

***ASIAN "KIBO" MISSION PLANNING: "SPACE SEEDS FOR ASIAN FUTURE"  
PROGRAMME :***

***MALAYSIA SPACE SEED (AstroSeed) PROGRAMME***

The Asian "KIBO" Mission Planning Task Force is a sub session of the Space Environment Utilization Working Group (SEU-WG) in Asia-Pacific Regional Space Agency Forum (APRSAF). The task force aims to joint utilizations of the Japanese Experiment Module "KIBO" of the International Space Station by countries in the region. Malaysia is one of the member of the task force.

National Space Agency (ANGKASA) is already established a local committee to conduct this program. The committee console of Malaysian Agricultural Research and Development Institute (MARDI), Ministry of Education (MOE) and Department of Agriculture (DOA). We were agree to have 2 component which is education and research program. Our national committee already agreed to launch the Malaysia Space Seed Programme Competition. This competition is opened to all secondary students in Malaysia. Schools are only allowed to send in one team comprises a maximum of 20 students supervised by 4 teachers.

The competition format was chosen because :-

- i. To promote of microgravity science - space awareness;
- ii. To develop student interest and skill in scientific space experiments and research;
- iii. To compare, analyze and do hypothesis about the growth of microgravity environment – exposed seed compared to earth – grown seed.



Pic 1 :  
The website of Malaysia Space Seed Competition

A total of 45 schools had been registered to enter the competition. All interested schools were registered through the official website (<https://astronomi.angkasa.gov.my/spaceseeds>).

To kick-off this competition, a teacher representative each team are call for a briefing session in National Planetarium on 3rd April 2012. All teachers were brief about this programme, the importance of it for development the interest and skill in scientific space experiments and research by ANGKASA Representative, Mr. Mhd Fairos Asillam. Then, they had a briefing the importance of this programme in education and awareness from MOE Representative, Mr. Anandan Kaniappan and the technical briefing on chilli seeds handling by MARDI Representative, Dr. Mohammad Selamat Maadom.



Pic 2 : Briefing from Mr. Fairos Asillam,  
ANGKASA



Pic 3 : Briefing from Mr. Anandan Kaniappan, MOE

Pic 4 : Briefing from Dr. Mohammad Selamat Maadom, MARDI



After briefing, all teachers got their experimental kits including both seeds (Space Seeds & Ground Seeds). This handing over ceremony has been done by Deputy Director General ANGKASA, Dr Noordin Ahmad and witness by MARDI, MOE, ANGKASA Representative.



Pic 5 : Handing over experimental kits to all school participate in Malaysia Space Seed Programme

This competition begins on 9 April simultaneously at all 45 schools. The student will working in a group and monitor the seed growing of the seed that been sent to ISS and the ground control seeds. Weekly reports were submitted through the website and ANGKASA were monitoring their progress from there.

During the competition, some schools had some difficulties like their seedling doesn't grow well due to high heat, applied the wrong pesticide and fungicide, internet connectivity. ANGKASA also had some problem with the functionality and design of website in this competition. This is due to the nature of the competition that involves agricultural background which means it has a physical portion and a long time period watching and evaluating plant growth. Not only designing the website was difficult, judging was also a bit tricky but luckily we had strong supports from our own local agricultural & education experts along the program.

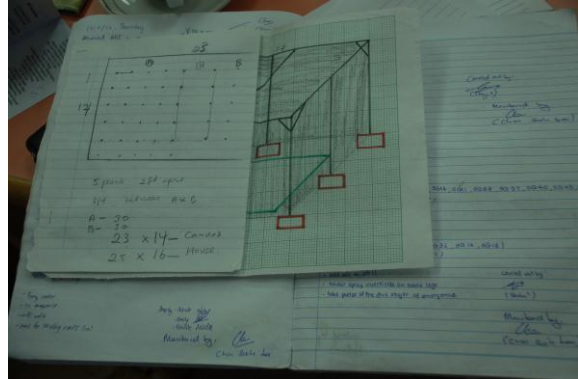
All teams submitted their full research report to the secretariat on 30 August 2012 which will then be evaluated by the judges. Judges had 3 series of meetings and finally they shortlisted the top 6 schools for final evaluation. Final evaluation was done at the schools where the teams had to give a research presentation and show their crops.



a) SMK King George V, N. Sembilan



Pic 6 : Presentation by students



Pic 7: Team's logbook



Pic 8 : Visiting their crops



Pic 9 : Group photos with judges

b) Kolej Vokasional Dato' Lela Maharaja, N. Sembilan



Pic 10 : Team's logbook & the space chilli



Pic 11: Team's presentation



Pic 12 : Visiting their crops



Pic 13 : Young researchers team

c) SMK Seri Kenangan, Johor Bahru



Pic 14 : Team's presentation



Pic 15: Team's log book & chillies



Pic 16 : Visiting their planting site



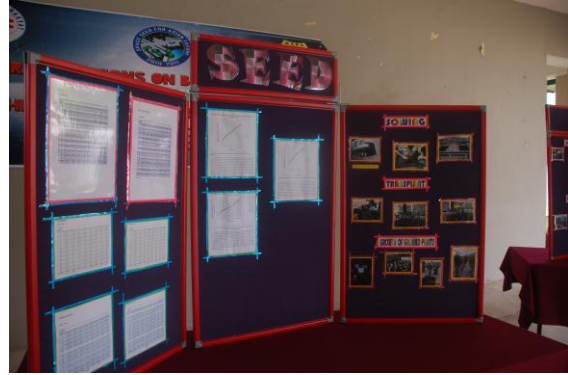
Pic 17 : Young researchers team



d) MRSM Kubang Pasu, Kedah



Pic 18 : Team's presentation



Pic 19: Team's gallery and promotion in their school



Pic 20 : Visiting their planting site



Pic 21 : Group photo with all judges & young researchers team



e) SMK Sungai Besar, Selangor



Pic 22 : Team's presentation



Pic 23: Group photo with their monument of chilli programme



Pic 24 : Visiting their planting site

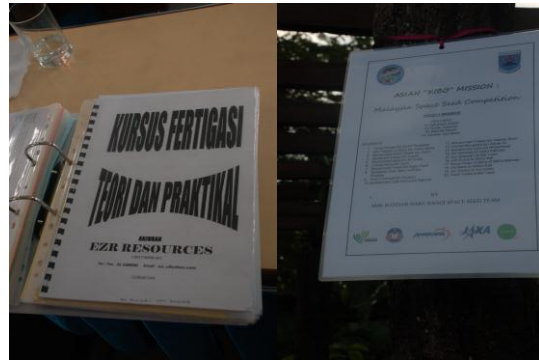


Pic 24 : Promotion in school on this programme

f) SMK Bandar Baru Bangi, Selangor



Pic 25 : Team's presentation



Pic 26: Team's log book



Pic 27 : Visiting their planting site



Pic 28 : Young researchers team

To commemorate this momentous programme, the prize giving ceremony was held in conjunction with 5<sup>th</sup> Anniversary of Malaysia Angkasawan Programme (SUPAN 5) on 20<sup>th</sup> October 2012. The prizes were handed out by the Minister of Science, Technology & Innovation, Datuk Panglima Dr. Maximus Johnity Ongkili to all the top 6 schools.



Pic 29 : Consolation Prize  
Kolej Vokasional Dato' Lela Maharaja,  
N. Sembilan



Pic 30 : Consolation Prize  
SMK Sungai Besar, Selangor



Pic 31 : Consolation Prize  
SMK Seri Kenangan, Johor

Pic 32 : 3<sup>rd</sup> Prize  
SMK Bandar Baru Bangi,  
Selangor



Pic 33 : 2<sup>nd</sup> Prize  
SMK King George V,  
N. Sembilan



Pic 34 : 1<sup>st</sup> Prize  
MRSM Kubang Pasu, Kedah

This programme is good because it inculcate research methodology & discipline to all young researchers in schools. This also makes them think about other possibilities beyond the MC11 seeds that they were given. One school even suggested bringing an egg to ISS to see how it would hatch in microgravity during the Q&A session after their presentation. So it is hoped that this space science programme won't be a last.