

*Sixteenth Session of the Asia-Pacific Regional Space Agency Forum
(APRSAF-16)*

*SEA (Space Education and Awareness) WG Activities
Proposed Outline*

1. Background and objectives

Space has been an important part of human civilization. Throughout the human history, the quest for knowledge of the universe has led humankind to learn more about where they have come from, where they stand and to expand their imagination about where they are going.

Permeating many aspects of human activities today, space has increasingly become an essential, integral part of our daily lives. Benefits derived from space applications have transformed the way we look at our environment and our planet, the way we communicate and interact with each other and the way we move from one place to another, dramatically increasing the safety, security, accuracy, predictability and convenience in our daily conduct.

In spite of the growing evidences of the usefulness of space science and technology for the society, the appreciation by the general public of their importance is still limited. Efforts should continue to increase public awareness of the usefulness and importance of space science and technology and their applications to enhance the quality of our lives and to support sustainable development of our society.

For young people, space activities provide more than useful tools and information. They serve as the source of interest, imagination and inspiration. Attractive space materials can be effectively used to spark intellectual flame in the minds of young people not only in science and technology but also in many other aspects of human activities. Effectively used, examples of the past achievements and efforts to overcome challenges in the use and exploration of outer space can motivate young people to pursue excellence in whatever they do and help them understand how important, and how rewarding, it is to work together with many others to serve the society.

It is with such conviction that the Space Education and Awareness Working Group was established at the 8th session of APRSAF, in July 2001, with the aim of: i) effectively using space materials to enhance education for young people; ii) providing education and training opportunities for young people in space science and technology; iii) contributing to enhancing mutual understanding among countries in the region through exchange opportunities

for young people; and iv) increasing public awareness of the societal benefits and importance of space activities.

2. Achievements and on-going initiatives

The Working Group has organized the following activities since 2004.

<Water Rocket Event for young people>

The Working Group has organized the Water Rocket Event each year since 2005, immediately following the APRSAF session. Attended by 20 – 30 students from about 10 countries, selected through national competitions, the Water Rocket Event has provided opportunities for young people between 12 and 16 years old not only to learn about basics of rocket science and turn their knowledge into practice, but also to learn about other countries and their cultures and to build lasting friendship beyond national borders based on common interest. The next Event is planned to be held in Bangkok, Thailand, from 23 to 24 January 2010, immediately preceding APRSAF-16.

<Poster Contest for young people>

The Working Group has organized the Poster Contest under a selected theme each year since 2006, during the APRSAF session, for children between 8 and 11 years old. From among those posters submitted by the participating countries, the participants of the APRSAF session vote to select the best poster, for APRSAF Best Poster Award, and the second and third best posters for APRSAF Special Poster Award. To contribute to the celebration of the International Year of Astronomy (IYA) in 2009, the Working Group produced a calendar for 2009 using the posters submitted for the last Contest, held under “Wonders of the Universe”. The theme for the next Poster Contest is “Our Universe – Great Discoveries”, which was selected in view of the IYA.

<Space Education Seminars / Forums for teachers and students>

Recognising the need for providing opportunities for primary and secondary school teachers and students particularly in developing countries to enhance their understanding of space science and technology and their applications and to participate in hands-on in education activities, the Working Group has convened space education forums and seminars in Vietnam and Indonesia in 2006. The last seminar has been just held in Sri Lanka in September 2009 for about 50 teachers.

<Water Rocket Education for educators>

In order to expand the pool of skilled and knowledgeable educators who can effectively use water rockets to enhance education for young people and to establish a network of such educators, the International Water Rocket

Education Workshop was held in Melbourne, Australia, in July 2008. Educators and space experts from 12 countries in the region as well as Latin America participated. As a result, an Internet-based Wiki site was established to serve as an on-line forum for anyone interested to exchange information and education materials relating to water rockets.

(See Wiki site:

<http://wiki.vssec.vic.edu.au/waterrockets/moin.cgi/FrontPage>).

<CanSat for university and graduate students>

The Working Group has agreed that CanSat activities could be promoted for university and graduate students and encouraged its members to participate in the International CanSat Workshop co-organized by Japan Aerospace Exploration Agency (JAXA) and University Space Engineering Consortium (UNISEC), in Tokyo, Japan, in February 2007. As a follow-up to this Workshop, the Working Group aims to organize an international meeting in the near future to exchange information and experiences in teaching how to develop CanSats and conduct their experiments as well as promoting CanSat activities among secondary school and university students.

3. List of discussion items¹

- 1) General exchange of views on space education and awareness increase
- 2) Joint educational activities for primary and secondary school students and teachers
 - a) Water rocket activities
 - b) Poster contest
 - c) Space education forum and seminar
 - d) Educational activities for the celebration of the International Year of Astronomy in 2009
 - e) Effective uses of satellite images for schools
 - f) Any other activities
- 3) Joint educational initiatives for university and graduate students and young professionals
- 4) Ways and means to promote collaborations among space scientists and engineers and educators to expand space education activities for young people
- 5) Ways and means to effectively exchange space education materials

¹ For more details of the work to be conducted during APRSAF-16, please refer to "Provisional Agenda" of the Working Group (document APRSAF/SEA-WG/2009/1) to be issued.

6) New and innovative funding sources to support space education activities

7) Other matters

- a) Review of the outcomes of the work of the Working Group and possibilities of revising its terms of reference and developing a plan of action
- b) Other matters

4. Objectives to be achieved at APRSAF-16

- Increase the number of countries in the region and international organizations that carry out or support activities that use space materials to enhance the quality of education for young people and that contribute to the enhancement of human development at individual level;
- Increase the availability of teaching and learning materials in various languages spoken in the region to enhance space education;
- Increase training opportunities for teachers and instructors to acquire knowledge and skills to carry out space education activities for young people and establish and strengthen a mechanism to support those teachers and instructors;
- Ensure that the educational initiatives undertaken through APRSAF contribute to achieving the goals identified at the global level in the area of education and to the relevant global initiatives of entities of the United Nations system and other international organizations;
- Contribute to enhancing inter-regional cooperation by making it possible for countries outside Asia and the Pacific to benefit from the educational initiatives undertaken by APRSAF.