

# Syllabus: “How to engage in broadband policy and regulatory processes”

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Hotel Jal Mahal, Pokhara, 16-19 February 2019

A four-day residential course offered by LIRNEasia in partnership with ISOC Nepal and the Center for Law and Technology with the support of the Ford Foundation

## 1. Goal

To enable members of Nepal stakeholders in ICT matters marshal available research and evidence for effective participation in broadband policy and regulatory processes, thereby facilitating and enriching policy discourse on means of increasing broadband access by the poor and persons with disabilities.

## 2. Outcomes

The objective of the course is to produce discerning and knowledgeable consumers of research who are able to engage in broadband policy and regulatory processes.

At the end of the course attendees will:

- Be able to find and assess relevant research and evidence
- Be able to summarize the research in a coherent and comprehensive manner
- Be able to make an effective policy or regulatory intervention
- Have an understanding of broadband policy and regulatory processes in Nepal

The evidence-based team presentations may also be considered a useful output, especially if they are revised based on the feedback of the judging panel.

## 3. Assignments

Almost all developed market economies periodically adopt communication policies or strategies, one of the most recent being by the UK Department of Culture, Media and Sports (2017). The purpose of these documents, variously described as policies, strategies and roadmaps (see annex 4), is that of providing a degree of certainty to the many actors active in the communication space. In the ideal case, such policies are broadly consulted and have the buy-in of most, if not all, government and non-government stakeholders. Having been approved by government through Cabinet or a similar superior committee and thus being difficult to change, there is a degree of rigidity to these policies which provides certainty to actors, especially to investors. Generally, these documents have to be complemented by more specific plans that set out targets, identify resources and assign responsibilities for the completion of tasks.

In India, especially in the central government, telecom policies tend to be developed through consultative processes and are taken seriously. In other countries such as Bangladesh, Nepal and Sri Lanka, policy formulation and implementation is weak. The last proper national telecom policy in Bangladesh dates back to 1998, and in Sri Lanka to 1994. Nepal adopted both a National ICT Policy and a Broadband Policy in 2015, but examination of earlier drafts (Government of Nepal, n.d.) showed that they were more in the nature of wish lists than actionable and resourced policies.

The Bangladesh and Sri Lanka policies were threadbare and had become obsolete long ago. Efforts to replace them with more modern documents have failed to go the distance, though some kind of policy appears to have been slapped together in Bangladesh, while the old policy is what is still displayed on government websites. However, the lack of formal policies does not appear to have caused serious damage to the sectors, which have kept growing and innovating. Of course, the question of whether they would have done even better if good policies were in place and were scrupulously implemented remains open.

The assignment will be to make evidence-based team presentations that we hope will assist the government of Nepal to implement the National ICT Policy and Broadband Policy and perhaps improve it. Five-person teams will be assigned different aspects:

1. Affordable broadband of adequate quality throughout Nepal
2. Services and applications that are of value to Nepali users
3. Measures to enhance and assure trust and security
4. Free WiFi in locations such as government hospitals and offices, with particular attention paid to needs of the disabled
5. Formation of skilled users
6. Using smartphones to support independent living by disabled citizens

Each presentation must identify the lead actor, the other entities it must work with, resources for the actions and measurable performance indicators including a timeline.

Teams may use the comparative data compiled by Thavisha Gomez of LIRNEasia and given as Annexes 1-3. They are encouraged to probe the numbers and see if they can improve upon what has been presented or to find and use additional data.

|           | Day 1   | Day 2  | Day 3  | Day 4  |
|-----------|---|--|--|--|
| 0900-1030 | S1 Introduction (Rohan Samarajiva RS and Santosh Sigdel SS)<br>- Overall scope of the course<br>Objectives<br>- Expected outcomes | S5 Baseline knowledge available online and in English relevant to Nepal ICT Policy (RS)  | S10 National Broadband Networks of India, Malaysia, Indonesia and Australia: Comparative study (RS)  | S14 Implementation actions by the regulator (Ananda Raj Khanal ARK)  |
| 1030-1100 | Break   | Break  | Break  | Break  |
| 1100-1200 | S2 Communicating to policy influencers (RS)   | S6 Broadband laws and Policy regime in Nepal (Electronic Transaction Act, Telecommunication Act, Draft IT law and other relevant policies (Babu Ram Aryal BRA) | S11 Policy and regulatory implications of the nationwide disabled survey (RS)  | S15 Supplier perspectives: Panel discussion: Roadmap for making Internet Accessible and Affordable in Sub-urban Nepal<br>Moderator: BRA,<br><br>Panelists:<br>Min Prasad Aryal, Director, NTA<br>Subhash Dhakal, Under Secretary, Government of Nepal<br>Mr. Aswani Rana, Facebook<br>Narendra Maharjan, Deputy Manager, Nepal Telecom<br>Mr. Binay Bohra, MD, Vianet Communications<br>Mr. Prabal Saakh, MD, Hamrobazar.com |
| 1200-1300 | A1 Group formation (RS); Fine-tuning and framing the six assignments as policy research problems (Sujata Gamage SG)               | S7 Introduction to demand-side research, with examples from Nepal research (Isuru Samaratunga IS)  | S12 How Nepal makes and implements ICT policy (Manohar Kumar Bhattarai MKB)  |  |
| 1300-1400 | Lunch   | Lunch  | Lunch  | Lunch  |
| 1400-1500 | S3 More on assignments and comparative data and introduction to web resources (RS)  | S8 Assessing & summarizing research (SG)   | S13 Broadband Content Regulation Regime in Nepal (Penal Code, Individual Privacy Act, Government Social Media Code, Online Media Regulation etc.) (SS) | A6 Mock public hearing & critique (Panel comprising BRA and SS)  |
| 1500-1530 | Break   | Break  | Break  |  |
| 1530-1700 | S4 Introduction policy/legal research, including case study on ICT policy & regulation in federal states (RS)                     | S9 Policy & regulatory implications of the 2018 nationwide ICT Access and Use Survey & qualitative research (RS)   | A4 Group work  | Leisure time   |
| 1700-     | A2 Group work   | A3 Group work  | A5 Group work<br><br>Certificate dinner commences at 1900 hrs  |  |

## Faculty

**Rohan Samarajiva PhD, Course Director**, was the founding CEO (2004 - 2012) and is Chair (2004 –) of LIRNEasia. Since April 2018, he has served as Chair of the ICT Agency of Sri Lanka. 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 on Privacy Advisory Group of UN Global Pulse and as Senior Advisor to the ICT Unit of Sarvodaya (Sri Lanka's largest community based organization). 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 five academic journals.

**Ananda Raj Khanal** is Director at Nepal Telecommunications Authority. Before joining NTA in April 2006, he was with the Department of Electrical and Electronics Engineering at Kathmandu University in Nepal in the capacity of Assistant Professor and Department In-Charge. He continues to be a visiting faculty at different universities in Nepal and teaches subjects related to Telecommunications and ICTs. He holds a Bachelor of Engineering degree in Electronics and Communications, Master of Engineering degree in Optical Communication. He is a gold medalist in Bachelors of Law (LLB). Mr Khanal has taken a number of training courses related to policy, regulation and management of Telecommunications/ICTs conducted by different international institutes of repute including ITU, ACMA, PURC, APT, TEMIC, USTTI and other regulatory agencies. He has also participated in a number of seminars, workshops, meetings, and symposia dealing with Telecommunications/ICTs/Broadband. He is very active in the ITU plenipotentiary conferences, WRCs, WTDCs and ITU-D study groups, GSRs, WSIS and APT and SATRC activities.

**Ashwani Rana** is the Head of Connectivity Policy, (India, South & Central Asia) for Facebook. He has extensive experience of working with top telecom companies. Previously, he worked with Bharti Airtel as their Chief Regulatory Officer (Operations). He holds a Masters in Business Law from the NLSIU, Bangalore in addition to Master in Public Policy, PGDBA and B.Tech. He is also a Fellow member of IETE.

**Babu Ram Aryal** is a practicing lawyer with focus on Telecommunication, Cyber Security, Cyber Crime, Media Laws and Intellectual Property laws. He founded Centre for Law and Technology Private Limited (CLT), a dedicated ICT and Media law think tank in Nepal and the CEO of Delta Law Private Limited, the pioneer TechLaw Firm in Nepal. Some of his research contributions are: "Drafting Unified Information Technology Bill-2013" (2013), "Reviewing Information Technology Laws in Nepal" (2013), "Analysis of Nepali Legal System from E-Governance perspective and Drafting E Governance Bill, 2011" and "Information, Education and Communication strategy for Local Government and Community Development Project, 2009". He was Lead Researcher in the research "Use of Criminal Laws to Curb Freedom of Expression Online in Nepal" (2012), and advisor to the research "Mapping Position of Internet and Freedom of Expression in Nepal with reference to UN Special Rapporteur's Report to UN General Assembly" (2012).

**Binay Bohra** is the Managing Director of Vianet Communications Pvt Ltd, one of the leading Internet service providers (ISP) of Nepal. Binay Bohra believes in living by creativity and feels proud to be able to give something back to the society through his contribution to the IT sector. A computer engineer by profession, Binay likes to explore the tremendous potential of the Internet. Having completed his higher studies in India from Bangalore University in 1995 in Computer Engineering, he returned to

Kathmandu and joined Mercantile Communications. While working for three years at Mercantile, he developed the confidence to do something on his own. The Internet boom was gradually catching up in Nepal, however, there was few ISPs to cater to the growing demand of the Internet. Vianet was one of the pioneers to offer dial-up Internet in the Kathmandu valley and pioneered in the FTTH segment and it is a huge success in the following years. Bohra who is also the President of Internet Service Providers' Association of Nepal (ISPAN) feels that this is the age of the Internet as our lives revolve around it.

**Isuru Samaratunga** is a Researcher at LIRNEasia. He is currently engage in ICT-related research projects on low-income market segments and communities of persons with disabilities in Asia. He has experience in social impact assessment and retail industry as a researcher. Isuru's main interest is enhancing the value of qualitative data in research projects. Isuru holds an MSc in Sociology from the University of Amsterdam, The Netherlands, and post-graduate qualifications from University of Cambridge, United Kindom and University of Kelaniya, Sri Lanka.

**Manohar Kumar Bhattarai** is former Vice Chair, High Level Commission for Information Technology, Government of Nepal. Mr. Bhattarai's involvement in the Information and Communication Technology sector spans nearly three decades encompassing varying responsibilities in various functional and leadership roles. Mr. Bhattarai led the drafting of the Broadband Policy recently approved by Nepal Telecommunication Authority and due for final approval from the government. Mr. Bhattarai also played a lead role in drafting Nepal's first IT Policy in the year 2000 as part of a team formed by National Planning Commission. Mr. Bhattarai is credited with the initiative to usher in the concept of rural telecentres in Nepal as a means of bridging digital divide and expanding community access to Information and Communications Technologies. Mr. Bhattarai has also been instrumental in preparing revised IT Policy of the Government of Nepal which has since been announced, as well as drafting 3-year integrated action plan (IAP) for the development of ICT sector in Nepal. In addition, he also played a key, leadership role in formulating e-Government project which has since culminated in a comprehensive eGovernment project being executed by Government of Nepal. Mr. Bhattarai is also credited with the achievement of having provided leadership on delivering on one of the key, foundational components of eGovernment initiative namely the development of Government Enterprise Architecture/ Government interoperability framework.

**Narendra Maharjan** has two decade of experience in telecommunication service manacurrently Deputy Manager, Nepal Telecom. He went to Sent Luis University in Phillipines (1994) and holds eMBA degree from ACE institute of Management in Nepal. He significantly contributed in the regulatory department for long period in Nepal Telecom and Planning and Procurement of Mobile Service Directorate.

**Prabal Saakha** is the Managing Director of the Hamrobazar.com, a FREE online classified which enables individuals as well as companies to list wide variety of new or used product online. Saakha started HamroBazaar after finishing his Masters degree in marketing and advertising at Webster University, Thailand. Being from a prominent business family – the Saakha Groups, the then twenty-three year old did have options. As he was working on the online platform, he also pursued another venture aligned with an old passion of his – automobiles. He brought a few Sandstorms– convertibles – to Nepal and started selling them. With a more quintessential 'business' to show for himself, he continued his work on the online platform.

**Min Prasad Aryal** is an engineer with specialization on IT Technology Services, Policy and Regulations, Radio Communication and Management Issue. He did his Masters as well as Bachelors from Institute of Engineering, Pulchowk Campus ( Tribhuvan University). He also holds Master's Degree Course in Innovative Communication Technologies and Entrepreneurships from Aalborg University, Copenhagen Branch, Copenhagen, Denmark.

He has over decades of experience as Deputy Director/Head of Research & Development Unit and Numbering and Standardization Unit, an Engineering Section of Technical Department of Nepal Telecommunication Authority (NTA). Similarly, Six years of experience, as an Assistant Director in Technical Department Engineering Section of NTA. Prior to his affiliation with Nepal Telecommunication Authority(NTA) succeeding the position of Teaching Assistant he had worked as a

Head of Electronics and Communication Department of Nepal College of Information Technology (NCIT). He is an affiliated member of IETE Nepal Chapter, Nepal Engineering Council, Nepal Engineering Infrastructure Development Society and Society of Electronic Engineers of Nepal

**Santosh Sigdel** is a President at Internet Society Nepal. He is a lawyer and human rights professional mainly involved in information technology law and human rights. He has worked with a number of international and national organization including the Article19, International Center for Transitional Justice (ICTJ), CARE Nepal, Freedom Forum in last decade on different human rights issues. He has also involved in a number of research and studies relating to freedom of expression. He also led a study on "Freedom of Expression on the Internet in Nepal: Mapping the Internet Environment in Nepal Using Recommendations by the United Nations Special Rapporteur on the Promotion and Protection of the Right to Freedom of Opinion and Expression". Mr. Sigdel is also a member of International Media Lawyers Association (IMLA). He has published a number of articles and booklets on Freedom of expression and Right to Information.

**Subash Dhakal** is the Under Secretary of Government of Nepal who joined the service in 2004. He has led various key government projects and the latest responsibility is the director at the National ID Management Center, the ambitious project of Government of Nepal. Mr. Dhakal has been involved in implementing Electronic Voting System in Nepal, Establishing Government Network. As a director, in DoIT, he is playing crucial role in developing five years IT Roadmap of Nepal and drafting new umbrella IT Act of Nepal. He is also a team member for formulating DNS Policy for .np CCTLD, IPv4 to IPv6 migration plan of Nepal along with promoting and expanding use of Trans-Eurasia Information Network (TEIN) in Nepal. He have participated in different international events like, Asia Pacific Regional Internet Governance Forum (APriGF), ICANN and GCCS. Mr. Dhakal holds Master in Computer Engineering.

**Sujata Gamage, PhD MPA**, specializes in planning, evaluation and capacity building in public policy using data analytics, institutional research, performance evaluations, scoping studies, systematic reviews, statistical methods, and simulations – with a focus on education and training, ICT in education, research, research networks and public sector performance. She is currently a Senior Research Fellow at LIRNEasia, a regional think tank based In Colombo, Sri Lanka. Her recent research includes open data for transparency in electoral demarcations, Indicators of workforce readiness for the 21st century in the context of ICT-enabled freelance work, ICT for development education at institutions of higher learning in Asia, and Factors affecting the use of ICTs in the classroom by teachers. In a formal capacity as a public policy professional Sujata has served as (a) Director General of the Tertiary and Vocational Education Commission of Sri Lanka, revitalizing the implementation of an ADB funded project on a national vocational qualification framework for Sri Lanka (b) Consultant to the University Grants Commission of Sri Lanka developing faculty quality ranking for the system (c) Analytic Director of a team of consultants at QRC Macro International in Bethesda, Maryland, USA, responsible for conducting and reporting on science resources for the US National Science Foundation and (d) Strategic Planning Specialist at the Ohio State University, USA, developing an academic quality scorecard for that university, (e) Administrator of Research Support Programs at the Ohio Board of Regents, Ohio, USA. In her previous career as a university teacher and researcher in Chemistry, she has served as a member of the faculty in the University of Sri Jayewardenapura and the University of Colombo. Sujata holds a Ph.D. in chemistry from the University of British Columbia and a subsequent Master's in Public Administration from the Ohio State University of USA.

## Resource material

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## Annex 1 Comparative Indicators

| Indicator  | Bangladesh              | Cambodia                   | Myanmar                    | Nepal                      | Sri Lanka               |
|--|-------------------------|----------------------------|----------------------------|----------------------------|-------------------------|
| GDP per capita(current USD)<br>n2017 <sup>1</sup>                                    | 1,516.51                | 1,384.42                   | 1,256.66                   | 849.01                     | 4,073.74                |
| Poverty headcount ratio at USD<br>1.9 a day 2011 PPP/% of<br>population <sup>2</sup> | 14.8 (2016)             | n/a                        | 6.4 (2015)                 | 15.0<br>(2010)             | 0.7 (2016)              |
| Population (2017) (thousand) <sup>3</sup>  | 164,669.75              | 16,005.37                  | 53,370.61                  | 29,305.00                  | 21,444.<br>00           |
| Urban Population as % (2017) <sup>4</sup>  | 35.86                   | 22.98                      | 30.32                      | 19.34                      | 18.38                   |
| Disabled population as % of total<br>population                                      | 1.4 (2011) <sup>5</sup> | 2.1<br>(2013) <sup>6</sup> | 4.6<br>(2014) <sup>7</sup> | 3.6<br>(2011) <sup>8</sup> | 3(2017) <sup>9,10</sup> |

<sup>1</sup> <https://data.worldbank.org/indicator/NY.GDP.PCAP.CD>

<sup>2</sup> <https://data.worldbank.org/indicator/SI.POV.DDAY>

<sup>3</sup> <https://data.worldbank.org/indicator/SP.POP.TOTL>

<sup>4</sup> <https://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS>

<sup>5</sup> Disabled population consists of speech, vision, hearing, physical, mentally impaired and autistic population <https://unstats.un.org/unsd/demographic-social/meetings/2016/bangkok--disability-measurement-and-statistics/Session-7/Bangladesh.pdf>  
(Census data)

<sup>6</sup> Disabled population consists of speech, seeing, hearing, movement, mental retardation, mental illness(Definition, p.135-6) [http://www.stat.go.jp/info/meetings/cambodia/pdf/ci\\_fn02.pdf](http://www.stat.go.jp/info/meetings/cambodia/pdf/ci_fn02.pdf)

<sup>7</sup> Forms of disability: walking, seeing, hearing, intellectual/mental  
[http://reliefweb.int/sites/reliefweb.int/files/resources/Census%20Main%20Report%20%28UNION%29%20-%20ENGLISH\\_1.pdf](http://reliefweb.int/sites/reliefweb.int/files/resources/Census%20Main%20Report%20%28UNION%29%20-%20ENGLISH_1.pdf)

<sup>8</sup> The survey includes these types of disabilities – physical, visual, hearing, hearing and seeing, speaking, mental and multiple disabilities.  
<http://cbs.gov.np/nada/index.php/catalog/37/download/744> p. 104

<sup>9</sup> Functional difficulties in vision, acoustics, mobility, cognition, self- care and communication.  
[http://www.statistics.gov.lk/PopHouSat/CPH2011/Pages/Activities/Reports/CPH\\_2012\\_5Per\\_Rpt.pdf](http://www.statistics.gov.lk/PopHouSat/CPH2011/Pages/Activities/Reports/CPH_2012_5Per_Rpt.pdf)

<sup>10</sup> Preliminary estimate by LIRNEasia. This does not include the share of persons with disabilities who are economically active. Also there is a need to reconcile possible differences in definition between Census data and data from the Labour Force Survey.

| Indicator  | Bangladesh | Cambodia | Myanmar | Nepal | Sri Lanka |
|--|------------|----------|---------|-------|-----------|
| International migrant stock (% of population) (2015) <sup>11</sup>                   | 0.88       | 0.47     | 0.14    | 1.82  | 0.19      |
| Net migration rate (Migrant(s)/1000 population (2015-2020) Est. <sup>12</sup>        | -2.8       | -1.9     | -0.4    | -2.4  | -4.3      |
| % population affected by disasters (natural and technological) in 2016 <sup>13</sup> | 2.10       | 17.00    | 1.90    | 0.07  | 4.60      |
| Median age of population <sup>14</sup> (2013) – WHO                                  | 25.1       | 24.4     | 29      | 22.4  | 31.4      |
| Median age of population <sup>15</sup> (2017) - CIA                                  | 26.7       | 25.3     | 28.2    | 24.1  | 32.8      |
| Child (Under 5 years) mortality rate per 1,000 <sup>16</sup> (2017)                  | 32.4       | 29.2     | 48.6    | 33.7  | 8.8       |
| Maternal mortality ratio per 100,000 live births (2015) <sup>17</sup>                | 176        | 161      | 178     | 258   | 30        |
| Adult mortality rate per 1,000 (2016) <sup>18</sup>                                  | 100        | 341      | 296     | 59    | 224       |

<sup>11</sup> <https://data.worldbank.org/indicator/SM.POP.TOTL.ZS>

<sup>12</sup> <https://population.un.org/wpp/DataQuery/>

<sup>13</sup> EMDAT Database: [http://emdat.be/emdat\\_db/](http://emdat.be/emdat_db/)

<sup>14</sup> <http://apps.who.int/gho/data/view.main.POP2040>

<sup>15</sup> <https://www.cia.gov/LIBRARY/publications/the-world-factbook/rankorder/2177rank.html>

<sup>16</sup> <https://data.worldbank.org/indicator/SH.DYN.MORT>

<sup>17</sup> Modeled estimate: <https://data.worldbank.org/indicator/SH.STA.MMRT>

<sup>18</sup> <http://apps.who.int/gho/data/view.main.1360?lang=en> (Adult mortality rate: probability of dying between 15 and 60 years per 1000 population)

| Indicator   | Bangladesh   | Cambodia    | Myanmar      | Nepal        | Sri Lanka    |
|---|--------------|-------------|--------------|--------------|--------------|
| Age dependency ratio (2017) <sup>19</sup>                         | 50.30        | 55.50       | 48.29        | 57.98        | 51.70        |
| Literacy rate adult (% of people ages 15 and above) <sup>20</sup> | 72.9 (2017)  | 80.5 (2015) | 89.5 (2014)  | 59.6 (2011)  | 91.9 (2017)  |
| Primary school enrolment/% net (2017) <sup>21</sup>               | 90.50        | 90.56       | 97.71        | 94.70        | 99.11        |
| Secondary school enrolment/% gross <sup>22</sup>                  | 67.27 (2017) | 45.23(2008) | 64.1 (2017)  | 71.21 (2017) | 97.67 (2017) |
| Tertiary school enrolment/% gross <sup>23</sup>                   | 17.62 (2017) | 13.14(2017) | 15.96 (2017) | 11.79 (2017) | 18.97 (2017) |

<sup>19</sup> <https://data.worldbank.org/indicator/sp.pop.dpnd>

<sup>20</sup> For all countries except Myanmar: <https://data.worldbank.org/indicator/SE.ADT.LITR.ZS>; Myanmar: <http://data.unhcr.org/thailand/download.php?id=421>

<sup>21</sup> Net enrollment rate is the ratio of children of official school age who are enrolled in school to the population of the corresponding official school age.

<https://data.worldbank.org/indicator/SE.PRM.NENR>

<sup>22</sup> Gross enrollment ratio is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown.

<https://data.worldbank.org/indicator/SE.SEC.ENRR>

<sup>23</sup> <https://data.worldbank.org/indicator/SE.TER.ENRR>

| Indicator   | Bangladesh                         | Cambodia              | Myanmar           | Nepal             | Sri Lanka            |
|---|------------------------------------|-----------------------|-------------------|-------------------|----------------------|
| Unemployment rate% (2018) <sup>24</sup>                                 | 4.38                               | 0.23                  | 0.80              | 2.69              | 4.14                 |
| Number of mobile network operators <sup>25</sup>                        | 6                                  | 6                     | 4                 | 5                 | 4                    |
| Largest mobile network operator   | Grameen Phone (2018) <sup>26</sup> | Metfone <sup>27</sup> | MPT <sup>28</sup> | NTC <sup>29</sup> | Dialog <sup>30</sup> |
| Mobile cellular subscriptions per 100 (2018) <sup>31</sup>              | 91.7                               | 116 (2017)            | 89.9              | 123.2             | 135.1                |
| Households with Internet access at home (%) (2017) <sup>32</sup> ITU    | 19.4                               | 21.0                  | 28.3              | 17.9              | 24.4                 |
| Households with Internet access at home (%) <sup>33</sup> – AfterAccess | 11 (2017)                          | 5 (2017)              | n/a               | 48 (2018)         | 33 (2018)            |

<sup>24</sup> <https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS> (ILO Estimates)

<sup>25</sup> GSMA

<sup>26</sup> <http://www.btrc.gov.bd/content/mobile-phone-subscribers-bangladesh-december-2018>

<sup>27</sup> <http://www.telcomatraining.com/list-of-mobile-network-operators-in-cambodia/>

<sup>28</sup> [http://www.xinhuanet.com/english/2018-06/11/c\\_137246005.htm](http://www.xinhuanet.com/english/2018-06/11/c_137246005.htm)

<sup>29</sup> GSMA

<sup>30</sup> <https://www.gsma.com/mobilefordevelopment/commitment/dialog-axiata-plc/>

<sup>31</sup> <https://www.itu.int/net4/itu-d/icteye/CountryProfile.aspx>

<sup>32</sup> <http://www.itu.int/net4/itu-d/icteye/CountryProfile.aspx>

<sup>33</sup> AfterAccess (<https://afteraccess.net>). Calculated based on responses to the question: Does this household have a working Internet connection, if so what type? (One that is exclusive for the household and is accessible to all household members) –Responses: 0 No; 1 Internet using mobile phones /dongles; 2 other Internet access including Fibre/ADSL/ or wireless Internet (e.g. CDMA); 3 both mobile phones/dongle and Fibre/ADSL/CDMS

| Indicator   | Bangladesh         | Cambodia      | Myanmar   | Nepal       | Sri Lanka    |
|---|--------------------|---------------|-----------|-------------|--------------|
| Broadband (Fixed & Mobile) subscriptions/ '000 <sup>34</sup>                      | 326                | 671           | 902       | 533         | 252          |
| Individuals using the internet, per 100 <sup>35</sup> (2017)                      | 18                 | 34.0          | 30.7      | 21.4        | 34.1         |
| International Internet bandwidth kbps per Internet user (2016) <sup>36</sup>      | 9.2                | 23.6          | 6.4       | 3.9         | 22.0         |
| Facebook users per 100 (2019) <sup>37</sup>                                       | 19.0               | 49.1          | 36.8      | 31.7        | 27.3         |
| Fixed broadband operator and price sub- basket, USD (2017) <sup>38</sup>          | BTCL, 4.3          | Metfone, 12   | MPT, 13.1 | NTC, 2.9    | SLT, 3.9     |
| Mobile-broadband basket, prepaid handset-based, 500 MB, (2017) <sup>39</sup>      | Grameenphone, 1.85 | Metfone, 1.00 | MPT, 0.70 | Ncell, 2.68 | Dialog, 1.56 |
| Mobile-broadband basket, postpaid computer-based, 1 GB, USD, (2017) <sup>40</sup> | Grameenphone, 2.85 | Metfone, 2.0  | MPT, 1.62 | Ncell, 7.56 | Dialog, 1.56 |
| Mobile-cellular basket, USD (2017) <sup>41</sup>                                  | Grameenphone, 1.71 | Metfone, 6.85 | MPT, 1.60 | Ncell, 2.58 | Dialog, 0.94 |
| Households with electricity (%) (2016) <sup>42</sup>                              | 75.92              | 49.77         | 57.01     | 90.70       | 95.59        |

<sup>34</sup> <https://www.itu.int/net4/itu-d/icteye/CountryProfile.aspx> Total subscriptions calculated as sum of mobile-cellular subscriptions per 100 inhabitants and fixed (wired)-broadband subscriptions per 100 inhabitants <http://www.internetworldstats.com/asia.htm>

<sup>35</sup> <https://www.itu.int/net4/itu-d/icteye/CountryProfile.aspx>

<sup>36</sup> [https://www.itu.int/en/ITU-D/Statistics/Documents/publications/misr2017/MISR2017\\_Volume2.pdf](https://www.itu.int/en/ITU-D/Statistics/Documents/publications/misr2017/MISR2017_Volume2.pdf), p. 18, 34, 129,133, 177

<sup>37</sup> Facebook Advertising Portal and World Bank population projections

<sup>38</sup> <https://www.itu.int/en/ITU-D/Statistics/Documents/publications/misr2018/MISR-2018-Vol-1-E.pdf>, Annex Tale 2.1, P. 166 p. 180

<sup>39</sup> <https://www.itu.int/en/ITU-D/Statistics/Documents/publications/misr2018/MISR-2018-Vol-1-E.pdf>, Table 4.3 p. 114

<sup>40</sup> <https://www.itu.int/en/ITU-D/Statistics/Documents/publications/misr2018/MISR-2018-Vol-1-E.pdf> p. 133

<sup>41</sup> <https://www.itu.int/en/ITU-D/Statistics/Documents/publications/misr2018/MISR-2018-Vol-1-E.pdf> p. 118

<sup>42</sup> <https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS>

## Annex 2: Comparative performance in composite indices

|   | Bangladesh | Cambodia | Myanmar         | Nepal | Sri Lanka |
|---|------------|----------|-----------------|-------|-----------|
| Global competitiveness index (2018) <sup>1</sup> out of 190 countries | 103        | 110      | - Not Available | 109   | 85        |
| Doing business index (2018) <sup>2</sup> out of 190 countries         | 176        | 138      | 171             | 110   | 100       |
| Network Readiness Index (2016) <sup>3</sup> out of 139 countries      | 112        | 109      | 133             | 118   | 63        |
| ICT Development Index (2017) <sup>4</sup> out of 176 countries        | 147        | 128      | 135             | 140   | 117       |
| Global innovation index (2017) <sup>5</sup> out of 126 countries      | 116        | 98       | -Not available  | 108   | 88        |

<sup>1</sup> <http://www3.weforum.org/docs/GCR2018/05FullReport/TheGlobalCompetitivenessReport2018.pdf>

<sup>2</sup> <https://data.worldbank.org/indicator/IC.BUS.EASE.XQ>

<sup>3</sup> <http://reports.weforum.org/global-information-technology-report-2016/networked-readiness-index/>

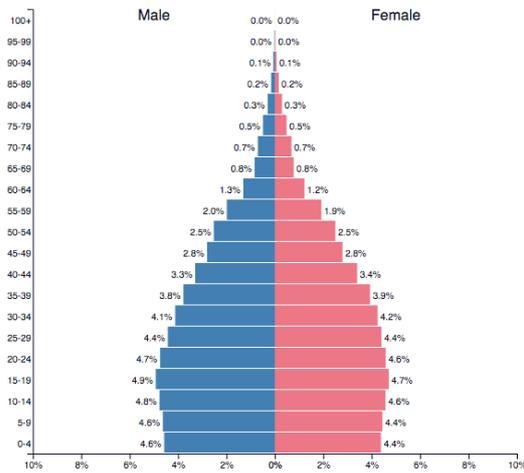
<sup>4</sup> <http://www.itu.int/net4/ITU-D/idi/2017/index.html>

<sup>5</sup> <https://www.globalinnovationindex.org/analysis-indicator>

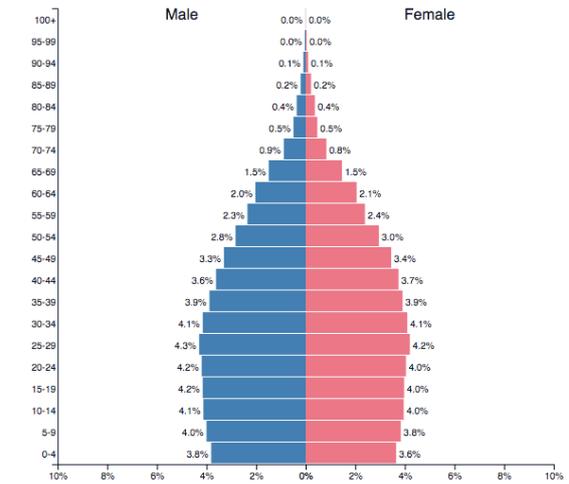
# Annex 3: Population Pyramids

Link: <https://www.populationpyramid.net/>

## Bangladesh

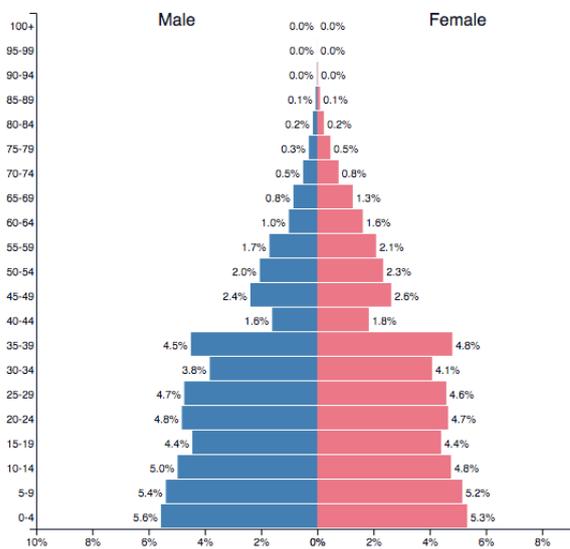


2019

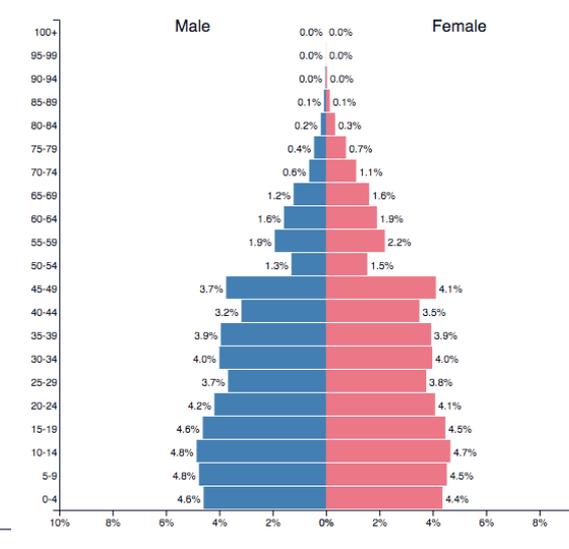


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## Cambodia

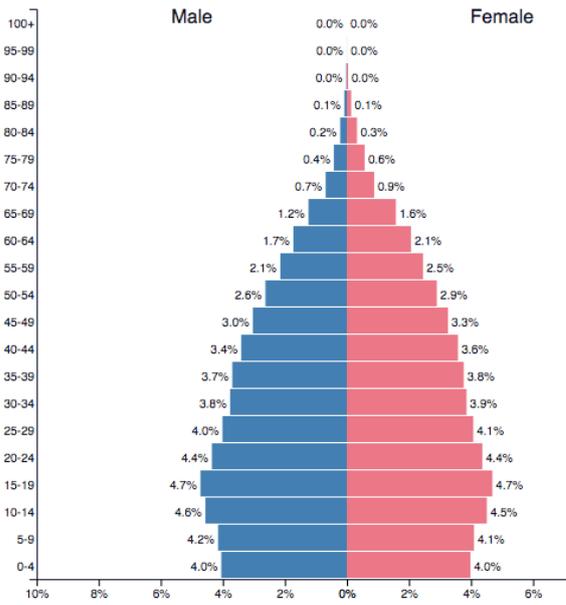


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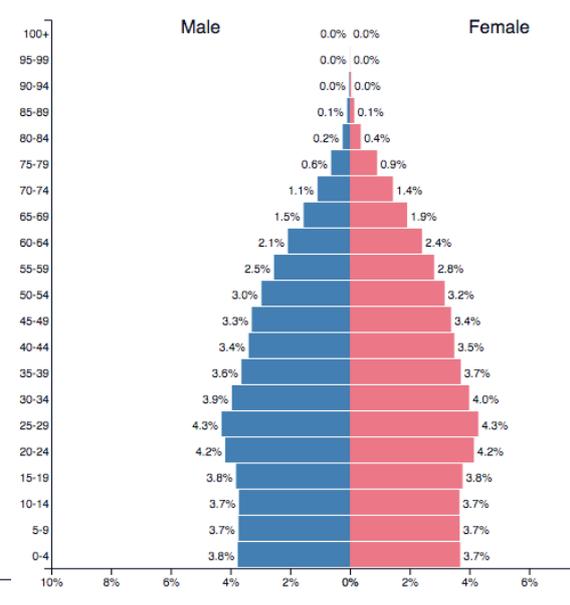


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## Myanmar

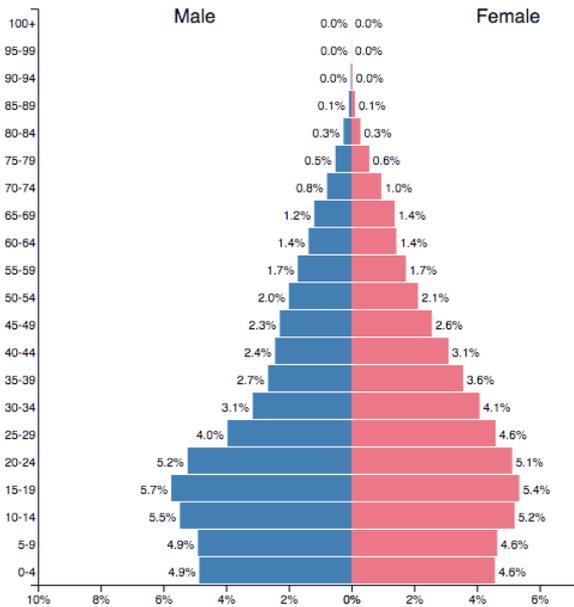


2019

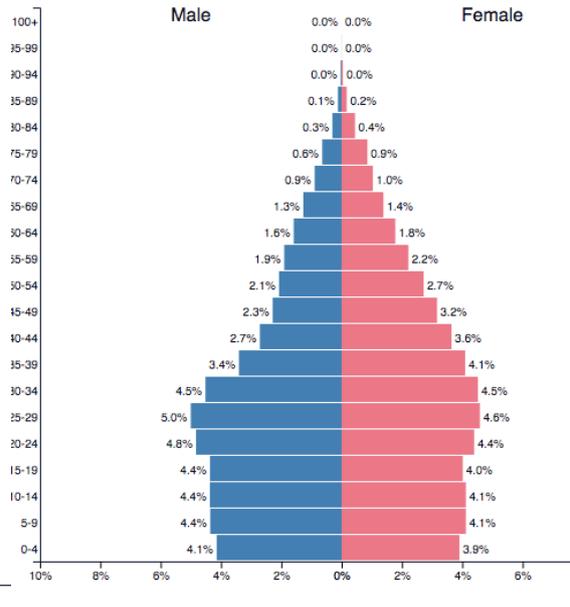


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## Nepal

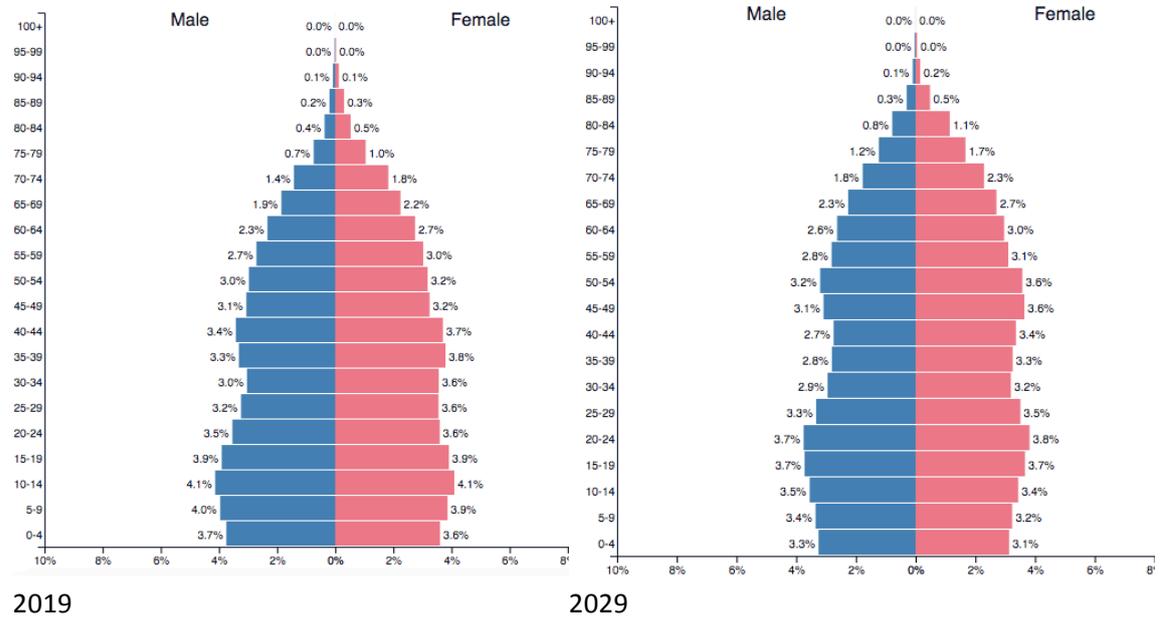


2019



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# Sri Lanka



## Annex 4: Policy, strategy or blueprint?

In conventional government usage, policy is superior to strategy. Thus in Sri Lanka, the ICTA may formulate strategies and programs, but not policies. That is the prerogative of Cabinet. The National Policy adopted by Cabinet on recommendation of Inter-Ministerial Committee is superior: “to prepare the strategy and programmes which needs to be implemented in both the government and the private sectors in keeping with the National Policy on Information and Communication Technology.”

But when one examines the equivalent texts in advanced economies, it is becoming evident that the terms strategy, and even blueprint, are gradually replacing policy. This is a change from conventional usage:

Policy set out what must be done and justified why it must be done. A plan is more concrete and short-term, provided the strategy by which the policy is to be implemented. A plan defined how the necessary actions will be taken by whom and when so that the policy objectives may be realized. It included performance indicators and mileposts.

The change from that usage is exemplified by the Singapore Digital Government Blueprint, which is one of the three pillars of Smart Nation Singapore. The 13 section headers below provide an indication of the scope.

- Digitalisation is critical for the Government
- Our Vision - A Government that is “Digital to the Core, and Serves with Heart”
- Serving our Citizens and Businesses
- Supporting our Public Officers
- Building a Digital Government
- Integrating Services around Citizen and Business Needs
- Strengthening Integration between Policy, Operations and Technology
- Building Common Digital and Data Platforms
- Operating Reliable, Secure and Resilient Systems
- Raising our Digital Capabilities to Pursue Innovation
- Co-creating with Citizens and Businesses, and Facilitating Adoption of Technology
- Key Performance Indicators and Milestones
- A Digital Government for a Smart Nation

The Blueprint contains performance indicators and milestones, in addition to the normal statements of intent found in all policy documents. What are missing are the lengthy assessments of previous policies and the relationships among different policies, legislation, etc. It appears that Singapore has chosen to present a very readable version of a policy by excluding certain conventional elements and giving primacy to infographics and design. The same appears to have been done with the UK Digital Strategy, which has a coverage broader than its Singapore counterpart.

Given the legal meanings attached to various terms in specific countries, it may be wise to stay with conventional usage in a specific country. But it is important to understand how terms are being used elsewhere, partly because governments also seek to communicate with external actors through policy documents.