of Natural Resources & Environment (NRE) was established as result of an announcement of new cabinet in March 27, 2004. The creation of this ministry integrates the responsibility once held by several other ministries such as land and co-operative development, science technology and environment; primary industries and agriculture. NRE's major areas of responsibility are Natural resources management (forest management, irrigation and drainage management, wildlife management, and minerals management), Conservation and management of environment and shelters (Environmental conservation and Marine park management) and Management of land survey and mapping administration (Land management and administration, Land surveying and Mapping processing).



Sapura Holding Sdn. Bhd.

For over three decades, the Sapura Group has taken the lead in the acquisition and development of strategic technologies. Established in 1975, the Sapura Group is a 100% Malaysian-owned technology-based organisation. From a humble beginning as a telecommunications infrastructure and service provider, the Group has expanded and diversified its businesses across four major business areas, namely: secured communications, oil & gas, industrial & automotive, knowledge & education and premium automotive retail. Our listed entities are SapuraCrest Petroleum Bhd, Sapura Industrial Berhad, Sapura Resources Berhad.

Over the years, Sapura's business is backed by a fundamental belief in integrating people with technology. Sapura's persistent efforts in capability-building of home-grown talents and aggressive investment in R&D have positioned the group to be globally competitive, producing highly-specialised and multi-skilled pool of technology experts. The Sapura Group today has capabilities and competencies that cover the full lifecycle of systems and products.

The globalisation effort of Sapura has taken us to countries such as Australia, Singapore, Brunei, Thailand, Sri Lanka, Philippines, Pakistan and China.



Tourism Development Corporation of Malaysia

Tourism Development Corporation of Malaysia (TDC) was established on 10 August 1972 as an agency under the former Ministry of Trade and Industry by an Act of Parliament. With the inception of the Ministry of Culture, Arts and Tourism on 20 May 1987, TDC was moved to this new ministry; and became the Malaysia Tourism Promotion Board (MTPB) through the Malaysia Tourism Promotion Board Act 1992. Popularly known as Tourism Malaysia, its full focus is on promoting Malaysia domestically and internationally.

Tourism Malaysia's objective is to promote Malaysia as an outstanding tourist destination. It aims to showcase Malaysia's unique wonders, attractions and cultures; develop domestic tourism and enhance Malaysia's share of the market for meetings, incentives, conventions and exhibitions (MICE). The ultimate goal is to increase the number of foreign tourists to Malaysia, extend the average length of their stay and so increase Malaysia's tourism revenue.



CIMB Bank Berhad

CIMB Bank is the commercial banking arm of CIMB Group offering retail banking services to over 5.3 million customers on a dual banking platform in 367 branches nationwide.

CIMB Group is Malaysia's second largest financial services provider and one of Southeast Asia's leading universal banking groups. It offers consumer banking, investment banking, Islamic banking, asset management and insurance products and services. Headquartered in Kuala Lumpur, its key regional offices are located in Singapore, Indonesia and Thailand.

CIMB Group operates its business through three main brand entities, CIMB Bank, CIMB Investment Bank and CIMB Islamic. CIMB Group is also the majority shareholder of Bank CIMB Niaga in Indonesia, and the single largest shareholder of CIMB Thai in Thailand.

CIMB Group is listed on Bursa Malaysia via CIMB Group Holdings Berhad (formerly known as Bumiputra-Commerce Holdings Bhd). It has a market capitalisation of approximately RM36.6 billion as at 1 September 2009. The Group has over 36,000 employees located in 11 countries.



The Forest Research Institute of Malaysia (FRIM)

FRIM is a statutory agency of the Government of Malaysia, under the Ministry of Natural Resources and Environment. FRIM promotes sustainable management and optimal use of forest resources in Malaysia by generating knowledge and technology through research, development and application in tropical forestry. FRIM is located in Kepong, near Kuala Lumpur.

The objective of FRIM are to generate scientific knowledge for the understanding, management, conservation and use of forest resources, study biodiversity to produce useful products through intensive R&D and develop related technology to fulfil the needs of the forestry industry. A crucial public service of FRIM is to raise public awareness regarding the importance of the environment and the conservation of forest biodiversity



Yayasan Nurul Yaqeen

Yayasan Nurul Yaqeen is a non-governmental welfare-based institution which is aimed at supporting the effort of the government to raise excellent Malaysian citizens through the organisation of continuous social capital development, education and training since the past 16 years.



Penang Development Corporation

The Penang Development Corporation (PDC) was established under the Penang Development Corporation Enactment 1971. Some of its objectives are to (i) spearhead Penang's socio-economic development, (ii) assist in eradicating poverty and creating employment opportunities

In Penang, and improve the quality of life for the people of Penang. To realise the above objectives, the PDC, a self-funding semi-government body, concentrates on the development of the following sectors: land, industrial park, new townships, housing, urban renewal, land acquisition and reclamation and tourism product.

Since its establishment, PDC has invested in the following areas on behalf of the State of Penang: education, hotel and recreation, health, property, construction, aquaculture and agroculture, events and property management and telecommunication.



Malaysian Nature society

The Malaysian Nature Society is a non-profit organisation and has been contributing towards the protection of Malaysia's natural heritage since 1940. Being a membership-based organisation, we have been the reason behind the protection of many key habitats as well as national and state parks in Malaysia.

MNS works in a 4-prong approach towards habitat conservation. In the area of Conservation, MNS has been proactive in the effort of conserving important habitats through policy and advocacy, research and data collection in consultation with the federal and state governments. In the area of Environmental Education, the activities are revolved around the need to raise public awareness, with an emphasis amongst school children through project involvement and hands-on experience. MNS Publications include primarily a popular quarterly periodical, the *Malaysian Naturalist* (MN), and a scientific periodical, *Malayan Nature Journal* (MNJ).



World Wildlife Fund (WWF) of Malaysia

WWF-Malaysia is a national conservation trust that currently runs more than 75 projects covering a diverse range of environmental protection and nature conservation work in Malaysia.

Since 1972, WWF-Malaysia has worked on important conservation projects, from saving endangered species such as tigers and turtles, to protecting our highland forests, rivers and seas. WWF-Malaysia is able to leverage upon conservation expertise worldwide as part of WWF, the global conservation organisation. Established as a national conservation trust on 13 January 1972, WWF-Malaysia began as a humble two person-organisation. Today, we have more than 100 people working for us – from Langkawi to Sabah. Also known as Tabung Alam Malaysia, we are governed by a Board of Trustees.

WWF-Malaysia's early work focused on scientific research of wildlife and important natural habitats. This later expanded to the management of protected areas. Today, our work covers the broader issues of the natural environment, incorporating such aspects as policy work, environmental education, public awareness and campaigns.



Sahabat Alam Malaysia (Friends of The Earth)

Sahabat Alam Malaysia (SAM) is a grassroots, community-focused non-governmental organisation championing environment and development issues. Its activities include educating the general public on the need for ecologically sound development; assisting communities which have been adversely affected by so-called development; and advocating for a development model that is ecologically sustainable, socially just and fulfils the human needs of the majority. SAM operates from its HQ in Penang, and from its Borneo Office in Marudi, Sarawak, and works together with communities throughout Peninsula Malaysia. Founded in 1977, SAM' work has been recognised with the award of the Global Honour Roll in 1978, the Alternative Nobel Prize in 1988 and the Goldman Award in 1991.

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SOCIAL DIMENSION OF PUBLIC SPACE

The Case of Gasibu Square – Bandung, Indonesia

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Abstract. Space and society are integral parts in the study of urban design. The intangibles of space are difficult to conceive without a social dimension to provide its context and the relationship is best conceived as a continuous two-way process in which people and societies create and modify space, influenced by users in a multiplicity of ways through time. Social relations are constituted, constrained, and mediated by space, whilst the shape of the built environment is influenced by the pattern of human activities and social life. Public space such as streets, squares and parks create a form in tandem with the ebbs and flows of human exchange. Throughout history communities have developed public space according to their needs, be it a market, a place for sacred celebrations or sites for local rituals. This paper focuses on Gasibu Square, a favorite public place in Bandung that supports the needs of urban-dwellers. The uniqueness of Gasibu Square is *spatio temporal fluidity* where the usage of space changes throughout the week. Informal activities are occurring spontaneously through collective agreement that result in a festive atmosphere of the place. On Sunday mornings for example, the place turns into an informal market place. The paper also delves into the unique social movements and interactions of the Sunday market in Gasibu Square, Bandung. The research applied various techniques in gathering the data and presenting findings in line with the various socio-spatial dimensions.

Keywords: *public space, spontaneous space, informal market, social relationship, Gasibu Square.*

1. INTRODUCTION

It is difficult to conceive 'space' without social content or to conceive society without its spatial components. An understanding of the relationship between people and their space are essential in urban design. The idea that architectural or public space has a determining factor on the human behavior negates the role of human agency, assuming that "space-people" interaction is a one-way process. However people are not merely responsive, they manipulate and transform space and vice versa (Carmona et. al, 2003:106). The relationship is best conceived as a continuous two way process in which people and society create and modifies spaces, influencing them in various ways. In fact, physical factors are neither the determinants nor the dominant behavioral factor, rather these are environmental opportunities that structure what people can and cannot do. Dear and Wolch (1989) argue that social relations can be categorized as to be *constituted through space* (e.g. where the site characteristics may influence the settlement form); *constrained by space* (e.g. where the physical environment help to facilitate or obstruct human activities); and *mediated by space*

(e.g. where the 'friction of distance' may facilitate or inhibit the development of various social practices).

Throughout history, public spaces emerged out of many different forces. The consequences of societal encroachment, a result of their interferences and transformation of spaces, are paramount in urban areas. Some were products of a heterogeneous society with various needs, interests and aesthetics appreciation. Others were by-products of the desire for careful planning in whatever priorities guiding their form and functions. Nevertheless, there are other elements that occur on-site without any formal planning procedure. Carr (1992) defined public spaces as open, publicly accessible areas where people go for group or individual activities. While public spaces can take many forms and may assume various names such as plazas, malls, and playgrounds, they all share common ingredients. Public spaces also enable people to connect with others, to affiliate in some ways with other people.

Gehl (1996) argues that through design and within certain limits, either regional, climatic, or societal factors – it is possible to influence how many people use public spaces, how long an individual activity will last and what type of activities can be developed. Modestly, outdoor activities in public spaces can be divided into three categories: namely, i) *necessary activities*, ii) *optional activities* and iii) *social activities*. Necessary activities are more or less compulsory while optional activities are undertaken voluntarily. This will depend on time and place, weather and setting that suit them. On the other hand, social activities depend on the presence of others in public spaces, they occur spontaneously as a direct consequence of people moving about and being in the same place at the same time.

Frequently evoked in discussions of urban design are the 'public realm' - and the related concept of 'public life' which requires further considerations. The public realm has 'physical' (space) and 'social' (activity) dimensions. The physical public realm is understood to refer to the spaces and setting (publicly or privately owned) that support or facilitate public life and social interactions. The activities and events occurring in those spaces and settings can be termed as the socio-cultural public realm. In broader terms, the public realm includes all the spaces accessible to and used by the public that either include: i) *external public spaces*, which is only a piece of land that lies between private land, or public squares in urban areas, or a street highways. ii) *internal public spaces*, that include public institutions such as libraries, museums, town halls, and iii) *external and internal quasi public space*, although legally private, such as university campuses, sports ground, restaurant, are part of the public realm, as the owners and operators of all these space retain their rights to regulate access and behavior in these spaces. (Carmona et. al, 2003:111).

Public life can also be broadly extended into two interrelated activities, i.e. 'formal' and 'informal'. The most significant in urban design is informal public life, which occurs beyond the realm of formal institutions and entails choice. Oldenburg (1999) argues that, while seemingly 'amorphous and scattered', informal public life is actually highly focused, emerging in 'core settings'. He referred to such setting as the 'third place' which signifies the 'great variety of public places that host the regular, voluntary, informal, and happily anticipated gatherings of individuals beyond the realms of home and work' (Oldenburg, 1999:16). The case of Gasibu Square can be a good example of these contentions.

2. CASE STUDY: Gasibu Square

Gasibu Square is one of the public spaces in Bandung which has a high frequency of diverse activities. 'Gasibu' is an acronym of '*Gabungan Sepakbola Indonesia Bandung Utara*' (Federation of Indonesian Soccer in Northern Bandung) since the opening of this space it became a training ground for several soccer clubs in northern Bandung. Since then, the name lives on until recently when it is also known as a '*shocked market*' which take

place every Sunday morning. This urban space, measured 200 meters long and 100 meters wide, is located at the north end of the Sate building complex, well known and functioning as the East Java Province of Parliamentary office (*DPRD – Jawa Barat*). During earlier days it was known as *Wilhelmina Plein* and in 1950s the name was changed to Diponegoro Square. In 1960s this area was turned into slum housing. Since 1980s Gasibu Square is a favorite place for urbanites to exercise and carry out sport activities especially in the late evenings and week-ends. The '*shocked market*' which occur every Sunday morning is commonly known as '*Sunday Market*' by urban dwellers. In the beginning the Sunday Market emerged through a gathering of informal 'foods and drinks' vendors who cater for the sports enthusiasts. There are no clear historical records when the market was started although this is the biggest Sunday Market in Indonesia which serve a variety of local delicacies and goods, frequented by thousands of people.

2.1. BASIC DESIGN OF GASIBU SQUARE

The existence of Gasibu Square and its surroundings cannot be detached from the history and planning of the Sate's building complex which was located at the southern side of the Gasibu Square. Both are interrelated and designed by a well-known Dutch architect team, under the leadership of Genie V.L. Slors during the Dutch occupation of Indonesia. It was said that Hendrick Petrus Berlage, was the mastermind in the design process with his idea to accommodate traditional Indonesian values. The buildings were arranged face to face, with a park stretched along the center which acts as an imaginary axis to Tangkubanparahu Mountain (Figure 1). This layout concurs to the traditional style in Nusantara design elements with a respect to nature. The development of this complex was part of an effort to relocate the Dutch government centre from Batavia (Jakarta) to Bandung.

Figure 1, shows the early location of Sate's Building – Gasibu Square complex was designed to present a formal urban space which emerged as a representation of government authority. Nevertheless, the dream to realize a well developed Dutch Official Government Complex was shattered when the Japanese invaded Asia in the 1930s. The Japanese expansion compelled the Dutch to concentrate on financial planning for military needs.

Since 1980s, the Sate's Building and Gasibu Square emerged as one of the landmarks of Bandung. In 1985 the MPRJB Boulevard (*Monumen Perjuangan Rakyat Jawa Barat*), the Monument dedicated to the struggle of the people of East Java, was constructed and located at the northern end of the Gasibu Square parallel to the imaginary axis to Tangkubanparahu Mountain. Until 1995, when MPRJB Boulevard was officially opened, the variety of activities at Gasibu Square started to flourish. The activities which generally took place at that time were sports and other communal activities such as the national day parade, public exhibitions organized by the local government that sometimes reached to 4 times a year, and also *Sholat Hari Raya Idul Fitri* and *Idul Adha*.

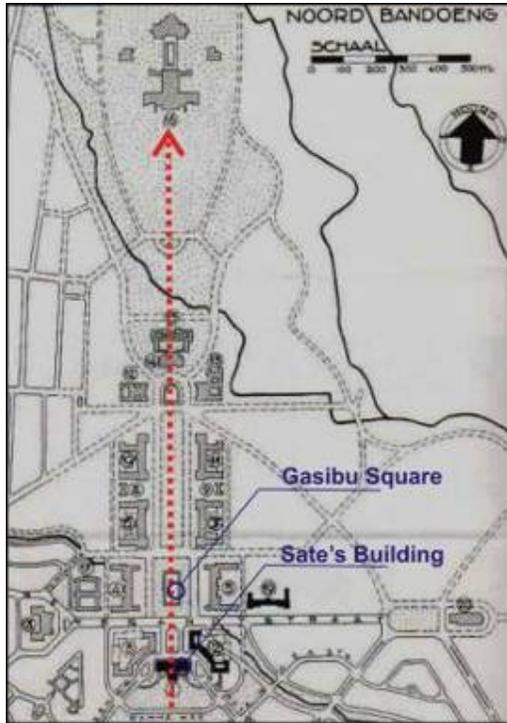


Figure 1. Actual location of the Sate's Building – Gasibu Square complex. (Source: Voskuil, 1996)



Figure 2. Sate's Building – Gasibu Square as it is now. (Source: www.googlearth.com, 2003)

3. ACTIVITIES IN GENERAL

Today, Gasibu Square plays an important role in the city of Bandung. This open space is flexible to suit the various activities and also function as *alun-alun* (central open-space) similar to that of any other traditional cities in Indonesia. The openness of the square makes it accessible through several streets which are linked to other districts of Bandung. The huge and linear shape of the Gasibu Square together with MPRJB Boulevard are very effective in supporting and strengthening the functions of the square as a place for various urban activities. Generally, various activities in Gasibu Square can be clustered into three categories, i.e. socio-economic, socio-politic and socio-cultural. Table 1 shows the timeline of the activities while table 2 shows the actors and two interrelated types of activities, i.e. 'formal' or 'informal'.

Social-Economic Activities

The main function of Gasibu Square as sport facilities was the main reason for the early food and drinks hawker operators to come with their moveable-carts. In the beginning, the hawkers sold their items during the sport activities either in the mornings or in the afternoons. The presence of several private and government offices around Gasibu Square, also trigger increased demand for the hawkers who serve a variety of goods as well foods and drinks. Some hawkers extend their selling-hours until late evening. As a result some hawker groups scatter around the square and finally enclosing it.

The Sunday Market, which takes place every Sunday morning, is a unique activity in this open space and becomes a favorite event not only for the hawkers and street-vendors but also the urban dwellers. During the month of Ramadhan the number of sellers increase tremendously with a variety of stuffs, such as *moko* [(*mobil-toko*) - literally known as cars shop).

Table 1: Timelines of the activities

ACTIVITIES	LOCATION 	Daily	Weekly	Yearly	Temporary
Sports		Morning and afternoon, except formal/official activity	Sunday morning, except formal/official activity		
Hawker Food & Drink Seller		Morning until afternoon, except formal/official activity	Sunday morning, except formal/official activity		
Sunday Market			Sunday Morning, except formal/official activity		
Ramadhan Market				During <i>Ramadhan</i> in the afternoon, after <i>Ashar</i> untill before <i>Isya'</i>	
Military Parade				Military's day – 5 th October.	
Independence day's and Several Nationals Parade				Every 17 th August	
Exhibitions					According to each event

Political demonstration					According to each political situation
Political Campaign					National & State election
Music concert & cultural attraction					According to each event by entertainment production
<i>Sholat Idul Fitri & Idul Adha</i>				Every Syawal and Dzulhijjah	
<i>Takbir Akbar</i>				Every Syawal and Dzulhijjah	

Socio-Politic Activities

Gasibu Square eventually became a formal ceremonial and parade ground for national day activities, such as the anniversary of Bandung on Fire (in March), Education day (in May), National Resurgence day (in May), National Independence day (in August), Bandung national day (in September), Military Anniversary day (October) and etc. During the 'formal government' official activities in the square, all informal activities that take place daily give way to the event, without being forced, the vendors move their activities to several places around the square and around the corner of the road junctions.

The Gasibu Square is also often used as a place for several political demonstrations because of its location close to the State's building (one way to attract the government attention) which functions as offices for government departments of East Java Province's Parliament (DPRD). Various issues related to social relations, economy, politics and religion become the reason for the public to execute demonstrations in the area. When the demonstrations are held, several streets around the square will be closed temporarily. The square will then be packed with people and a new activity takes place.

Social-Cultural Activities

Starting from the year 2000 onwards, Gasibu Square became a contributor to the business sector especially in the music-entertainment enterprise. Almost every Saturday night when

there is no formal activity, the square will be alive with various music groups sponsored by various private entertainment companies. *Dang-dut* music festivities organized by the private TV stations together with various exhibition events extend from Sunday morning till afternoon and blends harmoniously with the Sunday Market. Other several festivals usually take place on the main road around the square or inside the Sate's building complex. Distinguished and popular festivals include *Kemilau Nusantara* - 2005, and Flower Parade 2004 and 2006. Apart from these events, religious activities such as *Sholat Hari Raya Idul Fitri* and *Idul Adha*, *Tabliq Akbar* and *Takbir Akbar* also utilized the large open space of Gasibu Square.

Table 2: The actor and two way inter-related activities at Gasibu Square

ACTIVITIES	ACTOR	Formal	Informal
Sports	Public		●
Hawker Food & Drink Seller	Public		●
Sunday Market	Public		●
Ramadhan Market	Public		●
Military Parade	Military/Army. Public can watch from certain boundaries	●	
Independence day's & Several National days Parade	Military, government staff. Public can watch from certain boundaries	●	
Exhibitions	Entertain production and open to public	●	
Political demonstration	Public		●
Political Campaign	Certain political party and its members	●	
Music concert & cultural attraction	Entertain production and open to public		●
<i>Sholat Idul Fitri & Idul Adha</i>	Public	●	
<i>Takbir Akbar</i>	Public	●	

4. SUNDAY MARKET

The atmosphere of Gasibu Square changes significantly on Sunday mornings. This large public open space still survives in Bandung and became the center of festivities for urban dwellers. For the Bandung city dwellers the presence of hundreds of hawkers and mobile-street vendors on every Sunday morning in Gasibu Square is a routine phenomena and tolerated. This people's market has been established informally for years and attracted thousands of people daily. However, there are still dozens of visitors whose intention is to do aerobics and jogging. Nevertheless, there are others who purposely have breakfasts at the place or simply go for leisurely walks. According to the study's survey, the majority of the visitors are shoppers at the 'shocked market'. The main to visit this area is to have good bargain stuffs or the specialty of the item that couldn't be found elsewhere. Nowadays, the hawkers and mobile-street vendors do not only concentrated in Gasibu Square, but also spread out to the MPRJB Boulevard.

The urban dwellers that frequent this market come from all walks of life. The survey showed a continuum of age groups ranging from children to senior citizens. The popularity of the market made it a tourist spot and a must visit area of Bandung. The visitors from Jakarta and nearby town became the major contributors to the local economy partially because of the market.

Judging from the transportation in this area, a wide range of transportation modes were used ranging from private car, private motor-cycle, and public transport. Those who came by cars or motorcycles usually park their vehicle at the periphery of the square and walk to the Sunday market. The most prominent are the one from the western side, two alleys from the eastern side and another one road from the northern side of the square. These areas are also exploited for 'illegal parking lots'. These parking lots were run by jobless locals. For those who come via public transport, there are five routes of public transportations (*angkot*) that can be chosen to stop at the Gasibu Square. Nevertheless, the *angkot* drivers will try to avoid the place due to traffic congestion. The *angkot* drivers will usually take an alternative route in order to avoid the congestion where the visitors will usually alight at the nearest junction opposite the square.

In order to organize and prepare for the activities, the hawkers and street-vendors start to set up their equipments as early as 4.00 am. From our observation the vendors use various techniques to display their items. It was noted that six creative ways were used by the hawkers and street-vendors that include hanging the items, covering it with knock-down tents, spread-out on the road, on the table and bench, *moko* (*mobil-toko*; car boots) and moveable-cart (figure 3). All of these methods have the same constructive principles i.e. moveable, easy to install as well as easy to remove, and applied to temporary structures.

Figure 3: Creative methods to display the items on Sunday market
 (Source: Karsono & Tribinuka, 2003)

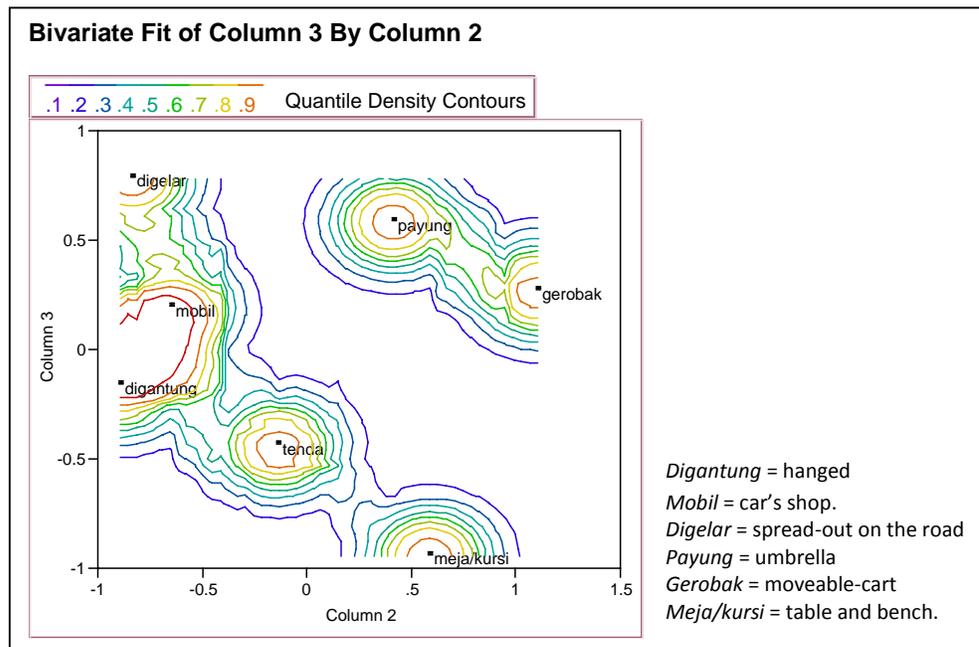
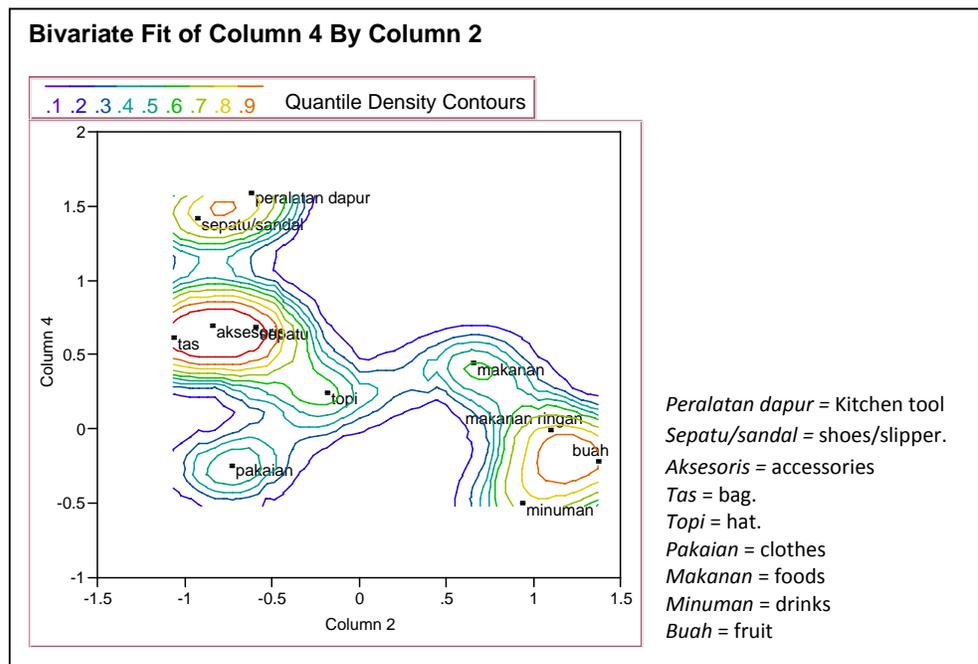


Figure 4: The variety of stuffs sell on Sunday market.
 (Source: Karsono & Tribinuka, 2003)



The lots for sale were not determined formally. The hawkers and the street-vendors choose and arrange their spots according to the required size they want. However, there are no disputes among the vendors themselves with regards to the location and size of the spot for business. The street vendors offer a wide variety of stuffs for sale including clothes, foods and drinks, accessories, tools, books and magazines, and pets (figure 4). Gasibu Square on Sunday morning changes into a *one-stop shopping* place. Karsono and Tribinuka (2003) noted that there are 363 streets vendors that participate at Gasibu Square. These number do not include the street-vendors who expanded to MPRJB Boulevard and the other four streets. The street-vendors usually come from Bandung and others areas such as Garut, Cianjur and Tasikmalaya.

Economically, the money transactions which occur during the Sunday market can be said to be high. Karsono and Tribinuka (2003) noted through random interviews with 130 street-vendors based on five categories of sale items that the total amount of money that exchange hands often amounts to Rp. 120,000,000 (one hundred and twenty million rupiahs). This is based on the five hours activities from 6.00 am through 11.00 am.

By the time the Sunday market dispersed at around 11.00 am, all the street-vendors will remove their temporary 'kiosk'. Most of the street-vendors swept the trash around their lots and dispose them at the nearby litter bins provided for and placed by the Bandung municipality (*Pemko Bandung*) at several locations around the square. Sometimes the excessive trash left by the visitors and vendors becomes a problem to the municipality. The public facilities around the Gasibu Square are inadequate to support the Sunday market activities. From our observation there were only two old and dirty public toilets, and rusted barb wire fences that can cause injury to the people at anytime. Furthermore, the street furniture around the square are old and non conducive for visitors or users of the square.



Figure 5. Military parade as a formal activity in the Gasibu Square (Source: Simon, 1997).



Figure 6. Sunday market as an informal activities in the Gasibu Square (Source: author, 2003)



Figure 7. Thousands of people visit the Sunday market in Gasibu Square (Source: author, 2003)



Figure 8. Some of the visitors just to enjoy their breakfast in the Sunday Market (Source: author, 2003)



Figure 9. Street-vendors located directly in front of Sate's building during the Sunday market (Source: author, 2003)



Figure 10. Thousands of people flocked the Sunday market. (Source: author, 2003)



Figure 11. Sunday market extended until MPRJB boulevard (Source: author, 2003)



Figure 12. Street-vendors used various creative ways to display their stuffs. (Source: author, 2003)

5. DISCUSSION

People are not passive; they manipulate and change space according to their preferences. On the other hand space influence and impacted upon the people (Carmona et. al, 2003:106) as illustrated by the phenomena at the Gasibu Square. People actively change the square into a spatial-temporal public market. The spatial relationship between the people and the situation at Gasibu Square shows a continuous two way process of the street-vendors and visitors participating actively at the public market and modifying the Gasibu Square. At the same time the conditions of the Gasibu Square forced the informality of Sunday market activity. The street vendors have to design their 'kiosk' in such a way that the stalls can be dismantled and erected easily to suit the urban context. This creativity allows for other related creative activities.

The physical environment within the Gasibu Square also provides favorable conditions to the stall operators and visitors with the presence of large trees giving shade and shelter to the users. The linkage between five main streets facilitates human activities through MPRJB Boulevard. However, public amenities within the square are up to needs and expectations. The social relations in Gasibu Square, however, are clearly *mediated by the space*, where the 'friction of distance' facilitates the development of social practice. For example, the illegal parking lots between visitors and 'illegal parking attendance'. These 'friction of distance' did not appear as an obstacle for the visitors to park their vehicle in 'illegal parking lots.' This is due to the fact that the security of the vehicles is the responsibility of the part-time attendance during the Sunday market.

Generally, Bandung is well known as the land of the 'Sunda ethnic', but it has a heterogeneous population with various ethnics from all over Indonesia. This heterogeneous society has various needs, interest and aesthetics, forcing the creativity of the people to flow within the activity and festivity in Gasibu Square, especially in the Sunday market. Sunday market is an outdoor activity which can be categorized as informal and as a *social* activity. If there is no formal activity on Sunday morning, the public market will be assembled voluntarily by the street-vendors and visitors. Earlier, the presence of people jogging and exercising on Sunday morning is the beginning for the street-vendors to start their 'kiosk' at Gasibu Square. This is the direct consequence of the people moving about and being at the same place at the same time. Finally, the Gasibu Square was popularized by the 'public market' on Sunday mornings, executed mutually by street-vendors and visitors.

Informality is the daily phenomena that take place at the Gasibu Square. Its informality established a daily life and events which support the economy among the people of

Bandung. The presence of the informal sector helps to energize the vibrant life of urban dwellers that is reflected in the urban spaces within the city. These activities are established naturally and forced by the limited opportunity of informal employment available and ideally couldn't be provided by the government. After the economic crisis that hit the country in 1998, most of the laid-off employees in the formal sector turned to informal sector in order to survive. The varieties of activities which are executed by the informal sector need a place in the urban area. Generally, they choose open public spaces that are easy to access through various modes of transportation (i.e., vehicular and walking). This happens naturally without the need to understanding urban structure and the shape of the city. It is expressed based on the availability of urban space in Bandung, that of Gasibu Square. Here the people construct informal space through the dynamics of unsettled daily activities and events.

The entire phenomenons have positive as well as negative impacts. The positive aspects show that urban space has a social importance and a significant meaning for most of urban dwellers in carrying out their daily life. A 'spontaneous act' which takes place in the public space and reveals that basic and social needs can be accommodated in constrained space. The sustainability of the spontaneous activities and the 'life' of the public space is also reflected by how people negotiate with each other to share their place, time and chance in 'exploiting' the space. The negative aspect is that the existence of the phenomenon is frequently disturbed by the 'authority' or others urban dwellers, including the pedestrians. It is thus necessary to arrange and implement a good plan that solve the negative problems that may arise from such 'spontaneous activities' and allow the people to crowd and yet be kind.

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