





SOCIETY SOCIETY

UPM HIGH IMPACT PROJECTS E-BULLETIN (JULY - DECEMBER 2020)

Coriandrum sativum Credit photo by: https://www.gardeningknowhow.com,







PERTANIAN • INOVASI • KEHIDUPAN

















COMMUNITY PROGRAMME

The University Community Transformation Centre (UCTC), UPM serves as the coordinator for university community programmes under the University for Society (U4S), Ministry of Higher Education, Malaysia. It recognises UPM as a premier facilitator for extension activities. Based on UPM's Strategic Plan 2014-2020, UCTC is responsible for leading UPM's 3rd Goal: Upscaling Industry and Community Engagement.

UCTC has always maintained a strategic and symbiotic relationship with the community and the larger society in order to be a leading university that contributes meaningfully towards sustainable development, development of people, the nation's wealth and involvement at the international level.



UPM'S
ENGAGEMENT AND
ACHIEVEMENT
IN COMMUNITY
ENGAGEMENT
2020

408 COMMUNITY PROJECTS 24 HIGH IMPACT PROJECTS

Despite the COVID-19 pandemic, which is currently affecting Malaysia and countries all over the world, UPM has successfully conducted and implemented a number of community projects throughout Malaysia. These projects were conducted on the field as well as through online engagements programmes.

408 STAFF INVOLVEMENT 54 KNOWLEDGE TRANSFER & EXTENSION GRANTS

STEM JSAK OUTREACH @ SK KUALA ANNAU

STEM JSAK Outreach @ SK Kuala Annau was initiated on 22 May 2019 and ended on 31 December 2020. The main goal of this initiative is to integrate studentcentered learning activities into theoretical concepts in classrooms and to cultivate students' interest in science, technology, engineering, and mathematics (STEM).

Sekolah Kebangsaan Kuala Annau, a rural school in Bintulu Division, was the target community that has substantially increased students' self-esteem. The students scored 100% passing rate in their UPSR and secured second-place among primary schools in Tatau District **Education Office.**







Bintulu Sarawak Campus

Average Grade Performance of the School (GPS) was also very encouraging as it increased from 2.18 to 2.23. In addition the achievement of knowledge transfer from university to the community, the project was also involved in the upgrading of the school's hostel facilities. It managed to achieve verbal agreement to build a biogas station in the school as part of the renewable energy programme when the COVID-19 pandemic subsides.



THE DEVELOPMENT OF INNOVATION AND TECHNOLOGY SKILLS IN SEKOLAH MENENGAH JENIS KEBANGSAAN CHAN WA

A community project was started in Sekolah Menengah Jenis Kebangsaan (SMJK) Chan Wa, Seremban involving its teachers and students together with subject matter experts from the Department of Process and Food Engineering, UPM. The students and teachers aimed to participate in the International Science and Invention Fair 2019 in Bali, Indonesia, with a proposed project entitled "Eco-friendly Plastic from Banana Peel".

This community project assisted and guided students from SMJK Chan Wa to improve banana peel film properties by using different techniques and designing an experimental procedure for the film's preparation. The students understood the fundamentals of preparing the eco-friendly plastic by using waste from banana skin. The students gained some tips and knowledge on preparing PowerPoint slide/board presentations and communicating effectively and confidently for the presentation. The team from SMJK Chan Wa won a Gold Medal Award from the Indonesian Young Scientist Association. This knowledge transfer programme helped the students to understand the nature of conducting research, particularly in science-based projects.









LOCAL AGENDA 21 GREEN NEIGHBOURHOOD INITIATIVE PROJECT - SEKOLAH KEBANGSAAN SENTUL (1)

LOCal Agenda (LA) 21 Green Neighbourhood Initiative project was successfully implemented in July 2018 at Sekolah Kebangsaan (SK) Sentul (1), Kuala Lumpur. The project largely utilised the school's concept of the organic garden, which directly supported its newly established Green Nutrition Unity Garden Club of the school. A comprehensive programme of organic cultivation courses was conducted in the school involving 50 students and teachers. These organic plantation programmes exposed the school community to practical training in the seed preparation stage, preparation of crop media, fertiliser management, planting process, crop planting and compost preparation using organic waste available within the school compound.

The school also succeeded in using the compost produced, which consequently helped to raise the school funds. SK Sentul (1) became a model school for the in-school garden programme in the Federal Territory of Kuala Lumpur. The school also won the Kuala Lumpur City Neighbourhood Garden Award and received the Intensive Form Technology Award for the Urban Agriculture Project in the Community Category. It also provided fertiliser and other agricultural inputs to further develop organic garden projects. This project has benefitted SK Sentul as well as other schools in the Federal Territory by providing comprehensive knowledge and practical organic food cultivation skills. More importantly, it helped to enhance the school's reputation to be among the pioneer schools to implement the school garden concept.



Dr. Martini Mohammad YusoffFaculty of Agriculture

CHILDREN OF MILLENNIALS' DIARY: EMPOWERING HUMAN CAPITAL IN ADOLESCENTS, PARENTS, GUARDIANS AND TEACHERS IN GURUN, KEDAH

This programme was conducted in collaboration with Sekolah Menengah Agama Pekan Gurun (SMAPG) and implemented in 2018. It received tremendous support from the Parent and Teachers Association of SMAPG, Kuala Muda/Yan District Education Office and the State Education Department, Kedah. The programme is comprised of four phases that include: i) understanding the students' physical and psychological development and parenting skills, ii) preparing students for SPM examination iii) empowering parenting styles consistent with the current demanding environment and students lifestyle, and iv) building holistic human capital in students and improving the teachers' skills in meeting the students' various needs and capabilities. The participants reported an increase in their knowledge and skills as well as changes in their daily practices. Within the implementation period of this programme, an increase in students' SPM achievement was recorded.

The percentage of students who passed all subjects was between 82% and 100%. Besides that, an increase of 28% in knowledge and skills was also recorded among the teachers. Overall, all of the participants were happy with the programme, as this program suits their expectations and needs.











ENHANCING THE VOCATIONAL SKILLS AMONG THE TEACHING STAFF OF THE NATIONAL ANTI-DRUGS AGENCY (NADA) TEACHING STAFF

The project was an initiative of UCTC and NADA, which focused on technical training in the field of agriculture and agri-based products. The programme was an effort in enhancing skills and ensuring that the proper teaching techniques can be delivered to the clients. The four-day programme with the theme "Tanam Sayur Jauhi Dadah" was attended by 70 NADA staff from several Narcotics Addiction Rehabilitation Centres (PUSPEN). The module, prepared by UPM, was infused with farming therapy elements as the main basis for the participants while alternative conventional therapeutic treatment was the focus for the clients.

Apart from the main topic of vegetable production management, various topics of interests were also included in the programme. The entrepreneurship aspect was also highlighted to ensure that the production of vegetables could be a source of income for the participants. The feedback and information obtained during the programme's monitoring have shown that the teaching system has been very well organised and successfully conducted. The percentage of clients who have chosen agriculture as an activity in the rehabilitation centres has also increased. Several rehabilitation centres have improved the facilities, agriculture inputs and structures of the farm and have successfully increased yield production.









Dr. Siti Hajar AriffinFaculty of Engineering





KNOWLEDGE TRANSFER AND INNOVATION OF WATER FILTRATION AND TREATMENT SYSTEM USING NATURAL RESOURCES

The main objective of this programme was to educate 40 residents in Desa Bagan Melibur, Merbau District, in Meranti Islands Regency, Indonesia about the characteristics of clean water and its importance for daily use as well as to innovate peat water filtration system using natural resources. The water filtration system uses materials that are readily available around the village such as rock, sand, alum and coconut charcoal that have been crushed in the proper order and rate.

This innovation has succeeded in turning the colour of the peat water from brown to clear. It has also been able to change the water pH from 4 to 6-7 and eliminate the peat's brackish taste. A post-mortem meeting has reported that the residents of Desa Bagan Melibur have successfully built their peat water filtration system using natural compositions based on the methods demonstrated by the UPM team.

Besides, the *Energi Mega Persada* representative (EMP) has proposed expansion plans to ensure the continuation of the peat water filtration system in Desa Bagan Melibur. The water filtration model will be embedded into water tanks and will be installed at public spaces such as district offices, schools and mosques to maintain the practicality and sustainability of its benefits to the local community.



KNOWLEDGE TRANSFER ON THE PRODUCTION OF NANOCELLULOSE TO MRSM TERENDAK, MELAKA

The main objective of this programme was to support the participants who wish to further develop their skills and knowledge by applying the knowledge learnt from the programme. Essentially, the participants were taught to theoretically produce nanocellulose and practically use the acid hydrolysis method. They also learnt the technique of the nanocellulose in liquid form using a freeze dryer. The knowledge learnt throughout the programme had been applied by the students in a research project entitled 'High Quality of Nanotiles from Waste HDPE Bottles, Coco Fibers, and Clamshell with EFB Nanocellulose'.

The knowledge transferred was also applied in a project entitled 'Green Nano-Car: Combination EFB Nano-Composites and Natural Fiber Green Materials to Produce High Quality, Sustainability and Potential Bio-Degradability Automotive Interior Applications'. This project had won four medals at the national and international level competitions. The record of success from this programme shows that it has effectively strengthened the participants' knowledge and enhanced their skills. The participants also demonstrated their ability to implement and improve the nanocellulose production techniques and subsequently utilise the nanocellulose in various innovations.









Hajar Othman

Faculty of Engineering



UPM'S EXPERTISE AND KNOWLEDGE TRANSFER OF LOW-COST SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (STEM) MODULE DEVELOPMENT



This programme was a joint collaboration with the Malaysia STEM Teachers Association (PGSM) and The Ministry of Education to develop a low-cost STEM module among teachers under PGSM. The knowledge transfer started with the identification of teaching and learning problems in schools, as well as possible solution methods to be produced. According to the national syllabus, the teacher community has gained exposure and knowledge on developing STEM modules using used materials that can easily be found around the community. Over 200 innovations (methods and models) have been developed at the end of the programme, resulting from various subjects of science, mathematics, physics, chemistry, biology and additional mathematics.

The team member has featured the innovation result entitled 'Pink Blue Chart' from solving the primary school level's mathematical problems. This 'Pink Blue Chart' innovation was in turn used in school rehabilitation classes in other communities. The improvement was very significant among students in the rehabilitation class as none of them failed in mathematics after employing the innovation. The community has also successfully collected data on the effectiveness of using the STEM Module 'Pink Blue Chart' and performed in the Perak State Level Innovative Teacher Competition in 2019. The project has also won numerous recognitions and awards including a nomination at the Global Teacher Award 2020.



SCHOOLWIDE ENRICHMENT MODEL (SEM TYPE III) BY MAKTAB RENDAH SAINS MARA KUALA BERANG, TERENGGANU

This project is a collaboration project between MRSM Kuala Berang and UPM to develop learning experience of the higher education level and thinking skills among the secondary school students. The Form Four students have proposed a mini-project entitled "Developing anti-diabetic and anti-obesity dietary fibres from the peels of *Mangifera indica* and *Musa acuminata*". It was conducted at the Food and Microbiome Technology (FAMTech) Laboratory, Faculty of Biotechnology and Biomolecular Science, UPM. This project was initiated to address the issue of improper dumping of left-over food in Malaysia. It is believed that the food waste should be innovated and converted into value-added food products.

The students successfully performed the mini-project by demonstrating that left-over food can be potential alternative agents for the treatment of diabetes and obesity. Thus, the project was believed to have transferred the knowledge of STEM approach experiences into developing healthy value-added products. In line with the programme's goal for the school community, the project was aspired to exploit the theoretical knowledge into practice and give exposure to develop awareness and good behaviour among secondary school students.



Assoc. Prof. Dr. Uswatun Hasanah Zaidan Faculty of Biotechnology and Biomolecular Science











URBAN AGRICULTURE DEVELOPMENT PROJECT AT PANGSAPURI PKNS SERI KEMBANGAN, SELANGOR

This pioneer urban agriculture project was carried out between mid-2019 and early 2020 in Pangsapuri PKNS Seri Kembangan, Selangor. The project involved 50 active community members (from 7 apartment blocks) who participated in 9 sessions of knowledge transfer activities including theories and practical sessions. The objective of the programme was to improve the community's skills and knowledge on urban agriculture that advocates the concept of low budget, green environment and fresh-from-the-farm-to-the-table. The project also aimed to create awareness on food security, healthy living and the importance of organic recycling. The participation of the community in the project was very encouraging. Various people from the community, ranging from youth to senior citizens, participated in the activities that focused on the preparation of planting techniques such as basic soil mixing for vegetables, herbs and landscape trees, making compost, preparing botanical insect repellent, learning basic landscape knowledge and basic fertigation system as well as post-harvest knowledge.

Based on the knowledge sharing by the experts from UPM, the community has obtained the necessary skills and knowledge to develop their own kitchen garden consisting of various types of vegetables, herbs and fruits for their daily consumption. The kitchen garden plot was also personalised with their own concept. Besides being able to produce their own fresh vegetables for their daily consumption, they were also able to generate side income from the sales of their produce. It was reported that a minimum of 7 plots of land were developed or improved within the 6 months-period of this project.

Muhammad Adip Mohd Tamami University Community Transformation Centre





UPM LCTC

SPREADING UNIVERSITY EXPERTISE TO THE NEW NORMS

UCTC has taken a creative and proactive approach to continuously deliver knowledge to the community. UCTC also strengthens the existing expansion activities and implements new norm development programmes virtually via UPM and UCTC social media platforms.



MENGENALI ASAS BAJA









UEM LCTC





ONLINE COMMUNITY DEVELOPMENT PROGRAMMES

UCTC has taken an initiative to implement a few online community development and knowledge transfer programmes due to the physical restriction movement during the COVID19 pandemic.





Oleh LAUPA JUNUS

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UPM Cultivates Sustainable Extension Programme via Knowledge Transfer



Rabu | 21 Oktober 2020

Premium Berita Edisi E-Kuiz E-Paper WacanaQuran Suara Sinar Video

Hasil pertanian dikongsi bersama



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UPM bimbing banduan tanam rumput Objektif Pertanian Banda Napier



Banduan yang terlibat dalam pembuatan silaj di Penjara Agro Dusun Dato' Murad, Ayer Keroh, Melaka.

AYER KEROH - Pusat Transformasi Komuniti (UCTC) Universiti Putra Malaysia (UPM) membimbing seramai 36 banduan dan staf Penjara Agro Dusun Dato' Murad di sini baru-baru ini untuk menanam rumput Napier dan menghasilkan silaj berkualiti tinggi.

Projek di bawah Skim Geran Pemindahan Ilmu (KTGS) membimbing banduan mengenai kaedah penanaman dan pengurusan tanaman serta amalan agronomi rumput Napier untuk menghasilkan sumber makanan ternakan yang mencukupi dan berkualiti tinggi.

COMMUNITY PROJECT MANAGEMENT SCOPE OF THE INDUSTRY AND COMMUNITY NETWORK (JINM) UPM.

This e-book is published specifically for UPM staff as a guideline to implement community programmes.



Penyunting dan Penulis



OSMAN Timbalan Pengarah UCTC UPM





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NATISAH AWANG





Pegawai Pertanian UCTC UPM



HAIRUNNISAK JALIL Pegawai Pertanjan, UCTC UPM

PROSES PERANCANGAN PROJEK KOMUNITI

ANALISIS

SITUASI

Kenal pasti masalah dan

Tentukan keperluan semasa



Ahli kumpulan pelaksana.

Sumber kepakaran dalam/luar



Jadual pelaksanaan aktiviti, pemantauan, penilaian dan

Sediakan kertas cadangan Keperluan kewangan

tunal/sumbancan /ok/od

DOKUMEN KAFDAH PROGRAM EMANTAUAN PENILAIAN

Rancang kaedah pemantaua dan penilaian. Rancang kriteria dalam pemantauan dan pendaian.

BENTUK

OBJEKTIF

Tentukan perubahan yang

Bentuk objektif secara

DAN

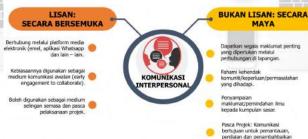


Keperluan sumber kewangan umber manusia dan input projek. Kemudahan dan infrastrukti

> PANCKA KAEDAH PELAKSANAAN

Seminar/bengkel. Pertunjukan kaedah/amali

KAEDAH KOMUNIKASI DALAM PROJEK KOMUNITI



ULU LEPAR PENINOKATAN PENGETARUAN DAN PENARAFAN BINTANG PROJEK KOMU Oleh: Hairunnisak Jalil









EXTENSION TALK (ExtenT)

UCTC has taken a creative and proactive approach to continuously deliver knowledge to the community. UCTC also strengthens the existing expansion activities and implements new norm development programmes virtually via UPM and UCTC social media platforms.





