LESTARI
UNIVERSITI KEBANGSAAN MALAYSIA

INSTITUT ALAM SEKITAR DAN PEMBANGUNAN
INSTITUTE FOR ENVIRONMENT AND DEVELOPMENT

LAPORAN TAHUNAN
ANNUAL REPORT

2012

RASIONAL

Cap ibu jari berwarna hijau menggambarkan sumbangan LESTARI sebagai pusat kecemerlangan dan latihan dalam bidang berkaitan alam sekitar dan pembangunan di Malaysia dan rantau Asia Pasifik. Ianya membuktikan usaha dan pencapaian LESTARI dalam memenuhi aspirasi negara untuk merealisasikan matlamat pembangunan lestari, yang secara intrinsiknya dipaparkan menerusi koleksi foto di kulit buku dan juga dalaman buku.

RATIONALE

The green coloured thumbprint represents LESTARI's contribution of being a renowned centre of excellence and trainings on matters pertaining to environment and development both in Malaysia and the Asia Pacific region. It establishes proof of LESTARI's commitment in fulfilling the aspirations of the nation in realising the goal of sustainable development which are intrinsically pictured through the photographs on the cover as well as within the inside pages.

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LESTARI adalah sebuah pusat rujukan yang berkaitan dengan isu-isu alam sekitar dan pembangunan. Ia juga membantu pihak kerajaan dalam pembentukan dasar melalui penyelidikan yang menyeluruh dan seimbang serta berfungsi untuk meningkatkan keupayaan sumber manusia melalui latihan kemahiran dan pembangunan bagi pihak kerajaan dan swasta.
LESTARI is a reference centre dealing with environment and development issues. It also assists the government in formulating policies based on research of a holistic and balanced kind and also develops the human resource capacity through skill development and training, for both government and private sectors.

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PROF. TAN SRI DATO' SERI DR. SHARIFAH HAPSAH SYED HASSAN SHAHABUDIN

Naib Canselor / Vice-Chancellor

Universiti Kebangsaan Malaysia (UKM)
The National University of Malaysia (UKM)

Assalamualaikum WBT dan Salam Sejahtera.

SAYA mengucapkan tahniah kepada Institut Alam Sekitar dan Pembangunan (LESTARI), di atas kesinambungan menjalankan penyelidikan dan mempelopori pembangunan lestari wilayah sejak penubuhan LESTARI pada 1 Oktober 1994.

Tahniah juga, diucapkan kepada LESTARI kerana telah berjaya mendapat taraf CoE Berpotensi pada 2011. Saya yakin LESTARI akan mampu memperoleh pengiktirafan penuh sebagai pusat kecemerlangan pengajian tinggi (HiCoE) pada awal 2014.

Sebagai sebuah institusi penyelidikan dan pembangunan yang mempelopori pembangunan lestari wilayah, LESTARI telah berjaya melaksanakan pelbagai program. Antaranya adalah Program Sekolah Lestari Anugerah Sekitar pada 2 Oktober 2002 bagi mewujudkan generasi muda yang menghayati dan mengamalkan budaya pembangunan lestari; Program Bandar Lestari Anugerah Alam Sekitar yang merupakan program penganugerahan kepada pihak berkuasa tempatan yang telah melaksanakan aktiviti pembangunan lestari dan pemuliharaan alam sekitar yang seimbang dari segi pembangunan sosial, ekonomi dan fizikal yang juga telah diiktiraf di peringkat ASEAN, apabila Dewan Bandaraya Kuching Utara telah dinobatkan sebagai pemenang anugerah kitar dua (2007-2008) dan tiga (2009-2010) oleh ASEAN Environmentally Sustainable City Award; serta program eko-relawan yang melibatkan mahasiswa, kakitangan dan alumni UKM sebagai sukarelawan dalam memelihara alam sekitar dan seterusnya berkhidmat kepada masyarakat dengan menggunakan modul yang digubal khas oleh penyelidik yang merangkumi Hutan, Air, Tanah, Tenaga, Udara, Pengurusan Sisa dan Pantai.

Dalam memantapkan lagi tujahan penyelidikan, LESTARI telah menubuhkan Kumpulan Penyelidikan Pengurusan Kimia (CMRG) yang berhasrat untuk mengukuhkan sistem pengurusan dan governans bahan kimia negara secara bersepadu.CMRG merupakan kumpulan penyelidikan unik yang bekerjasama dengan Kementerian Sumber Asli dan Alam Sekitar untuk menganjurkan Perbincangan Meja Bulat MYNICHE (Malaysian Network for Integrated Management of Chemicals and Hazardous Substance for Environment and Development). Kumpulan ini juga telah dipilih oleh Kementerian Perdagangan Antarabangsa dan Industri (MITI) sebagai sumber rujukan untuk perlaksanaan GHS (Globally Harmonised System of Classification and Labelling of Chemicals) di Malaysia. Di samping itu, CMRG juga bekerjasama dengan agensi antarabangsa seperti UNITAR dan UNIDO untuk melaksanakan kajian yang berkaitan dengan pemantapan sistem pengurusan bahan kimia.

Saya juga mengucapkan selamat berjaya kepada LESTARI yang

Kata Pengantar NAIB CANSELOR
FOREWORD BY VICE-CHANCELLOR

kini dalam proses untuk dijemput menjadi Regional Centre of Expertise (RCE), UNESCO untuk Education for Sustainable Development yang merupakan rangkaian dan pertubuhan pendidikan yang digerakkan untuk menyampaikan pendidikan mengenai pembangunan lestari (ESD) kepada masyarakat tempatan dan serantau. RCE bercita-cita untuk mencapai matlamat Dekad PBB Pendidikan untuk Pembangunan Lestari (DESD, 2005-2014), dengan menterjemahkan objektif global ke dalam konteks masyarakat setempat. Keahlian di peringkat UNESCO ini melengkapkan lagi peranan LESTARI sebagai ahli rangkaian yang mempromosi kelestarian dalam pendidikan siswazah dan penyelidikan ProSPER. Net iaitu rangkaian beberapa institusi pendidikan tinggi terkemuka di Asia dan Pasifik.

Saya yakin, sebagai sebuah universiti penyelidikan, penubuhan institut penyelidikan multidisiplin seperti LESTARI mampu menjadikan UKM sebagai peneraju kepada R&D dalam bidang pembangunan lestari wilayah di rantau ini, khususnya dalam pembangunan ilmu, modal insan, tadbir urus (governans) serta memberi input saintifik dan teknikal dalam proses penyediaan dasar dan membuat keputusan.

Semoga LESTARI akan terus mempergiatkan kepakaran dan kemahiran para penyelidiknya untuk meningkatkan penyelidikan dalam pembangunan lestari demi kesejahteraan manusia dan alam sekitar di Malaysia dan dunia.

Sekian.

Majlis Menandatangani MoU antara UKM dengan LADA & Underwater World Langkawi (UWL)
MoU Signing Ceremony between UKM and LADA & Underwater World Langkawi (UWL)
4/6/2012, Pusat Penyelidikan Langkawi, Langkawi

Forum Dato' Ismail Awang Ke-3: How Green is Our Ringgit?

3rd Dato' Ismail Awang Forum: How Green is Our Ringgit?

219/4/2012, Auditorium Pusat Pengurusan Siswazah UKM

1 – 3
Peserta forum / Forum Participants

4
Ucapan perasmian daripada Prof. Datuk Dr. Noor Azlan Ghazali, TNC, Hal Ehwal Akademik dan Pengantarabangsaan / Opening address from Deputy Vice-Chancellor, Academic and International Affairs

Assalamualaikum WBT and Peaceful Greetings.

Congratulations to Institute for Environment and Development (LESTARI), Universiti Kebangsaan Malaysia (UKM) for its continued research and development efforts as well as being the front runner in the regional sustainable development since its inception on 1 October 1994.

LESTARI also deserved the highest commendation on achieving the status of Potential Centre of Excellence in 2011. I am confident that LESTARI would eventually be conferred the Higher Institutions' Centres of Excellence (HiCoE) status in the early 2014.

Numerous programmes pertaining to the regional sustainable development have been successfully conducted by LESTARI, being the affluential institution of research and development in the subject matter. Amongst them were Sustainable Schools Environment Award Programme on 2 October 2002 to generate into being youth that appreciates and cares for the environment on a daily basis; the Sustainable Cities Awards Programme which are awarded to local authorities who make valuable and balanced contributions towards environmental sustainability development and conservation while meeting the social, economic and physical needs of the people. This award programme has also been conducted at the ASEAN level whereby North Kuching City Hall had clinched the awards in the Ist (2007-2008) and 2nd (2009-2010) ASEAN Environmentally Sustainable City Award. Last but not least, the Eco-Volunteers Programme involving undergraduates, staff and alumni of UKM as volunteers to promote environmentally sustainable practices and subsequently to serve the communities by using the custom-made modules which were formulated by researchers covering Forestry, Water, Soil, Energy, Air, Residue Management and Beaches.

In its effort to further fortify its research thrust, LESTARI has formed the Chemical Management Research Group (CMRG) which aspires to strengthen integratively both the national chemical management and governance system. CMRG is a unique research group that works hand in hand with the Ministry of Natural Resources and Environment (NRE) in organising MYNICHE (Malaysian Network for Integrated Management of Chemicals and Hazardous Substance for Environment and Development) Roundtable Discussions. This group was also chosen by the Ministry of International Trade and Industry (MITI) to serve as the centre of reference for the execution of GHS (Globally Harmonised System of Classification and Labelling of Chemicals) in Malaysia. In addition, CMRG also collaborated with international agencies such as UNITAR and UNIDO to carry out studies in relation to fortification of chemical resources management system.

I would like to wish LESTARI all the best in its quest to be invited to becoming a Regional Centre of Expertise (RCE), UNESCO. RCE is a network of existing formal, non-formal and informal education organisations, mobilised to deliver education for sustainable development (ESD) to local and regional communities. RCEs aspire to achieve the goals of the UN Decade of Education for Sustainable Development (DESD, 2005-2014), by translating its global objectives into the context of the local communities in which they operate. A membership at the UNESCO level would complement LESTARI's role as a network member that promotes sustainability in postgraduate education and Research (ProSPER. Net) which is a network of several leading higher education institutions in Asia and the Pacific.

I am optimistic that as a research university, the establishment of a multidisciplined research institute similar to LESTARI, would empower UKM to be the leader in R&D for sustainable development within the region, particularly, in knowledge development, human capital, governance as well as relinquishing scientific and technical inputs in the preparation of policies and decision making processes.

It is to be hoped that LESTARI will continuously stimulate the expertise and skill of its researchers in order to elevate research in sustainable development in the interest of mankind and environment wellbeings both in Malaysia and worldwide.

Thank You.

Prof. Tan Sri Dato' Wira Dr. Sharifah Hapsah Syed Hasan Shahabudin
Naib Canselor | Vice-Chancellor
Universiti Kebangsaan Malaysia

PROF. DR. MAZLIN BIN MOKHTAR

Pengarah / Director

Institut Alam Sekitar dan Pembangunan (LESTARI)
Institute of Environment and Development (LESTARI)

Assalamualaikum Warahmatullahi Wabarakatuh.

Salam Hormat dan Salam Sejahtera!

SAYA dan seluruh warga Institut Alam Sekitar dan Pembangunan (LESTARI) ingin merakamkan penghargaan tak terhingga kepada Naib Canselor UKM Yang Berbahagia Profesor Tan Sri Dato' Seri Dr. Sharifah Hapsah Syed Hasan Shahabudin, para Timbalan Naib Canselor, Pendaftar, Bendahari, Ketua Pustakawan, dekan dan warga fakulti, pengarah dan warga institut dan pusat, serta pegawai pentadbiran dan sokongan UKM atas segala kerjasama dalam memantapkan penyelidikan, latihan dan aktiviti LESTARI sepanjang tahun 2012.

Pada 1 Oktober 2012, LESTARI genap berusia 18 tahun. Warga LESTARI menyambut ulangtahun ke-18 ini dengan penuh kesyukuran terhadap pencapaian LESTARI selama ini. Warga LESTARI terus berusaha memenuhi harapan UKM dan negara dengan mempertingkatkan aktiviti penyelidikan bersifat multi-, inter- dan trans-disiplin dalam bidang pembangunan lestari wilayah dalam mengilhamkan harapan, mencipta masa depan demi kesejahteraan manusia dan alam sekitar di Malaysia dan dunia.

Bersyukur kepada Allah S.W.T kerana LESTARI telah mendapat taraf CoE Berpotensi daripada Kementerian Pengajian Tinggi (KPT) yang disempurnakan oleh YB Dato' Seri Mohamed Khaled Nordin, Menteri Pengajian Tinggi pada 16 Disember 2011 di Putrajaya.

Warga LESTARI terus aktif dalam tiga (3) pusat penyelidikan di LESTARI iaitu Pusat Penyelidikan Sains dan Governans Kelestarian (SGK); Pusat Penyelidikan Kelestarian Alam Sekitar, Ekonomi dan Sosial (KASES) dan Pusat Penyelidikan Langkawi (PPL) melalui aktiviti penyelidikan, pengajaran dan khidmat masyarakat yang disokong enam kumpulan teras penyelidikan iaitu Warisan Geologi Malaysia; Air, Hutan dan Sumber Asli; Bandar Berdayahuni dan Landskap Ekologi; Sosio-ekonomi; Pengurusan Bahan Kimia (MyNICHE); Perubahan dan Adaptasi Ekosistem (MyCLIMATE).

Pada tahun 2012, pencapaian LESTARI sebagai institut penyelidikan disokong oleh dana kebangsaan dan antarabangsa menerusi 32 projek penyelidikan. Sistem e-Repositori Penerbitan UKM 2012 pula telah menerima bahan penerbitan berikut daripada LESTARI iaitu enam (6) buku, 83 kertas jurnal (64 Jurnal ISI/SCOPUS), 14 bab dalam buku terindeks, dan 40 prosiding, 13 kertas seminar/persidangan/teknikal dan 10 penerbitan popular untuk rujukan para ilmuan, pembuat dasar dan pengurus pembangunan. Jumlah pelajar yang mendaftar di LESTARI pada tahun 2012 adalah seramai 99 orang iaitu 71 orang pelajar peringkat Doktor Falsafah dan 28 orang pelajar Sarjana.

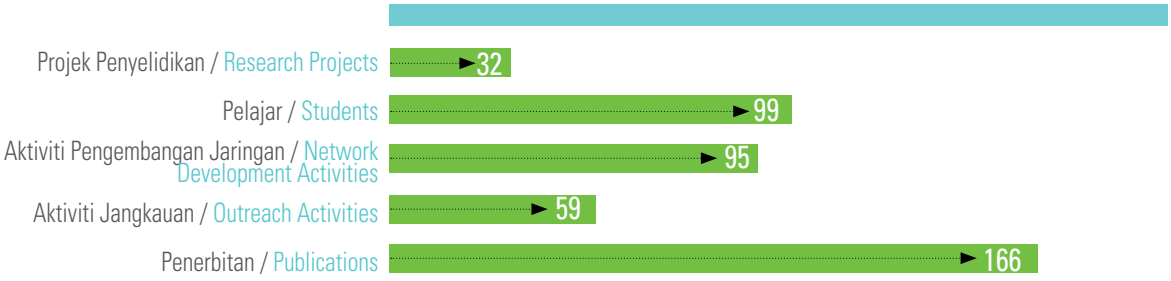
Warga LESTARI juga telah menghadiri 44 mesyuarat utama di luar negara dan 51 mesyuarat utama di dalam negara mengenai pelaksanaan dan penggubalan dasar melalui penyelidikan. Sebanyak 59 aktiviti jangkauan penyelidikan seperti dialog meja bulat, bengkel, simposium dan kursus telah dianjurkan oleh warga LESTARI pada 2012.

Saya yakin dan percaya bahawa kredibiliti, kepakaran dan integriti para penyelidik di LESTARI akan senantiasa dapat mempertingkatkan pencapaian

Ulasan PENCAPAIAN
OVERVIEW OF ACHIEVEMENTS

Kilim, Langkawi

RAJAH 1 / FIGURE 1
Bilangan Projek Penyelidikan, Pelajar, Aktiviti Pengembangan Jaringan, Aktiviti Jangkauan dan Penerbitan LESTARI pada 2012
Number of LESTARI's Research Projects, Students, Network Development Activities, Outreach Activities and Publications for 2012



Lawatan oleh Lourdes Puma Puma, Duta Ecuador ke LESTARI
Visit by Lourdes Puma Puma, Ecuador Ambassador to LESTARI

10/7/2012, LESTARI UKM

UKM dan negara dalam melestarikan alam sekitar dan pembangunan untuk generasi ini dan akan datang. Syabas dan tahniah kepada warga LESTARI atas sumbangan yang telah diberikan dan kejayaan yang dicapai. Semoga LESTARI akan terus berjaya dan cemerlang di hari mendatang. Amin. InsyaAllah.

Selamat Maju Jaya. Terima kasih.

Assalamualaikum Warahmatullahi Wabarakatuh.

Greetings and good wishes to all! On behalf of fellow LESTARIans, I would like to express my heartfelt gratitude to the Vice-Chancellor of UKM, Yang Berbahagia Prof. Tan Sri Dato' Seri Dr. Sharifah Hapsah Syed Hasan Shahabudin, Deputy Vice-Chancellors, Registrar, Bursar, Head Librarian, deans and faculties' members, directors and members of institutes and centres, as well as the administration officers and support staff of UKM on the cooperation rendered to LESTARI towards its effort in strengthening its research, trainings and activities throughout year 2012.

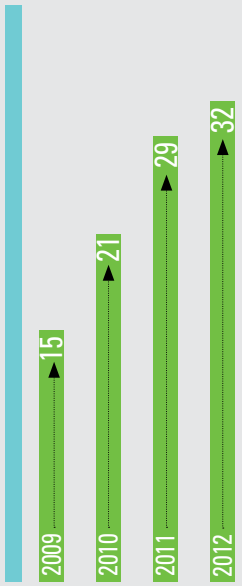
On 1 October 2012, LESTARI has marked its 18th year of establishment. On this day, LESTARIans celebrated LESTARI's journey with great thankfulness on all the achievements accomplished so far and further strived to embrace the start of the next chapter in fulfilling UKM's and Malaysia's aspiration towards inspiring future and nurturing possibilities by enhancing the multi-, inter- and trans-discipline research activities in areas of regional sustainable development, for the sake of mankind and environmental wellbeings in Malaysia as well as the world.

We are grateful to Allah Almighty for enabling LESTARI to being selected as a Potential Centre of Excellence, a recognition bestowed by the Ministry of Higher Learning (KPT) through its Minister, YB Dato' Seri Mohamed Khaled Nordin on 16 December 2011 at Putrajaya.

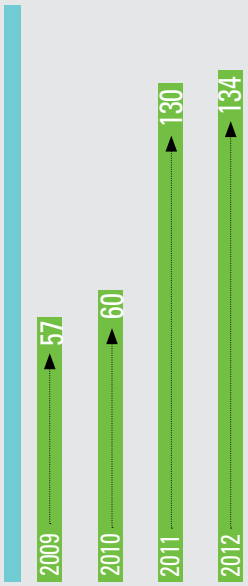
LESTARIans continued their research activities, teaching and community services actively through three (3) research centres, namely Research Centre for Sustainability Science and Governance (SGK), Research Centre for Environmental, Economic and Social Sustainability (KASES) and Langkawi Research Centre (PPL) and are further supported by six (6) research core groups i.e. Geological Heritage of Malaysia; Water, Forests and Natural Resources; Liveable Cities and Landscape Ecology; Socio-economic; Chemical Management (MyNICHE); Ecosystem Change and Adaptation (MyCLIMATE).

For year 2012, LESTARI's achievement as a research institute was funded

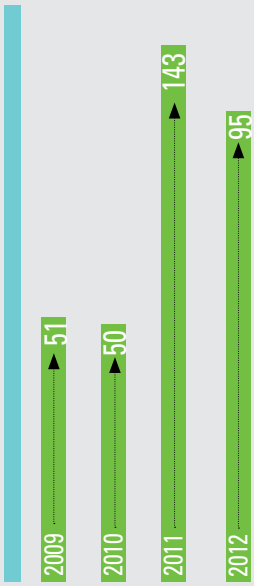
RAJAH 2 / FIGURE 2
Bilangan Penyelidikan 2009 - 2012
Number of Research 2009 - 2012



RAJAH 3 / FIGURE 3
Bilangan Pelajar 2009 - 2012
Number of Students 2009 - 2012



RAJAH 4 / FIGURE 4
Bilangan Aktiviti Pengembangan Jaringan 2009 - 2012
Number of Network Development Activities 2009 - 2012



by both national and international fundings through 32 research projects. Subsequently, UKM Publication e-Repository System has received the following publication materials from LESTARI i.e. six (6) books, 83 journals' articles (64 ISI/SCOPUS journals), 14 chapters in books, and 40 proceedings, 13 seminar/conference/ technical papers and 10 popular publication as sources of reference for academics, policy makers and development managers. 99 students have registered in LESTARI in 2012, comprising 71 students at Doctor of Philosophy level and 28 students at Masters level.

LESTARIans have also attended 44 high level meetings abroad and 51 high level meetings at home on policy execution and legislation through research. A number of 59 outreach activities such as roundtable dialogues, workshops, symposiums and courses have also been successfully carried out in 2012.

I am confident and believe that the credibility, expertise and integrity of each and everyone of researchers at LESTARI can enhance UKM's and the country's achievement in sustaining the environment and development for the pesent and future generations. My warmest congratulations to LESTARIans on your contributions towards achieving this success today. May LESTARI continues to be successful and excellent in the future. Amen. God willing.

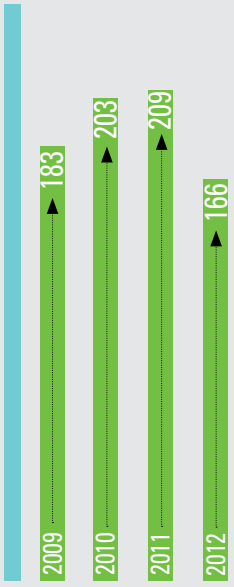
Best Wishes. Thank You.

Prof. Dr. Mazlin bin Mokhtar

Pengarah / Director

Institut Alam Sekitar & Pembangunan (LESTARI), UKM / Institute for Environment & Development (LESTARI), UKM

RAJAH 5 / FIGURE 5
Bilangan Penerbitan 2009 - 2012
Number of Publication 2009 - 2012



Program Ekorelawan Penyayang UKM-Corus-JPNS
UKM-Corus-JPNS Caring Eco-Volunteers Programme

29/12/2012, Hutan Simpan Sungai Menyala, Negeri Sembilan

1
Aktiviti gotong-royong pembersihan pantai Port Dickson / Port Dickson's beach cleaning campaign

2 – 4
Antara aktiviti yang dijalankan sepanjang program / Among the activities carried out during the programme

Profil LESTARI

PROFILE OF LESTARI

Profil LESTARI
Profile of LESTARI

Pengenalan / Introduction

LESTARI ditubuhkan pada 1 Oktober 1994 sebagai sebuah institut multidisiplin di bawah struktur Universiti Kebangsaan Malaysia. Penubuhannya memenuhi aspirasi universiti yang diilhamkan semasa Persidangan Bangsa-bangsa Bersatu mengenai Alam Sekitar dan Pembangunan (UNCED) yang berlangsung di Rio de Janeiro, Brazil pada 1992 untuk merealisasikan matlamat pembangunan lestari melalui penyelidikan dan pembangunan keupayaan.

LESTARI adalah sebuah pusat rujukan yang berkaitan dengan isu-isu alam sekitar dan pembangunan. Ia juga membantu pihak kerajaan dalam pembentukan dasar melalui penyelidikan yang menyeluruh dan seimbang serta berfungsi untuk meningkatkan keupayaan sumber manusia melalui latihan kemahiran dan pembangunan bagi pihak kerajaan dan swasta.

The Institute for Environment and Development (LESTARI) was established on 1st October 1994 as a multidisciplinary institute within the structure of Universiti Kebangsaan Malaysia. It fulfils the aspirations of the University, as envisioned by the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil in 1992 to realise the goal of sustainable development through research and capacity development.

LESTARI is a reference centre involved with environment and development issues. It collaborates with the government in formulating policies based on holistic and balanced research. The development function is directed towards enhancing human resource capacity through skill development and training, for both government and private sectors.

Visi / Vision

LESTARI bertekad menjadi pusat kecemerlangan dalam bidang penyelidikan dan latihan berkaitan alam sekitar dan pembangunan yang terunggul di Malaysia dan di rantau Asia Pasifik.

LESTARI aims at being a renowned centre of excellence in research and training on matters pertaining to environment and development in Malaysia and the Asia Pacific.

Misi / Mission

- Sebagai pusat tumpuan, menjalankan penyelidikan multidisiplin dan terkamir dalam bidang alam sekitar dan pembangunan.
- Sebagai penggerak utama dalam proses mempengaruhi dasar, membangunkan keupayaan bagi mencapai hasrat pembangunan lestari.
- Sebagai pusat rujukan, menangani isu berkaitan kelestarian pembangunan.

- As a focal point, conducting multidisciplinary and integrated research in balancing trade-offs between environment and development.
- As a primary mover in influencing policy, build capacity to meet the aspirations of sustainable development.
- As a reference point, addressing issues pertaining to sustainability in development.

Pusat Penyelidikan / Research Centres

- Pusat Penyelidikan Sains dan Governans Kelestarian (SGK)
- Pusat Penyelidikan Kelestarian Alam Sekitar, Ekonomi dan Sosial (KASES)
- Pusat Penyelidikan Langkawi (PPL)

- Research Centre for Sustainability Science and Governance (SGK)
- Research Centre for Environmental, Economic and Social Sustainability (KASES)
- Langkawi Research Centre (PPL)

Kumpulan Teras / Core Groups

- Warisan Geologi Malaysia
- Air, Hutan dan Sumber Asli
- Bandar Berdayahuni dan Landskap Ekologi
- Sosio-Ekonomi
- Pengurusan Bahan Kimia (MyNICHE)
- Perubahan dan Adaptasi Ekosistem (MyCLIMATE)

- Geological Heritage of Malaysia
- Water , Forests and Natural Resources
- Liveable Cities and Landscape Ecology
- Socio-economic
- Chemical Management (MyNICHE)
- Ecosystem Change and Adaptation (MyCLIMATE)

Langkawi, Malaysia

Program yang Ditawarkan / Programmes Offered

- Doktor Falsafah Alam Sekitar dan Pembangunan
- Sarjana Sains
- Sarjana Sastera

- Doctor of Philosophy in Environment and Development
- Master of Science
- Master of Arts

Bidang Penyelidikan / Research Fields

Doktor Falsafah
- Kajian Dasar Alam Sekitar dan Pembangunan
- Pengurusan Ekosistem Bandar
- Pemuliharaan Alam Sekitar
- Pengurusan Kepelbagaian Biologi

Sarjana Sains
- Alam Sekitar dan Pembangunan
- Pengurusan Ekosistem Bandar
- Pemuliharaan Alam Sekitar
- Pengurusan Kepelbagaian Biologi

Sarjana Sastera
- Alam Sekitar dan Pembangunan
- Pengurusan Ekosistem Bandar
- Kajian Dasar Alam Sekitar dan Pembangunan

Doctor of Philosophy (PhD)
- Policy Study of Environment and Development
- Urban Ecosystem Management
- Environmental Conservation
- Biological Diversity Management

Master of Science
- Policy Study of Environment and Development
- Urban Ecosystem Management
- Environmental Conservation
- Biological Diversity Management

Master of Arts
- Environment and Development
- Urban Ecosystem Management
- Policy Study of Environment and Development

Learning for Change Workshop: Education for Sustainable Development in Malaysia Workshop

4-6 December 2012, Danau Golf Club, UKM Bangi

1
Gambar kumpulan peserta / Group photograph of participants

2 – 3
Sesi latihan dalam kumpulan / Group training sessions

4
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Pengurusan LESTARI
LESTARI's Management

Mazlin bin Mokhtar
(Prof. Dr.)
PhD. [Queensland], FMIC

Pengarah LESTARI / Director of LESTARI
Pengerusi, Pusat Penyelidikan Sains & Governans Kelestarian (SGK) / Chairperson, Research Centre for Sustainability Science and Governance (SGK)

Che Aziz Ali
(Prof. Dr.)
PhD. [Reading]

Timbalan Pengarah LESTARI / Deputy Director of LESTARI
Pengerusi, Pusat Penyelidikan Langkawi (PPL) / Chairperson, Langkawi Research Centre (PPL)

Ahmad Fariz Mohamed
(Assoc. Prof. Dr.)
PhD. [UPMalaysia]

Pengerusi, Pusat Penyelidikan Kelestarian Alam Sekitar, Ekonomi dan Sosial (KASES) / Chairperson, Research Centre for Environmental, Economic and Social Sustainability (KASES)

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(Dr.)
PhD. [Queensland]

Ketua Jaminan Kualiti / Head of Quality Assurance

Felo Utama / Principal Fellows

Abdul Samad Hadi
(Emeritus Prof. Dato' Dr.)
PhD. [Flinders]

Chamhuri Siwar
(Emeritus Prof.)
MSc. [Iowa State]

Che Aziz Ali
(Prof. Dr.)
PhD. [Reading]

Hood Salleh
(Emeritus Prof. Dato' Dr.)
PhD. [Oxon]

Joy Jacqueline Pereira
(Prof. Dr.)
PhD. [Malaya]

Mazlin bin Mokhtar
(Prof. Dr.)
PhD. [Queensland]

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PhD. [UPMalaysia]

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(Assoc. Prof. Dr.)
PhD. [UKMalaysia]

Halimaton Saadiah Hashim
(Datin Paduka Dr.)
PhD. [Newcastle]

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(Assoc. Prof. Dr.)
PhD. [UKMalaysia]

Saiful Arif Abdullah
(Assoc. Prof. Dr.)
PhD. [Hiroshima]

Shaharuddin Mohamad Ismail
(Dato')
MSc. [ANU]

Sarjana Tamu / Visiting Fellows

Kamarulzaman Abdul Ghani
(Dato' [Dr.])

Raja Zaharaton Raja Zainal Abidin (Datuk)

Felo / Fellows

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PhD. [Queensland]

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PhD. [Malaya]

Goh Choo Ta
(Dr.)
PhD. [UKMalaysia]

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M.Env.Mgmt. [UKMalaysia]

Juliana Senawi
MSc. [UKMalaysia]

Sharifah Zarina Syed Zakaria
(Dr.)
PhD. [UKMalaysia]

Lee Jing
(Dr.)
PhD. [Cambridge]

Sharina Abdul Halim
(Dr.)
PhD. [UKMalaysia]

Rahmah Elfithri
(Dr.)
PhD. [UKMalaysia]

Tanot Anak Unjah
(Dr.)
PhD. [UKMalaysia]

Rospidah Ghazali
(Dr.)
PhD. [Malaya]

Senarai Kakitangan Pentadbiran dan Penyelidikan
List of Administration and Research Staffs

Penolong Pendaftar / Assistant Registrar

Nurul Safaniza Che Ani
B. Sc. Comp. (Hons.) [UPMalaysia]

Pegawai Penyelidik Kanan / Senior Research Officers

Jasni Yaakub
MSc. [UKMalaysia]

Nik Mohd Noor Faizul Md Saad
MIT [UKMalaysia]

Pegawai Penyelidik / Research Officers

Akmal Hisham Jasni
MSc. [UTMalaysia]

Ku Adriani Ku Ayob
BSc. Marin Sc. [UMS]

Mohamad Izzudin Anuar
MSc. [UPMalaysia]

Rd. Puteri Khairani Khirotdin
BSc. (Hons.) [UTMalaysia]

Pegawai Sains Kanan / Senior Science Officer

Bisharuzi Omar
BSc. (Hons.) [UKMalaysia]

Pegawai Sains / Science Officers

Mohammad Mahathir Amir Sultan
BSc. (Hons.) [USMalaysia]

Nazren Leman
BSc. (Hons.) [UMT]

Wan Daraputri Razali
BSc. (Hons.) [UMT]

Penolong Pegawai Sains / Assistant Science Officers

Mohd Fuad Tepit
Dip.Sc. [UiTM]

Norazmi Abdul Kadir
Dip.Sc. [UKMalaysia]

Nurul Azila Roslan @ Abdul Aziz
Dip.Sc. [UiTM]

Senarai Kakitangan Sokongan
List of Support Staffs

Kakitangan Sokongan / Supporting Staffs

Fazidah Baharin
Pembantu Tadbir / Administrative Assistant

Noormala Ibrahim
Pembantu Tadbir Rendah / Junior Administrative Assistant

Hafizatul Hasnie Shahril
Pembantu Tadbir / Administrative Assistant

Nor Mazni Md. Zaini
Pembantu Setiausaha / Assistant Secretary

Mohd Redzuan Zulkifly
Pembantu Am Pejabat / General Assistant

Nuratikah Mahamad
Pembantu Setiausaha / Assistant Secretary

Muhd Yusairi Mat Yusop
Juruteknik / Technician

Nur Amira Fadzilah
Pembantu Tadbir (Perkeranian) / Administrative Assistant (Secretarial)

Gunung Machinchang, Langkawi

Y.A.M Tunku Laxamana Tunku Dato' Seri Utama Naquiyuddin ibni Almarhum Tuanku Ja'afar
DK, DKYR, SPMP, PPT

Y.T.M Tunku Panglima Besar Kedah Dato' Seri DiRaja Tan Sri Tunku Puteri Intan Safinaz binti Tuanku Abdul Halim Mu'adzam Shah
DKH, DKYR, SHMS, PSM, SSDK, PAT, JP, Hon. PhD (UUM), Hon. PhD (KUIN)

Felo DiRaja dilantik oleh Canselor UKM sebagai penghormatan kepada individu yang cemerlang untuk membolehkan kepakaran, pengalaman dan kewibawaan beliau digembeleng bagi meningkatkan citra dan mengukuhkan sumbangan universiti kepada pembangunan negara. Felo DiRaja berfungsi sebagai penasihat untuk mengukuhkan perhubungan korporat universiti di peringkat kebangsaan dan antarabangsa di samping mendukung citra universiti sebagai universiti terkehadapan yang mendahului langkah masyarakat dan zamannya bagi membentuk masyarakat dinamis, berilmu dan berakhlak mulia. Felo DiRaja juga perlu memberi dorongan kepada universiti dalam usaha memartabatkan ilmu melalui penyelidikan, pendidikan dan pengupayaan pembangunan sebagai pemangkin wawasan kelestarian.

Appointed by UKM's Vice-Chancellor, the Royal Fellow is an honorary position given to outstanding individuals with significant expertise, experience and leadership contributions that would boost and enhance university's image and commitment towards nation's building. The Royal Fellow's role is to become an advisor to fortify university's corporate communication at national and international levels whilst supporting and promoting university's image as the frontier of knowledge that transcends its generation in formation of community that are dynamic and knowledgeable with high morality and integrity. The Royal Fellow's role is also to encourage university's initiative to become a sustainable visionary catalyst in heightening knowledge through research, education and empowerment.

Senarai Profesor Adjung, Felo Kehormat dan Felo Bersekutu
List of Adjunct Professors, Honorary Fellows and Associate Fellows

Profesor Emeritus / Emeritus Professors

Mohd. Nordin Hj. Hassan (Emeritus Prof. Dr.)

Sham Sani (Emeritus Prof. Dato' Dr.)

Tjia Hong Djin (Emeritus Prof. Dr.)

Profesor Adjung / Adjunct Professors

Peter John Peterson (Emeritus Prof. Dr.)

Robert James Wasson (Prof. Dr.)

Roderick J. Lawrence (Prof. Dr.)

Felo Kehormat / Honorary Fellows

Abu Bakar Jaafar (Dato' Dr.)

James Dawos Mamit (Dato' Dr.)

Salmah Zakaria (Ir. Dr.)

Yunus Abdul Razak (Dato' Hj.)

Felo Bersekutu Utama / Principal Associate Fellows

Abdul Latiff Mohamad (Emeritus Prof. Dato' Dr.)

Mohd. Raihan Taha (Prof. Dr.)

Mazlan Othman (Prof. Datuk Dr.)

Zakri Abdul Hamid (Emeritus Prof. Dato' Dr.)

Felo Bersekutu / Associate Fellows

Abdul Hadi Harman Shah (Assoc. Prof. Dr.)

Abu Quasem Al-Amin (Dr.)

Ahmad Husaini Sulaiman (Dato' Ir. Hj.)

Felix Tongkul (Prof. Dr.)

Martin Abraham (Dr.)

Md. Wahid Murad (Dr.)

Mohd. Ekhwan Toriman (Prof. Dr.)

Mohd. Talib Hj. Latif (Assoc. Prof. Dr.)

Norela Sulaiman (Assoc. Prof. Dr.)

Norzaini Azman (Prof. Dato' Dr.)

Ruhizan Mohammad Yasin (Assoc. Prof. Dr.)

Salman Hussain Inayat Hussain (Prof. Dr.)

Tips of Borneo, Kudat, Sabah

Penyelidikan DAN PEMBANGUNAN
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Pusat Penyelidikan Sains & Governans Kelestarian (SGK)
Research Centre for Sustainability Science & Governance (SGK)

Pengerusi / Chair: Mazlin Mokhtar (Prof. Dr.)

PUSAT Penyelidikan Sains dan Governans Kelestarian (SGK) ditubuhkan pada 1 Januari 2006 untuk memperkuatkan lagi sumbangan LESTARI terutamanya terhadap agenda pembangunan kelestarian negara. Skop penyelidikan SGK merangkumi pengkajian berbentuk integratif dan transdisiplin berkaitan isu kelestarian. Menerusi pusat ini, sistem governans yang meliputi dasar, perancangan, perundangan dan pengurusan diterokai sekumpulan pakar yang mahir dalam sains dan governans kelestarian bagi memahami konsep pembangunan lestari berpandukan input saintifik dan kemanusiaan, terutama dalam menilai perubahan ekosistem fisikal dan impak aktiviti disokong oleh tiga kumpulan penyelidikan teras iaitu Kumpulan Pengurusan Kimia, Kumpulan Perubahan dan Adaptasi Ekosistem serta Kumpulan Air, Hutan dan Sumber Asli.

Ahli SGK yang terlibat dalam kumpulan penyelidikan teras aktif menjalankan pelbagai aktiviti dan projek penyelidikan. Dana penyelidikan diperolehi antaranya Dana Berpotensi HiCOE melalui Kementerian Pengajian Tinggi (MoHE), Humid Tropic Centre (HTC) Kuala Lumpur, JPS dan Malaysian Green Technology Corporation. SGK juga menerima dana antarabangsa dari The Swedish International Centre of Education for Sustainable Development (SWEDESH). Projek penyelidikan dijalankan SGK, merangkumi penyelidikan Strategi Pembangunan Lestari Wilayah, Pembentukan Halatuju Pembangunan Lestari Sumber Hutan dan Air, Kesedaran Keselamatan Bahan Kimia di Kalangan Pelajar Sekolah Menengah, Kemudahterancaman dan Adaptasi Terhadap Bencana Berkasked (Cascading Hazard) serta Analysis of Watershed Sustainability Index (WSI) at Catchment Level for Langat River Basin.

Para penyelidik di bawah Pusat SGK aktif dengan aktiviti pengembangan jaringan dan jangkauan yang memacukan kepada pengukuhan LESTARI sebagai pusat rujukan dalam bidang sains dan governans kelestarian. Pelbagai inisiatif penyelidikan dan kerjasama dan sedia ada telah dilaksanakan. Antara jaringan yang dibina adalah melalui aktiviti MoA bersama Malaysian Green Technology Corporation, serta MoU bersama University Network For Climate and Ecosystems Change Adaption Research (UN-CECAR), United Nation University dan Pusat Serantau Tropika Lembap Kuala Lumpur (HTCKL), Jabatan Pengairan dan Saliran Malaysia. Manakala aktiviti jangkauan pula, Pusat SGK telah berjaya menganjurkan South East Asia Regional Training for Trainers: Managing Pollution in IWRM, Learning for Change Workshop: Education for Sustainable Development in Malaysia dan Dato' Ismail Awang Forestry Forum.

Sepanjang tahun 2012, penyelidik Pusat SGK juga telah berjaya menghasilkan sebuah buku bertajuk Climate Change and Disaster Risk Reduction, 3 bab dalam buku, 20 artikel jurnal, serta 8 prosiding terindeks. Seramai 16 pelajar pascasiswazah telah berdaftar di bawah pusat ini.

1 – 2
Beberapa siri perbincangan mengenai SGK / A series of SGK's discussions

The formation of the Research Centre for Sustainability Science & Governance (SGK) on 1 January 2006 was to further strengthen LESTARI's contributions towards the national sustainability development agenda. The research scope of SGK encircles on integrated and transdisciplinary studies related to sustainability issues. Via SGK, the governance systems comprising policy, planning, legislation and management were researched by the science and sustainable governance experts in order to understand the sustainable development concept based on scientific and humanities input, especially in the evaluation of physical ecosystem changes and the impact of human activities on the ecosystem. The activities of SGK are supported by three core groups namely, Chemical Management (MyNICHE) Group, Ecosystem Change and Adaptation (MyCLIMATE) Group, and Water, Forests and Natural Resources Group.

The SGK team members involved in the research core groups were actively running various research activities and projects. Some of the research fundings that were obtained by SGK were HiCOE Funds through the Ministry of Higher Education (MOHE) along with fundings from Humid Tropics Centre Kuala Lumpur (HTCKL), JPS and Malaysian Green Technology Corporation. An international funding from The Swedish International Centre of Education for Sustainable Development (SWEDESH) was also secured.

The research projects that were managed by SGK in 2012 were Regional Sustainable Development Strategy, Water and Forest Resources Sustainable Development Regulations, Chemical Substance Safety Awareness Amongst Secondary School Students, Endangerment and Adaptation Towards Cascading Hazards as well as Analysis of Watershed Sustainability Index (WSI) at Catchment Level for Langat River Basin.

SGK researchers were also heavily involved in various networking expansion and outreach activities so as to accelerate the fortification of LESTARI as a reference centre in the area of sciences and sustainable governance. Many research and collaboration initiatives have been concluded. Amongst the networkings that have been established were through MoA with the Malaysian Green Technology Corporation, as well as MoUs with the University Network For Climate and Ecosystems Change Adaption Research (UN-CECAR), United Nation University, Humid Tropics Centre Kuala Lumpur (HTCKL) and Department of Irrigation and Drainage Malaysia. Whilst in the outreach activities, SGK has successfully organised South East Asia Regional Training for Trainers: Managing Pollution in IWRM, Learning for Change Workshop: Education for Sustainable Development in Malaysia and Dato' Ismail Awang Forestry Forum.

Throughout 2012, SGK researchers have produced 1 (one) book entitled Climate Change and Disaster Risk Reduction, 3 (three) Chapters-in-Books, 20 journals' articles and 8 indexed proceedings. It had also 16 registered post graduate students.

Pusat Penyelidikan Kelestarian Alam Sekitar, Ekonomi & Sosial (KASES) / Research Centre for Environmental, Economic & Social Sustainability (KASES)

Pengerusi / Chair : Ahmad Fariz Mohamed (Assoc Prof. Dr.)

PENUBUHAN KASES pada 1 Januari 2006 bertujuan untuk memberi fokus kepada kajian berbentuk multidisiplin berkaitan bidang kelestarian alam sekitar, sumber asli, ekonomi dan sosial. Skop penyelidikan pusat ini mencakupi penyelidikan terintegrasi mengenai integriti alam sekitar dan pendekatan utilisasi sumber asli secara lestari (Kelestarian Alam Sekitar dan Sumber Asli); sistem ekonomi dan industri yang dapat membantu usaha meningkatkan kesejahteraan sosial dan integriti alam sekitar (Kelestarian Ekonomi dan Industri); dan pembangunan sosial dan pelbagai komuniti berteraskan konsep kelestarian (Kesejahteraan Sosial dan Komuniti).

Objektif penubuhan KASES adalah menjadi pusat kecemerlangan penyelidikan multidisiplin dalam bidang alam sekitar, sumber asli, ekonomi dan sosial untuk bidang sains kelestarian. Pusat ini juga berperanan membantu pentadbiran dan pengurusan alam sekitar dan sumber asli negara dengan memberi input pendekatan bidang asas multidisiplin dan governans bagi menyokong kelestarian alam sekitar dan pembangunan sumber asli negara. Di samping itu, pusat ini juga menyelaraskan aktiviti penyelidikan dan pembangunan, pembangunan keupayaan serta jaringan dan jangkauan berkaitan kelestarian alam sekitar, sumber asli, ekonomi dan sosial.

Bertepatan dengan fungsi dan objektif penubuhan KASES, sepanjang tahun 2012 perkembangan penyelidikan KASES banyak disokong oleh aktiviti yang dijalankan oleh 2 (dua) kumpulan teras iaitu Ekonomi Alam Sekitar dan Kesejahteraan Komuniti. Namun begitu kumpulan teras lain LESTARI juga menyumbang dalam konteks ilmu terutama dalam bidang kajian yang mengintegrasikan bidang sektoral dalam bentuk multidisiplin dan interdisiplin.

Selain daripada penyelidikan yang dijalankan di bawah naungan kumpulan teras perkembangan KASES juga turut disokong oleh projek kolaborasi dengan dana sumbangan daripada badan dalam negara dan luar negara. Badan dalam negara termasuklah Jabatan Perancangan Bandar dan Desa Selangor (JPBD); Jabatan Alam Sekitar (JAS); Kementerian Sumber Asli dan Alam Sekitar (NRE); Lembaga Pembangunan Pembinaan Malaysia (CIDB) dan Majlis Perbandaran Seremban. Manakala badan luar negara termasuk Economic Research Institute for ASEAN and East Asia - Japan External Trade Organization (ERIA-JETRO); Charles Darwin University, Australia; University of Geneva, Switzerland; University of British Columbia, Canada dan UNESCO. Hasil daripada kolaborasi ini telah berjaya membantu menggubal dan menerbitkan beberapa garis panduan dalam usaha untuk menangani permasalahan alam sekitar yang wujud di negara.

Daripada segi pencapaian pelajar pascasiswazah, 8 pelajar telah berjaya menamatkan pengajian. Seramai 14 orang pelajar siswazah telah berdaftar menjalankan pengajian di bawah KASES pada tahun 2012. Kajian yang dilakukan oleh pelajar ini dapat membantu dalam merealisasikan objektif penubuhan KASES.

Established on 1st January 2006, the main focus of KASES is on the multidisciplinary research on the field of environment, natural resource, economy and social sustainability. In addition, KASES research scopes encompass integrative research of environmental integrity and sustainable natural resource utilisation approaches (Environment and Natural Resource Sustainability); economic and industrial system to ensure economic resiliency and wellbeing of the community along with environmental integrity (Economy and Industry Sustainability); and social development within the various community based on sustainability concept as the foundation (Social and Community Wellbeing).

The main objective of KASES is to become the centre of excellence for multidisciplinary research integrating fundamental fields of environment, natural resources, economy and social for sustainability science. The centre also plays a supporting role in assisting the country's administration and management of environment and natural resources sustainability through important input of fundamental multidisciplinary fields and governance. Besides managing research and development activities, KASES also emphasizes on capacity building and research output dissemination activities. KASES also develops and enhances research networks and collaborations with local and global research institutes, government agencies and non-

1 – 2
Siri Bengkel Bandar LESTARI - Anugerah Alam Sekitar / Sustainable City - Environment Award Workshop Series

government organisations prioritizing on the field of environment, natural resources, economy and social sustainability.

Activities for KASES in 2012 towards developing its research and development programmes were supported by two core groups namely Environmental Economy and Community Wellbeing. In addition, the other core groups in LESTARI also contributed especially for research which integrates sectoral based knowledge towards a multidisciplinary or interdisciplinary research.

KASES also conducted collaborative research through fundings awarded by national and foreign agencies. The participating national agencies were Department of Town Country and Planning, Selangor (JPBD); Department of Environment Malaysia (JAS); Ministry of Natural Resources andEnvironment;ConstructionIndustry Development Board Malaysia (CIDB) and Seremban Municipal Council. While the international agencies were Economic Research Institute for ASEAN and East Asia - Japan External Trade Organization (ERIA-JETRO; Charles Darwin University, Australia; University of Geneva, Switzerland; University of British Columbia, Canada and UNESCO. Results from these collaborative researches enabled KASES and LESTARI to help in establishing and publishing important guidelines for managing environmental problems in the country. As for the academic output, KASES managed to produce 8 students that had graduated while 14 students had registered with KASES as of 2012. The students' research theses will give important inputs in achieving KASES objectives.

Pusat Penyelidikan Langkawi (PPL)
Langkawi Research Centre (PPL)

Pengerusi / Chair: Che Aziz Ali (Prof. Dr.)

PUSAT Pusat Penyelidikan Langkawi (PPL) mula aktif sejak tahun 2003 dalam aspek penyelidikan sumber asli dan pembangunan di Langkawi. Sebagai sebuah entiti penyelidikan di LESTARI yang bertunjangkan penyelidikan terintegrasi, PPL menjalankan dengan jayanya beberapa aktiviti penyelidikan bersifat menyeluruh dari segi pendekatannya dan melibatkan penyertaan penyelidik dari pelbagai bidang. Usaha menggabungkan penyelidikan secara terintegrasi bagi penyelidik PPL diselaraskan kepada empat program penyelidikan iaitu Sumber Geologi dan Landskap, Sumber Biologi dan Marin, Sumber Budaya dan Tradisi Setempat dan Kesihatan Sekitaran.

PPL mempunyai 14 geran penyelidikan yang masih aktif dan tamat pada 2012 manakala sejumlah 5 geran penyelidikan yang baru telah diperolehi pada tahun 2012. Sepanjang 2012 juga, penyelidik PPL berjaya menerbitkan 9 jurnal terindeks (termasuk 7 jurnal berfaktor impak), di mana 2 daripadanya adalah jurnal kuartil Q1 dan 4 jurnal Q2. Selain itu, 4 makalah jurnal/prosiding tidak terindeks dan 3 buah buku telah turut diterbitkan.

LESTARI melalui PPL telah memeterai penyambungan MoU bersama Lembaga Pembangunan Langkawi (LADA) selain menandatangani MoU bersama Underwater World (UWL) Langkawi untuk meluaskan kerjasama penyelidikan dan pembangunan di Langkawi. PPL juga telah mengatur langkah meneroka khazanah semulajadi Tasik Langgun yang berpotensi dibangunkan sebagai geotapak baru melalui ekspedisi mini pada 26-30 November 2012 dan di mana hasilnya akan dibentangkan dalam seminar yang akan dianjurkan pada tahun 2013. Pelbagai aktiviti jangkuan telah dilaksanakan bagi menyampaikan maklumat serta berinteraksi dengan komuniti Langkawi terhadap inisiatif yang telah dibangunkan oleh LESTARI di Langkawi. Antaranya termasuklah

Pameran PPL yang telah dijalankan selama lebih sebulan bermula 15 Disember 2011 sehingga 30 Januari 2012 di UWL yang melibatkan pameran pelbagai bahan saintifik, poster serta bahan-bahan penerbitan.

Tahun 2012 juga menyaksikan satu lagi sejarah tercipta untuk PPL. Pada Januari 2012, bangunan PPL di Pantai Kok Langkawi telah siap dibina dan telah diserahkan kepada LESTARI pada tanggal 8 Februari 2012. Dengan keluasan 2,700 m.ps, ia menempatkan pelbagai kemudahan seperti dewan auditorium, makmal penyelidikan, bangunan pentadbiran, galeri, surau dan juga bangunan asrama lelaki dan wanita. Sejak ia mula beroperasi, PPL terus mengambil langkah proaktif untuk melengkapkan pelbagai prasarana penyelidikan, peralatan dan instrumentasi, kemudahan aktiviti/seminar serta kemudahan penginapan melalui dana instrumentasi yang diberikan oleh UKM berjumlah hampir RM1,000,000.00. Lantaran daripada pelbagai kemudahan yang disediakan ini, PPL telah menjadi hos kepada pelbagai siri seminar, bengkel termasuk seminar siswazah dan juga latihan pembinaan keupayaan oleh beberapa jabatan di UKM. Selain itu, PPL menjadi tumpuan univerisiti lain seperti UiTM dan USM untuk mengadakan siri-siri program jangkuan mereka. Pelbagai aktiviti penyelidikan yang melibatkan penyelidik mahupun pelajar dari luar negara juga lebih kerap dijalankan dan mendorong kepada pengukuhan jaringan kolaborasi PPL dengan pelbagai institusi terkemuka di peringkat antarabangsa. Pelaksanaan perancangan penyelidikan PPL dilihat lebih mudah dan tersusun dengan adanya kemudahan Kompleks Bangunan PPL ini.

Since 2003, PPL has been actively carrying out research on natural resources and development aspects of Langkawi. As one of the LESTARI's research entities that promote integrative research, PPL has strived to coordinate research activities that are holistic in approach through engaging researchers of diversed backgrounds. The effort to promote integrative research approach amongst PPL researchers was based on four major programmes: Geology and Landscape Resources; Biology and Marine Resources; Cultural and Local Tradition Resources; and Environmental Health.

PPL had 14 research grants that remained active as at end of 2012, out of which five (5) grants were obtained in 2012. Throughout the year, PPL has also successfully published nine (9) indexed journals (inclusive of seven (7) journals of impact factor), of which two (2) of them are from quartile Q1 and four from quartile Q2. Apart from those, four (4) non-indexed journals/proceedings and three (3) books were also produced.

LESTARI through PPL has continually sealed the MoU with Langkawi Development Authority (LADA) and at the same time, has established a new MoU with the Underwater World (UWL) Langkawi, for further enhancing the research and development of Langkawi. Meanwhile, PPL has also begun exploring the potentiality of Langgun Lake to be developed into a new geosite, following the mini expedition that took place on 26-30 November 2012. The findings will be presented in a seminar to be organised sometime in 2013.

Various outreach activities have been organised for the Langkawi communities for interactions and dissemination of information on the initiatives undertaken by LESTARI for the development of Langkawi. Amongst them was PPL Exhibition that run for more than a month from 15 December 2011 to 30 January 2012 exhibiting a variety of scientific materials, posters as well as published materials.

Year 2012 has also seen a creation of another historic event for PPL when its building along the beach of Kok Langkawi was completed and officially delivered to LESTARI on 8 February 2012. With its size of 2,700 m.p.s, PPL Complex comprises various facilities such as an auditorium hall, research laboratories, administration building, gallery, *surau* and residential blocks for male and female occupancies. Since commencing operations, PPL has proactively undertaken various steps to equip the complex with diversed research infrastructures, equipments and instrumentations, seminars/activities facilities as well as accommodation facilities through the fundings of nearly RM1,000,000.00 which was imparted by UKM. Subsequently, PPL has successfully became host to many seminars and workshops including graduate seminars and expertise development trainings by some UKM departments. Other universities such as UiTM and USM have also opted to carry out their outreach activities in this PPL Complex. Research activities involving international students and researchers have also been frequently managed thus enabling the reinforcement of collaboration networkings between PPL and many other established international institutions. The research planning execution of PPL has indeed been made easier and orderly with the presence of PPL Complex in Langkawi.

DALAM tempoh 16 tahun semenjak perwujudannya pada 1996, kumpulan teras ini telah berganjak dengan begitu banyak dari kajian yang menyelidiki apa itu warisan geologi kepada usaha membawa bersama masyarakat awam menghayati geologi sebagai warisan sepunya. Ini merupakan anjakan daripada penyelidikan saintifik di mana hasilnya berupaya digunapakai oleh komuniti atau sekurang-kurangnya mampu memberikan impak positif kepada komuniti. Ini jelas melalui usaha perwujudan geopark yang mengintegrasikan pemuliharaan, pendidikan awam dan peningkatan sosio ekonomi melalui geopelancongan di beberapa kawasan yang telah dikenalpasti di seluruh negara.

Usaha ini turut disokong dengan inisiatif mewujudkan Jawatankuasa Geopark Kebangsaan bersama Kementerian Alam Sekitar dan Sumber Asli yang akan memantau dan membimbing pembangunan geopark kebangsaan seluruh negara. Meskipun masih di peringkat awal perbincangan dan pembangunan Term of Reference (TOR), usaha ini merupakan salah satu langkah kecil untuk terus bekerjasama dengan pelbagai pihak berkepentingan dari peringkat komuniti sehinggalah kepada pengurusan dan pembuat keputusan tertinggi di peringkat kerajaan. Di peringkat dasar, kerjasama dengan pihak berkepentingan dalam hal pengurusan geotapak juga telah memperlihatkan pengukuhan antara penyelidik sumber warisan tabii dengan pihak Lembaga Pembangunan Langkawi (LADA) melalui projek penyelidikan kontrak yang membangun Pelan Perancangan Langkawi Geopark. Pelan ini yang merujuk secara khusus pencirian, pembangunan dan pengurusan sumber warisan geologi dan landskap lebih berkesan bersama dengan pelbagai aspek geopark yang lain.

Pada masa yang sama usaha pemuliharaan dengan pihak berkepentingan tidak hanya dalam bentuk geopark malah bentuk lain yang bersesuaian turut dilakukan seperti cadangan warisan kebangsaan untuk Permatang Kuarza Klang Gate bersama Jabatan Perancang Bandar dan Desa Selangor; warisan kebangsaan Tanjung Balau dan Batu Layar bersama KEJORA, Geoforest Park Gunung Senyum-Jebak Puyuh yang baru dimulakan dengan Jabatan Perhutanan Semenanjung Malaysia-Pahang dan tapak terpelihara yang dikenalpasti di seluruh negara bersama pihak penyelidik bersama dari Jabatan Mineral dan Geosains Malaysia.

Bagi memantapkan hasil dokumentasi penyelidikan ahli kumpulan tidak ketinggalan menerokai sumber warisan baru yang dikenalpasti semasa ekspedisi saintifik Pusat Penyelidikan Langkawi ke Pulau Langgun. Hasil penyelidikan ini sebahagiannya telah dikongsi bersama pelbagai penyelidik sebelum diterjemahkan dalam bentuk yang lebih mudah kepada pihak awam. Terjemahan saintifik geologi kepada yang lebih mudah difahami bagi setiap geotapak khususnya untuk pelancongan turut diberikan kepada pemandu pelancong di Kepulauan Langkawi melalui siri kursus Geopark.

Di peringkat penyelidikan, pembangunan sebahagian aspek penilaian dan penarafan masih dilakukan dan pemantapan pendekatan pengenalpastian, pengelasan, pencirian dan penilaian tetap dilakukan. Ini bertujuan untuk mengukuhkan bidang ilmu yang dibangunkan dalam bentuk geologi pemuliharaan, geopelancongan dan juga pendekatan yang lebih luas dan terintegrasi geopark.

In the span of 16 years since its establishment in 1996, this core group has progressed tremendously. It first started its research with examining what was geological heritage was all about and has since then ventured to research that explored numerous means in bringing the local communities to embrace geology as a communal heritage. A shift in the scientific research enables the outcome to benefit the communities at large or at least instils a positive impact to the communities from their engagement. True to the above, efforts in incepting geoparks with an integrated plan that focus on geological heritage conservation, socio economic impact and knowledge transfer activities via geotourism are being carried out. Several places throughout the nation have been identified as potential geoparks.

This endeavor is further supported by the formation of National Geopark Committee under the umbrella of the Ministry of Natural Resources and Environment (NRE) that will monitor and provide guidance in the development of national geoparks throughout the country. Eventhough the foundation of

Langkawi, Malaysia

the committee and the development of Term of Reference (TOR) are still at its inception stage, this effort is certainly seen as one of the small steps towards operating in close synergy amongst the various stakeholders namely, the local community, management and decison makers at the government level. At the policy level, collaborations with the stakeholders on the issues of geoparks management have also been reinforced between the researchers of the natural heritage resources with the Langkawi Development Board (LADA) through the contractual research projects that had developed the Langkawi Geopark Development Plan. This plan which referenced specifically to the characteristics, development and management of geological heritage resources and landscapes is more effective when carried out with other aspects of geoparks.

In any event, conservation efforts with stakeholders are not merely in the form of geoparks. Other appropriate means can also be formulated such as the national heritage proposal for Permatang Kuarza Klang Gate with Town and Country Planning Department of Selangor (JPBDS); Tanjung Balau and Batu Layar National Heritage with South East Johore Development Authority (KEJORA); Gunung Senyum and Gunung Jebak Puyuh Geoforest Parks with Department of Forestry Peninsular Malaysia-Pahang and other identified reserved sites throughout the country with co-researchers from the Minerals and Geoscience Department Malaysia (JMG).

For purpose of strengthening research documentations, this core group has also explored new heritage resources identified during the scientific expedition of Langkawi Research Centre to Pulau Langgun. Part of the research output has been shared amongst various researchers before translating them into a more user friendly format for the public use. A user friendly geological scientific translation for each geosite is also given to tourist guides in Langkawi during a series of Geopark courses.

Development on parts of assessment and ratings of research are still been consummated up to this time. Identification approaches, classifications, characterisations and assessments of research are continuously been intensified. This is done in order to further solidify the knowledge fields in areas of geological conservation, geotourism, and also to broaden and integrate the approaches for promoting geoparks.

Air, Hutan dan Sumber Asli
Water, Forests and Natural Resources

Pengerusi / Chair : Shaharuddin Mohamad Ismail (Dato')

AIR, hutan dan sumber asli merupakan komponen penting perkhidmatan ekosistem dalam mencapai pembangunan lestari. Komuniti global telah menunjukkan minat yang besar dalam memastikan setiap negara menuju ke arah pembangunan lestari. Ini bermakna setiap pembangunan negara mestilah seimbang di antara komponen ekonomi, alam sekitar dan sosial. Ketiga-tiga komponen tersebut adalah penting dan penting dalam mencapai pembangunan lestari. Dari segi ini, konsep pembangunan lestari telah lama tersemai dalam proses perancangan pembangunan lestari di Malaysia.

Walau bagaimanapun, potensi kejayaan program pembangunan lestari tersebut amatlah bergantung kepada keberkesanan governans yang akan menggabungkan ketiga-tiga komponen pelestarian ini.

Malaysia mempunyai sumber asli seperti bahan galian, timah, hutan dan air yang menyumbang secara signifikan kepada pembangunan dan kesejahteraan ekonomi. Adalah dijangka sumber asli akan terus memainkan peranan penting dalam usaha negara mencapai taraf negara maju pada tahun 2020.

Penyelidikan kumpulan teras ini memberi tumpuan kepada menjalankan pengajian dan penyelidikan ke atas komponen dan aspek governans yang berkaitan dengan pembangunan lestari sumber asli bagi negara ini.

Pendekatan terbaru yang diambil ialah menangani isu berkaitan dengan pembayaran perkhidmatan ekosistem. Ini adalah penting untuk kehidupan manusia yang mendapat faedah daripada alam sekitar. Faedah ini jarang diberi perhatian.

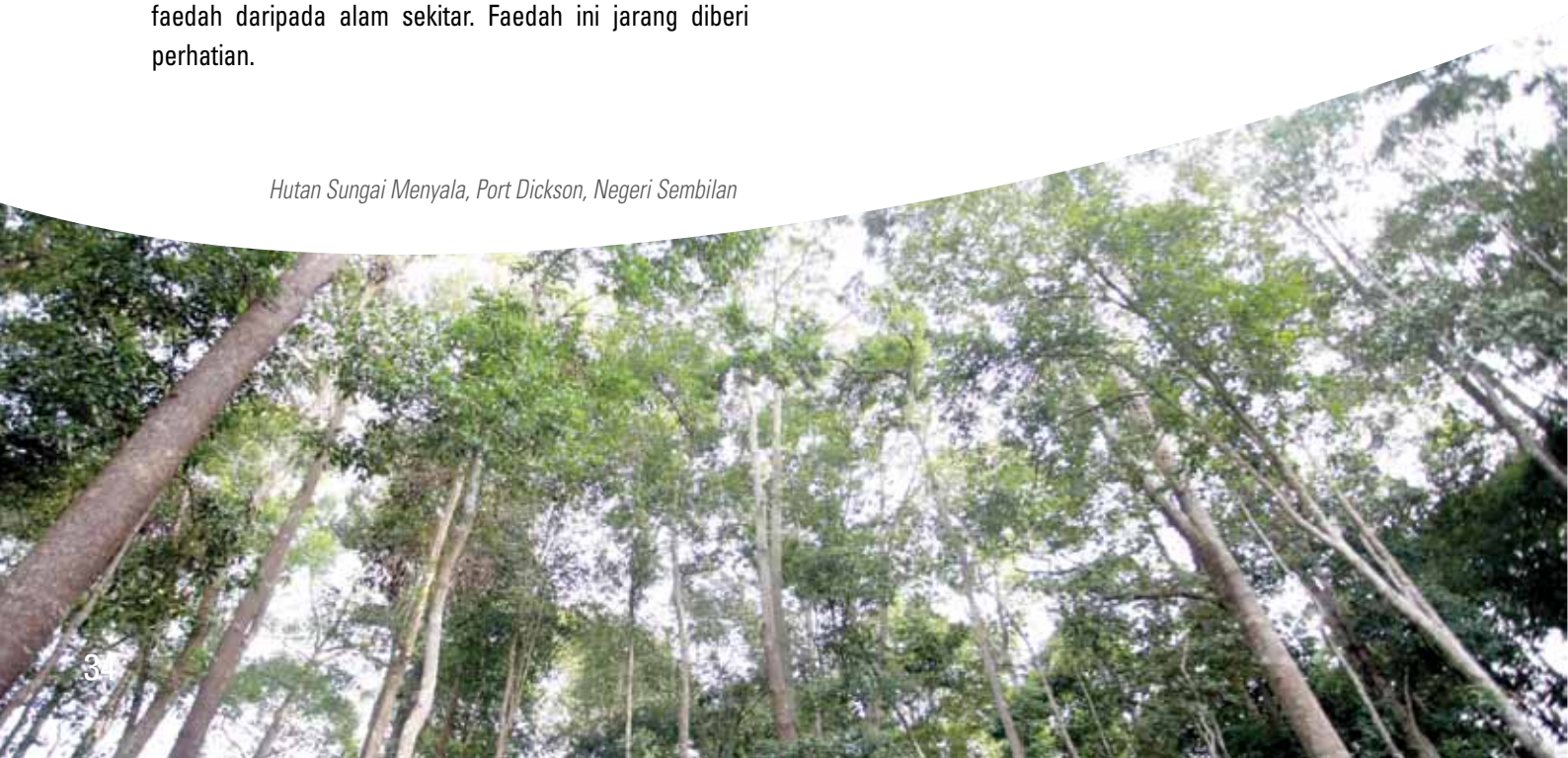
Water, forests and natural resources are vital components of ecosystem services in achieving sustainable development. Global communities have shown great interest in ensuring that countries move towards sustainable development. This means that the country's development must balance between economic, environmental and social components. The concept of sustainable development has long been entrenched in Malaysia's national development planning processes.

However, it must be realised that the success in the potential of sustainable development programmes are very much dependent on the effectiveness of governance which integrates the three pillars of sustainability.

In Malaysia, natural resources namely minerals, tin, forest and water have contributed significantly to the economic development and well-being of the country. It is envisaged that natural resources will continue to play an important role in the nation's quest to achieve developed status by 2020. The research thrust of this core group undertakes comprehensive study and research on various components and aspects of governance related to sustainable development of natural resources for Malaysia.

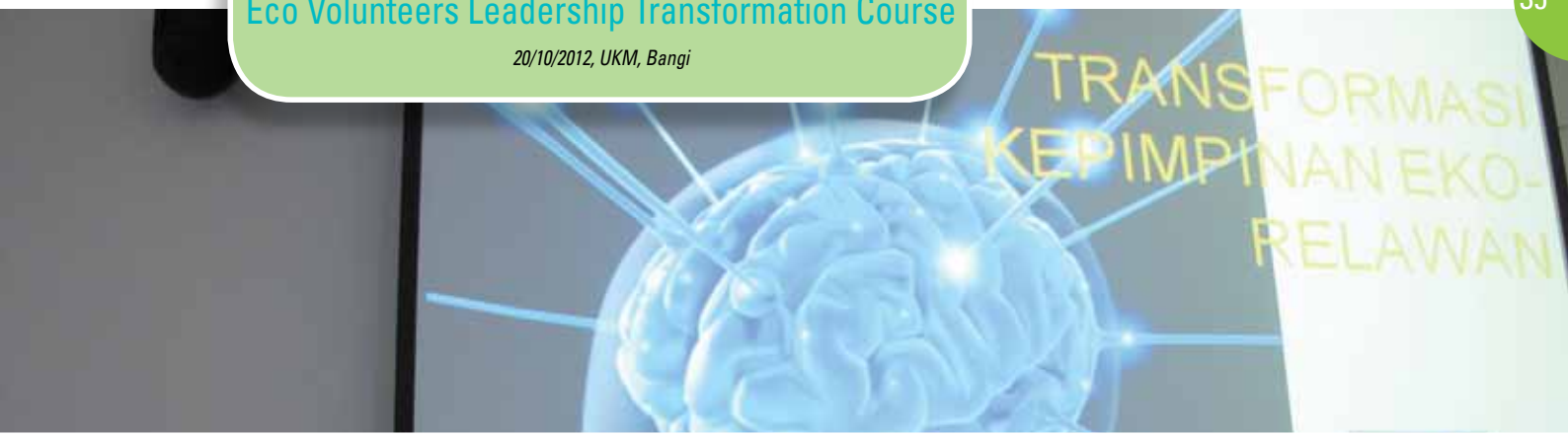
The current approach undertaken is to address various issues related to payment for ecosystem services particularly water, forest and biodiversity. It is important for human survival that benefits from nature in many ways of which are normally taken for granted.

Hutan Sungai Menyala, Port Dickson, Negeri Sembilan



Kursus Transformasi Kepimpinan Ekorelawan
Eco Volunteers Leadership Transformation Course

20/10/2012, UKM, Bangi



Kursus Transformasi Kepimpinan Ekorelawan ini telah dipimpin oleh Dr. Shaker Mustaffa /
The Eco Volunteers Leadership Transformation Course was headed by Dr. Shaker Mustaffa

Bandar Berdayahuni dan Landskap Ekologi
Liveable Cities and Landscape Ecology

Pengerusi / Chair: Abdul Samad Hadi (Emeritus Prof. Dato' Dr.)

AKTIVITI kumpulan penyelidikan ini secara konsisten dan berterusan meneliti isu-isu yang menyangkut tentang dayahuni bandar yang diterjemahkan kepada dayahuni perumahan dan seumpamanya. Penyelidikan yang dijalankan berteraskan kepada jaluran kerangka menjejak (tracking), menerap (embedding), memupuk (embracing) dan seterusnya membudayakan aspek kelestarian dalam pembangunan bandar di negara ini.

Sehingga kini, penerapan aspek-aspek kelestarian bandar begitu giat dijalankan. Makmal lapangan yang menganjur dari Proton City di Tanjung Malim sehingga ke Linggi di sempadan Negeri Sembilan/Melaka menjadi makmal mega untuk kumpulan ini menjalankan penelitian dan menguji perspektif, konsep, definisi, dan aplikasi yang diambil. Namun secara lebih mendalam dan pada skala yang lebih besar, penelitian berkait dengan dayahuni bandar ini diterapkan di Seremban dan bandar-bandar lain di dalam lingkungan makmal mega tadi.

Perolehan geran-geran penyelidikan dari kementerian, universiti dan dana penaja luar merancakkan penyelidikan oleh kumpulan ini. Pemberian geran oleh Kementerian Pengajian Tinggi (pada masa itu), membolehkan kajian mengenai peralihan transisi kelestarian dijalankan di koridor pembangunan bandar yang menganjur dari Kuantan ke Pekan di Pahang. Kerangka, model dan konsep kajian ekosistem yang dijalankan di Lembangan Bernam-Linggi selama ini diterapkan kepada kajian di Pahang ini. Hasil penelitian awal telah dikenalpasti dan laporan kajian sedang disediakan. Satu persidangan antarabangsa iaitu International Conference on Challenges of Extended Mega Urban Regions; The Changing Face of Southeast Asia and the World sedang diusahakan dan dijadualkan berlangsung pada 19-21 November 2013 nanti.

Kumpulan ini juga terlibat dalam penghasilan Dokumen PPLG adalah hasil usahasama antara LESTARI dan LADA yang dipertanggungjawabkan sebagai penyelaras pembangunan Langkawi Geopark dengan pihak Institusi Pengajian Tinggi dalam pengurusan pelaksanaan geopark. Dokumen ini memberi panduan mengenai pewujudan sebuah pelan pengurusan bagi sesebuah geopark. PPLG telah disediakan dengan pendekatan yang holistic, kemprehensif dan bekerterlibatan pelbagai pihak berkepentingan.

1 – 2

Siri Bengkel Program Bandar Lestari - Anugerah Alam Sekitar (Zon Timur)

Workshop on Sustainable City Programme - Environmental Award (Eastern Zone) Series

21-22 /2/2012, Kuantan, Pahang

The activities of this research group will consistently and continuously delve into issues related to liveable cities which, in turn, can be comparable to liveable houses and equivalent. Research are conducted based on tracking, embedding, embracing and constantly cultivating the sustainable aspects when developing cities in the country.

Up till now, the consolidation of sustainable aspects of cities are actively been administered. Field laboratories leading from Proton City, Tanjung Malim to Linggi at the border of Negeri Sembilan/Melaka are the mega laboratory for this group to carry out thorough investigations as well as testing of perspectives, concepts, definitions and applications. However, on an in-depth and bigger scale, research relating to liveable cities are managed in Seremban and other cities within the precinct of the mentioned mega field laboratory.

Acquisition of research grants from ministries, universities and external entities heightened the research activities of this group. Grants provided by the Ministry of Higher Education, Malaysia enabled a research relating to sustainability of transition changes be carried out for the city corridor development planning starting from Kuantan to Pekan in Pahang. The framework, model and concepts of ecosystem research incorporated at Bernam-Linggi Basin were employed to the research stints in Pahang. Initial investigation outcome has been identified and a research report is currently been prepared. An international conference entitled "International Conference on Challenges of Extended Mega Urban Regions: The Changing Face of Southeast Asia and the World" is been planned and scheduled to commence on 19-21 November 2013.

This group has also participated in the production of PPLG documentation which is the outcome from the collaboration between LESTARI and LADA, in its capacity as the development coordinator of the Langkawi Geopark with the Higher Education Institutions in the management of geopark implementation. This documentation provides the guidelines in building a management plan for a particular geopark. It has been comprehensively prepared using an holistical approach dan had the involvement of many stakeholders.

Sosio Ekonomi
Socio-economic

Pengerusi / Chair : Chamhuri Siwar (Emeritus Prof.)

KELESTARIAN ekonomi dan sosial merupakan dua komponen penting dalam paradigm pembangunan lestari. Kumpulan teras ini menumpukan kepada isu-isu dan kaedah penyelesaian bagi mengimbangi utilisasi sumber-sumber asli untuk kepentingan kebajikan manusia and ekonomi keseluruhannya. Tema dan persoalan-persoalan seperti hubungkait pertumbuhan ekonomi dan alam sekitar, keselamatan makanan dan pertanian lestari, kemiskinan dan penghidupan lestari, masyarakat terpinggir merupakan penyelidikan-penyelidikan yang menjadi fokus kepada kumpulan teras ini. Dalam pada itu, kaedah serta instrumen-instrumen bagi menilai sumber-sumber asli diterokai dan diaplikasi di dalam penyelidikan-penyelidikan yang dijalankan.

Economic and social sustainability are the main pillars in sustainable development paradigm. This core group focuses on the issues and solution of harmonizing the utilization of natural resources for the benefits of the human welfare and economics as a whole. Researches under this core group are economic growth and environmental nexus, food security and agricultural sustainability, poverty and sustainable livelihood and marginalized community. Methods and instruments for assessing natural resources are explored and applied in conducting the research.

Malam Gemilang LESTARI
LESTARI's Gala Nite

20/6/2012, Cyberview Lodge, Cyberjaya

1 – 4
Warga LESTARI diraikan dalam Majlis Makan Malam / Rewarding the LESTARIans for work well done during the LESTARI's annual dinner

Pengurusan Bahan Kimia (MyNICHE)
Chemicals Management (MyNICHE)

Pengerusi / Chair: Mazlin bin Mokhtar (Prof. Dr.)

KUMPULAN Penyelidikan MyNICHE telah diwujudkan pada 16 Jun 2005 untuk menjalankan kajian yang berkaitan dengan pengurusan bahan kimia di Malaysia serta di rantau Asia Tenggara. Objektif utama Kumpulan Penyelidikan MyNICHE adalah untuk menjalankan penyelidikan multidisiplin dalam bidang pengurusan bahan kimia; memberi sumbangan kepakaran serta input teknikal kepada pihak berkepentingan terutamanya dalam proses membuat keputusan dan membangunkan dasar; serta membangunkan kapasiti sumber manusia dalam menangani isu berkaitan dengan pengurusan bahan kimia. Kumpulan Penyelidikan MyNICH telah menganjurkan Rundingan Meja Bulat MyNICHE (RTD-MyNICHE) atas kerjasama dengan Bahagian Pengurusan Alam Sekitar dan Perubahan Iklim, Kementerian Sumber Asli dan Alam Sekitar (NRE), di mana RTD-MyNICHE ini merupakan satu jaringan yang melibatkan pihak berkepentingan termasuk kerajaan, industri, NGO, akademik dan institut penyelidikan untuk membincangkan isu-isu berkaitan dengan pengurusan kimia, contohnya perlaksanaan Strategic Approach to International Chemicals Management (SAICM) dan Globally Harmonised System of Classification and Labelling of Chemicals (GHS) di Malaysia.

Rundingan Meja Bulat MyNICHE yang kelapan (i.e. 8th RTD-MyNICHE) telah diadakan pada 18 Oktober 2011 dan ia dianjurkan atas kerjasama antara Kumpulan Penyelidikan MyNICHE dan

Bahagian Pengurusan Alam Sekitar dan Perubahan Iklim (Kementerian Sumber Asli dan Alam Sekitar). Tema untuk 8th RTD-MyNICHE adalah "Synergising Local Initiatives and International Obligations for The Future We Want" dan pihak berkepentingan daripada pelbagai disiplin dan sektor, termasuk daripada kerajaan, pihak swasta, NGO dan akademia telah mengambil bahagian dalam 8th RTD-MyNICHE. Untuk dana penyelidikan pula, Kumpulan Penyelidikan MyNICHE telah menerima satu dana antarabangsa daripada UNIDO (United Nations Industrial Development Organization) untuk menjalankan penyelidikan yang berkaitan dengan ratifikasi Konvensyen Stockholm. Di samping itu, Kumpulan Penyelidikan MyNICHE juga mendapat dana khas melalui HiCoE berpotensi LESTARI untuk menjalankan penyelidikan keselamatan makmal di sekolah-sekolah menengah di Malaysia.

MyNICHE Research Group was established on 16 June 2005 with the aims to conduct research pertaining to chemicals management in Malaysia and Southeast Asia. Objectives of MyNICHE are to conduct multidisciplinary research in the field of chemicals management; to provide expertise supports and technical inputs for stakeholders in order to assist them in the process of making decisions and establishing policies; and to develop trained human capital in addressing issues pertaining to chemicals management.

The MyNICHE Research Group and Environmental Management and Climate Change Division, Ministry of Natural Resources and Environment (NRE) have jointly organized the Round Table Dialogue of MyNICHE (RTD-MyNICHE), where the RTD-MyNICHE is a network that supports various stakeholders such as government, industry, NGO, academic and research institutes in managing chemicals and hazardous substances, including the implementation of Strategic Approach to International Chemicals Management (SAICM) and GHS (Globally Harmonised System of Classification and Labelling of Chemicals) in Malaysia

The 8th Round Table Dialogue of MyNICHE (i.e. 8th RTD-MyNICHE) was held on October 18, 2012, where it was jointly organized by MyNICHE Research Group and Environmental Management and Climate Change Division, Ministry of Natural Resources and Environment (NRE). The theme for 8th RTD-MyNICHE is "Synergising Local Initiatives and International Obligations for The Future We Want" and stakeholders from multi-disciplines and multi-sectors, such as representatives from government, private sector, NGOs and academia have participated in the 8th RTD-MyNICHE. In 2012, the MyNICHE Research Group obtained research grant from UNIDO (United Nations Industrial Development Organization) to carry out reserach pertaining to ratification of Stockholm Convention. Beside that, MyNICHE Research Group also being awarded a research grant under the framework of Potential HiCoE LESTARI to conduct research on chemical safety at secondary school laboratories in Malaysia.

Perubahan dan Adaptasi Eko Sistem (MyCLIMATE)
Ecosystem Change and Adaptation (MyCLIMATE)

Ketua/Head: Joy Jacqueline Pereira (Prof. Dr.)

KUMPULAN MyCLIMATE telah ditubuhkan pada 2007 hasil daripada Kajian Dasar Perubahan Iklim dengan sokongan biayaan daripada Kementerian Sumber Asli dan Alam Sekitar Malaysia (NRE) di bawah Rancangan Malaysia ke-9. MyCLIMATE bermatlamat untuk menyokong NRE, iaitu Titik Tumpuan Tempatan di Pentas "United Nations Framework Convention on Climate Change (UNFCCC)" dan "Intergovernmental Panel on Climate Change (IPCC)" dengan menjalankan aktiviti penyelidikan berkaitan dengan iklim di peringkat kebangsaan, negeri dan tempatan. Sekretariat MyCLIMATE disokong NRE dan Institut Kajian Bencana Asia Tenggara (SEADPRI-UKM).

MyCLIMATE merupakan jaringan kumpulan penyelidik dari pelbagai universiti, agensi kerajaan, pertubuhan yang berdedikasi menjalankan penyelidikan ber-kenaan isu perubahan iklim untuk menyokong pencegahan bencana dan pembangunan lestari. Penyelidik Kumpulan Perubahan Iklim dan Adaptasi (OUP-2012-113) merupakan ahli teras MyCLIMATE. Fokus MyCLIMATE adalah penyelidikan, pendidikan, dan penyediaan khidmat nasihat yang berteraskan lima tema iaitu: Adaptasi Perubahan Iklim dan Pengurangan Risiko Bencana; Dasar Perubahan Iklim dan Keselamatan Negara; Perubahan Iklim dan Kesihatan Awam; Perubahan Iklim dan Kelestarian Sumber; dan Pendidikan dan Penglibatan Komuniti dalam Perubahan Iklim dan Pencegahan Bencana.

Aktiviti penyelidikan MyCLIMATE pada tahun 2012 telah dibiayai oleh Asia Pacific Network for Global Change (APN), NRE, dan juga dana Penyelidikan UKM. Empat projek baru telah dijalankan oleh Kumpulan Perubahan Iklim dan Adaptasi pada tahun 2012 iaitu "Assessment of Climatic Hazards for Adaptation Response at the Local Level in Peninsular Malaysia" (RM100,000.00), "Establishment of National Platform and Action Plan for Disaster Risk Reduction" (RM48,000.00), "Adaptation Roadmap for Malaysia" (RM400,000.00) dan "Vulnerability and Adaptation Towards Cascading Disaster" (RM165,000.00). Ahli MyCLIMATE telah menghasilkan 21 jurnal terindeks, 2 jurnal tidak terindeks, 5 prosiding tidak terindeks, 2 buah buku, 9 orang siswazah sarjana dan 2 orang siswazah Doktor Falsafah (PhD).

Aktiviti jangkauan MyCLIMATE adalah termasuk Forum SEADPRI 2012 bertajuk "Advancing Disaster Prevention Climate Change Science and Policies" (14 Mei, 2012), "Workshop on Natural Disaster and Climate Change in Asia" (5-7 November, 2012) dan " Workshop on Natural Hazards and Climate Change Adaptation" (9 November 2012).

Kumpulan penyelidik MyCLIMATE telah membentangkan hasil kajian mereka di seminar, persidangan dan bengkel di peringkat kebangsaan dan antarabangsa. Melalui SEADPRI-UKM, MyCLIMATE turut terlibat secara aktif dalam "IPCC Fifth Assessment Report (IPCC-AR5)" dan "IPCC Special Report on Managing the Risks of Extreme Events" and "Disasters to Advance Climate Change Adaptation (SREX)".

MyCLIMATE was established in 2007 as an output of the Policy Study on Climate Change that was funded by the Ministry of Natural Resources and Environment (NRE) under the Ninth Malaysian Plan. The aim of MyCLIMATE is to support NRE, the National Focal Point for the United Nations Framework Convention on Climate Change (UNFCC) and Intergovernmental Panel on Climate Change (IPCC) through climate change-related research conducted at local, state and national levels. The secretariat of MyCLIMATE is supported by the NRE and Southeast Asia Disaster Prevention Research Institute (SEADPRI-UKM).

MyCLIMATE is a network of researchers from various universities, government agencies and organisations dedicated to conducting research on climate change that will support disaster prevention and sustainable development. Researchers of the Climate Change and Adaptation Group (UKM-OUP-2012-113) of UKM are the core members of MyCLIMATE. The focus of MyCLIMATE is on research, education and provision of advisory services in the following five thematic areas: Climate Change Adaptation and Disaster Risk Reduction; Climate Change Policy and National Security; Climate Change and Public Health; Climate Change and Sustainable Resources; as well as Education and Community Participation in Climate Change and Disaster Prevention.

MyCLIMATE research activities in 2012 were funded by the Asia Pacific Network for Global Change (APN), NRE, as well as UKM research funds. Four new projects were conducted by the Climate Change and Adaptation Group in 2012. These are entitled "Assessment of Climatic Hazards for Adaptation Response at the Local Level in Peninsular Malaysia" (RM100,000.00), "Establishment of National Platform and Action Plan for Disaster Risk Reduction" (RM48,000.00), "Adaptation Roadmap for Malaysia" (RM400,000.00) and "Vulnerability and Adaptation towards Cascading Disaster" (RM165,000.00). Members of MyCLIMATE produced 21 indexed journals, 2 non-indexed journal, 5 non-indexed proceedings, 2 books, 9 master graduates and 2 doctoral graduates (PhD).

MyCLIMATE outreach consisted of the SEADPRI 2012 Forum titled "Advancing Disaster Prevention Climate Change Science and Policies" (14 May, 2012), "Workshop on Natural Disaster and Climate Change in Asia" (5-7 November 2012) and "Workshop on Natural Hazards and Climate Change Adaptation" (9 November 2012). Researchers of MyCLIMATE presented their research outcomes in seminars, conferences and workshops at national and international levels. MyCLIMATE, through SEADPRI-UKM, also participates actively in the IPCC Fifth Assessment Report (IPCC-AR5) and IPCC Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX).

Projek Penyelidikan
Research Projects

	Nama Projek / Name of Projects	Kod Projek / Project Codes	Jumlah Dana / Funding Amount	Tempoh / Duration
Biaya/Funding: Kementerian Pengajian Tinggi / Ministry of Higher Education				
1	Greening The Economy: Impacts of Selected Greening Initiatives on Sustainable Livelihood and Socio- Economic Wellbeing of the Lower Income Households in Malaysia *Ketua Projek/Project Head: Chamhuri Siwar (Emeritus Prof.)*	FRGS/1/2012/ SS07/ UKM/01/3	RM50,000	4/4/2012-3/4/2014
2	Food Security Assessment for the Flood-Affected Victim: Vulnerability, Coping Strategy and Livelihood *Ketua Projek/Project Head: Rospidah Ghazali (Dr.)*	FRGS/1/2012/ SS07/ UKM/03/1	RM50,000	2012-2014
3	Preference and Accessibility to Goods and Services in Shaping a Livable City in the Linggi to Bernam Mega-Urban Region: Case Seremban Municipality *Ketua Projek/Project Head: Abdul Samad Hadi (Emeritus Prof. Dato' Dr.)*	FRGS/1/2012/ SSI11/ UKM/01/1	RM40,000	2012-2014
4	Development of a Grounded Socio-Spatial Urbanization Theory for Malaysia's Secondary City Region *Ketua Projek/Project Head: Abdul Hadi Harman Shah*	FRGS/1/2012/ SSI11/ UKM/02/2	RM50,000	2012-2014
5	Projek Pelan Strategi Pembangunan Lestari Wilayah / Project Plan for Regional Sustainable Development Strategy *Ketua Projek/Project Head: Halimaton Saadiah Hashim (Datin Paduka Dr.)*	XX-02-2012	RM400,000	2012-2013
6	Pembentukan Hala Tuju Pembangunan Lestari Sumber Hutan dan Air di Negeri Pahang / Strategic Formation on Sustainable Development of Forestry and Water Resources in Pahang *Ketua Projek/Project Head: Shaharuddin Mohamad Ismail (Dato')*	XX-03-2012	RM165,000	2012-2013
7	Transisi Ke Arah Kelestarian: Menilai Perubahan Pembandaran di Lembangan / Sungai Pahang / Transition Towards Sustainability: Assessing the Urbanization Changes at Pahang River Basin *Ketua Projek/Project Head: Abdul Samad Hadi (Emeritus Prof. Dato' Dr.)*	XX-04-2012	RM165,000	2012-2013
8	Kepenggunaan Hijau: Kajian Kesedaran, Pengetahuan, Perlakuan dan Kesanggupan Membayar untuk Produk Hijau dalam Wilayah Ekonomi Pantai Timur (ECER) / Green Consumerism: Research on the Awareness, Knowledge, Actions and Willingness To Pay for Green Products in the East Coast Economic Region (ECER) *Ketua Projek/Project Head: Chamhuri Siwar (Emeritus Prof.)*	XX-05-2012	RM165,000	1/4/2012-31/12/2013
9	Kesedaran Keselamatan Bahan Kimia di Kalangan Pelajar Sekolah Menengah / Chemical Safety Awareness Amongst Secondary School's Students *Ketua Projek/Project Head: Goh Choo Ta (Dr.)*	XX-06-2012	RM165,000	2012-2013
10	Kemudahterancaman dan Adaptasi Terhadap Bencana Berkasked / Threatening and Adaptation Towards Cascading Hazards *Ketua Projek/Project Head: Joy Jacqueline Pereira (Prof. Dr.)*	XX-07-2012	RM165,000	2012-2013
11	Kepelbagaian Sumber Warisan Geologi Lembangan Sungai Pahang dan Potensinya untuk Geopelancongan dan Pembangunan Geopark / Multi Geological Heritage Resources of Pahang River Basin and Its Potential for Geotourism and Geopark Development *Ketua Projek/Project Head: Mohd Shafeea Leman (Prof. Dr.)*	XX-08-2012	RM165,000	2012-2013
12	Kajian Pembangunan Wilayah Delta Sarawak / Research on the Development of Sarawak Delta Region *Ketua Projek/Project Head: Ibrahim Komoo (Emeritus Prof. Dato' Dr.)/Che Aziz Ali (Prof. Dr.)*	XX-09-2012	RM165,000	2012-2013

	Nama Projek / Name of Projects	Kod Projek / Project Codes	Jumlah Dana / Funding Amount	Tempoh / Duration
13	Pemindahan Teknologi dan Ilmu Pengetahuan Tentang Pemetaan Kemiskinan di Wilayah Ekonomi Pantai Timur (ECER): Kerjasama Pemindahan Ilmu oleh LESTARI UKM kepada Unit Penyelarasan Pelaksanaan (ICU) / Technology and Knowledge Transfer on Poverty Mapping at East Coast Economic Region (ECER): Joint Venture of Knowledge Transfer by LESTARI UKM to Implementation Coordination Unit (ICU) (*Geran Knowledge Transfer Program)* *Ketua Projek/Project Head: Chamhuri Siwar (Emeritus Prof.)*	PHI-2012-04	RM117,875	17/7/2012-16/7/2013
14	Pemindahan Ilmu Trandisiplin untuk Kelestarian dan DayaHuni / Transdisciplinarity Knowledge Transfer for Sustainability and Livability (*Geran Knowledge Transfer Program)* *Ketua Projek/Project Head: Shaharudin Idrus*	PHI-2012-03	RM111,725	2012-2013
15	Extended Mega-Urban Region (EMUR) In Malaysia: Challenges To Sustainability *Ketua Projek/Project Head: Chamhuri Siwar (Emeritus Prof.)*	ERGS/1/2012/ SSI12/ UKM/01/1	RM50,000	2012 - 2015
16	Analysis of Watershed Sustainability Index (WSI) at Catchment Level for Langat River Basin *Ketua Projek/Project Head: Abdul Samad Hadi (Emeritus Prof. Dato' Dr.)*	ERGS/1/2012/ STWN01/ UKM/02/4	RM89,000	2012 - 2015
17	Exploring Sustainability Concept, Prospect, Methodologies and Processes: The Complexity and Ecosystem Connectivity of Malaysia's Tidal Wetlands *Ketua Projek/Project Head: Dr. Ahmad Aldrie Amir (Dr.)*	ERGS/1/2012/ STWN01/ UKM/03/2	RM87,200	2012 - 2015
18	Pemantapan Aspek Kualiti Pengurusan Penyelidikan Melalui Proses Pengukuhan Sistem Pengurusan Data dan Inventori Secara Sistematik / Stabilizing the Quality Aspects of Research Management Through Strengthening the Data and Inventory Management System's Process Systematically *Ketua Projek/Project Head: Nik Mohd Noor Faizul Md Saad*	XX-14-2012	RM75,000	Ogos 2012 - Julai 2013
	Biaya/Funding: Geran Penyelidikan Jangka Panjang (LGRS) / Long Term Research Grant			
19	Development of a Model for Water Governance of Selected Urban Areas in Langat Basin *Ketua Projek/Project Head: Mazlin bin Mokhtar (Prof. Dr.)*	XX-11-2012	RM30,000	Julai 2012-Julai 2014
20	Sosio Economic Impact Aspect of Water Security and Sustainable Livelihood: On Selected Urban Agriculture in Malaysia *Ketua Projek/Project Head: Chamhuri Siwar (Emeritus Prof.)*	XX-12-2012	RM30,000	1/7/2012-30/6/ 2014
	Biaya/Funding: Dana Universiti Penyelidikan / Research University Funds			
21	Dana Lonjakan Penerbitan (DLP) / Publication Spurting Funds (DLP) *Ketua Projek/Project Head: Mazlin bin Mokhtar (Prof. Dr.)*	UKM-DLP-2011-083	RM100,000	2012
	Biaya/Funding: UNITEN			
22	Roadmap Adaptasi untuk Malaysia / Roadmap Adaptation for Malaysia *Ketua Projek/Project Head: Joy Jacqueline Pereira (Prof. Dr.)*	XX-07-2011	RM400,000	2012 - 2013
	Biaya/Funding: ASMA Environmental Consultancy Sdn. Bhd.			
23	Kaedah Pengukuran Punca Pencemaran: Penilaian dan Kemas kini Garis Panduan Alam Sekitar / Methods on Measuring Causes of Pollution: Assessment and Updating of Enviromental Guidelines *Ketua Projek/Project Head: Sarah Aziz (Dr.)*	XX-01-2012	RM21,600	1/3/2012 - 30/6/2012

	Nama Projek / Name of Projects	Kod Projek / Project Codes	Jumlah Dana / Funding Amount	Tempoh / Duration
	Biaya/Funding: United Nations Industrial Development Organization (UNIDO)			
24	Assessment of Existing National Legal Framework and Measures for the Ratification of Stockholm Convention on Persistent Organic Pollutants (POPs) in Malaysia *Ketua Projek/Project Head: Sarah Aziz (Dr.)*	XX-10-2012	USD15,870/ RM47,610	1/6/2012 - 28/2/2013
	Biaya/Funding: Dana Rangsangan - Geran Universiti Penyelidikan Khas / Stimulation Funding - Special Research University Grant			
25	Sustainable Consumption: An Exploratory on Green Consumerism in Malaysia *Ketua Projek/Project Head: Chamhuri Siwar (Emeritus Prof.)*	GUP-2012-090	RM10,000	1/8/2012 - 31/7/2013
	Biaya/Funding: HTC			
26	Upscaling of MSMA Ecohydrology at the Catchment Level (Sg. Langat) *Ketua Projek/Project Head: Mazlin bin Mokhtar (Prof. Dr.)*	XX-15-2012	RM826,511	16/7/2012 - 15/7/2013
	Biaya/Funding: Selangor Perbadanan Adat Melayu & Warisan Negeri Selangor (PADAT)			
27	Pembentukan Pangkalan Data dan Pemetaan GIS Kawasan Jugra Lama, Kuala Langat Selangor Database Development and GIS Mapping for Jugra Lama, Kuala Langat Areas *Ketua Projek/Project Head: Shaharudin Idrus*	XX-13-2012	RM30,000	1/08/2012 - 31/07/2013
	Biaya/Funding: Malaysian Green Technology Corporation			
28	Kajian Asas Kerangka Perundangan Berkaitan Teknologi Hijau Basic Research on the Legislative Framework of Green Technology *Ketua Projek/Project Head: Sarah Aziz (Dr.)*	XX-17-2012	RM120,000	1/9/2012 - Feb 2013
	Biaya/Funding: Geran Galakan Penyelidik Muda / Young Researchers Encouragement Grant			
29	Kajian Sistematik Landskap Geologi untuk Geopelancongan Systematic Geological Landscape Research for Geotourism *Ketua Projek/Project Head: Tanot Unjah (Dr.)*	GGPM-2012-081	RM15,000	1/10/2012 - 30/9/2014
	Biaya/Funding: Geran Galakan Penyelidikan Universiti / Research University Encouragement Grant			
30	Nurturing Sustainable Future: Knowledge Transfer to Eco-Volunteers and Community *Ketua Projek/Project Head: Shaharuddin Mohd Ismail (Dato')*	Komuniti - 2012 - 031	RM30,000	1/11/2012 - 31/10/2014
	Biaya/Funding: The Swedish International Centre of Education for SD (SWEDESH)			
31	Learning for Change: Education for Sustainable Development in Malaysia *Ketua Projek/Project Head: Rahmah Elfithri (Dr.)*	XX- 16-2012	RM19,500	1/10/2012 - 1/10/2013
	Biaya/Funding: Geran Universiti Penyelidikan,UKM			
32	Self-Build Remodel House for Commercial, Affordable, Sustainable Housing (CASH) *Ketua Projek/Project Head: Norngainy Mohd Tawil (Dr.)*	GUP-2012-058	RM30,000	7/5/2012 - 30/4/2013

Bengkel Tahunan Kumpulan Penyelidikan Pengurusan Sumber Air Bersepadu / Integrated Water Resources Management Research Group Annual Workshop

17-18 Dis 2012, Colmar Tropicale, Pahang

Knowledge Transfer for Sustainable Development in Malaysia Workshop

9-11 July 2012, UKM Bangi

Latihan PASCA SISWAZAH
POSTGRADUATE TRAININGS

PROGRAM PASCA SISWAZAH POSTGRADUATE PROGRAMMES 50

SKIM ZAMALAH ZAMALAH SCHEMES 54

Program Pasca Siswazah
Postgraduate Programmes

Program pascasiswazah di LESTARI tertumpu kepada peningkatan ilmu serta pengembangan ilmu baru dalam bidang alam sekitar dan pembangunan. Ijazah Pascasiswazah ditawarkan pada peringkat Sarjana dalam bidang seperti Alam Sekitar dan Pembangunan; Pengurusan Ekosistem Bandar; Pemuliharaan Alam Sekitar; Pengurusan Kepelbagaian Biologi; dan Kajian Dasar Alam Sekitar dan Pembangunan.

Mod pengajian adalah dalam bentuk penyelidikan sahaja dan boleh dilakukan sepenuh atau separuh masa.

The postgraduate programme in LESTARI focuses on strengthening knowledge and pursuing new knowledge in the fields of environment and development. Postgraduate degrees are offered at both Masters and Doctoral levels in the areas of Environment and Development; Urban Ecosystem Management; Environmental Conservation; Biodiversity Management; and Environment and Development Policy Study.

The mode of study is in the form of research only and can be done either on a full-time or part-time basis.

BIDANG PENGAJIAN / FIELDS OF STUDY

Doktor Falsafah Alam Sekitar dan Pembangunan /
Doctor of Philosophy in Environment and Development

- Kajian Dasar Alam Sekitar dan Pembangunan / Policy Study of Environment and Development
- Pengurusan Ekosistem Bandar / Urban Ecosystem Management
- Pemuliharaan Alam Sekitar / Environmental Conservation
- Pengurusan Kepelbagaian Biologi / Biological Diversity Management

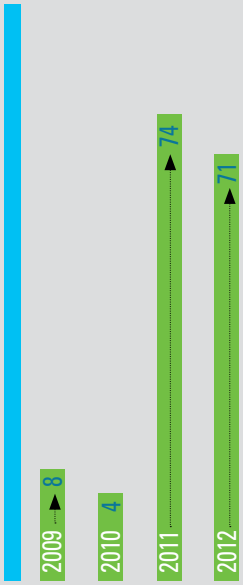
Sarjana Sains / Master of Science

- Kajian Dasar Alam Sekitar dan Pembangunan / Policy Study of Environment and Development
- Pengurusan Ekosistem Bandar / Urban Ecosystem Management
- Pemuliharaan Alam Sekitar / Environmental Conservation
- Pengurusan Kepelbagaian Biologi / Biological Diversity Management

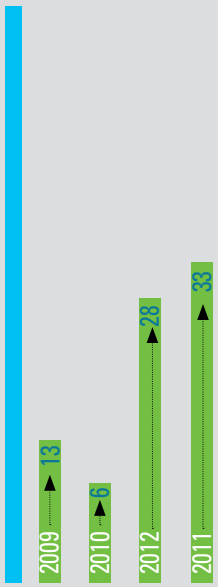
Sarjana Sastera / Master of Arts

- Alam Sekitar dan Pembangunan / Environment and Development
- Pengurusan Ekosistem Bandar / Urban Ecosystem Management
- Kajian Dasar Alam Sekitar dan Pembangunan / Policy Study of Environment and Development

RAJAH 6 / FIGURE 6
Bilangan Pelajar PhD 2009-2012
Number of PhD Students 2009-2012



RAJAH 7 / FIGURE 7
Bilangan Pelajar Sarjana 2009-2012
Number of Masters Students 2009-2012



SENARAI PASCA SISWAZAH PhD YANG MULA PENGAJIAN PADA 2012 / LIST OF PhD POSTGRADUATES COMMENCING STUDY IN 2012		
Nama / Names	Tajuk / Titles	Penyelia / Supervisors
Radin Firdaus Radin Badaruddin P 64447	The Impacts of Climate Change on Malaysian Paddy Production : Application of the Ricardian Techniques	Chamhuri Siwar (Emeritus Prof.)
Puspawani A/P Ramaloo P 64446	Mengkaji Potensi dan Cabaran Ekonomi Hijau di Malaysia / Researching the Potentials and Challenges of Green Economy in Malaysia	Chamhuri Siwar (Emeritus Prof.) Anizan Ishak (Assoc. Prof. Dr.) - FST
Siddique Ahmad P 64445	Prospect of Green Consumerism in Rural Communities of Bangladesh	Chamhuri Siwar (Emeritus Prof.)
Muhammad Yasar P 64444	Analisis Polisi Sekuriti Makanan: Aplikasi terhadap Pendapatan dan Tingkat Kesejahteraan Petani Sawah di Kawasan Jelapang Padi Malaysia / Food Security Policy Analysis: Application on Paddy Farmers' Income and Level of Wellbeing at Rice-Bowl Areas of Malaysia	Chamhuri Siwar (Emeritus Prof.) Rospidah Ghazali (Dr.)
Afzal Hakim Zakof P 64443	Impak Aktiviti Penambakan Laut Pesisir Pantai Melaka dan Kesannya Terhadap Kualiti Hidup / The Impact of Land Reclamation Activities Along the Malacca Coastal Areas and its Effect Towards Quality of Livelihood	Ahmad Aldrie Amir (Dr.) Mazlin Mokhtar (Prof. Dr.)
Che Zaliha Shahrum Taib P 64442	Nomad Green Achiture Technology	Azimin Shamsul Tazilan (Assoc. Prof. Dr.)
Siti Dina Razman Pahri P 64625	Life Cycle Assessment of Asian Green Mussels : Comparison of Long Life Culture and Smart Farm Culture in Teluk Jawa Johor	Ahmad Fariz Mohamed (Assoc. Prof. Dr.) Abdullah Samad (Dr.)
Mohd Nazri Saidon P 64626	Pengaruh Iklim-Mikro dan Corak Landskap Terhadap Habitat Kelip-Kelip Pinggir Sungai di Semenanjung Malaysia / Micro-climate Influences and Landscape Patterns on the Habitat of fireflies at the River Plains in Peninsular Malaysia	Saiful Arif Abdullah (Assoc. Prof. Dr.) Ahmad Aldrie Amir (Dr.)
Norzalina Zainuddin P 64627	Tarif Air Bandar dalam Melestarikan Pengurusan Sumber Air di Selangor / Urban Water Tariff in Water Resources Management Sustainability in Selangor	Chamhuri Siwar (Emeritus Prof.) Er Ah Choy (Assoc. Prof. Dr.)
Mohamad Rahmdzey Roly P 69638	Green Tourism Tranformation at Rural Area in Malaysia	Chamhuri Siwar (Emeritus Prof.) Shaharuddin Mohamad Ismail (Dato')
Rashidah Zainal Alam P 66185	Ekonomi Hijau: Impak Inisiatif Penghijauan Terpilih Terhadap Pembangunan Lestari dan Sosio Ekonomi Isi Rumah Berpendapatan Rendah di Malaysia / Green Economy: Chosen Greening Initiative Impacts on Sustainable Development and Socio-economy of Low Income Households in Malaysia	Chamhuri Siwar (Emeritus Prof.) Norashikin Ahmad Ludin
Khan Md Raziuddin Taufique P 66186	Economic of Green Food Products In Malaysia: Empirical Study on Consumer Perception and Willingness to Pay	Chamhuri Siwar (Emeritus Prof.) Rawshan Ara Begum (Assoc. Prof. Dr.)
Intan Afida Mohamad Amin P 66187	Sustainable Site Planning Assessment Tool for New Residential Development	Halimaton Saadiah Hashim (Datin Paduka Dr.) Shaharudin Idrus
Azlinawati Abdullah P 67224	Keberkesanan Program Sukarelawan Alam Sekitar di Sekolah Rendah / The Effectiveness of Environmental Volunteers Programmes at Primary Schools	Sharifah Zarina Syed Zakaria (Dr.)

SENARAI PASCA SISWAZAH PhD YANG MULA PENGAJIAN PADA 2012 / LIST OF PhD POSTGRADUATES COMMENCING STUDY IN 2012

Nama / Names	Tajuk / Titles	Penyelia / Supervisors
Dana Badang P 67222	Pencirian dan Pembangunan Geowarisan dan Geotapak untuk Membangunkan Geopark Delta Sarawak / Characteristics and Development of Geoheritage and Geosites for Developing Delta Sarawak Geopark	Che Aziz Ali (Prof. Dr.) Ibrahim Komoo (Prof. Dato' Dr.)
Ajimi Jawan P 67844	The Application of Green Technology in Enhancing Quality of Water Supply in Malaysia	Mazlin Mokhtar (Prof. Dr.) Goh Choo Ta (Dr.)
Firdaus Al-Siddiq Fadzil P 64842	Psikologi Perbandaran: Memahami Aspek Tingkah Laku Manusia dalam Konteks Sosio Ekonomi Terhadap Proses Pembangunan Perbandaran di Malaysia / Municipal Psychology: Understanding the Aspects of Human Behaviours in the Context of Socio-economy on the Process of Municipality Development in Malaysia	Hadi Harman Shah (Assoc.Prof.) Abdul Samad Hadi (Emeritus Prof. Dato' Dr.) Shaharudin Idrus
Innocent Jereme P 67845	Solid Waste Management Problems In Redang Island and Terengganu, Malaysia	Chamhuri Siwar (Emeritus Prof.)
Mohammed Ebrahim Hussien P 68218	Green Economy as Engine Towards Sustainable Economic Development: The Case of Malaysia	Chamhuri Siwar (Emeritus Prof.)

SENARAI PASCA SISWAZAH YANG TAMAT PENGAJIAN PADA 2012 / LIST OF POSTGRADUATES GRADUATED IN 2012

Doktor Falsafah (PhD) / Doctor of Philosophy (PhD)

Nama / Names	Tajuk / Titles	Penyelia / Supervisors
Abu Bashar Bhuiyan P 47030 Bangladesh	Impact of Micro Credit on Poverty Alleviation and Sustainable Livelihood of the Borrowers and Measurement of Micro Finance Institutional Sustainability : A Case Study of Grameen Bank and Islamic MFIs in Bangladesh	Chamhuri Siwar (Emeritus Prof.)
Mohamad Imam Hasan Reza P 43576 Bangladesh	Ecological Integrity of Wildlife Protected Areas in the State of Selangor, Peninsular Malaysia	Saiful Arif Abdullah (Assoc. Prof. Dr.) Shukor Md Nor (Prof. Dr.)
Mohd Kher Hussein P 42342 Malaysia	Persepsi Pihak Berkepentingan Terhadap Pembangunan dan Pengurusan Landskap Hutan Rekreasi di Selangor, Malaysia / Stakeholders' Perception Towards Landscaping Development and Management of Forest Recreation in Selangor, Malaysia	Chamhuri Siwar (Emeritus Prof.) Saiful Arif Abdullah (Assoc. Prof. Dr.) Shaharuddin Mohamad Ismail (Dato')
Tan Kok Weng Malaysia	Implementation of Integrated Water Resources Management in Pahang River Basin : Multi Stakeholder and Multidisciplinary Approach	Mazlin Mokhtar (Prof. Dr.) Samijah Surif (Prof. Dr.)
Dr. Sumitra Sithparam Malaysia	Developing an Integrated Rating Criteria for the Sustainable Use of Malaysian Coastal Recreational Waters	Mazlin Mokhtar (Prof. Dr.) Hood Salleh (Emeritus Prof. Dato' Dr.)

SENARAI PASCA SISWAZAH YANG TAMAT PENGAJIAN PADA 2012 / LIST OF POSTGRADUATES GRADUATED IN 2012

Sarjana / Masters

Nama / Names	Tajuk / Titles	Penyelia / Supervisors
Amal Najihah P 40537 Malaysia	Ekologi Landskap Kawasan Hijau Bandar di Bandaraya Kuala Lumpur / Ecological Landscape of Urban Green Areas in Kuala Lumpur	Saiful Arif Abdullah (Assoc. Prof. Dr.) Shukor Mat Nor (Prof. Dr.) Hasmadi Ishak (Assoc. Prof. Dr.) - UPM
Azhar Abdul Aziz P 34117 Malaysia	Menjejaki Ciri dan Implikasi Bandaraya Islam Terhadap Prospek Masa Hadapan Bandar Kota Bharu Sebagai Bandaraya Islam: Kajian Kes Kota Bharu / Tracking the Characteristics and Implications of Islamic City in the Future Prospects of Kota Bharu as an Islamic City: Case Study of Kota Bharu	Chamhuri Siwar (Emeritus Prof.) Abdul Samad Hadi (Emeritus Prof. Dato' Dr.)
Koh Fui Pin P 44188 Malaysia	Assessment of Policy Response to Address Climate Changes : Case Study of Malaysia	Joy Jaqueline Pereira (Prof. Dr.) Sarah Aziz Abdul Ghani Aziz (Dr.)
Mohd Zamri Daud P 2945 Malaysia	Pengurusan Kawasan Tadahan Berdasarkan Kualiti Air di Utara Tanah Bencah Putrajaya / Management of Encatchment Areas in Relation to Water Quality in the Northern Swampland of Putrajaya	Mazlin Mokhtar (Prof. Dr.) Joy Jaqueline Pereira (Prof. Dr.)
Muhamad Yasar P 51437 Indonesia	Aplikasi Sistem Maklumat Geografi (GIS) untuk Kawalan Pertukaran Gunatanah Kawasan Sawah Padi Di Provinsi Aceh, Indonesia / Application of Geographical Information System (GIS) for Transfer Control of Paddy Fields in the Province of Aceh, Indonesia	Chamhuri Siwar (Emeritus Prof.) Shaharudin Idrus
Noor Ayuni Ahmad Azlan P 44178 Malaysia	Instrument to Measure Stakeholder Attitude Towards Malaysia Biosafety Regulation in Biotechnology	Latifah Amin (Dr.)
Siti Khadijah Satari P 42256 Malaysia	Analisis Kos Faedah Ekonomi Pengurusan Sisa Binaan dalam Sistem Pembinaan Konvensional dan Berindustri : Kajian di Lembah Klang / Cost Analysis on the Benefits of Managing Construction Debris in Industrial and Conventional Construction Systems: Case Study in Klang Valley	Joy Jaqueline Pereira (Prof. Dr.)

Kuala Lumpur

Skim Zamalah
Zamalah Schemes

Kursi Endowmen Datin Miriam Mohd Yusuff / Datin Miriam Mohd Yusuff Endowment Chair

Penyumbang / Contributor
Keluarga Datin Miriam Mohd Yusuf / Datin Miriam Mohd Yusuf's Family

Nilai Tajaan / Endowment Fund
RM 1 Juta

Keperluan bagi governans untuk kelestarian telah meningkat kerana berlakunya perubahan biosfera mengikut masa yang seiring dengan pelbagai peristiwa yang dilakukan oleh aktiviti manusia. Sepanjang tempoh lima puluh tahun, Malaysia telah mengejar pertumbuhan ekonominya terutama untuk menjana perubahan sosio-ekonomi yang lebih luas bagi memberi peluang kepada masyarakat mengecapi kualiti hidup yang lebih baik.

Sebahagian besar negara di Asia-Pasifik masih lagi berusaha untuk mencapai pembangunan. Sehubungan dengan itu pembangunan ekonomi merupakan agenda utama bagi memperolehi kekayaan yang mencukupi untuk membina infrastruktur dan pembangunan sosial yang mantap. Namun begitu, usaha yang dijalankan untuk mencapai pembangunan ekonomi yang kukuh telah memberi kesan kepada sumber asli dan alam sekitar. Dalam kes yang ekstrim, alam sekitar yang dieksploit telah menyebabkan berlakunya kekurangan sumber, kepupusan biodiversiti dan yang pastinya, degradasi alam sekitar.

Semenjak Persidangan Bumi Pertama di Rio de Janeiro, Brazil anjuran Pertubuhan Bangsa-Bangsa Bersatu pada tahun 1992, kebanyakan negara telah cuba melaksanakan pembangunan lestari sebagai asas kepada proses pembangunan negara, yang sudah pastinya dirangka dan diubahsuai mengikut keperluan setiap negara. Namun begitu secara asasnya, pembangunan lestari mempunyai dimensi untuk pembangunan ekonomi, pembangunan sosial dan pemuliharaan alam sekitar. Dalam konteks ini penyelidikan saintifik adalah perlu untuk menghasilkan pengetahuan asas bagi mempertingkatkan alat dasar dan membuat keputusan yang akan membantu governans untuk kelestarian. Walau bagaimanapun, apa yang umum di dalam definisi yang dipakai merujuk kepada governans yang merangkumi tradisi, institutsi, mekanisme dan proses. Setiap proses termasuk penentuan pilihan awam, formulasi dasar dan membuat keputusan. Institusi menyediakan peranan dan hubungan antara pelbagai pihak berkepentingan atau kumpulan yang berkepentingan. Daripada prinsip di atas, governans

Sungai Segama, Lembah Danum

untuk kelestarian boleh merujuk kepada institusi yang merangkumi aktor dan instrumen di dalam struktur khusus. Mekanisme dan proses governans diselitkan dengan nilai tradisi dan universal yang membentuk sebahagian daripada sistem yang dapat memenuhi keperluan masyarakat tempatan.

Kajian bidang Governans Kelestarian telah menjadi penting bukan sahaja untuk tujuan akademik malahan perlu diterimapakai di dalam proses membuat keputusan. Sedemikian itu, dana ini diwujudkan bagi menyokong kerja-kerja penyelidikan dan kerja berkaitan untuk memahami isu-isu yang berkaitan dengan governans kelestarian. Ia juga akan digunakan untuk proses penyebaran perjumpaan dan pengetahuan penting penyelidikan selain daripada mempelopori dan membangunkan pendekatan baru, kaedah dan mekanisme terkini dalam bidang kajian ini.

The pursuit of effective governance for sustainability increases due to biospherical changes that have emerged in time, in tandem with the direct result of human activities. Throughout the period of fifty years, Malaysia has been expediting its economic growth especially for generating a vast socioeconomy changes in order to provide opportunities to communities to reach a better quality of life.

A large number of developing countries in Asia Pacific are still actively implementing programmes to achieve development. Concurrently, economic growth becomes the main agenda for ensuring sufficient wealth is obtainable in order to build a strong infrastructure and social development. However, the efforts in reaching a strong economic growth have affected the natural resources and environment at large. In extreme cases, the exploited environment has resulted in the depletion of resources and extinction of biodiversity which in turn evolve to environmental degradation.

Since the first Earth Summit in Rio de Janeiro, Brazil which was organised by the United Nations in 1992, most countries have delved into sustainable development as the foundation in creating the national development processes which are most definitely framed and modified according to the needs of one's country. Nevertheless, sustainable development basically incorporates dimensions for economic growth, social growth and environmental conservation. In this context, scientific research is inevitable for engendering basic knowledge in order to intensify the policy and decision making instruments that would eventually help the governance for sustainability.

However, the general usage in defining governance reflects to traditions, institutions, mechanism and processes. Each process includes public choice determination, policy formulations and decision makings whilst the institutions prepare the roles and relationships between the stakeholders. From the principle described above, the governance for sustainability could refer to institutions comprising an actor and an instrument in a specific structure. Mechanism and governance processes, in turn, are infused with traditional and universal values to shape parts of the system in order to satisfy the requirements of the local community.

Research on the field of sustainable governance has been increasingly important not only for academic purposes but also due to its significance in the process of decision making. As such, this endowment was established to support the research works and related works in understanding the issues associated to sustainable governance. It also will be used to disseminate research knowledge and findings in meetings and discussions, apart from pioneering and developing new approaches, methods and latest mechanism in this research field.

Tabung Dato' Ismail Awang / Dato' Ismail Awang Fund

Penyumbang / Contributor
Keluarga Dato' Ismail Awang / Dato' Ismail Awang's Family

Nilai Tajaan / Endowment Fund
RM 150,000.00

Skim Zamalah Dato' Ismail Awang ditubuhkan bagi membantu pelajar menjalankan aktiviti penyelidikan. Skim ini diwujudkan untuk membina keupayaan penyelidik muda yang cemerlang di Malaysia sebagai generasi pelapis dalam bidang kelestarian hutan. Penyelidik muda yang akan meneraju inisiatif ke arah mencapai taraf negara maju pada tahun 2020 dan untuk memperkukuhkan keupayaan dan kebolehan rakyat Malaysia mencapai hasrat pembangunan seimbang dalam bidang ekonomi dan sosial tanpa menjejaskan alam sekitar dan sumber asli negara.

Pada tahun 2012, LESTARI telah menganjurkan Forum Perhutanan Dato' Ismail Awang Ketiga bertajuk "How Green is Our Ringgit" di Pusat Pengurusan Siswazah pada 19 April 2013. Forum ini dirasmikan oleh Prof. Dato' Dr. Noor Azlan Ghazali, Timbalan Naib Canselor (Hal Ehwal Akademik dan Antarabangsa).

Bengkel Pemantapan Ekorelawan
Strengthening of Eco Volunteers Workshop
28-30/12/2012, Hutan Simpan Sungai Menyala, Port Dickson

The Dato' Ismail Awang Zamallah Scheme was established to help graduate students to conduct research activities. The scheme was established to strengthen capabilities and excellence amongst young researchers in Malaysia in the field of Forest Sustainability. These young researchers will aspire the initiatives towards the attainment of developed country status in year 2020 and thus strengthening the research capability of Malaysians in achieving a balanced development in economy and social fields without damaging the environment or depleting nation's natural resources.

For the year 2012, LESTARI has organised the 3rd Annual Dato' Ismail Awang Forestry Forum titled "How Green is Our Ringgit" at the Centre for Graduate Management building on 19 April 2013 which was officiated by Prof. Dato' Dr. Noor Azlan Ghazali, Deputy Vice-Chancellor (Academic and International Affairs).

Institut Alam Sekitar dan Pembangunan (LESTARI) / Institute for Environment and Development (LESTARI)

Penyumbang / Contributor
LESTARI, UKM

Nilai Tajaan / Endowment Fund
RM 500,000.00

Skim Zamalah ini diwujudkan untuk membina keupayaan penyelidik muda yang cemerlang di Malaysia sebagai generasi pelapis yang bakal meneraju inisiatif ke arah mencapai taraf negara maju pada tahun 2020 dan untuk memperkukuhkan keupayaan dan kebolehan rakyat Malaysia mencapai hasrat pembangunan seimbang dalam bidang ekonomi dan sosial tanpa menjejaskan alam sekitar dan sumber asli negara.

Pada tahun 2012, LESTARI telah menawarkan Skim Zamalah LESTARI kepada Firdaus Al-Siddiq bin Fadzil, pelajar doktor falsafah (Alam Sekitar dan Pembangunan) sepenuh masa. Beliau telah ditawarkan skim zamalah untuk tempoh setahun mulai 8 September 2012 hingga 7 September 2013.

Institute for Environment and Development (LESTARI) Zamallah Scheme was established to evoke capability excellence amongst young researchers in Malaysia, being the second echelon. These young researchers will lead the initiatives towards the attainment of developed country status in year 2020 and thus strengthening the research capability of Malaysians in achieving a balanced development in economy and social fields without damaging the environment or depleting nation's natural resources.

For year 2012, LESTARI has offered this zamalah scheme to Firdaus Al-Siddiq bin Fadzil, a fulltime Ph.D student (Environment and Development) for a one year duration starting 8 September 2012 to 7 September 2013.

Skim Zamalah Dato' Syed Muhammad / Dato' Syed Muhammad Zamallah Scheme

Penyumbang / Contributor
Keluarga Dato' Syed Muhammad / Dato' Syed Muhammad's Family

Nilai Tajaan / Endowment Fund
RM 200,000.00

Skim Zamalah Dato' Syed Muhammad diwujudkan untuk membina keupayaan penyelidik muda yang cemerlang di Malaysia sebagai generasi pelapis yang bakal meneraju inisiatif ke arah mencapai taraf negara maju pada tahun 2020 dan untuk memperkukuhkan keupayaan dan kebolehan rakyat Malaysia mencapai hasrat pembangunan seimbang dalam bidang ekonomi dan sosial tanpa menjejaskan alam sekitar dan sumber asli negara.

Dato' Syed Muhammad Zamallah Scheme was established to evoke capability excellence amongst young researchers in Malaysia, being the second echelon. These young researchers will lead the initiatives towards the attainment of developed country status in year 2020 and thus strengthening the research capability of Malaysians in achieving a balanced development in economy and social fields without damaging the environment or depleting nation's natural resources.

Bandar Melaka / Malacca City

Dialog Meja Bulat bersama Komuniti Kampus mengenai Pengurusan Sumber Air Kampus UKM

Round Table Dialogue with Campus Community on the Management of UKM Campus Water Resources

15/10/2012, Fakulti Kejuruteraan dan Alam Bina UKM

Pengembangan JARINGAN

NETWORK DEVELOPMENT

MoU, MoA & KOLABORASI PENYELIDIKAN MoUs, MoAs & RESEARCH COLLABORATION 60

PENGLIBATAN DALAM MESYUARAT PERJUMPAAN PARTICIPATION IN MEETINGS 62

Senarai MoU, MoA dan Surat Hasrat
List of MoUs, MoAs and Letters of Intent (LoIs)

MEMORANDUM PERSEFAHAMAN / MEMORANDA OF UNDERSTANDING (MoU)

	Perkara / Items	Tarikh Meterai / Date of Endorsement	Tempoh / Duration	Penyelaras / Coordinator	Negara / Country
1.	Underwater World Langkawi Sdn. Bhd.	4/6/2012	3 tahun / 3 years	Assoc. Prof. Dr. Norhayati Ahmad	Malaysia
2.	Disaster Prevention Research Institute (DPRI), Kyoto University, Japan	9/3/2011	5 tahun / 5 years	Pengerusi SEADPRI / SEADPRI Chairperson	Japan
3.	Mahidol University, Thailand (+Supplementary)	23/11/2009 + 26/7/2010	5 tahun / 5 years	Assoc. Prof. Bukhori	Thailand
4.	Keluarga Datin Miriam Mohd. Yusoff / Datin Miriam Mohd. Yusoff's family	16/5/2008	Tiada tempoh masa / No limit	Prof. Dato' Dr. Abdul Samad Hadi	Malaysia
5.	Lembaga Pembangunan Langkawi (LADA) (+ Tambahan) / Langkawi Development Authority (LADA) (+ Supplementary)	18/12/2006 + 5/12/2012	5 tahun / 5 years	Prof. Dr. Mazlin Mokhtar	Malaysia
6.	Jabatan Penyiasatan Kajibumi Malaysia / Geological Survey of Malaysia	25/9/1997	Sehingga ditamatkan / Until termination		Malaysia
7.	Jabatan Alam Sekitar (IKLAS) / Department of Environment (IKLAS)	30/7/1996	30 tahun / 30 years		Malaysia

MEMORANDUM PERJANJIAN / MEMORANDA OF AGREEMENT (MoA)

	Perkara / Items	Tarikh Meterai / Date of Endorsement	Tempoh / Duration	Penyelaras / Coordinator	Negara / Country
1.	University Network For Climate and Ecosystems Change Adaption Research (UN-CECAR) Membership Agreement	1/11/2012	Sehingga ditamatkan / Until termination	Prof. Dr. Mazlin Mokhtar	Japan
2.	AECOM Asia Co. Ltd., Hong Kong	26/4/2011	30 tahun / 30 years	Pengerusi SEADPRI / SEADPRI Chairperson	Hong Kong

SURAT HASRAT / LETTER OF INTENTS (LOI)

	Perkara / Items	Tarikh Meterai / Date of Endorsement	Tempoh / Duration	Penyelaras / Coordinator	Negara / Country
1.	The UWA Institute of Agriculture, University of Western Australia	8-/3/2011	Tiada tempoh masa / No limit	Prof. Dr. Mazlin Mokhtar	Australia
2.	University of Geneva, Switzerland	1/7/2010	Tiada tempoh masa / No limit	Prof. Emeritus Dato' Abdul Samad Hadi	Switzerland
3.	Keluarga Allahyarham Dato' Ismail Awang' / The late Dato' Ismail Awang's family	11/1/2010	Tiada tempoh masa / No limit	Prof. Dr. Mazlin Mokhtar	Malaysia

National Workshop on Sustainable Rice Production - Revisiting IPM

12-13 /9/ 2012, UKM Bangi

Penglibatan dalam Mesyuarat/Perjumpaan
Participation in Meetings

KEBANGSAAN / NATIONAL

	Aktiviti / Activities	Tarikh / Date	Tempat / Venues
1.	Bengkel Penilaian Geran Penyelidikan Jangka Panjang (LRGS) Bottom Up 2012 / Long Term Research Grant Scheme (LRGS) – Bottom Up Assessment Workshop 2012	4/1/2012	UKM, Bangi
2.	Seminar on GHS: Impact on the Business	12/1/2012	Subang Jaya
3.	Bengkel Pemantapan UKM / UKM Strengthening Workshop - Global Student Mobility Partnership 2012	16/1/2012	UKM, Bangi
4.	Mesyuarat Penyelarasan Bengkel Pemuliharaan Sungai Linggi (Siri 2) Bil. 1/2012 / Coordination Meeting for Sungai Linggi Conservation Workshop (Series 2) No. 1/2012	16/3/2012	Putrajaya
5.	Mesyuarat Perancangan untuk Mengadakan Konferen Antarabangsa: Food, Belief Systems and the Great Rainforest pada Julai 2012 / Meeting for Planning the International Conference Food, Belief Systems and the Great Rainforest on July 2012	20/3/2012	UKM, Bangi
6.	Bengkel ke-2 Mobiliti Akademik di IPTA: Memperkasa Ahli Akademik untuk Pembangunan Negara / 2nd Workshop for Academics Mobility at HEI : Upliftment of Academicians for Nation Building	13 - 15/4/2012	Cyberjaya
7.	Persidangan Pegawai Pendakwa Jabatan Alam Sekitar Malaysia Bagi Tahun 2012 / Prosecutor Conference for Malaysian Environmental Department for Year 2012	16 - 19/4/2012	Kuala Terengganu
8.	Persidangan Pegawai Sains Kebangsaan Kali Kedua (PPSK) 2012 / 2nd National Science Officers Conference (PPSK) 2012	16 -19/4/2012	Johor Bahru
9.	Intellectual Discourse on Translating Research to Societal Benefit: The Taiwan Experience	17/4/2012	IDFR, Kuala Lumpur
10.	The Launch of Transparency International Malaysia - Voluntary Forest Monitors Programme (TIM-VFM) in Conjunction with Earth Day 2012	19/4/2012	Subang
11.	Advanced GHS Training Series (Sarawak)	22 - 25/4/2012	Kota Kinabalu
12.	Bengkel Kesedaran Hak Harta Intelek untuk Kumpulan Penyelidik Sains Sosial dan Teknologi Maklumat 2012 / Intellectual Property Rights Awareness Workshop for Social Science and Information Technology Research Groups 2012	24/4/2012	UKM, Bangi
13.	Majlis Pelancaran Dokumen Utama MS ISO 9001:2008 SPK PPPS / Launching Ceremony for Main Document of MS ISO 9001:2008 SPK PPPS	25/4/2012	UKM, Bangi
14.	World Day for Safety and Health at Work: Promoting Safety and Health in a Green Economy	26/4/2012	Bangi
15.	Bengkel Teknik Menjawab NCR / Workshop on NCR Answering Technics	11 - 13/5/2012	Negeri Sembilan
16.	Seminar on Regulations of Pesticides	15/5/2012	Kuala Lumpur
17.	Bengkel Pelan Tindakan Swaakreditasi UKM / UKM Swa-Accreditation Action Plan Workshop	15/5/2012	Kajang
18.	Syarahan Perdana Prof. Dr. Harun Abdullah dan Mesyuarat Perbincangan Bersama dan Penyelidikan di UMS / Prof. Dr. Harun Abdullah's Prime Lecture and Meeting on Co-Discussions and Research in UMS	17/5/2012	UMS, Sabah
19.	Advanced GHS Training Series	21 - 24/5/2012	Pulau Pinang
20.	Bengkel Pemuliharaan Lembangan Sungai Linggi, Negeri Sembilan / Workshop for Conservation of Sungai Linggi, Negeri Sembilan	23 - 25/5/2012	Melaka
21.	Making Sense of Cultural Landscape Conservation in Malaysia	23 - 25/5/2012	Kuala Lumpur
22.	Blue Ocean Strategy in Research Sustainability	28 - 29/5/2012	Negeri Sembilan

KEBANGSAAN / NATIONAL

	Aktiviti / Activities	Tarikh / Date	Tempat / Venues
23.	Mesyuarat/Mini Lab Penyediaan Pelan Tindakan Strategik bagi Pelaksanaan Sasaran Dasar Sumber Air Negara / Meeting/Mini Lab for Preparing Strategic Action Plan for Execution of National Water Resources Target	30/5/2012 - 1/6/2012	Pulau Pinang
24.	Besafe with Merck Millipore	5/6/2012	UPM, Serdang
25.	Strategic Consultation 3: Water Demand Management for Water Supply - Non-Potable and Industrial Water Supply	9/6/2012	INTAN, Bukit Kiara
26.	Perbincangan Kumpulan Berfokus Pelan Pengurusan Langkawi Geopark (PPLG) 1/2012: Strategi Pengurusan Langkawi Geopark / Focus Group Discussion on Geopark (PPLG) Management Plan 1/2012: Langkawi Geopark Management Strategy	9 - 11/6/2012	Langkawi
27.	Public Seminar and Closed- Door Dialogue	12/6/2012	Penang Skills Development Centre (PSDC)
28.	ASM Biodiversity and Environment Committee - Second Meeting	14/6/2012	Akademi Sains Malaysia
29.	Kajian Penghidupan Penduduk Kampung Tanjung Gahai / Livelihood Research on Kampung Tanjung Gahai's Dwellers	21/6/2012	Pahang
30.	National Geoscience Conference 2012	23 - 24/6/2012	Sarawak
31.	Advanced GHS Training Series (Kuantan)	25 - 27/6/2012	Kuantan
32.	Seminar dan Dialog Pembangunan Tapak Warisan Gelogi Pesisir Wilayah KEJORA / Seminar and Dialogue on the KEJORA Coastal Areas Geological Heritage Development	28/6/2012	Hotel Lotus, Desaru, Johor
33.	Seminar on Integrated Urban Water Management Using MSMA Stormwater Eco-Hydrology as Part of Switch-IPA Program: From Theory Until Implementation	2 - 3/7/2012	Heritage Hotel Cameron Highland
34.	Mesyuarat Penerbitan Buku Teks KBSM / Meeting for the Publication of KBSM Text Books	23 - 28/7/2012	Kuala Lumpur
35.	Bengkel ke-3 Kajian Projek Mobiliti Akademik di IPTA: Memperkasa Ahli Akademik untuk Kepimpinan Negara / 3rd Workshop on Academic Mobility Project Research at IPTA: Upliftment of Academicians for Nation's Leadership	27 - 29/7/2012	Sepang
36.	Kajian Pembangunan Lestari Koridor Ekonomi Wilayah Pantai Timur (ECER): Kajian Kemiskinan Kemudahterancaman Penggunaan Sumber, Intervasi dan Governans Dalam Kerangka Penghidupan Lestari / Sustainability Development Research of East Coast Economic Region (ECER): Poverty Endangerment Research on Resources Usage, Intervention and Governance in Sustainable Livelihood Frame	29/8/2012	Kuala Medang
37.	Kajian Prospek Kepelbagaian Penanaman Padi Pengairan di Malaysia: Kerangka Kerja, Pengukuran dan Cadangan / Multi Prospects of Paddy Planting Irrigation in Malaysia: Framework, Measurement and Proposal	29/8/2012	Pejabat IADA Barat Laut Selangor
38.	Kajian Pembangunan Lestari Koridor Ekonomi Wilayah Pantai Timur (ECER): Kajian Kemiskinan Kemudahterancaman Penggunaan Sumber, Intervasi dan Governans Dalam Kerangka Penghidupan Lestari / Sustainability Development Research of East Coast Economic Region (ECER): Poverty Vulnerability Research on Resources Usage, Intervention and Governance in Sustainable Livelihood Frame	29/8/2012	Felda Wilayah Mempega
39.	National River Forum 2012	6/9/2012	Putrajaya
40.	Bengkel ke-4 Mobiliti Akademik di IPTA: Memperkasa Ahli Akademik untuk Pembangunan Negara / 4th Workshop for Academics Mobility at HEI: Upliftment of Academicians for Nation Building	7 - 9/9/2012	Terengganu

KEBANGSAAN / NATIONAL

	Aktiviti / Activities	Tarikh / Date	Tempat / Venues
41.	Bengkel Pengukuhan dan Penstrukturan Semula Pusat Kecemerlangan UKM / Workshop on Reinforcement and Restructuring of UKM's Centres of Excellence	28 - 30/9/2012	Pulau Pinang
42.	Bengkel Pasukan Kajian Opsyen Pendekatan Perancangan Pembangunan Wilayah Lestari Bil 1/2012: Takrifan dan Konsep / Workshop on Sustainable Regional Development Planning Approach Options for Research Groups No 1/2012: Definition and Concepts	2/10/2012	Putrajaya
43.	First Malaysian Congress of Toxicology	2 - 3/10/2012	Kuala Lumpur
44.	Bengkel ke-5 Mobiliti Akademik di IPTA: Memperkasa Ahli Akademik untuk Pembangunan Negara / 5th Workshop for Academics Mobility at HEI : Upliftment of Academicians for Nation Building	4 - 6/10/2012	Shah Alam
45.	Mesyuarat Pembentangan Hasil Kajian Kelestarian Sosio-Ekonomi Petani Padi SRI & Mesyuarat Penyelidikan Keselamatan Makanan dan Kemudahterancaman di Kalangan Mangsa Banjir di Kedah / Meeting on the Presentation of Research Findings on the Sustainability of Paddy Farmers's Socioeconomic SRI and Meeting on Food Safety Research and Vulnerability amongst Flood Victims in Kedah	6 - 8/11/2012	Alor Setar
46.	The Future We Want - ESPM SLiM 2012: Post Rio+20 Symposium	6/11/2012	Kuala Lumpur
47.	Conference on Urban Planning and Management in Malaysia	8/11/2012	Kuala Lumpur
48.	Workshop on Natural Hazards and Climate Change Adaptation	9/11/2012	Langkawi
49.	Roundtable For Asean Justices and Senior Judiciary on Environmental Law and Enforcement	23/11/2012	Melaka
50.	Mesyuarat Pelarasan Sekolah Orang Asli / Meeting on the Adjustment of Aboriginal Schooling	26/11/2012	Perak
51.	Seminar on Strategic Environmental Assessment (SEA) using Rapid Impact Assessment Matrix (RIAM)	2 - 6/12/2012	Johor

Pulau Langkawi / Langkawi Island

ANTARABANGSA / INTERNATIONAL

	Aktiviti / Activities	Tarikh / Date	Tempat / Venues
1.	The 8th International Conference on Environmental, Cultural, Economic and Social Sustainability and Academic Visit to the University of British Columbia and University of Calgary, Canada.	8 - 18/1/2012	Kanada
2.	Seminar on Chemical Risk Assessment Method	10 - 11/1/2012	Shah Alam
3.	Study on the Feasibility of an Information Infrastructure for the Future Chemicals Management Scheme in the Asian Region	17 - 19/1/2012	Bangkok, Thailand
4.	Tinjauan Terhadap Pengurusan Maklumat Kewangan, Pentadbiran dan Sangkutan Pengurusan / Observation Towards Financial Information Management, Administration dan Management's Attachment	26/1 - 4/2/2012	Korea
5.	Tinjauan Tahap Penyediaan Kemudahan dan Pembudayaan Penggunaan Pengangkutan Pelajar di Kampus / Observation on the Preparation Level of Facilities and Students' Transporation Usage Culture in Campus	26/2 - 4/2/2012	Korea
6.	Kajian Terhadap Penyediaan dan Pengurusan Data Penyelidikan dan Sangkutan Pengurusan / Observation on the Research Data Preparation and Management's Attachment	26/2 - 4/2/2012	Korea
7.	Kajian Hukum dan Governans Lingkungan: Provinsi Riau Ke Arah Pembangunan Mapan / Research on Law and Governance Boundary: Riau Province Towards Sustainable Development	28 - 29/1/2012	Riau, Indonesia
8.	Mekong River Basin Initiative (MRBI) Identifying and Evaluating Successful Adaption Projects in The Lower Mekong River Basin (LMB)	1 - 3/2/2012	Singapore
9.	2nd Seminar on Chemical Risk Assessment Method	13 - 15/2/2012	Shah Alam
10.	The 1st Comprehensive Seminar of JSPS-Asian Core Program	21 - 29/2/2012	Kyoto, Jepun
11.	Postgraduates Courses on Building to Resilience to Climate Change (BRCC)	4 - 9/3/2012	Kyoto, Jepun
12.	6th World Water Forum: Time for Solutions	12 - 17/3/2012	Marseille, France
13.	JSPS Asian Core Programme	16/3/2012	Kyoto, Jepun
14.	Kajian Hukum dan Governans Lingkungan: Provinsi Riau Ke Arah Pembangunan Mapan / Research on Law and Governance Boundary: Riau Province Towards Sustainable Development	21 - 24/3/2012	Riau, Indonesia
15.	Seminar Pengurusan Geopark Geopark Management Seminar	21 - 24/3/2012	North Pennines AONB Geopark, United Kingdom
16.	Planet Under Pressure 2012	25 - 29/3/2012	London, England
17.	4th OECD Clearing House on New Chemicals Meeting	27 - 30/3/2012	Singapore
18.	Pre-Review Meeting on Technical Guidance for Assessing Climate Change Vulnerability, Impacts and Adaptation Under Programme of Research on Climate Change Vulnerability, Impacts and Adaptation (PROVIA)	30/3/2012	Crowne Plaza London Docklands, United Kingdom
19.	Seminar Pengurusan Geopark UKM dan Marble Arch Caves Global Geopark / UKM Management Seminar on Geoparks and Marble Arch Caves Global Geopark	31/3 - 3/4/2012	Marble Arch Caves Global Geopark, Ireland
20.	Seminar Serantau Pengurusan Persekitaran di Indonesia dan Malaysia / Regional Seminar on Environmental Management in Indonesia and Malaysia	29 - 30/4/2012	Pekanbaru, Provinsi Riau
21.	Seminar and Workshop on the Risk Assessment of Chemicals Management: Improving the Business Environment Related to Trade and Investment	8/5/2012	Jakarta, Indonesia

ANTARABANGSA / INTERNATIONAL

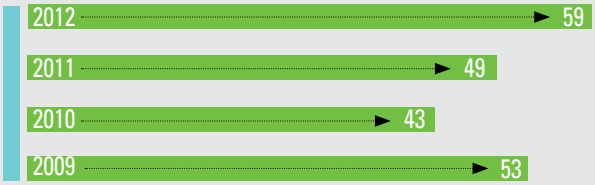
	Aktiviti / Activities	Tarikh / Date	Tempat / Venues
22.	7th Meeting of the Integrated Research on Disaster Risk (IRDR)	8 - 13/5/2012	Ravello, Italy
23.	The 5th International UNESCO Conference on Geoparks	10 -15/5/2012	Unzen Volcanic Area Geopark in Shimabara Peninsula, Japan
24.	Australia-Malaysia Green Growth Think Tank	14 - 17/5/2012	Canberra, Australia
25.	6th International Conference and Planning Workshop of the University Network for Climate and Ecosystems Change and Adaptation Research (UN-CECAR) on Renewable Energy	22 - 25/5/2012	Thailand
26.	International Conference on Green Technology and Ecosystems for Global Sustainable Development 2012	26/5 - 1/6/2012	Bosnia
27.	3rd International Conference on Human Habitat and Environtment (ICHHE 2012)	19 - 20/6/2012	Bangi
28.	The 22nd IAPS Conference and Workshop: Human Experience in the Natural and Built Environment: Implication for Research Policy and Practice	22/6 - 2/7/2012	Glasgow, Scotland
29.	Meeting on Mangrove Ecology, Functioning and Management (MMM3)	1 - 7/7/2012	Galle, Sri Lanka
30.	APEC Virtual Centre Osaka Workshop	14 - 17/7/2012	Osaka, Jepun
31.	The 55th Symposium of the International Association for Vegetation Science (IAVS2012)	23 - 28/7/2012	Mokpo, Korea
32.	The 8th International Malaysian Studies Conference (MSC8)	7 - 11/9/2012	Bangi
33.	4th International Conference on World Class Sustainable Cities 2012	25/9/2012	Kuala Lumpur
34.	The 7th Asian Pacific Landfill Symposium: Sustainable Solid Waste Management for a Better Life	7 - 11/10/2012	Bali
35.	Seminar Antarabangsa Ke-5 Ekologi, Habitat Manusia dan Perubahan Lingkungan 2012 / 5th International Seminar on Ecology, Human Habitat and Boundary Changes 2012	8 - 9/10/2012	Pekanbaru, Provinsi Riau
36.	Workshop and Training on Integrated Watershed Management and Integrated Lake Basin Management	21 - 28/10/2012	Kyoto, Jepun
37.	The Fourth Asian Conference on Education ACE2012	22 - 31/10/2012	Osaka, Jepun
38.	International Conference on the Power of ESD: Exploring Evidence and MOA signing Between LESTARI, UKM and SWEDESD	24 - 29/10/2012	Sweden
39.	International Conference on Water Resources (ICWR) 2012	5 - 7/11/2012	Langkawi
40.	Global Water Footprint Standard Training Course	7 - 9/11/2012	Hollandse Club
41.	Training Programme on Climate Change Downscaling Approaches and Applications	9 - 20/11/2012	Asian Institute of Technology (ATI), Bangkok
42.	Persidangan I-Marca 2012 dan Bengkel Modelling Urban Sustainability / I-Marca Conference 2012 and Modelling Urban Sustainability Workshop	6 - 12/12/2012	Auckland
43.	International Seminar of Analytical Sciences 2012	12 - 15/12/2012	Sumatera Utara
44.	2nd Comprehensive Seminar of JSPS Asian Core Programme	22 - 23/12/2012	Universiti Malaya

Aktiviti JANGKAUAN

OUTREACH ACTIVITIES

Dialog Meja Bulat, Bengkel, Simposium & Kursus Latihan
Round Table Dialogues, Workshops, Symposiums & Training Courses

RAJAH 8 / FIGURE 8
Bilangan Aktiviti Jangkauan 2009 - 2012
Number of Outreach Activities 2009 - 2012



Jenis / Types	Tajuk / Titles	Tarikh / Dates
Lawatan Visits	Lawatan Timbalan Naib Canselor ke Bangunan Baru Pusat Penyelidikan Langkawi / Visit by the Deputy Vice-Chancellor to Langkawi Research Cenntre's New Building	15/1/2012
	Lawatan Tapak oleh Panel Potential Centre of Excellence / Site Visit by the Panel Potential of Centre of Excellence	24/3/2012
	Lawatan Rasmi ke UnderWater World Langkawi (UWL) / Official Visit to UnderWater World Langkawi (UWL)	5/6/2012
	Lawatan Kerja LESTARI ke Pusat Luar Lembah Danum (PLLD), Sabah / LESTARI's Working Visit to Danum Valley Field Centre	14 - 16/6/2012
	Lawatan Kerja Pusat Pembangunan Sosioekonomi (CSD), Universiti Malaysia Terengganu (UMT) ke LESTARI / Visit by the Centre of Socioeconomics Development (CSD), Universiti Malaysia Terengganu	2/7/012
	Lawatan Duta Ecuador, Lourdes Puma Puma / Visit by Ecuador's Ambassador, Lourdes Puma Puma	10/7/2012
	Lawatan Prof. Park Sum Low / Visit by Prof. Park Sum Low	20/7/2012
	Lawatan ke Taman Herba Dr. Ghani / Visit to Dr. Ghani Herbal Garden	30/11/2012
Ekspedisi Expedition	Mini Ekspedisi Pulau Langgun / Mini Expedition to Pulau Langgun	26 - 30/11/2012
Mesyuarat Meetings	Meeting of Group 3 (Environment Risk Assessment and Management) of Asian Core Program-JSPS	9/2/2012
	Mesyuarat Timbalan Naib Canselor (Penyelidikan dan Inovasi) / Meeting by Deputy Vice-Chancellor (Research and Innovation)	25/3/012
	Meeting on Asian Core Programme (Group 3)	17/10/2012
Syarahan Lectures	Syarahan Dr. Sun Min Kim (Kyoto University) / Lecture by Dr. Sun Min Kim (Kyoto University)	12/3/2012
	Geopark, World Heritage and Biosphere Reserves: A Comparison by Prof. Dr. Patrick McKeever	22/11/2012
Persidangan Conference	1st Regional Conference on Agrobiodiversity Conservation and Sustainable Utilization (RAC-12) 2012	25 - 27/9/2012

Southeast Asia Regional Training the Trainers Course: Ecosystem Services and Integrated Water Resource Management

18 - 21/6/2012, Kuala Lumpur

Jenis / Types	Tajuk / Titles	Tarikh / Dates
Bengkel Workshops	Bengkel Nic Pembangunan Lestari Wilayah Sesi 1/2012 / Workshop on Regional Sustainable Development Niche Session 1/2012	27/4/2012
	Perbincangan Kumpulan Berfokus Pelan Pengurusan Langkawi Geopark (PPLG) / Focus Group Discussion on the Management Plan of Langkawi Geopark	10 - 11/6/2012
	Bengkel Nic Pembangunan Lestari Wilayah Sesi 2/2012 / Workshop on Regional Sustainable Development Niche Session 2/2012	13/8/2012
	National Workshop on Sustainable Rice Production: Revisiting IPM	12 - 13/9/2012
	Bengkel Penambahbaikan dan Perancangan Hala Tuju Pusat Sains dan Governans Kelestarian, LESTARI / Workshop on the Improvement and Strategic Planning of the Centre of Sciences and Governance Sustainability	18/9/2012
	Stakeholder Consultation Forum on Stockholm Convention Ratification	18/10/2012
	MyNICHE 8	18/10/2012
	Bengkel Pejabat Kelestarian UKM / Workshop on the Sustainability of UKM Offices	23/11/2012
	Annual Workshop of Integrated Water Resources Management (IWRM) Research Group 2012	17 - 19/12/2012
	Bengkel Pemantauan dan Perancangan Strategik Kumpulan Penyelidikan Pengurusan Bahan Kimia (CMRG) / Workshop on Monitoring and Strategic Planning of Chemical Management Research Group (CMRG)	26 - 27/12/2012
	Bengkel Penulisan Manuskrip Kumpulan Penyelidikan Pengurusan Bahan Kimia (CMRG) / Workshop on the Manuscript Writing of Chemical Management Research Group	27 - 28/12/2012
	Bengkel Pemantapan Eko-Relawan UKM / UKM Eco-Group Stabilization Workshop	28 - 30/12/2012
Seminar Seminars	Dr. Ma Hwan Ok (International Tropical Timber Organisation (ITTO) "Integrating Biodiversity and REDD++ into Sustainable Forest Management"	28/3/2012
	Prof. Dr. Shahbaz Khan and Dr. Olivia la O' Caltillo - Integrated Water Resources and River Basin Management: Sharing Experience at the Global Level	2/11/2012
	Seminar Kampus Lestari UKM 2020 / Seminar on UKM Sustainable Campus 2020	22/11/2012
Program Programmes	Kem Pemimpin Muda Prihatin Air Peringkat Kebangsaan 2012 / National Water Watch Programme for Young Leaders 2012	20 - 23/3/2012
	Program Anugerah Sekolah Hijau / Green School Award Programme	7 - 9/9/2012
	"Langkawi Educational Tour" Mobility Programme - Malaysian-German	9 - 13/11/2012
Simposium Symposium	Research Innovation for Malaysian Peninsular, Borneo and Australia (RIMBA 3)	17 - 18/7/2012
Forum Forum	Dato' Ismail Awang Forestry Forum	19/4/2012
	Malaysia ILBM-ILEC Consultative Forum	3/9/2012
Dialog Dialogues	Rio+20 and Beyond: International Trade Issues	17/7/2012
	Dialog Meja Bulat Bersama Komuniti Kampus Mengenai Pengurusan Sumber Air Kampus UKM / Roundtable Dialogue with Campus Community on UKM Campus Water Resources Management	15/10/2012
Kursus Courses	South East Asia Regional Training for Trainers: Managing Pollution in IWRM	21 - 24/5/2012
	LESTARI Doctoral and Knowledge Transfer Workshop "Knowledge for Sustainable Development in Malaysia"	9 - 11/7/2012
	Learning for Change Workshop: Education for Sustainable Development in Malaysia	3 - 7/12/2012

Jenis / Types	Tajuk / Titles	Tarikh / Dates
Majlis Events	Majlis Menandatangani Memorandum Persefahaman antara Universiti Kebangsaan Malaysia (UKM) dengan Lembaga Pembangunan Langkawi (LADA) dan Underwater World Langkawi Sdn. Bhd. (UWL) / UKM MoU's Signing Ceremony with LADA and UWL	4/6/2012
	Majlis Taklimat dan Induksi Siswazah LESTARI Semester 1 Sesi 2012/2013 / Briefing and Induction Ceremony for LESTARI's Student Semester 1 Sesi 2012/2013	10/9/2012
	Jamuan Sambutan Hari Raya 2012 / Feast in Conjunction with Aidilfitri's Celebration 2012	11/9/2012
Kolokium Colloquium	Kolokium Siswazah LESTARI 2012 / LESTARI Graduates' Colloquium 2012	10 - 13/11/2012
Konvensyen Convention	Konvensyen Kampus Lestari Institusi Pengajian Tinggi 2012 / Convention on Higher Education Institutions' Sustainable Campuses 2012	8 - 9/12/2012
Pameran Exhibitions	Pameran sempena Kem Pemimpin Muda Prihatin Air Peringkat Kebangsaan - Modul Latihan / Exhibition in Conjunction with National Water Watch Programme for Young Leaders - Training Module	20 - 21/3/2012
	Pameran sempena Hari Air Sedunia 2012 / World Water Day 2012 Exhibition	22 - 24/3/2012
	Pameran sempena Majlis Sambutan Tahun Sains dan Gerakan Inovasi Nasional 2012 Peringkat UKM / Exhibition in Conjunction with Science Year Celebration and National Innovation Movement 2012 at UKM Level	16/4/2012
	Pameran sempena Karnival Kampus Lestari 2012 / Sustainable Campus Carnival Exhibition 2012	14/5/2012
	Karnival Hijau Alam Sekitar Sempena Sambutan Hari Alam Sekitar Sedunia 2012 / Green Environment Carnival in Conjunction with World Environment Day 2012 Celebration	17/6/2012
	Pameran sempena Majlis Pra-Pelancaran Hari Habitat Sedunia 2012 / Exhibition in Conjunction with World Habitat Day 2012 Pre Launch Ceremony	17/7/2012
	Pameran sempena Persidangan Wilayah Pertama Agro Biodiversity Conservation and Sustainable Utilization (RAC-12) 2012 / Exhibition in Conjunction with 1st Regional Conference on Agro Biodiversity Conservation and Sustainable Utilization (RAC-12) 2012	25 - 27/9/2012
	Pameran Sempena Malaysia Water Resources Management (MyWRM) Forum 2012 / Exhibition in Conjunction with Malaysia Water Resources Management (MyWRM) Forum 2012	26 - 27/11/2012
	Pameran Sempena Konvensyen Kampus Lestari Institusi Pengajian Tinggi 2012 / Exhibition in Conjunction with the Higher Education Institution's Sustainable Campuses Convention 2012	8 - 9/12/2012
Lain-lain Others	Water Security Explorace in Conjunction with World Water Day 2012	22 - 24/3/2012
	Karnival Hijau Alam Sekitar Sempena Sambutan Hari Alam Sekitar Sedunia 2012 / Green Environmental Carnival in Conjunction with World Environment Day 2012	17/6/2012
	LADA GEOHUNT	26/6/2012
	Sesi Perbincangan Intelektual bersama Prof. Dr. Pak Sum Low, Penyandang Kursi IKLIM UKM-Yayasan Sime Darby / Intellectual Discussion Session with UKM-Yayasan Sime Darby Chair in Climate Change, Prof. Dr. Pak Sum Low	30/10/2012

Bengkel Pemimpin Pelajar: Program Anugerah Sekolah Hijau 2012 Putrajaya / Green Leader Workshop: Green School Award Programme 2012 Putrajaya

7-9/9/2012, Pusat Eko Pendidikan, Hutan Paya Laut, Matang, Perak

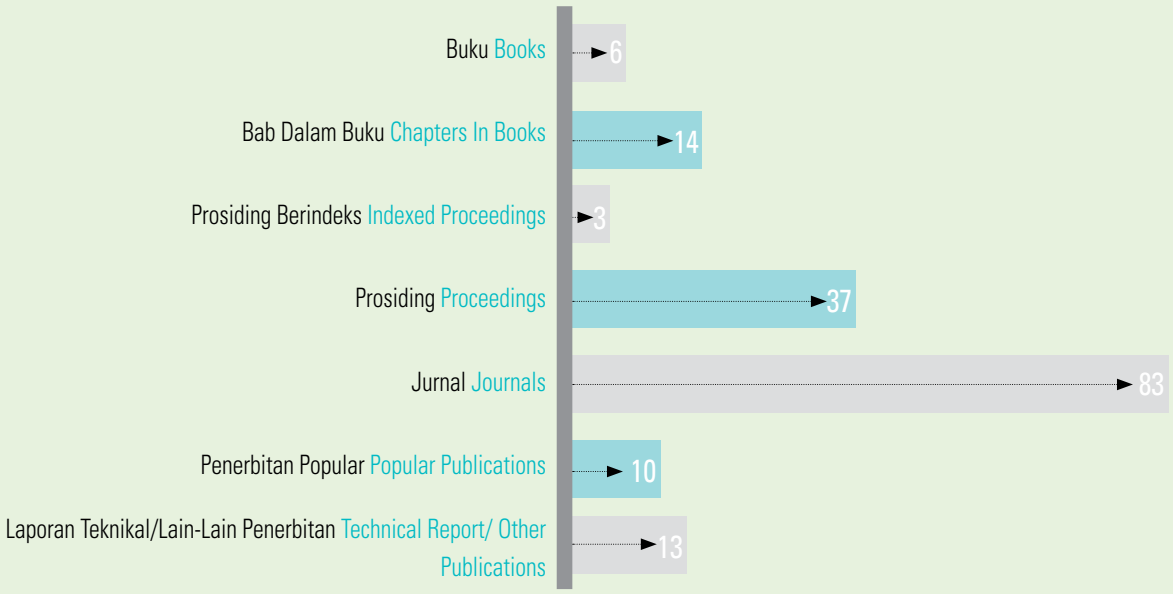
Aktiviti yang disertai oleh pelajar dari 10 sekolah menengah dan rendah di sekitar Putrajaya / Students from 10 secondary and primary schools in Putrajaya participated in the programme

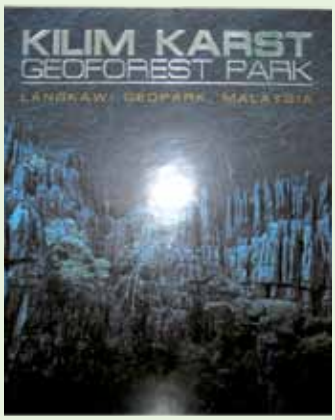
Senarai PENERBITAN

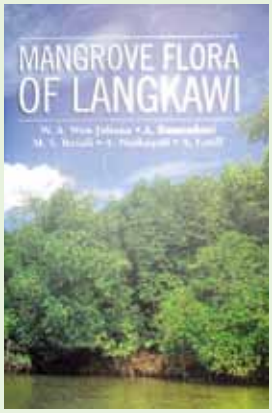
LIST OF PUBLICATIONS

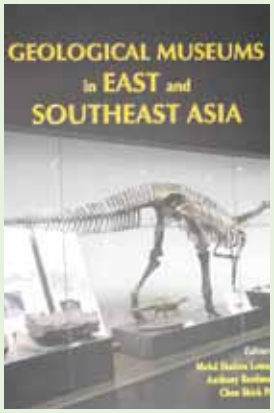
Senarai Penerbitan Yang Diterbitkan oleh LESTARI pada 2012
List of Publications Published By LESTARI for 2012

RAJAH 9 / FIGURE 9
Bilangan Penerbitan Mengikut Kategori 2012
Number of LESTARI's Publication by Category 2012









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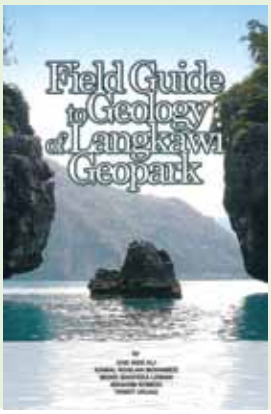

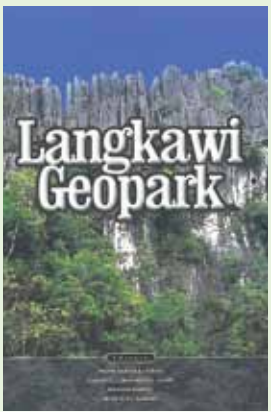

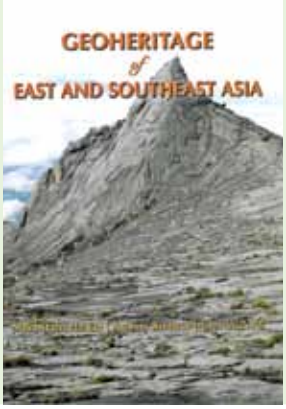

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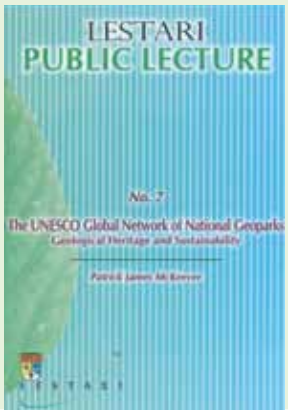

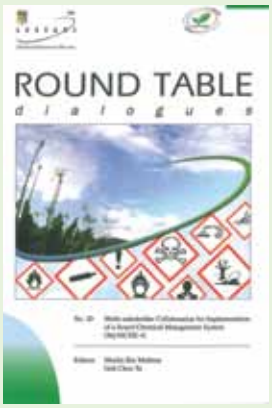

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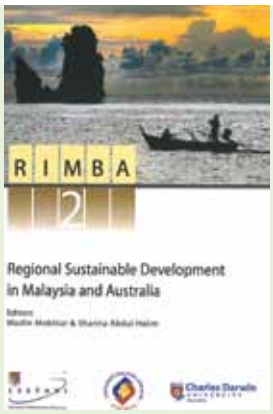

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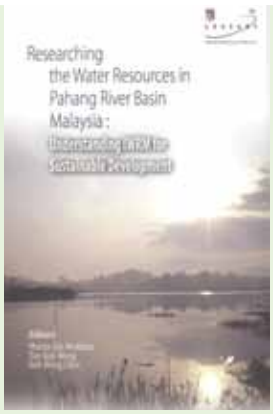

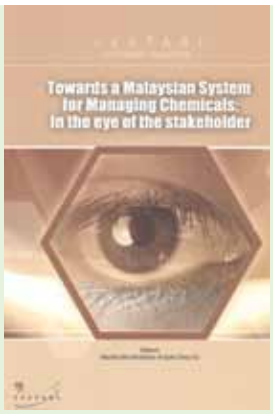

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