

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

**B.VASUDEVAN  
Counsellor (Space)  
Embassy of India, Paris**

# 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

Kyrgyzstan

Malaysia (1996)

Mongolia

Myanmar (1999)

Nauru

Nepal

Philippines (1998)

Republic of Korea

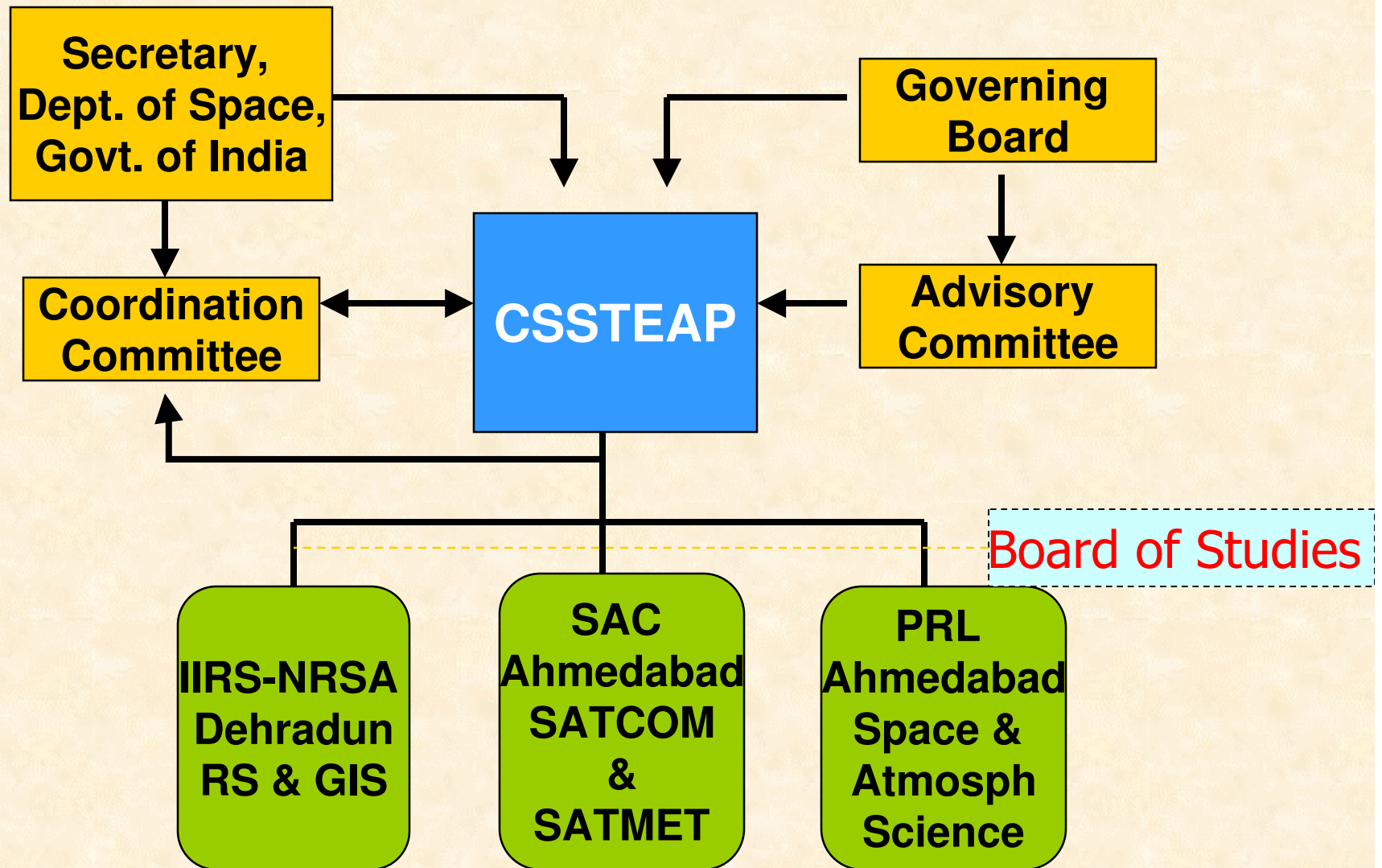
Sri Lanka

Thailand (2005)

Uzbekistan



# CSSTEAP: Organizational Structure



# 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



GB, 2006  
Bangalore



# 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, Tele-medicine, GIS Applications including epidemiology, strengthening linkages addressed

# **CSSTEAP : Disciplines of education**

**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)**





**CSSTEAP Hqs,  
IIRS Campus,  
Dehra Dun**

# **CSSTEAP : Headquarters & Campuses**



**IIRS, Dehradun**

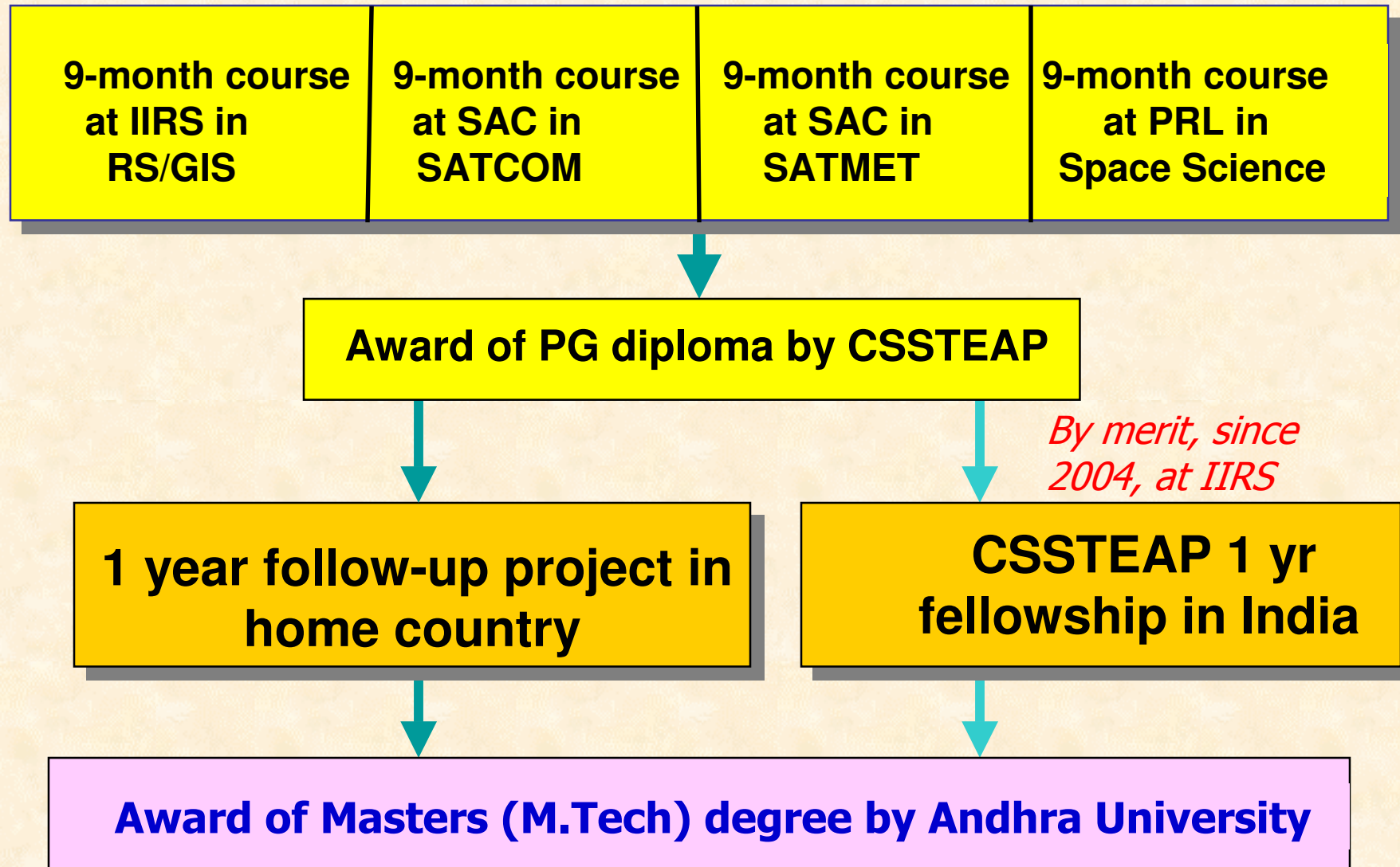


**SAC, Bopal Campus,  
Ahmedabad**



**PRL, Ahmedabad**

# EDUCATIONAL PROGRAMMES





# Common Curricula under UNOOSA aegis

REGIONAL CENTRES FOR SPACE SCIENCE AND TECHNOLOGY EDUCATION

Remote sensing and  
the geographic information system  
*Education curriculum*

***September 2001,  
Frascati, Italy***

REGIONAL CENTRES FOR SPACE SCIENCE AND TECHNOLOGY EDUCATION

Satellite communications  
*Education curriculum*

REGIONAL CENTRES FOR SPACE SCIENCE AND TECHNOLOGY EDUCATION

Satellite meteorology and global climate  
*Education curriculum*

REGIONAL CENTRES FOR SPACE SCIENCE AND TECHNOLOGY EDUCATION

Space and atmospheric science  
*Education curriculum*



United Nations



United Nations

# Linkages

- **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...)



# PG-D RS & GIS      SATCOM      SATMET      SPACE SC

<b>1996</b>	25 Students 14 Countries			
<b>1997-98</b>	23 Students 14 Countries	13 Students 9 Countries		
<b>1998-99</b>	21 Students 11 Countries		17 Students 10 Countries	10 Students 7 Countries
<b>1999-00</b>	17 Students 11 Countries	18 Students 8 Countries		
<b>2000-01</b>	19 Students 13 Countries		21 Students 13 Countries	9 Students 5 Countries
<b>2001-02</b>	20 Students 13 Countries	14 Students 8 Countries		
<b>2002-03</b>	23 Students 13 Countries		19 Students 13 Countries	11 Students 3 Countries
<b>2003-04</b>	21 Students 16 Countries	15 Students 7 Countries		
<b>2004-05</b>	20 Students 11 Countries		15 Students 10 Countries	9 Students 5 Countries
<b>2005-06</b>	19 Students 13 Countries	12 Students 6 Countries		
<b>2006-07</b>	22 Students 14 Countries		18 Students 11 Countries	13 Students 7 Countries

Afghanistan  
 Azerbaijan  
 Bangladesh  
 Bhutan  
 Cambodia  
 China  
 DPR Korea  
 Fiji  
 India  
 Indonesia  
 Iran  
 Japan  
 Korea  
 Kazakhstan  
 Kyrgyzstan  
 Lao PDR  
 Malaysia  
 Maldives  
 Mongolia  
 Myanmar  
 Nepal  
 Pakistan  
 Papua N.G  
 Philippines  
 Sri Lanka  
 Thailand  
 Tajikistan  
 Taiwan  
 Uzbekistan  
 Vietnam

\* Courses under progress

# CSSTEAP Achievements 2006-07

- Courses completed
  - 10<sup>th</sup> RS & GIS
  - Short course : RS & GIS application in urban studies
  - 5<sup>th</sup> SATCOM
- Phase-II CSSTEAP : M.Tech Research
  - 8<sup>th</sup> RS & GIS : 4 awarded M.Tech (*CSSTEAP fellowship*)
  - 9<sup>th</sup> RS & GIS : 2 awarded for M.Tech (*CSSTEAP fellowship*)
  - 10<sup>th</sup> 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-

- **RS & GIS application in Urban Studies (2006)**
- *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.

# RECENT DEVELOPMENTS - *continued*

## ❑ **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!

