



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

PROSPERING LIVES



UTM

PROSPERING

LIVES

UTM Prospering Lives

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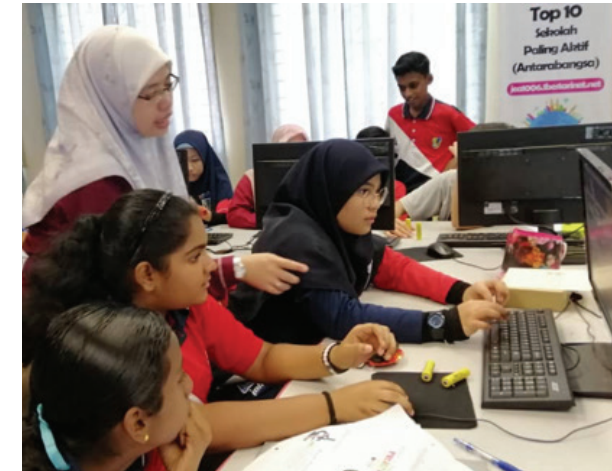
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Foreword

This booklet features the outstanding projects undertaken by University researchers to improve the quality of lives of the community in various aspects. The projects showed a significant University-Community relationship that were aimed towards the betterment of the community.

We hope that the documentation of these projects by the Centre for Community and Industry Network (CCIN) and the Office of Strategy and Corporate Affairs (OSCA) will become a future reference contributing to a meaningful university for society agenda.

We welcome you to contact us for collaborations in projects that will benefit the community.

Thank you.

Ts. Dr. Farhan Mohamed
Acting Director of Corporate Affairs
Office of Strategy and Corporate Affairs
Universiti Teknologi Malaysia





Introduction

Prospering Lives with Translational Research

UTM is committed to the best at what we do and by bringing out the best of our people. We work together to achieve our common goals, to not only excel in academics but also expand our research and innovation beyond the campus.

UTM subscribes to the idea of Translational Research using our core strengths: Science, Technology and Engineering, applying the concept of applied knowledge to address industrial and societal issues. Apart from creating new knowledge and generating new insights, we work together with our partners to transform our academics to become entrepreneurs with impactful products to benefit the communities for years to come.

This booklet intends to highlight exemplary activities that have impacted communities through Technology and Knowledge Transfer Programmes, University Social Responsibility Programmes and Service Learning Programmes conducted by UTM staff and students which have all been designed to be in line with the Sustainable Development Goals (SDG) agenda.

An Off-grid Photovoltaic Design and Performance Evaluation for Kampung Orang Asli Woh Intake



Executive Summary

Kampung Orang Asli Woh Intake, Tapah, Perak is located 16 km from the main road and required almost one hour drive of a 4x4 vehicle to reach the location. The community previously shared a small diesel generator unit among several houses and unable to use the usual power utility for electricity due to their isolated location and inadequacy of infrastructure.

The School of Electrical Engineering, UTM in collaboration with the Bank Islam Malaysia Berhad via Sadaqa House, JAKOA Tapah, and Institut Latihan Perindustrian (ILP) Kepala Batas, had successfully implemented a Pilot Project.

A 4kWp solar Photovoltaic (PV) with polycrystalline module technology and 500Ah lead-acid battery was set up to allow the community to use fans and lamps for seven consecutive hours. The community also can charge their phones via the USB charging port provided and save the daily energy consumption through an installed energy limiter. A simple training was provided via PV edu kit to ensure the community was able to do maintenance on the existing system.



Beneficiary

17 houses with 83 Orang Asli Woh Intake community



Impact

The community is able to get free electricity access for 24/7



Achievement

- Received fund from Bank Islam via Sadaqa House worth RM95,000.00
- Collaborated with ILP Kepala Batas for the electrical wiring & installation
- First Runner Up at National Energy Award 2020

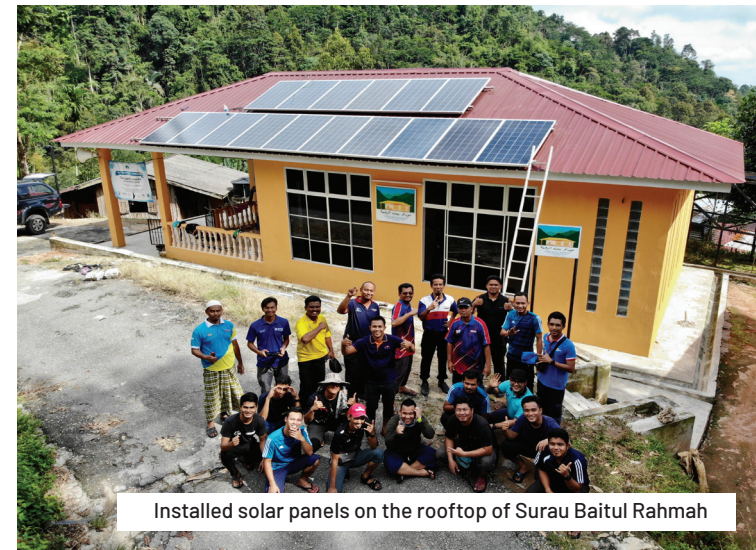


Head of Project

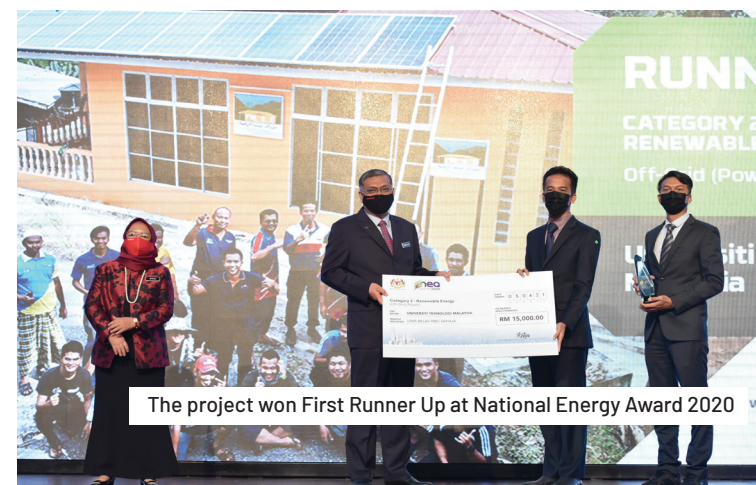
Assoc. Prof. Ts. Dr. Jasrul Jamani Jamian
Faculty of Engineering



Small sharing with the community



Installed solar panels on the rooftop of Surau Baitul Rahmah



The project won First Runner Up at National Energy Award 2020

Iskandar Malaysia Ecolife Challenge: Combating Climate Change from the Root



Executive Summary

Iskandar Malaysia Ecolife Challenge (IMELC) is an innovative educational program that commences in 2013 to address climate change through formal and informal school education. IMELC is jointly organized by Iskandar Regional Development Authority, UTM and Jabatan Pendidikan Negeri Johor, and supported by other partners over the years.

IMELC aims to foster Low Carbon Society (LCS) awareness among primary students, teachers, and their families. Amidst the COVID-19 outbreak in 2020, IMELC underwent digitalization in the operation such as teacher briefing,

workbook completion, and deliverables through Facebook Page, Telegram Channel, Google Classroom and Google Meet.

IMELC Modules on LCS knowledge, Science and Mathematics curriculum, and campaigns on saving electricity, water usage and low carbon efforts were completed by the schools. The total weight collected for the recycling was 232,410kg, and the income generated was RM101,295.05. In the challenges of executing IMELC in the new norm, the digitalization of IMELC 2020 had successfully fostered LCS awareness, changed the irresponsible behavior and subsequently reduced 697,334.03 kgCO₂ of carbon emission that contributed to climate change.



Beneficiary

546 primary schools in Johor with 55,000 students participated



Impact

Low Carbon Advocates in Schools



Achievement

Reduced 697,334.03 kg CO₂ of carbon emission

Won Gold NALI Award 2020



Head of Project

Dr. Nina Diana Nawi
Faculty of Social Sciences and Humanities



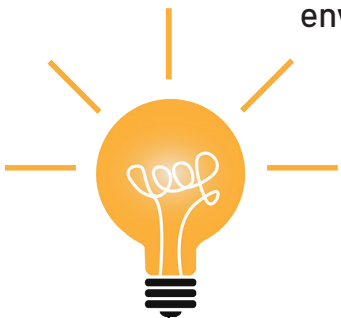
Students' Reflections

"I had shared information on how to protect the Environment with my neighbors."

"We need to change our lifestyle now because our earth is increasingly threatened by human activities."

"We've done a lot of discussions to solve daily problems. We also look for information and ask for someone else's help so that our lifestyle is more environmentally friendly."

"My family and I segregate cans, bottles, paper and other materials for recycle. It helps me to learn more about environment."





IMELC activities at SK Taman Damansara Aliff and SK Kampong Baharu

Photo Credit:
<https://www.facebook.com/Eco-Lestari-SK-Taman-Damansara-Aliff-109478411233109/photos/113120880868862>
<https://www.facebook.com/media/set/?set=a.3754047857948943&type=3>



Service-Learning (SL) for Staff and Students of the Department of Social Work, Sree Sankaracharya University of Sanskrit (SSUS) and 'At-Risk Communities' in Kerala, India

Executive Summary

The project involved a 2-day workshop to improve Teaching & Learning (T&L) of fieldwork experiences and introduction of the Service Learning (SL) approach for the Master's in Social Work (MSW) curriculum for the students and staff of Department of Social Work, Shree Sankaracharya University of Sanskrit (SSUS), Kerala, India.

Before transferring knowledge to the community, trainees through the project had a month block placement in JSLPS Jharkhand and learned the lifestyle, livelihood, available facilities and government schemes provided to the community. Within the one-month experience, the trainees had conducted households survey, village-level survey, PRA and more among the community. The trainees also got the chance to visit different social institutions of the community. As the trainees discovered cases such as the use of dirty water for drinking and all other household purposes, the trainees visited each household and gave awareness on the problems that may cause them.

The overall output of the project includes the adoption of the SL model for social work supervision of fieldwork/practicum, SL reflection model for fieldwork/practicum report, and SL advocacy model for community empowerment projects and action plans presented to the local government agencies for the improvement of the community lives.



Beneficiary

25 lecturers,
33 students,
15 community members,
government agency
and non-governmental
organization



Impact

The empowerment
of community and
sustainability of
projects as an integral
part of the MSW staff
and students' fieldwork
experience



Achievement

Received sponsorship
of RM3,000

Awarded with 3 Star
Rating 2019 and 5 Star
Rating 2020



Head of Project

Dr. Shanti Chandran Sandaran
Faculty of Social Sciences and Humanities



Lecture sessions and group discussions among MSW staff and students



MSW student with local community

FLUSH 2020 for B40 Households



Executive Summary

The Flush 2020 project was a corporate social responsibility initiative by Azman Hashim International Business School, UTM with MBA students to provide five flush toilets for the selected rural population in Marang, Terengganu. This project was collaborated with Pejabat Daerah Marang and Pejabat Kesihatan Daerah (PKD) Marang and was assisted by volunteers among medical students from UCSI Medical College.

Initial assessment done by PKD Marang had identified numerous B40 households without flush toilets. The objective of this project was to improve the sanitation, hygiene and general well-being of the community by providing flush toilets to the selected households. This project will also benefit the environment as the sewerage was not openly discharged to the waterways such as drains and rivers.

The community project received nearly RM30,000 in sponsorship and donations (cash and in-kind) of which RM20,000.00 went towards the construction of four squatting toilets and one sitting toilet with a flush system, and the balance spent on the Sanitation & Hygiene Awareness Program.



Beneficiary

B40 households in Marang District, Terengganu



Impact

The increasing awareness of sanitation, hygiene and environmental care



Achievement

Received RM28,320.00 in monetary donations from various sponsors



Head of Project

Assoc. Prof. Dr. Rohaida Basiruddin Azman Hashim
International Business School



The execution of Flush 2020 project at Marang District



Flush 2020 project with local

'Serene Classroom' Minimises Noise for More Conducive Learning



Executive Summary

Noise pollution from road traffic can continuously affect the physical health of teachers and students. Noise also inhibits the focus of learning and impairs learning and cognitive development, for example, students' skills to think and understand both oral and written comprehension. Therefore, the problem of noise pollution in the classroom experienced by some schools in Malaysia is an obstacle in the implementation of the current education system 4.0.

The classrooms on the second floor of Sekolah Kebangsaan Kampong Pasir, Johor Bahru have been experiencing the traffic noise exposure from the Skudai-Johor Bahru highway for many years. UTM GREENPrompt together with Johor State Education Department, Sekolah Kampong Pasir and other industry partners had produced and developed a special class, namely Serene Classroom to overcome the problem.



Beneficiary

32 students in Year 3 and
30 students in Year 5



Impact

Comfort for students
Changes in the
knowledge, skills and
aspirations of teachers



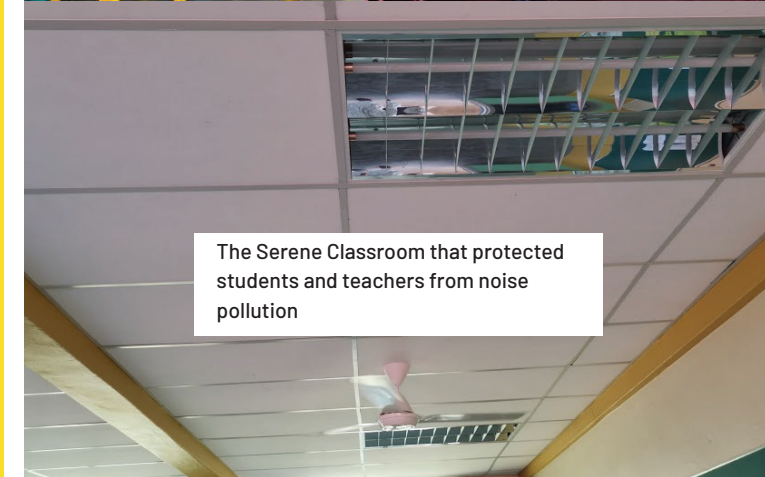
Achievement

Noise reduction above
20 dBA
The required cost of
RM22,000 was less
than the normal price
of serene classroom



Head of Project

Assoc. Prof. Dr. Zaiton Haron
Faculty of Engineering



The Serene Classroom that protected students and teachers from noise pollution

NEWS COVERAGE

Woh Intake kini bercahaya

Penduduk dibekalkan tenaga elektrik daripada kuasa solar

Oleh Mohd Khairul Anam Md Khairudin
khairul.anam@bh.com.my

Tapah: Sekolah Kejuruteraan Elektrik (SKE) Universiti Teknologi Malaysia (UTM) dan Bank Islam Malaysia Berhad (Bank Islam) membawa sinar kepada 83 penduduk Kampung Orang Asli Woh Intake, di sini, apabila menjana tenaga elektrik untuk kegunaan harian mereka, baru-baru ini.

Projek Integrasi Teknologi PV Solar Berpusat dan Pengehad Tenaga itu adalah inisiatif khidmat masyarakat kedua-dua organisasi terbabit sebagai penaja utama projek teknologi menerusi program *Sadaqa House*.

Naib Canselor UTM, Prof Datuk Ir Dr Wahid Omar, berkata penduduk terbabit tidak pernah menikmati bekalan elektrik secara berterusan sejak ia dibina kerana lokasi kampung terletak jauh di kawasan pedalaman dan faktor geografi yang mencabar.

Beliau berkata, kajian asal mendapati sebahagian penduduk bergantung kepada penjaan petrol berkapasiti kecil hanya untuk menampung be-



Peserta merakamkan gambar kenangan di hadapan Surau Baitul Rahmah yang telah siap dipasang panel solar.

berapa biji lampu yang beroperasi dari jam 7 hingga 11 malam.

"Penduduk kampung terpaksa menanggung jumlah kos petrol yang tinggi iaitu sekitar RM30 sehari atau bersamaan RM900 sebulan, manakala sebahagian penduduk lain hanya bergantung kepada cahaya lampu minyak tanah dan lilin untuk melakukan aktiviti pada waktu malam.

"Sehubungan itu, UTM melalui ketua projek, Dr Jasrul Jamani Jamian dan 12 mahasiswa

serta staf SKE mengambil inisiatif untuk mengakhiri kesusahan penduduk dengan menggunakan kepakaran yang ada bagi menjana tenaga elektrik menggunakan kuasa solar; sebuah tenaga yang boleh diperbaharui, selain mudah didapati," katanya.

Perasmian program disempurnakan Ketua Pegawai Eksekutif Bank Islam, Mohd Muazam Mohamed. Yang turut hadir ialah Pengarah Jabatan Kemajuan Orang Asli (JAKOA) Perak

dan Kedah, Hairulnizam Abd Rahman.

Prof Wahid berkata, sistem solar 4kWp dan bateri 500Ah juga direka bentuk untuk keselesaan penduduk serta sebuah pengehad tenaga turut diintegrasikan bagi memastikan masyarakat Orang Asli dapat berjimat dalam penggunaan elektrik.

"Pengehad tenaga ini telah dikodkan jumlah penggunaan yang dibenarkan dalam sehari dan akan diset semula secara automatik pada keesokan harinya.

"Di samping itu, USB pengecas telefon yang 100 peratus sumber kuasanya dijana menggunakan tenaga elektrik Solar PV juga dipasang untuk kemudahan penduduk mengecas telefon bimbit,"katanya.

Program itu turut mendapat kerjasama JAKOA daerah Batang Padang dan Institut Latihan Perindustrian (ILP) Kepala Batas yang membantu dari segi mengurangkan kos serta melaksanakan pendawaian di 15 rumah penduduk.



UTM Terangkan Kegelapan Lebih 50 Tahun Kg Orang Asli Woh Intake

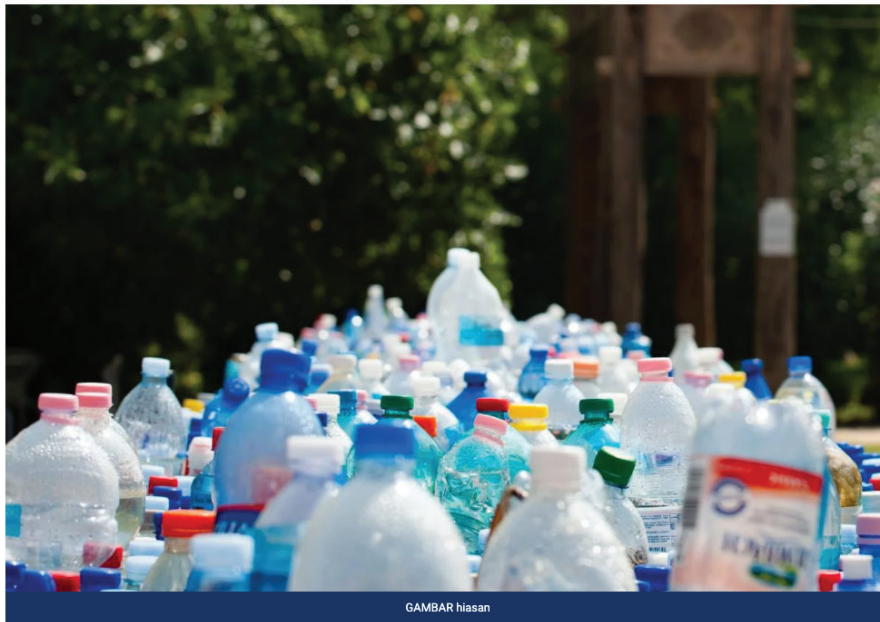
Fakulti Kejuruteraan, Kejayaan UTM, Kolaborasi dan Jaringan Industri/Institusi, Libatsama Komuniti, Penyelidikan & Pembangunan/Projek/Pengkomersilan Berimpak, Pusat Jaringan Komuniti dan Industri (CCIN), Tanggungjawab Sosial / By Nor Hidayati Mokhtar

TAPAH, 29 Feb. – Universiti Teknologi Malaysia (UTM) melalui Sekolah Kejuruteraan Elektrik (SKE) dengan kerjasama Bank Islam Malaysia Berhad (Bank Islam) telah membawa 'sinar' kepada penduduk Kampung Orang Asli Woh Intake melalui Projek Integrasi Teknologi PV Solar Berpusat & Penghad Tenaga bagi menjana tenaga elektrik untuk kegunaan penduduk di sini.



IMELC kumpul 232 tan barangan kitar semula

Suraya Roslan
suraya@hmetro.com.my



GAMBAR hiasan

Kuala Lumpur: Sebanyak 232 tan barangan kitar semula berjaya dikumpulkan oleh murid, guru serta ibu bapa sempena program Iskandar Malaysia Ecolife Challenge (IMELC) 2020.

Pengarah Eksekutif SWM Environment Sdn Bhd (SWM Environment) Dr Uzir Abdul Malik berkata, IMELC 2020 melalui Kategori Khas Usaha Bersepadu Kitar Semula (3R) merangkumi pendidikan kesedaran dan pengumpulan barangan kitar semula yang dikelolakan oleh SWM Environment.

"IMELC 2020 juga mencatatkan peningkatan kutipan barangan kitar semula berbanding tahun lalu meskipun dalam keadaan penularan wabak Covid-19," katanya dalam kenyataan media, hari ini.

Menurutnya, SWM Environment selaku rakan strategik dan penaja IMELC 2020 menyifatkan program berkenaan sebagai platform terbaik bagi membudayakan amalan kitar semula sekali gus meningkatkan kadar peratusan kitar semula kebangsaan sehingga 40 peratus menjelang 2025.

THE ISKANDARIAN

NEWS

55,000 Came Together for a Cleaner Johor

By **Norfy Shafeq** - January 7, 2021

30



Low Carbon Challenge's champion for IMELC 2020, SK Bukit Mutiara

Starting out with only 23 schools in 2013, the Iskandar Malaysia Ecolife Challenge (IMELC) programme in the eighth year of its implementation has now involved 546 schools with 55,000 students from all over the state of Johor.

Datuk Ismail Ibrahim, Chief Executive of IRDA, said, "IMELC is one of the initiatives in the Iskandar Malaysia Low Carbon Community Action Plan (LCSBPIM 2025) that will have a positive impact on climate change. This will enable Iskandar Malaysia to balance rapid economic development with social

依斯干達生態生活挑戰活動

(新山17日訊) 進入第8年的大馬依斯干達生態生活挑戰賽 (IMELC) 獲得全馬546所小學5萬5000名學生踴躍響應。新山寬二小及新都會金禧華小在其中的資源回收暨環保低碳組別奪冠三甲，表現優異。

上述挑戰活動在今年10月11日假期期，一共為參與學生繳學校費下高達17萬972令吉的電費及2萬9992令吉的水費。并在今年11月11日假期期一共共獲5萬2930令吉的收入。整體節下的金額達10萬1291令吉。

大馬依斯干達生態生活挑戰賽是由依斯干達特區發展局 (IRDA)、馬來西亞工農大學 (UTM)、柔佛州教育局及南方環保公司 (SWM) 組成實施伙伴。大馬依斯干達發展機構 (SEDA) 為支持單位。

因應疫情關係，主辦單位首次將今年的頒獎典禮改為在臉書專頁直播進行，參與比賽的學生、教師及家長皆受邀在線上觀禮。



新山寬二 端本華小 獲2獎項

大馬依斯干達生態生活挑戰賽，獲得全馬546所小學5萬5000名學生踴躍響應。新山寬二小及新都會金禧華小在其中的資源回收暨環保低碳組別奪冠三甲，表現優異。

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新山寬二小校長劉麗芳 (Mrs. Loai Chin Heng) 獲頒「最佳學校」獎牌。



柔佛州教育局局長李麗華 (Guru Besar Nurdiana Ruzlan) 頒發獎牌予獲獎學校。

大臣：有助推動低碳計劃

柔佛州州長拿督穆希丁在頒獎典禮直播中致詞，他對所有學生及家長踴躍參與低碳生活的相關知識教育，他也相信這項挑戰活動將有助推動的低碳計劃。

南方環保公司副行政總裁馬志強說，今年度的IMELC从1月至11月舉行，即從線上開始報名及行管，並邀請所有策略伙伴及參與學生進行資源回收的工作。而今年的挑戰活動共收集到25萬2410公斤的可回收使用物品。

依斯干：減少二氧化碳排放量

依斯干達特區發展局副行政總裁依斯干指出，今年的挑戰活動在參與學校及家庭的配合下，減少了高達70萬公斤的二氧化碳排放量，相當於1400棵樹的8年以上的樹木可吸收的二氧化碳分量，或減少分萬噸碳足跡。

今年允許透過直播方式頒獎，協助提升低碳生活的相關知識及意識。

依斯干達生態生活挑戰活動

籌辦機構	依斯干達發展局
特許	馬來回文瓦
學生與家長	(馬來回文瓦及依斯干)
贊助商	柔佛華僑小學
得獎學校	第一名：新山寬二小(17萬9300公斤) 第二名：馬禧華小(17萬6900公斤) 第三名：新都會金禧華小(17萬2999公斤)
學校組	第一名：新山寬二小 第二名：新山寬二小 第三名：新都會金禧華小

依斯干達生態生活挑戰賽 546學校節能回收逾10萬

大馬佛



馬東亞依斯干達生態生活挑戰賽舉行頒獎典禮致詞；前排左起為沙希拉、依斯干和法丁，前排右起為沙希魯和莫維米亞里占。

(新山13日訊) 馬來西亞依斯干達生態生活挑戰賽 (Iskandar Malaysia Ecolife Challenge) 獲得參賽學校配合。共為柔佛州節省下逾4萬令吉的水電費，并收集到總值逾5萬令吉的兩萬磅物。

這項賽事依斯干達特區發展局 (IRDA)、柔佛州教育局、南方環保有限公司 (SWM)、馬來西亞工農大學組成策略伙伴，并獲大馬永續能源發展機構 (SEDA) 和聯合國開發計劃署 (UNDP) 合作的低碳城市發展綠色技術應用 (GTALCC) 支持。昨日進行得來頒獎典禮。



'Serene Classroom' Minimumkan Kebisingan untuk Pembelajaran Lebih Kondusif

Fakulti Kejuruteraan, Kejayaan UTM, Pencapaian Ahli Akademik/Penyelidik, Penyelidikan & Pembangunan/Projek/Pengkomersilan Berimpak, Sekolah Kejuruteraan Awam / By Nor Hidayati Mokhtar

Pencemaran bunyi boleh dikategorikan sebagai bahaya dalam senyap. Pendedahan bunyi melampau boleh mempengaruhi kesihatan dan kesejahteraan manusia dan persekitarannya. Persekitaran sekolah tidak terkecuali dari terdedah kepada masalah bunyi bising.

Antara punca yang paling utama ialah kebisingan bunyi dari aliran trafik yang tinggi terutamanya di kawasan sekolah yang terletak berhampiran jalan raya.



Service Learning and Field Work Workshop for Social Work Lecturers of Sree Sankaracharya University of Sanskrit (SSUS), in Kalady, Kerala, India

Faculty of Social Sciences and Humanities, Social Responsibility, University/Faculty/Centre Achievement, UTM Success Stories / By Nur 'Ain Mohd Shahroom

In March, Dr Shanti Chandran from Language Academy, FSSH had her first leg of the Service Learning workshops that was triggered by her keynote address at the International Academic and Practitioner Conference 'Positive Thoughts, Positive Impacts and Positive Social Work: the wherewithal of hope?' in December 2017, at Kathmandu City, Nepal ([read more here](#)).

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Zalawati Sufian | Norfarhawa Khairi

And all those who have contributed directly or indirectly in the process of producing this booklet

Thank You



The divine law of Allah is the foundation of knowledge. In line with His Will, UTM strives with total commitment to attain excellence in science, technology and engineering for the well-being and prosperity of mankind.

UTM Philosophy

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