



Go Green STUDENT CAMP

## FORWARD BY



### ■ Director Of Perak Education Department

Assalamualaikum and Salam Sejahtera.

Thank you very much for giving me this opportunity to pen down a few words in conjunction with **Go Green Students' Camp (GGSC 2013)**.

On behalf of the Perak Education Department, I wish to express my highest gratitude and congratulations to SMK Raja Perempuan for being the pioneer school in Perak for organizing this prestigious international event focusing on sharing of ideas in activities related to Environment Sustainability.

Our youth are our most valuable resources. Not only are they the foundation, they are also the innovators and administrators of our future. It is therefore a paramount consideration that our youth are knowledgeable, morally enlightened and psychologically balanced to face the future with confidence. This towering personality requires development of minds and bodies. An event like GGSC which is aimed to enhance students' scientific knowledge, generate thinking skills, develop analytical, synthesis and creative skills as well as the soft skills will mould students to be responsible adult in handling environmental issues as well as creating great personalities in order to produce a dynamic generation for the future.

I believe that this Camp will bear fruitful results and provide the groundwork for future enhancement, collaboration and development of education globally. I would like to thank participants for attending and playing your part actively in contributing towards a better environment. I wish all of you every success in this interesting and meaningful endeavour which is in line with the National Philosophy of Education **to create individuals who are well-equipped intellectually, spiritually and emotionally.**

Lastly, I would like to congratulate all parties involved in making this event a significant success. To all participants enjoy your stay in Perak, gain valuable knowledge and return with unforgettable memories and experience.

Thank you.

**TUAN HAJI MUHAMAT ROLI BIN HJ. HASSAN, PMP, AMN., AMP.**  
DIRECTOR OF PERAK EDUCATION DEPARTMENT



**Go Green** STUDENT CAMP

## FORWARD BY



### ■ District Education Officer

Assalamualaikum and Salam Sejahtera.

I am thankful to Allah Almighty for His Blessing and giving me the opportunity to deliver a welcoming speech in **Go Green Students' Camp (GGSC 2013)** Souvenir Book with the theme: Youth and Environment Sustainability.

First of all, I would like to express my sincere appreciation and congratulation to the dedicated and hardworking principal, teachers and students of SMK Raja Perempuan for organizing a very intellectual and educational programme which is relevant and pressing issue of this era. GGSC in an effort to create awareness among the youth the importance of preserving and conserving the environment and make our world more sustainable to live in.

Moreover, GGSC has also provided a platform to achieve our education goal which is to equip our students holistically to allow them to succeed in the 21st century, with all of the opportunities and challenges that this new era presents. In order to compete with the best in the world, we must develop our students who are knowledgeable, think critically and creatively, possess leadership skills and are able to communicate effectively with the rest of the world.

Last but not least, I take this opportunity to convey my best wishes to all the participants who are involved, equip yourself with all the knowledge you can gain and share it with your friends back home so everyone will benefit from it.

Thank You.

**TUAN HAJI MARAZLEN @ MAR AZLAN BIN AMRAN, AMP.,PPT.**  
North Kinta District Education Officer



Go Green STUDENT CAMP

## FORWARD BY



### ■ Principal

I am thankful to Allah Almighty for His Blessing, SMK Raja Perempuan managed to organize the International level Go Green Students' Camp 2013 with the theme **"Youth and Environment Sustainability"**. It is my great honour and pleasure to welcome all speakers, teachers and participants to participate and support this prestigious programme. I commend you of your commitment to be present as it symbolizes our collective hopes and beliefs that the environment is a topic where everyone plays a vital role in preserving and conserving for our future generation.

Raja Perempuan School (RPS) is a Cluster School of Excellence, and our academic niche area is Science. GO GREEN STUDENTS' CAMP 2013 (GGSC 2013) is a follow-up programme from a national event organized by RPS in 2011 which was Student's Go Green Conference **"Towards Green Schools and Green Hostels"**. The students presented amazing paper work and mirrored great effort. They made new friends, exchanged ideas and thoughts and most of all gained tremendous life time experience. As a follow up of it we have expanded our horizons and have invited international participants to share with us their best practices and ideas on environment sustainability. Through this camp it is also expected that participants can submit their ideas and perceptions about this critical issue through creative and innovative hands-on techniques and presentations.

SMK Raja Perempuan has adopted Go Green in its daily routines. One of our main projects which we are very proud of is Organic Farming where all the students are exposed and are actively involved in. GREEN projects have been implemented by every individual of this school such as Composting, Rain Water Harvesting, Zero Plastic and Styrofoam, Solar Energy, 3R and Micro scale applications. A pilot visit to the Royal Belum using micro scale applications were also carried out in 2012 en route to GGSC. These programmes have benefited the students educationally and at the same time created awareness towards environment.

Last but not least, on behalf of SMK Raja Perempuan I would like to extend my heartfelt thanks and appreciation to all teachers and students of RPS, the sponsors, relevant Government Departments, NGO's, distinguished individuals who have sponsored, contributed and assisted in ensuring GGSC 2013 is a remarkable success.

Thank You.

**CIK RUSNANI BINTI SHARUDDIN, AMN.**  
PRINCIPAL  
SMK RAJA PEREMPUAN IPOH





**Go Green** STUDENT CAMP

## GGSC

June 2013 Events

Venue : Excelsior Hotel, Ipoh / RPS / Belum Rainforest Reserve

DATE	TIME	EVENTS
Sat 15 June 2013	12.30 pm – 4.30 pm	Arrival of Camp participants (Check – In)
	3.30 pm – 4.00 pm	Tea Break
	4.00 pm – 5.00 pm	Rest
	5.00 pm – 7.00 pm	Registration & Ice Breaking
	7.00 pm – 8.00 pm	Dinner
	8.00 pm – 10.00 pm	Programme Briefing
	10.00 pm – 10.30 pm	Refreshments
Sun 16 June 2013	5.00 am – 6.00pm	The Royal Belum Eco-Trip
		
	6.00 pm – 7.00 pm	Rest
	7.00 pm – 8.00 pm	Dinner
	8.00 pm – 10.00 pm	IPOH CITY TOUR



Go Green STUDENT CAMP

# GGSC

June 2013 Events

Venue : Excelsior Hotel, Ipoh / RPS / Belum Rainforest Reserve

DATE	TIME	EVENTS
Mon 17 June 2013	7.00 am – 8.00 am	Breakfast
	8.00 am – 8.30 am	Registration
	8.30 am – 9.30 am	<b>OPENING CEREMONY</b>
	9.30 am – 10.30 am	"Go Green Students' Camp – Youth & Environment Sustainability" Keynote Address by Mdm. Hafiza Bt. Yob (KeTTHA)
		
		Senior Executive, Demand Side Management, Energy Commission Ministry of Energy, Green Technology and Water
	10.30 am – 11.00 am	Tea Break
	11.00 am – 12.00pm	"Renewable Energy & Sustainability" Talk by CETREE
		
		Mr. Haslan Bin Abu Hassan Professor / Director School of Physics & CETREE, University of Science Malaysia
	12.00 pm – 1.00 pm	<b>Exhibition by NGO, GO &amp; RPS Students</b>
	1.00 pm – 2.30 pm	Lunch
	2.30 pm – 4.00 pm	Paper Presentation (1 & 2)
	4.00 pm – 4.30 pm	Tea Break
	4.30 pm – 6.00 pm	Paper Presentation (3 & 4)
	6.00 pm – 7.00 pm	Rest
	7.00 pm – 8.00 pm	Dinner
	8.00 pm – 10.00 pm	<b>IPOH CITY TOUR</b>

\*\*\* Camp delegates will be at the Excelsior Hotel for other activities.  
The exhibition will continue in SMK Raja Perempuan with the participation of invitational schools.



Go Green STUDENT CAMP

## GGSC

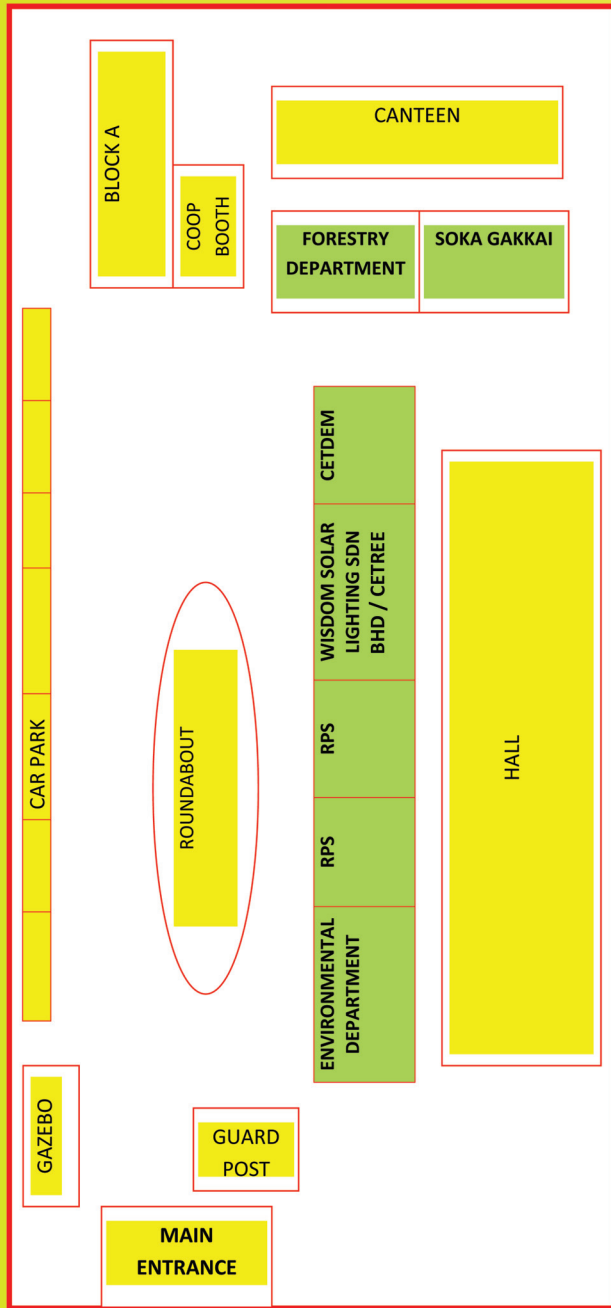
June 2013 Events

Venue : Excelsior Hotel, Ipoh / RPS / Belum Rainforest Reserve

DATE	TIME	EVENTS
Tue 18 June 2013	7.00 am – 8.00 am	Breakfast
	8.00 am – 10.30 am	Paper Presentation (5 – 8)
	10.30 am – 11.00 am	Tea Break
	11.00 am – 1.00 pm	<b>Video Presentation of The Belum Eco-trip</b>
	1.00 pm – 2.30 pm	Lunch
	2.30 pm – 4.30 pm	Paper Presentation (9 – 12)
	4.30 pm – 5.00 pm	Tea Break
	5.00 pm – 7.00 pm	Preparation for Cultural Night
	7.00 pm – 8.00 pm	Rest
	8.00 pm – 10.30 pm	<b>DINNER &amp; CULTURAL PERFORMANCE</b>
Wed 19 June 2013	7.00 am – 8.00 am	Breakfast
	8.00 am – 9.15 am	<b>"Waste Water Management"</b> Talk by UiTM
		
		Sherina Kamal Currently pursuing Doctor of Philosophy (PhD) in Civil Engineering UiTM, Shah Alam
	9.15 am – 10.30 am	<b>"Biodiesel"</b> Talk by UTAR
		
		Dr. Tan Kok Tat Assistant Professor Faculty of Engineering and Green Technology University Of Tunku Abdul Rahman (UTAR)
	10.30 am – 11.00 am	Tea Break
	11.00 am – 12.30 pm	<b>CLOSING CEREMONY</b>
	12.30 pm – 2.00 pm	Lunch
	2.00 pm	Departure of Delegates



## EXHIBITION PLAN



EXHIBITION AREA



## STUDENT CAMP



Soka Gakkai Malaysia (SGM) is an organization working towards the establishment of peace in society through the promotion of culture and education. We firmly believe that the wellbeing of humanity is inextricably linked to the well-being of our natural environment. We promote sustainable living and development through education as well as projects such as tree planting and clean-up activities.

**Exhibition Theme : Visions of Sustainability, Steps towards Change**



CETREE was formed from the discussion and collaboration between government of Malaysia and Denmark in the areas of renewable energy starting from the early 90's. CETREE's main objective is to enhance awareness on RE and EE in Malaysia. In order to achieve that, CETREE improves and increases its energy learning program in primary and secondary schools, universities and among the energy professionals as well as disseminating information on RE and EE to the general public.

**Exhibition Theme : Photovoltaic, Solar Thermal Energy & Solar Power**



To lead in sustainable management of natural resources and conservation of environment towards achieving national vision. The department's objective is to ensure well balanced management of natural resources and environment in achieving sustainable development.

**Exhibition Theme : Air & Water Control**



Centre for Environment, Technology & Development, Malaysia or CETDEM, is a Malaysian Environmental NGO based in SS2 Petaling Jaya, Selangor. Their tag-line is Always Promoting Sustainable Development.

**Exhibition Theme : Organic Kitchen Gardening, "How To Recycle Your Kitchen & Garden Waste into Compost", "Energy Efficiency/ Sustainable Transport.**



**FORESTRY DEPARTMENT**

**Exhibition Theme : Sustainability of Mangrove Forest**



**Wisdom Solar Sdn. Bhd.**

**Exhibition Theme : Converting Solar Energy to Electrical Energy**



**Exhibition Theme : Solar Energy, Organic Farming, Vermicompost, Composting, Recycling & Biofuel.**





## ROYAL BELUM ECO-TRIP

Delegates will get the opportunity to be on a tour to Royal Belum State Park. It's a world-class protected virgin jungle area. It is also the second largest protected jungle area in Peninsular after Taman Negara. The forest contains a huge magnitude of refuge for a wide array of plants and animals.

Some of the main attraction is Rafflesia flowers (species: Azlanii, Cantleyii and Kerrii), Hornbills (10 species), cooling and refreshing waterfalls (Ruok, Kejar, Mes, Semelian, Ko'oi, Belangan, Tiang, Papan, Gen and etc), Salt Licks (estimated at 60 sites altogether), among the accessible site are Sira / Jenut Papan, Sira Rambai, Sira Selantan etc, wildlife (elephant, tiger, gaur, deer, barking deer, mouse deer, snakes, insects, butterflies, fishes, tapir, wild boar, monkeys, squirrels etc).

A common aboriginal or Orang Asli found within Royal Belum is the Jahai Tribe. Locations of their villages are up river in Tiang and Kejar River and remote locations inside the rain forest.





## CULTURAL NIGHT

Delegates will be entertained with several cultural performances by the students of SMK Raja Perempuan Ipoh. Among the performances are traditional dances such as, the “Kurik Kundi” dance, the “Umbrella” dance and an Indian traditional dance.







## ABSTRACT

### VERMICOMPOSTING

#### Sharing of best practices by SMK Raja Perempuan Ipoh

The RPS administrators have introduced vermicomposting and theme gardens to inculcate Ecological Thinking among the students. This project was started with the collaboration of University Of Science Malaysia, Pulau Pinang. They have contributed the materials needed for vermicomposting such as cow dung, worms (*Eudrilus euginea* sp), containers and gloves. The vermicast is used as a fertilizer for the students' theme garden which were formed in groups of 10 students. There are 10 plots of 10 different themes. The students are required to plant plants according to their theme garden. The students had undergone a workshop of vermicomposting conducted by USM post graduates.

### SOLAR ENERGY – FREE, GREEN & SUSTAINABLE

#### Sharing of best practices by SMK Raja Perempuan Ipoh

Solar energy is a sustainable green energy that helps to maintain a balanced ecosystem. The objective of using solar energy is to create awareness among students about this renewable and sustainable energy that does not require any fuel. RPS students carried out innovative activities related to solar energy such as projects on *Solar Water Heater*, *Solar Cooker*, *Solar Car*, *Sundial*, and circuit and motor powered by solar energy.

### SUSTAINABILITY OF MANGROVE FORESTS

#### Sharing of best practices by SMK Raja Perempuan Ipoh

Mangrove forests in Peninsular Malaysia are found mainly on the sheltered coasts, estuaries, rivers and some near-shore islands. There are five major types of mangrove forest zones in peninsular Malaysia, based on the dominant species (i) the *Avicennia* - *Sonneratia* type (on pioneer shore), (ii) *Bruguiera cylindrica* type; (iii) *Bruguiera parviflora* type, (iv) *Rhizophora* type, and (v) *Bruguiera gymnorhiza* type. Mangrove forests support a diverse range of animals and plants and are important breeding ground for a vast array of organisms, besides its importance in providing invaluable goods and services both in economics and ecological system. Mangrove resources are exploited by humans for coastal protection, forestry products, fisheries, wildlife, agriculture, aquaculture, settlement, urban and industrial development, and ecotourism. There are a total of 112 mangrove forest reserves, of which 75 are located in peninsular Malaysia, 26 in Sabah and 11 in Sarawak. The Matang mangroves are identified as the best described mangrove forests in the world and is an exemplary of the sustainable managed mangrove forests.

### ORGANIC FARMING - SUSTAINING LIFE

#### Sharing of best practices by SMK Raja Perempuan Ipoh

The demand for organic food is increasing significantly. This is due to the increasing awareness on the effect of food quality to health and the importance of sustaining environment. Organic food is obtained from sustainable farming system that does not damage the environment and no synthetic additives are added in the progress of production. To achieve the aim of sustaining life, organic farming helps to maintain the ecology at equilibrium by reducing soil erosion without the use of agro-chemicals, maximizing the use of soil nutrients through various planting methods, recycling wastes through composting and saving water by harvesting rain water. In RPS, students are exposed to organic farming in order to inculcate the idea of sustainable living. To achieve this, three science innovations were carried out in SMK Raja Perempuan Ipoh. They are: making insect repellent from lemongrass, making enzyme from fruit peel and making fertilizer from tea leaves.

### MICROSCALE SCIENCE - KEEPING IT SMALL

#### Sharing of best practices by SMK Raja Perempuan Ipoh

Microscale is an alternative method to carry out science experiments using small and easily available apparatus. The innovations are most attractive. It becomes more challenging where by students need to improvise to do experiments and results are achieved at an even faster rate. It is easy, fast and safe. Repetition is no longer a chore. Students can learn at their own pace. With the cost of chemicals and apparatus considerably reduced and shorter preparation time, discovering science becomes fun and focused. Here in RPS, the students are exposed to microscale science in the hopes that everyone can be a scientist and enjoy making new discoveries.



## *Acknowledgements*

LIVLINE (M) SDN. BHD.  
EDAMAN ENTERPRISE  
CISCO (M) SDN. BHD.  
RIBBONLINK STATION ENTERPRISE  
YRJ ENTERPRISE  
ROMEO ZULU SDN. BHD.  
TACTFUL PHOTOCOPY  
SHENG MING TRADING  
SRI BALU ENTERPRISE  
BANK RAKYAT MEDAN GOPENG  
SYARIKAT UNICORN ENTERPRISE  
PUSAT BUKU ALFA  
SUNLAB EQUIPMENT  
UNIKIMIA SAINTIFIK  
SYARIKAT BARANG-BARANG LOGAM ENG GUAN  
INFYTRADE ENTERPRISE  
SILVERWAVE  
PERBADANAN TAMAN NEGERI  
JABATAN KEMAJUAN ORANG ASLI HULU PERAK  
JABATAN ALAM SEKITAR  
JABATAN PERHUTANAN  
KETTHA – *Mdm. Hafiza Bt. Yob*  
CETREE – *Prof. Haslan Bin Abu Hassan*  
UTAR – *Dr. Tan Kok Tat*  
UITM – *Ms Sherina Kamal*  
CETDEM  
SOKA GAKKAI  
WISDOM SOLAR SDN. BHD.  
EXCELSIOR HOTEL  
PIBG SMK RAJA PEREMPUAN  
WARGA SMK RAJA PEREMPUAN