

# Report on “How to engage in broadband policy and regulatory processes,” a four-day residential course

16th- 19th December 2016

IIT Delhi, India



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## Contents

Introduction .....	3
Participants .....	4
Course Format and Assignments .....	6
Course Schedule .....	6
Day 1 .....	7
Assignments .....	7
Day 2 .....	9
Day 3 .....	9
Day 4 .....	10
Faculty .....	10
Rohan Samarajiva, PhD .....	10
P. Vigneswara Ilavarasan, PhD .....	10
Laleema Senanayake .....	10
Mandira Kala, PhD .....	11
Kapil Handa .....	11
Satyen Gupta .....	11
Nitin Saluja .....	11
Anindya Chaudhuri, PhD .....	12
Payal Malik .....	12
Rajendra Singh .....	12
Vibodh Parthasarathi .....	13
Evaluations .....	13
Session Ratings .....	13
Speaker Rating .....	14
Logistical Ratings .....	15

## Introduction

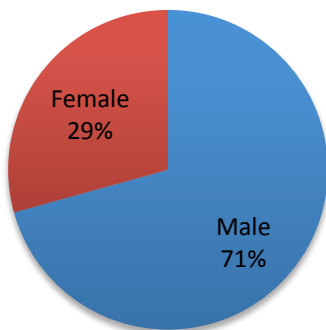
LIRNEasia is undertaking a multi-phase, research- and documentation-based initiative funded by the Ford Foundation to inform and engage decision makers and stakeholders in India, Nepal and Sri Lanka (Telecom Regulatory Authorities, Ministries of broadband and telecommunication, senior executives from operators, senior academics and civil-society leaders) about good practices in policy and regulatory issues affecting broadband access. The intention is to promote learning among the stakeholders and the facilitation of a policy discourse that takes into account the interests of the poor. The project is assisted by a web-based Broadband Policy Resource Repository (<http://broadbandasia.info/>) and a series of short courses and structured conversations among policy makers and stakeholders.

The four-day residential course on 'How to engage in Broadband Policy and Regulatory Processes' held on 16th- 19th December 2016 in India was the seventh of a series of short courses funded by Ford Foundation. LIRNEasia organized this in collaboration with IIT Delhi, India. Details about the courses are at: <http://lirneasia.net/capacity-building/ford-broadband-policy-course/>. The main goal is to enable members of government agencies, media and civil-society groups to marshal available research and evidence for enhancing broadband policy and regulatory processes, thereby facilitating and enriching policy discourse on means of increasing broadband access by the poor.

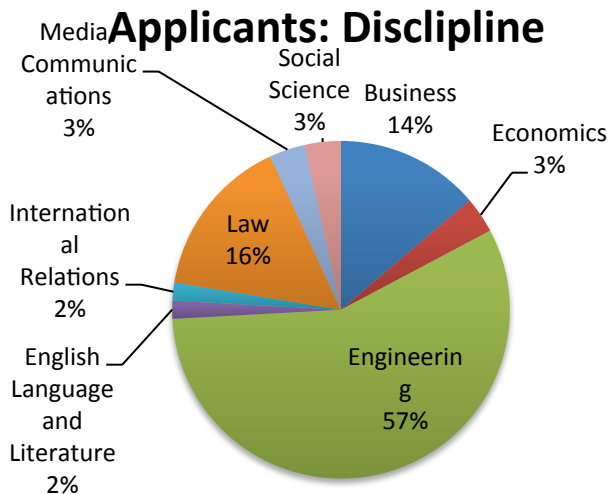
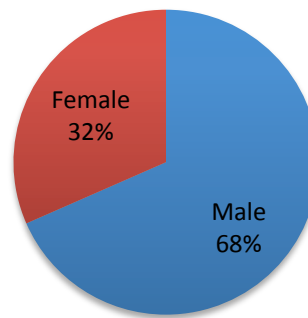
## Participants

We received 58 applications for the course on “How to engage in broadband policy and regulatory processes in India. Out of 58 applicants, 25 participants were selected based on their potential to engage in broadband policy discourse, interest in the subject and previous experience. Diversity was also a factor that was taken into account as this course is an interactive course where participants are expected to learn from each other. Out of the selected participants, only 19 participants participated in the course. 6 participants didn’t participate due to various reasons. The following charts show the applicants and participants according to their gender, disciplines and region.

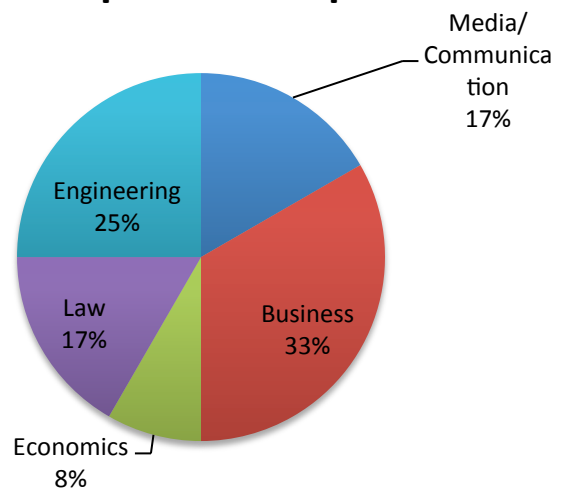
### Applicants: Gender

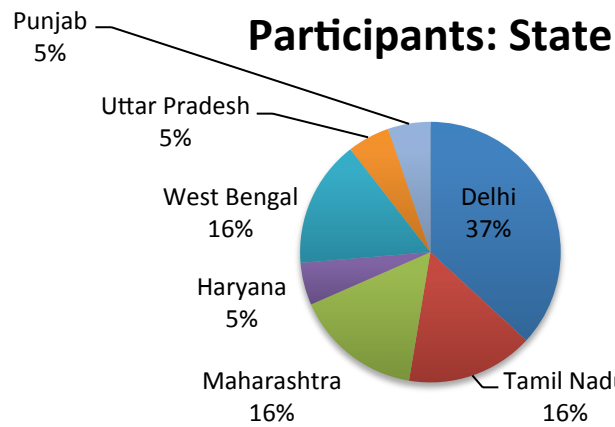
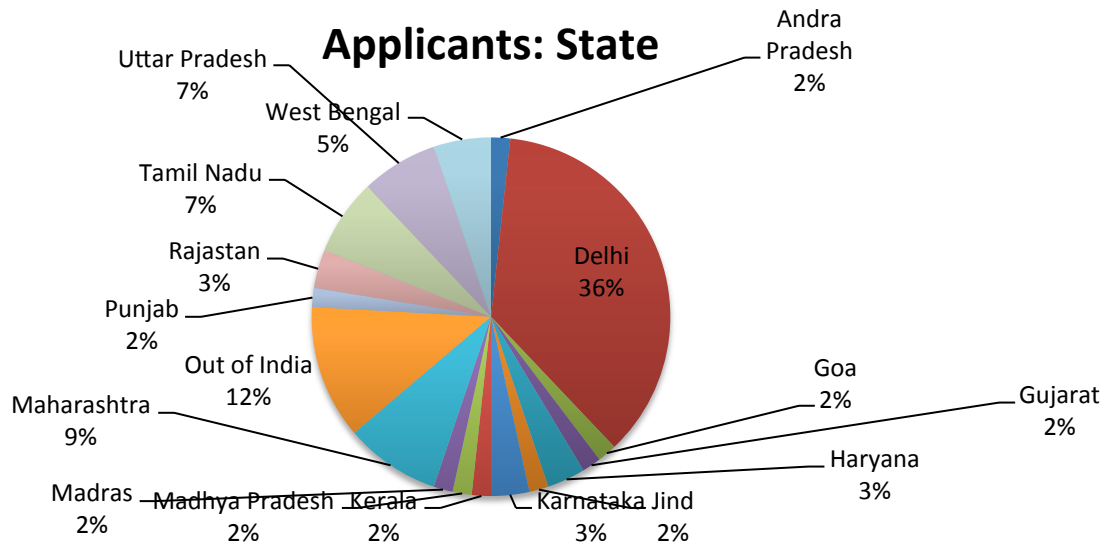


### Participants: Gender



### Participants: Discipline





## Course Format and Assignments

A combination of teaching formats was used to enhance collaboration and open discussion. Lectures and team work were utilized as teaching tools. Following is the Course Schedule and a brief summary of the 4-day course.

### Course Schedule

Time	16 Dec - Fri	17 Dec - Sat	18 Dec - Sun	19 Dec - Mon
0900-1030	S0 - Introduction to workshop (PVI) S1 – Research to Policy (RS)	S6: Demand-side research / BharatNet (LS & PVI)	S11 Evolution of Internet Policy in India (DM)	Group Work
<b>1030-1100</b>	<b>High Tea</b>	<b>Break</b>	<b>Break</b>	<b>Break</b>
1100-1200	S2 Writing for Parliamentarians (MK)	S7 : National Broadband Network four countries (PVI)	S12: Social Media & Government (NS)	Mock Policy Hearing / Presentation by Participants (RS, PVI, VP, PM)
1200-1300	S3 Finding research (PVI)	S8 Policy on Virtual Network Operators (SG)	S13: Communicating policy-relevant findings (RS)	
<b>1300-1400</b>	<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>
1400-1500	S4: Group formation. Assignments & Portal introduction. (LS)	S9 Net Neutrality (AC)	S14: Chat Box – Spectrum Policy (RSi & RS)	
<b>1500-1530</b>	<b>Break</b>	<b>Break</b>	<b>Break</b>	
1530-1630	S5: What do we expect from public consultations? (KH)	S10 Interrogating supply-side indicators (RS)	S15: Avoiding common mistakes in interpreting law & policy (RS)	
1630-1730	Plan for the assignment	Group work – Mini Updates	Group work – Mini Updates [Certificate Dinner @ 1930 Hrs]	

PVI: Vigneswara Ilavarasan , RS: Rohan Samarajiva, MK: Mandira Kala, LS: Laleema Senanayake, KH: Kapil Handa, RSi: Rajendra Singh, SG: Satyen Gupta, AC: Anindya Chaudhuri, DM: Deepak Maheshwari, NS: Nitin Saluja, VP: Vibodh Parthasarathi, PM: Payal Malik

## Day 1

The course commenced with a joint introductory session by Rohan Samarajiva (Co-Director of the project and Chair of LIRNEasia) and Vigneswara Ilavarasan (Co-Director of the project and Associate Professor of IIT, Delhi) on the objectives of the course, methods of teaching, introduction of faculty and effective communication techniques. The intention was to provide the context on the first day so that the activities of the next few days could build on the first day's sessions.

Mandira Kala, Head of Research at PRS Legislative research in India conducted the session on writing for parliamentarians. She shared her experience on working with Indian parliamentarians for the last 10 years. She explained how her institution's relationship with parliamentarians was built with time, and how her institution provides all who request her services with equal evidence based research. She also talked about demonetization effects of the Indian government and how to understand these types of technical issues and translate it to policy by providing the relevant materials to politicians.

The next session of the day was on finding research by Vigneswara Ilavarasan. Places and sources to find research and the most effective way to find research was explained by Ilavarasan.

In the first Group formation session, following the lunch, the course participants formed into five groups with 3-4 members in each group. The course assignment was circulated among the course participants a week prior to the course. This course consisted of a real time assignment on a consultation paper released by TRAI on "Proliferation of Broadband through Public Wi-Fi Networks" in 13th July, 2016. Ten questions of the consultation paper were allocated to groups with 2 questions per group. To acquire further information on the broadband policy field the online repository developed by LIRNEasia with the support of Ford Foundation broadbandasia.info ([www.broadbandinfo.com](http://www.broadbandinfo.com)) was introduced after the assignment.

The last session of the day was on "What do we expect from public consultations" by Kapil Handa from Telecom Regulatory Authority of India (TRAI). He talked about BharatNet initiative and the measures that can be taken to provide last mile connectivity using BharatNet.

## Assignments

The assignment was to make evidence-based team presentations that could form the basis for a public consultation organized by the Telecom Regulatory Authority of India on the consultation paper on "Proliferation of Broadband through Public Wi-Fi Networks". The participants were assigned to conduct ten minutes presentation followed by a twelve-minute question and answer session.

The teams were assigned the following questions from the consultation paper:

#### Group one

- Are there any regulatory issues, licensing restrictions or other factors that are hampering the growth of public Wi-Fi services in the country?
- What regulatory/licensing or policy measures are required to encourage the deployment of commercial models for ubiquitous city-wide Wi-Fi networks as well as expansion of Wi-Fi networks in remote or rural areas?

#### Group two

- What measures are required to encourage interoperability between the Wi-Fi networks of different service providers, both within the country and internationally?
- What measures are required to encourage interoperability between cellular and Wi-Fi networks?

#### Group three

- Apart from frequency bands already recommended by TRAI to DoT, are there additional bands which need to be de-licensed in order to expedite the penetration of broadband using Wi-Fi technology? Please provide international examples, if any, in support of your answer.
- Are there any challenges being faced in the login/authentication procedure for access to Wi-Fi hotspots? In what ways can the process be simplified to provide frictionless access to public Wi-Fi hotspots, for domestic users as well as foreign tourists?

#### Group four

- Are there any challenges being faced in making payments for access to Wi-Fi hotspots? Please elaborate and suggest a payment arrangement which will offer frictionless and secured payment for the access of Wi-Fi services.
- Is there a need to adopt a hub-based model along the lines suggested by the WBA, where a central third party AAA (Authentication, Authorization and Accounting) hub will facilitate interconnection, authentication and payments? Who should own and control the hub? Should the hub operator be subject to any regulations to ensure service standards, data protection, etc?

#### Group five

- Is it feasible to have an architecture wherein a common grid can be created through which any small entity can become a data service provider and able to share its available data to any consumer or user?



- What regulatory/licensing measures are required to develop such architecture (Q10)? Is this a right time to allow such reselling of data to ensure affordable data tariff to public, ensure ubiquitous presence of Wi-Fi Network and allow innovation in the market?

## Day 2

Sessions of the second day was commenced by a joint presentation by Vigneswara Ilawarasan and Laleema Senanayake on demand side research. The institutional user survey conducted in India by LIRNEasia to identify the potential of BharatNet for rural connectivity in India was used as a case study to communicate how to do demand side research.

After the tea break Vigneswara Ilawarasan presented supply side research based on a comparative research done by LIRNEasia in India, Malaysia, Indonesia and Australia on Government Broadband Initiatives. The next session was by Founder and Secretary General, NGN Forum, India, Satyen Gupta on Policy on Virtual Network Operators. He presented the institutional framework for the Indian telecommunication and described the roles played by the public and private actors of the sector.

Anindya Chaudhuri conducted a session on Net Neutrality after lunch. Participants debated concept of net neutrality during this session. Interrogating research based on supply-side data was conducted by Rohan Samarajiva post tea break. Different sources where ICT policy researchers can find data and shortcomings of some of the sources were explained. As an example, shortcomings of method used to estimate the number of Internet users by ITU and the proposed method by LIRNEasia to overcome this constraint was explained. The participants were encouraged to not only look at the sources of data but also at the method adapted to generate information.

## Day 3

Day 3 started with a session by Deepak Maheswari on Evolution of Internet Policy in India. He is director of government affairs, India & ASEAN in Symantec. Following this was a session on Social Media & Government by Nitin Saluja.

The next session following lunch was a chat box on Spectrum Policy conducted jointly by Rohan Samarajiva and Rajendra Singh. Rajendra Singh is a Senior Regulatory Specialist in The World Bank's ICT Policy Division. The chat box focused BharatNet and how to provide last mile connectivity using WiFi. WiFi technology was explained using simple language and Singh focused that last mile connectivity has to be provided by the private sector.

The session following the tea break was on avoiding common mistakes in interpreting law & policy by Rohan Samarajiva. The objective of this session was to strengthen the ability of the participants to undertake legal and policy analysis, to develop participants' awareness of quality of information and sources and help participants to identify the difference between good studies and bad. Following this session, participants worked at Indian Institute of Technology (IIT) until the certificate dinner.

The certificate dinner was held at Guest house in IIT Delhi. Certificates were distributed Rohan Samatajiva and Vigneswara Ilawarasan.

## Day 4

Final session of the course was a mock public hearing on the TRAI consultation paper on ‘Proliferation of Broadband through Public Wi-Fi Networks’. The groups presented their findings and opinions before a panel of four. The panel consisted of Rohan Samarajiva, Vigneswara Ilavarasan, Vibodh Parthasarathi and Payal Malik.

For presentations, policy briefs and photos follow the link: <http://lirneasia.net/capacity-building/ford-broadband-policy-course/how-to-engage-in-broadband-policy-and-regulatory-processes-iit-delhi-india-december-2016/>

## Faculty

### Rohan Samarajiva, PhD

Rohan Samarajiva, was the founding CEO (2004 - 2012) and Chair (2004 – onwards) of LIRNEasia. Previously he was the Team Leader at the Sri Lanka Ministry for Economic Reform, Science and Technology (2002-04) responsible for infrastructure reforms, including participation in the design of the USD 83 million e Sri Lanka Initiative. He was Director General of Telecommunications in Sri Lanka (1998-99), a founder director of the ICT Agency of Sri Lanka (2003-05), Honorary Professor at the University of Moratuwa in Sri Lanka (2003-04), Visiting Professor of Economics of Infrastructures at the Delft University of Technology in the Netherlands (2000-03) and Associate Professor of Communication and Public Policy at the Ohio State University in the US (1987-2000). He was Policy Advisor to the Ministry of Post and Telecom in Bangladesh (2007-09). He serves as Senior Advisor to Sarvodaya (Sri Lanka’s largest community based organization) on ICT matters. Samarajiva is a Board Member of Communication Policy Research south, an initiative to identify and foster policy intellectuals in emerging Asia. He serves on the editorial boards of seven academic journals. His full CV can be found at <http://lirneasia.net/wp-content/uploads/2007/12/CVApril1long.pdf>

### P. Vigneswara Ilavarasan, PhD

Vigneswara Ilavarasan Associate Professor at the Dept. of Management Studies, Indian Institute of Technology Delhi. For the last ten years, he is researching and teaching production and consumption of information and communication technologies (ICTs) with a special focus on India. His specific research interests are Information and Communication Technologies & Development (ICTD); Information Technology Industry in India; and ICTs & Government. Dr. Ilavarasan is a recipient of the Outstanding Young Faculty Fellowship Award at IIT Delhi, Prof. M.N. Srinivas Memorial Prize of the Indian Sociological Society and Visiting Research Fellowship at the United Nations University, Macau. He is also a recipient of research grants from IDRC (Canada), Ministry of Labour and Employment (India), Ministry of Science and Technology (India), Oxford Analytica (UK), and IdeaCorp. (Philippines).

### Laleema Senanayake

Laleema Senanayake is a researcher at LIRNEasia and is the project manager of the Ford Funded Project on ‘Increasing Broadband access to the poor in Asia’. Laleema’s research interests are ICTD and disaster

risk reduction (DRR). Prior to joining LIRNEasia she worked at International Water Management Institute as an intern and the Project Consultancy Unit (PCU) of the University of Moratuwa as a research assistant. She holds a Bachelor of Science degree in Town and Country Planning from the University of Moratuwa and is an Associate member of the Institute of Town Planners Sri Lanka.

### **Mandira Kala, PhD**

Mandira is Head of Research at PRS Legislative research and has led PRS' engagement with MPs and MLAs on legislative and policy support. Mandira also anchored the Legislative Assistants to Members of Parliament (LAMP) Fellowship during its initial years. Previously, she has worked in the research team of Azim Premji Foundation and Centre for Social Policy, Boston, USA. She was awarded the UNDP Asia-Pacific Human Development Academic Fellowship in 2008. and was selected as an Emerging Leaders Fellow 2011-12 by the Australia India Institute, University of Melbourne. She has a Ph.D. in Public Policy from the University of Massachusetts, Boston.

### **Kapil Handa**

Col Kapil Handa was commissioned into the Corps of Signals of Indian Army in June 1991. He has a wide experience of over 20 years in handling Defence Networks. He holds a Masters Degree in Fibre Optics and Lightwave Engineering from Indian Institute of Technology, Kharagpur. He is on deputation with the Telecom Regulatory Authority of India since July 2014 and is currently handling policy issues pertaining to Broadband proliferation in the country.

### **Satyen Gupta**

Satyen Gupta is the founder and Secretary General, NGN Forum, India. Previously he was the chief of Corporate Affairs, Sterlinter Technologies Ltd and headed the Regulatory and Govt. Affairs for BT global Services for SAARC Region and handled Licencing, Regulation, compliance, competition and Industry Advocacy issues. He is also a member, Advisory Board of Creation and Implementation of National Optical Fibre Network for the government of India (2011 onwards). From 2000-2006 he served as the Principle Advisor, Telecom Regulatory Authority of India at the level of additional secretary to the government of India and headed the fixed network division. He is the author of "Everything Over IP-All you want to know about NGN" (2011). He graduated with Hons, in Engineering in 1979 from NIT, Kurukshetra University, INDIA and went on to complete his post graduate studies in Electronics Design Technology at CEDT, Indian Institute of Science, Bangalore.

### **Nitin Saluja**

Nitin Saluja currently works as Policy Programs Manager for India & South Asia where he primarily drives Elections and Politics work with political parties, MPs, MLAs and State Governments. He also supports Facebook's safety, CSR initiatives and all our programmatic efforts in the region.

Nitin has worked previously as an Analyst in Risk Advisory Services at Ernst and Young, Consultant at the World Bank and to Milind Deora, Former Minister of State for Communications & IT. In his last position, he worked as a Consultant Social Media & Citizen Engagement at National e-Governance Division, Ministry of Communication & IT where he looked after the Digital India Programme.

## **Anindya Chaudhuri, PhD**

Anindya Chaudhuri is Senior Economist at the Global Development Network (GDN), where he oversees the economic foundations of research capacity building programs in developing countries. His own research focuses broadly in the areas of human capital, information systems, and public services delivery mechanisms. He holds a PhD in Public Policy from The University of Texas at Austin, USA, and Bachelor's and Master's degrees in Economics from Jadavpur University, India.

## **Payal Malik**

Payal Malik is a Senior Research Fellow of LIRNEasia and an Associate Professor of Economics at the Delhi University. She is currently on deputation to the Competition Commission of India. She is also associated with National Council of Applied Economic Research and Indicus Analytics. She received her Master of Philosophy (M.Phil.), and MA in Economics from the Delhi School of Economics and BA in Economics from Lady Shriram College, University of Delhi. She also has a MBA in Finance from the University of Cincinnati. She has several years of research experience on the issues of competition and regulation in network industries like power, telecommunication and water. Recently she has been actively engaged in competition policy research. Currently she is a regular columnist for the Financial Express, India and a referee for the Information Technologies and International Development journal.

## **Deepak Maheshwari**

Deepak Maheshwari is Director - Government Affairs, India & ASEAN Region, Symantec. He heads government affairs across India, South Asia and South East Asia in Symantec, the world-leader in cyber security. A public policy and regulatory affairs professional with more than two decades, he has played a pivotal role in development of Information & Communication Technology policy over the past two decades and has a keen interest in the interplay of technological innovation and socio-economic development. An oft-invited speaker, his views & reviews have been widely published. He has been associated with various industry and professional forums like NIXI, ISPAI, IAMAI, BSA, CCICI & IEEE. He served for two consecutive terms as the elected secretary of ISP Association of India (ISPAI), co-founded National Internet eXchange of India (NIXI) and currently chairs BSA Policy Committee for Asia Pacific. An IIT engineer, he is also a law graduate and has previously worked with Microsoft, MasterCard, Sify and HCL.

## **Rajendra Singh**

Rajendra Singh is a Senior Regulatory Specialist in The World Bank's ICT Policy Division, where he focuses on various policy and regulatory issues in telecom sector in various developing countries. Prior to joining The Bank, Rajendra spent about 26 years with Government of India, where he focused on telecom industry, telecom networks, telecom policy and regulatory issues. Rajendra was Secretary, Telecom Regulatory Authority of India (TRAI), where he was associated right from the beginning with the reforms and growth in telecom sector in India. Rajendra was Director (Signalling and Telecom) and various other positions in the Ministry of Railways, Government of India. Rajendra also worked with defence telecom equipment manufacturer, BEL, India. Rajendra earned his B.S. and M.S. degrees in Electrical Engineering at Indian Institute of Technology (IIT), Roorkee and IIT, Delhi, India and MBA at University of Delhi, India. Rajendra is Senior Member IEEE; Fellow IET; and Fellow IETE.

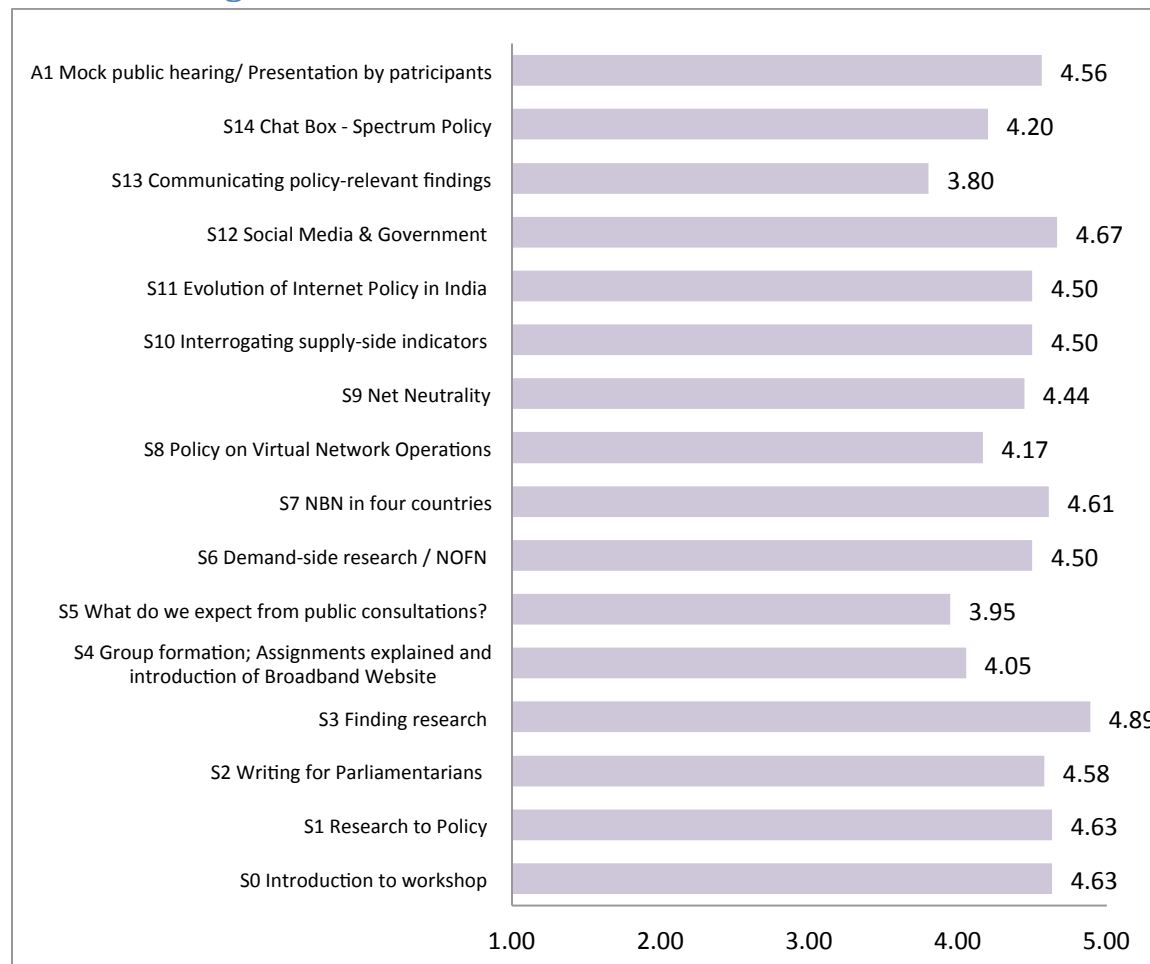
## Vibodh Parthasarathi

Vibodh Parthasarathi is Associate Professor at the Centre for Culture Media & Governance, Jamia Millia Islamia. He is trained in Development Studies at the Institute of Social Studies (The Hague), Mass Communication, Jamia Millia Islamia (New Delhi) and an undergraduate degree in History from St. Stephens College, Delhi University. He has co-edited three anthologies on Communication Processes published by Sage. His research has been variously supported by Prince Klaus Fund, Charles Wallace India Trust, India Foundation for the Arts, Netherlands Fellowship Programme, and the Commonwealth Fund for Technical Co-operation. He currently serves on the Board of the Centre for Internet & Society (Bangalore), and on the International Advisory Board of the India Media Centre, University of Westminster (London)

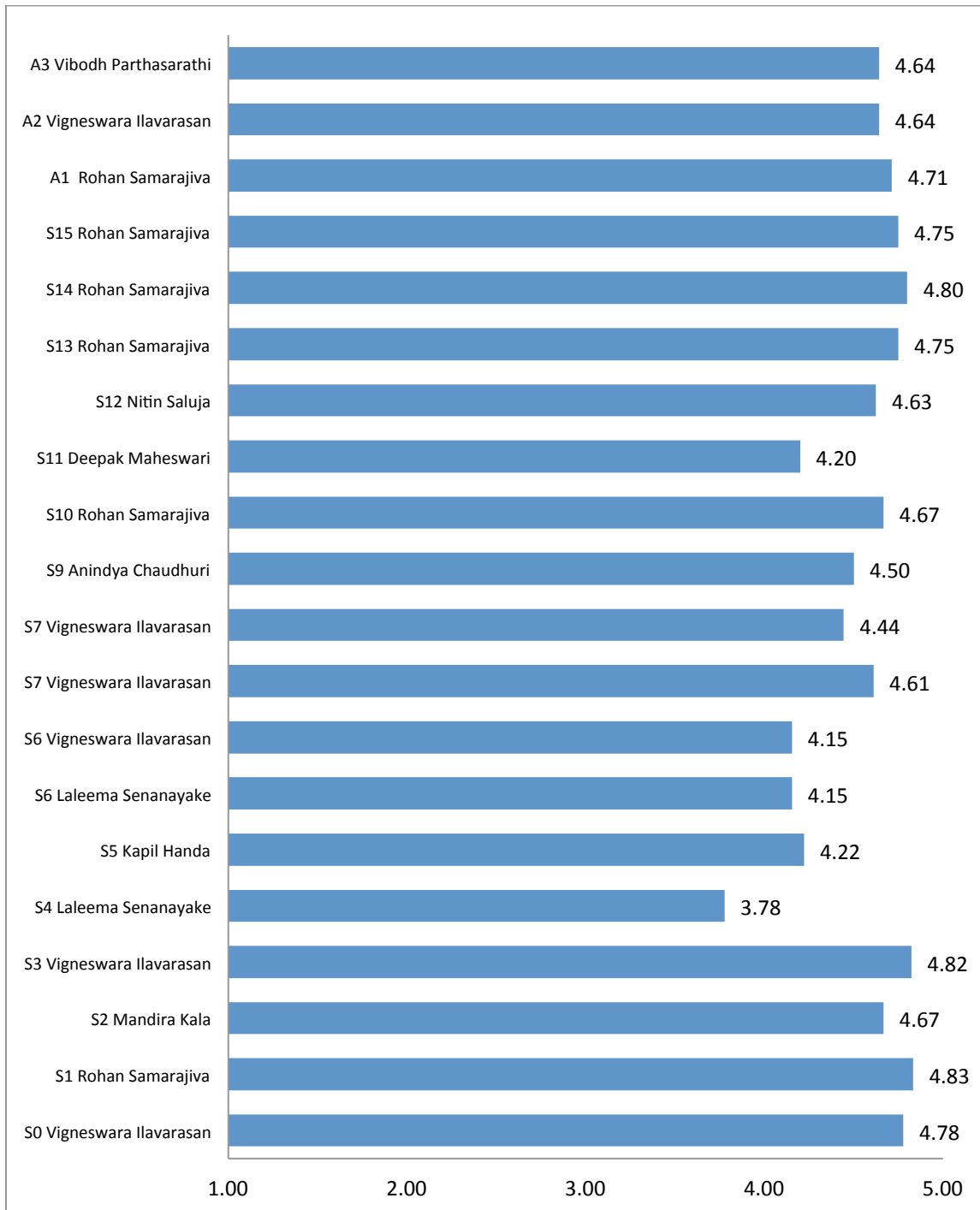
## Evaluations

The course evaluations can be seen from the figures below. The rating was based on a five point scale ranging from 1-abysmal to 5-excellent. All the topics, speakers and logistical arrangements were rated as being satisfactory.

## Session Ratings



## Speaker Rating



# Logistical Ratings

