REPORT ON STATUS OF
Centre for
Space Science & Technology Education
in Asia Pacific (CSSTEAP)
and
Capacity Building Efforts in Space Law in India

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Establishment of CSSTEAP

- Nov 1, 1995 – 10 Countries sign agreement to establish CSSTEAP
- May 7, 1996 – Cooperation Agreement with UN
- Mar 10, 1998 – Host Country Agreement (Sec. DOS, GOI)

DPR Korea (1996)
India
Indonesia
Kazakhstan
Kyrghyzstan
Malaysia (1996)
Mongolia
Myanmar (1999)
Nauru
Nepal
Philippines (1998)
Republic of Korea
Sri Lanka
Thailand (2005)
Uzbekistan
GOVERNING BOARD

- GB formulates policies of CSSTEAP
- GB has representatives from 15 countries of Asia-Pacific and 2 observers (UNOOSA, ITC-Netherlands)
- GB-2005- (May 14, 2005, Dehradun)
  - Directs a befitting 10 Year Commemoration Function be organised
  - A Strategy Document for next 10 Years of CSSTEAP be prepared
- GB-2006 – (May 19, 2006, Bangalore)
  - Reviewed Strategy and given guidelines for its refinement
  - Suggested new training areas to be addressed by CSSTEAP
ADVISORY COMMITTEE

• AC is technical arm of GB, an independent body of experts, for
  – Guiding the technical programme of CSSTEAP
  – Evaluating the courses & Advise CSSSTEAP in setting technical facilities
  – Address all issues of coordination with other institutions

• AC-2005:12 May 2005, Dehradun
  – Dr Alice Lee in Chair
  – Areas of data, linkages, application oriented courses & Mtech research were addressed, New specialization in RS&GIS

• AC-2006:17 May 2006, Bangalore
  – Dr Viktor Kotelnikov in Chair
  – Educational programmes for Disaster Management, Telemedicine, GIS Applications including epidemiology, strengthening linkages addressed
CSSTEAP provides training and education in 4 areas:

- Remote Sensing and Geographic Information Systems (RS & GIS)
- Satellite Meteorology & Global Climate (SATMET)
- Satellite Communications and Global Positioning Systems (SATCOM)
- Space and Atmospheric Sciences (Space Science)
CSSTSTEAP: Headquarters & Campuses

CSSTSTEAP Hqs,
IIRS Campus,
Dehra Dun

IIRS, Dehradun

SAC, Bopal Campus,
Ahmedabad

PRL, Ahmedabad
EDUCATIONAL PROGRAMMES

9-month course at IIRS in RS/GIS
9-month course at SAC in SATCOM
9-month course at SAC in SATMET
9-month course at PRL in Space Science

Award of PG diploma by CSSTEAP

By merit, since 2004, at IIRS

1 year follow-up project in home country
CSSTEAP 1 yr fellowship in India

Award of Masters (M.Tech) degree by Andhra University
Common Curricula under UNOOSA aegis

- Remote sensing and the geographic information system
- Satellite communications
- Satellite meteorology and global climate
- Space and atmospheric science

*September 2001, Frascatti, Italy*
**INDIA**
- DOS/ISRO Host Institutions & other institutions
- Andhra University – Recognition of PGD curricula to meet course-work requirement of MTech
- GOI Organisations for international student travel support
- Academic Linkage with Universities/Institutes for Guest Faculty

**INTERNATIONAL**
- UN Agencies including UNOOSA, UNESCO, WMO – fellowships / travel support/ sponsor short courses
- International Centres – Student sponsorship/ exchange
- Universities / Institutes: Guest Faculty (US, UK, EUROPE...)
<table>
<thead>
<tr>
<th>Year</th>
<th>RS &amp; GIS</th>
<th>SATCOM</th>
<th>SATMET</th>
<th>SPACE SC</th>
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<tbody>
<tr>
<td>1996</td>
<td>25 Students, 14 Countries</td>
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<td>2006-07</td>
<td>22 Students, 14 Countries</td>
<td></td>
<td>18 Students, 11 Countries</td>
<td>13 Students, 7 Countries</td>
</tr>
</tbody>
</table>

* Courses under progress
CSSTEAP Achievements 2006-07

• Courses completed
  – 10th RS & GIS
  – Short course: RS & GIS application in urban studies
  – 5th SATCOM

• Phase-II CSSTEAP: M.Tech Research
  – 8th RS & GIS: 4 awarded M.Tech *(CSSTEAP fellowship)*
  – 9th RS & GIS: 2 awarded for M.Tech *(CSSTEAP fellowship)*
  – 10th RS & GIS: 1 continuing for M.Tech *(CSSTEAP fellowship)*
  – 18 M.Tech awarded by AU in last year
    – RS & GIS – 11
    – SATCOM - 1
    – SATMET - 2
    – SPACE SCIENCE – 4

• 10 Year Commemoration Function in Nov. 2005
SHORT-TERM TRAINING IN RS & GIS

- 8 theme specific short-term courses and 1 Workshop on RS & GIS organized till 2006. The various themes covered are-
  - Digital image processing (DIP) for environmental management: a remote sensing perspective (year -1999)
  - RS & GIS Technology and applications in natural resources and environmental management (year- 2000 & 2001)
  - Geoinformatics for disaster management (year -2002 & 2004)
  - Geoinformatics in biodiversity assessment (year-2003)
  - Geoinformatics for sustainable agriculture (year -2005)
  - Satellite RS& GIS applications in agricultural meteorology (WMO Int. Workshop, 2003)
Short term Theme-Specific Courses

- **Theme**: RS & GIS application in Urban Studies (2006)
- **Duration**: 4 Weeks (Aug 14 to Sep 15, 2006)
- **Participants**: 12 trainees (8 AP countries)
  (India-1; Indonesia-3; Iran-1; Kazakhstan-1; Maldives-1; Myanmar-2; Nepal-1; Thailand-2)

- **Course Structure**:
  - Basics (RS, GIS) 2 weeks
  - Thematic 2 weeks
Capacity Building Efforts in Space Law in India
THE PRESENT SCENARIO

Civil

- Governmental
  - Space Agencies (23 MOUs)
    - UN, UN-CSSTEAP, UNIDROIT, UN-COPUOS
  - Non-Governmental
    - IAF, IISL

Commercial

- Contracts for Procurement
- Contracts for Supply
- Insurance
THE PRESENT SCENARIO

- ISRO nodal agency for International Treaties
  - Outer Space Treaty, 1967
  - Agreement on Rescue and Return of Astronauts, 1968
  - Liability Convention, 1972
  - Registration Convention, 1975
  - Moon Treaty, 1979

- India is signatory to many other treaties with strong implications on Space activities such as WTO, TRIPPS
THE PRESENT SCENARIO - Continued

- ISRO maintains National Registry for the objects launched into space from Indian Territory
- Management of its Intellectual Property through filing and maintenance of patents, International Treaties, Contracts, MOUs, and participation in international legal bodies

Obligations to be discharged under the prevalent international legal norms protecting national interests

These activities involve significant legal components with complicated technicalities.

ISRO managing successfully with homegrown competence through on-the-job learning & legal consultations within the government
RECENT DEVELOPMENTS

- Increased ISRO Participation in Domestic Laws
  - IPR; Telecommunications Act; Cyber Laws; etc.

- IAF 2007 to be hosted by ISRO
  - Co-sponsored by IISL
  - Requires participation of legal fraternity
  - Finals of Manfred Lachs Space Moot Court in India

- ISRO’s Space Industry Policy: Calls for greater participation of private sector in Indian Space. Reconciliation of obligations of India as a state under international treaties and responsibilities and rights of private sector and associated complicated legalities deserve deeper investigation by the Indian legal fraternity.

- National Space Legislation: To enable greater role for non-governmental sector without compromising the national interests. UN-COPUOS, too, has strongly urged passage of national space act.
Availability of Law Schools of international standards

National Law School of India University
Jawahar Lal Nehru University, Delhi
NALSAR University of Law, Hyderabad; etc

ISRO should develop mutually beneficial partnership with the Indian Legal Fraternity.
OBJECTIVES

It would strengthen ISRO’s efforts towards

- Formulation of domestic laws of pertinence to Indian Space
- Indian participation in International legal events such as IADC, Moot Court Competition, Legal Sub Committee of UN-COPUOS, UNIDROIT, etc.
- Enactment of National Space Legislation

International Space Laws
IPR & Space
Private International Law
Laws related to remote sensing; data & maps
Cyber Laws
Telecommunication Laws
Export Control Laws
WTO / TRIPS
PROPOSED GROUND PRINCIPLES

Cultivate potential academic institutions into nodes of excellence in a few identified areas of pertinence to the Indian Space Programme

Selection of institutions to reflect national character

Areas of support based upon their strengths and our needs

Judicious duplication to grant ISRO benefit of diverse viewpoints

The relationship to be developed steadily but cautiously taking the field experience in to account
PROPOSED GROUND PRINCIPLES - Continued

- The existing funding mechanisms such as Respond shall be utilised to begin with
- Participation of other agencies may be sought
  - Ministry of External Affairs
  - Indian Society of International Law
  - National and state level Judiciary Academies
  - Bar Associations
  - International agencies such as the UN, IISL
Action Plan

Organisation of a mechanism through which a genuinely selected National level team participates in Moot Court Competition including

Funding for the national level selection

Funding of an Indian team for participation in Regional Round

Funding for final round if successful in regional round – NASDA (?)

Development of position papers on various topics of interest under RESPOND programme

Participation of the Regional Finalists are funded by
Europe : ESA
Americas : NASA
Asia-Pacific : NASDA
Action Plan - *Continued*

As precursors to IAF 2007

Conduct a Regional Capacity Building Workshop in India in 2005
Action Plan - Continued

- A national level workshop every year on topics of relevance to Indian Space

- Specialised training capsules for ISRO in different fields organized at various space centers

- Guest Lecture Series wherein visiting dignitaries from abroad may deliver lectures on topics of importance

- Encourage interested and promising ISRO engineers / scientists to undergo formal training in law and contribute to ISRO’s efforts in matters related to legal affairs
Action Plan - Continued

- Promote academic institutions and other Indian entities to become members and to actively participate in proceedings of international institutions such as IISL.

- At a suitable later date, constitution of a chair in one of the leading law schools to promote study and research in the field of Space Law.
Moot Court Competition

Starting 2004, India has held national competition among the Law Students to select a team whose funding for participation in the regional round in Sydney is supported by ISRO.

Till date, participation of Indian team for 2004, 2005 & 2006 have been supported by ISRO. The efforts for the selection of the 2007 team are currently in progress.
Thank you!

Have a nice Day!