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REGIONAL CENTRES FOR SPACE SCIENCE AND TECHNOLOGY EDUCATION AFFILIATED WITH THE UNITED NATIONS

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Abstract: *Centre for Space Science and Technology Education in the Asia and the Pacific region (CSSTEAP), African Centre for Space Science and Technology – in French (CRASTE - LF), African Regional Centre for Space Science and Technology Education – in English language (ARCESSTEE), Centre for Space Science and Technology Education in Latin America and the Caribbean (CRECTEALC).*

The Centres offer Post Graduate Level Courses in the fields of: (a) Remote Sensing and Geographic Information System; (b) Satellite Communications; (c) Satellite Meteorology and Global Climate; (d) Space and Atmospheric Sciences.

After collapse of the former Soviet Union eliminated a possibility to have appropriate education related to the space science and technology. For further improvement and enhancement of the capacity in area of the space science and technology in countries of the former USSR and Eastern Europe, establishment of the educational centre (Russian, Turkish and English languages) become sufficient important.

The United Nations Office for Outer Space Affairs (UNOOSA) is the United Nations office responsible for promoting international cooperation in the peaceful uses of outer space. The Office serves as the secretariat for the General Assembly's only committee dealing exclusively with international cooperation in the peaceful uses of outer space: the Committee on the Peaceful Uses of Outer Space (UNCOPUOS).

The United Nations Programme on Space Applications (PSA) is implemented by UNOOSA and works to improve the use of space science and technology for the economic and social development of all nations, in particular developing countries. Under the Programme, the Office conducts training courses, workshops, seminars and other activities on applications and capacity building in subjects such as remote sensing, communications, satellite meteorology, search and rescue, basic space science and satellite navigation.

For Implementation of the Recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space within the framework of the United Nations Office for Outer Space Affairs UNISPACE III was established Action Teams for preparation appropriate reports.

Final Report of the Action Team on Capacity Building where discussed the main aspects of the education and trainings in the area of space science and technology. This document contained the final report submitted by the Action Team on Capacity Building (recommendation no. 17 of UNISPACE III) for consideration by the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space at its forty-first session. The final report was issued in all languages of the United Nations as document A/AC.105/L.251 prior to the forty-seventh session of the Committee, to be held in Vienna from 2 to 11 June 2004.

Final report of the Action Team on Capacity Building was undertaken:

To enhance the peaceful uses of outer space, it is necessary to promote appropriate education and training to enhance national and institutional capacities around the world in order to facilitate access to the benefits of the applications of space technologies. Towards this purpose the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III), in its resolution¹, recommended that capacity building should be enhanced through the:

- a) development of human and budgetary resources;
- b) training and professional development of teachers;
- c) exchange of teaching methods, materials and experience; and
- d) development of infrastructure and public policy.

This report was highlighted a number of current activities and existing infrastructure related to capacity building in space-related fields and concludes with a set of recommendations, and proposes a concrete action plan to effectively enhance capacity building. For successful implementation of the recommendations following Regional Educational Centres affiliated to the United Nations were established.

Regional Centres for Space Science and Technology (affiliated to the United Nations)

- Centre for Space Science and Technology Education in the Asia and Pacific region (CSSTEAP);
- African Centre for Space Science and Technology-in French language (CRASTE-LF);
- African regional Centre for Space Science and Technology Education-in English language (ARCESSTE-E);
- Centre for Space Science and Technology Education in Latin America and the Caribbean (CRECTEALC).

The Centres offer post graduate level courses in the fields of:

- (a) Remote sensing and geographic information system (GIS),
- (b) Satellite communications,
- (c) Satellite meteorology and global climate,
- (d) Space and atmospheric sciences.

Support for the Activities of Regional Centres

1. Encourage more active use of the ODA scheme

(a) There are voluntary financial resources available from countries with experienced space agencies that could support the Regional Centres for Space Science and Technology Education, affiliated to the United Nations; however, these funds are not

sufficient to fulfill the capacity building goals of the Regional Centres. With this in mind, countries with space agencies and assets should endeavor to assist the Regional Centres with financial support and expertise;

(b) It is also important to utilize the regular avenues of donor support, or “Official Development Assistance (ODA)”, through which the Regional Centres or their host countries could get financial support, equipment, and access to experts from donor countries. Remote sensing, GIS, and other fields play specific roles in applications areas of disaster management, environmental observation, and land management - all of which are essential management tools for every country. Therefore, the Regional Centres, or their host countries in cooperation with the United Nations, should strongly request donor support and participation in various fields for capacity building on these technologies, as a high priority. Regarding financial and technical assistance, the scheme is also a possibility.

2. Provide materials useful to persuade ODA decision makers

For capacity building initiatives to be of a higher priority to donors, it is important for the Regional Centres or their host countries to make donor (ODA) officials more aware of the importance of capacity building priorities, with a specific focus on space science and technology benefits such as the saving of lives and property through more efficient disaster management, environmental observation, and land management. It is therefore urgent that countries with space programmes provide Regional Centres or their host countries with materials and meeting opportunities to prepare materials specifically designed for this purpose. These materials would also be useful to raise public awareness of the importance of space science and its associated technologies.

3. Assemble lists of experts who can contribute to activities of Regional Centres

(a) In order to enable the Regional Centres to obtain support from countries with space assets and expertise, the Regional Centres should acquaint countries having space programmes with their activities and provide concrete requests for needed assistance through the portal site.

(b) Countries with space assets should also provide a list of space technology experts by category that can assist in the education and training activities of the Regional Centres. The lists should include contact points and be provided to the Regional Centres through the portal site.

4. Maximize resource usage when planning capacity building workshops

When the Regional Centres hold workshops, it is important to have as many participants as possible from neighboring countries attend these events, and to reduce the financial burden on each individual country as much as possible. To achieve this, the Action Team proposes that the Regional Centres consider arranging a series of similar workshops within a short time frame for a specific region. Several countries in that region could host one of the workshops, thus reducing the financial burden on the Centres. Training experts for these workshops could be provided by developed countries, or organizations already having the needed expertise.

5. Provide all available education and training materials to the Regional Centres for Space Science and Technology Education, affiliated to the United Nations.

To further support the activities of the Regional Centres, countries with space assets should provide the Regional Centres with as many space-related educational materials as possible useful for education, training and capacity building purposes. These materials should also be made available through the portal site.

6. Regional Centres for Space Science and Technology Education (Affiliated with the United Nations)

Support for the Activities of Regional Centers

In accordance with the resolution (45/72) of the General Assembly of the United Nations in 1990, some regional centers for space science and technology education were established (in Asia and the Pacific (in India), Africa (French Language (in Morocco) and English Language (in Nigeria)) and Latin America and the Caribbean (with two camps, one in Brazil and another in Mexico)). These regional centers are implementing training courses, workshops and other activities with supports by host countries, the United Nations and space experienced countries. Especially training is essential; however, the centers face certain impediments, including shortage of finance, equipment, experts for space science and technology education.

For further improvement and enhancement of the capacity in area of space science and technology in countries of the former Soviet Union and Eastern Europe, establishment of the educational center (Russian, Turkish and English languages) was also proposed by Azerbaijan.

During of existence of the former Soviet Union, countries of this association have had an opportunity to accept an education in the different areas of science and technology within the scale of the existing potential. Solution of the mentioned problem did not has any problem within the framework of such a big country.

Today establishment of the regional educational centre in the field of space science and technology became highly necessary. Countries of the former Soviet Union after its collapse have a very limited opportunity to educate of specialists in the indicated area of science and techniques. It is circumstance of breaking up of existing links between republics, financial and even political problems which strongly limit setting up of cooperative relationship between the former republics of the Soviet Union.

It is obvious, that an educational level of nation plays an essential role in development of society. If appropriate time period of development of education will be loosed, finally, the region will meet a huge of problems, where its solution will be highly difficultly. Taking into account feature and sensitivity of the mentioned region this problem should not be remain indifferently.

It is assume that above mentioned proposal of establishment of the educational centre on space science and technology for region of the former Soviet Union and Eastern Europe countries may play a key role in this issue.

I believe that this aspect which found the place in the Final Report of the Action Team of the UNSPACE III may become the good base for development of the further actions on creation of the Educational Centre on a space science and technology affiliated to the United Nations for region of the Mediterranean, Black and Caspian seas.