

Final Publishable Summary

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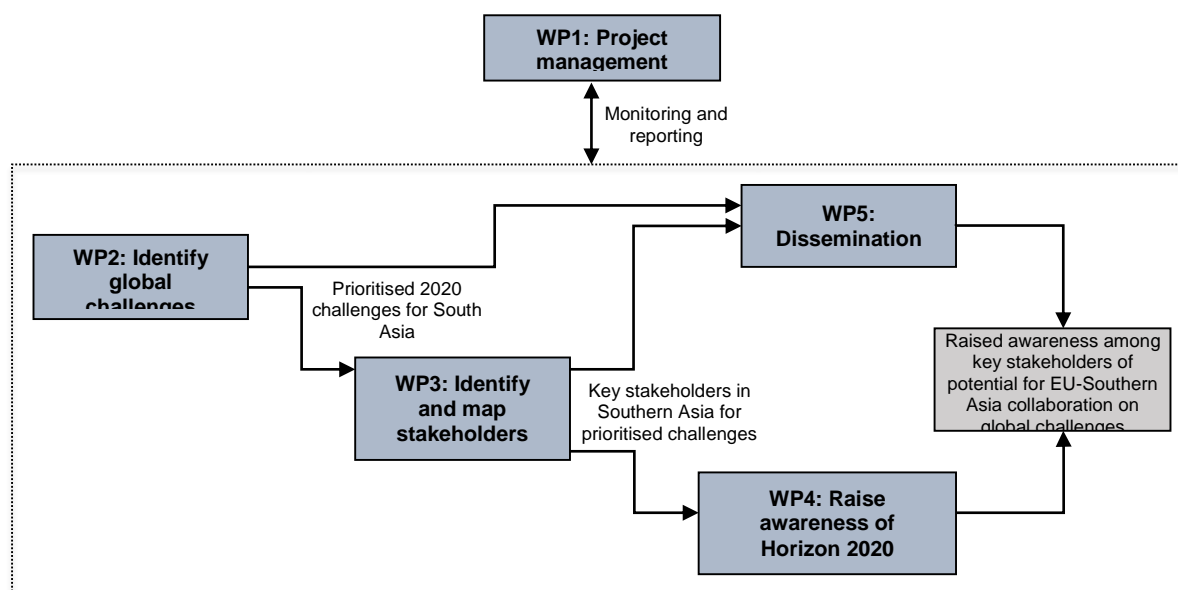


Figure 1: CASCADE work plan

Table 1: Country profiles

South Asian Country ¹	Income level ²	Population (2013, million) ³	Population growth (annual %) ²	Land area (sq. km) ⁴	GDP per capita (2013, current US\$) ⁵	Life expectancy at birth (2012, years) ²	Literacy rate, adult total (% of people ages 15 and above) ⁶
Afghanistan	Low	30.55	2.4	652,860	664.8	61	32
Bangladesh	Low	156.60	1.2	130,170	957.8	70	59
Bhutan	Lower middle	0.75	1.6	38,117	2,362.6	68	-
Maldives	Upper middle	0.35	1.9	300	6,665.8	78	-
Nepal	Low	27.80	1.2	143,350	694.1	68	57
Pakistan	Lower middle	182.14	1.7	770,880	1,275.3	66	55
Sri Lanka	Lower middle	20.48	0.8	62,710	3,279.9	74	91

¹ India is not considered within this regional paper, as specified within the EU FP7 call associated with this project

² World Bank Country and Lending Groups

³ United Nations Population Division, World Population Prospects

⁴ Food and Agriculture Organization, electronic files and web site

⁵ World Bank national accounts data, and OECD National Accounts data files

⁶ UNESCO Institute for Statistics

Table 2: Incidence of tuberculosis (per 100,000 people) 2013 (Source: World Health Organisation, 2014)

Afghanistan	189
Bangladesh	224
Pakistan	275

Table 3: Probability of dying from non-communicable diseases between the ages of 30 and 70 years (%) (Source: World Health Organisation, 2014)

Afghanistan	30.5
Bangladesh	17.5
Bhutan	20.5
Maldives	15.9
Nepal	21.6
Pakistan	20.5
Sri Lanka	17.6

Table 4: Health expenditure, total (% of GDP) (Source: World Bank World Development Indicators, 2015)

	2010	2011	2012	2013
Afghanistan	103	101	99	96
Bangladesh	57	56	55	53
Bhutan	52	51	50	49
Maldives	54	53	52	51
Nepal	73	71	68	66
Pakistan	66	65	63	62
Sri Lanka	49	49	50	51

Table 5: Fertility and life expectancy (Source: United Nations Department of Economic and Social Affairs World Population Prospects: The 2012 Revision, Key Findings and Advance Tables)

	Total fertility (average number of children per woman)		Life expectancy at birth	
	2010-2015	2045-2050	2010-2015	2045-2050
Afghanistan	5.00	1.97	60.7	69.1
Bangladesh	2.20	1.69	70.5	80.1
Bhutan	2.26	1.67	68.0	77.2
Maldives	2.29	1.66	77.7	85.8
Nepal	2.32	1.71	68.2	77.5
Pakistan	3.22	1.99	66.5	71.1
Sri Lanka	2.35	1.91	74.2	79.9

Table 6: Agriculture, value added, % of GDP (World Bank national accounts data, and OECD National Accounts data files)

	2003	2013
Afghanistan	37.8	24.0
Bangladesh	21.8	16.3
Bhutan	25.2	17.1
Maldives	6.0	4.2
Nepal	37.5	35.1
Pakistan	23.4	25.1
Sri Lanka	13.2	10.8

Table 7: Agricultural land, % of land area (Source: Food and Agriculture Organization, electronic files and web site)

	2002	2012
Afghanistan	57.8	58.1
Bangladesh	71.9	70.1
Bhutan	13.4	13.6
Maldives	40.0	23.3
Nepal	29.6	28.7
Pakistan	35.4	35.1
Sri Lanka	37.6	42.9

Table 8: Employment in agriculture, % of total employment (Source: World Development Indicators 2008)

Afghanistan	-
Bangladesh	51.7
Bhutan	-
Maldives	17.3
Nepal	66.4
Pakistan	43.0
Sri Lanka	33.5

Table 9: Agricultural growth rates, annual % growth (Source: World Bank national accounts data, and OECD National Accounts data files)

	2010	2011	2012	2013
Afghanistan	-6.4	-7.6	18.2	-0.2
Bangladesh	6.2	4.5	3.0	2.5
Bhutan	0.9	2.4	2.2	2.9
Maldives	-0.9	1.1	4.9	-
Nepal	2.0	4.5	4.6	1.1
Pakistan	0.2	2.0	3.6	2.9
Sri Lanka	7.0	1.4	5.2	4.7

Table 10: Rural population, % of total population (Source: World Bank Staff estimates based on United Nations, World Urbanization Prospects)

	2000	2007	2013
Afghanistan	79	76	74
Bangladesh	76	72	67
Bhutan	75	68	63
Maldives	72	64	57
Nepal	87	84	82
Pakistan	67	65	62
Sri Lanka	82	82	82

Table 11: Marine capture: major fishing areas (Source: FAO Global Capture Production database)

	2011	2012	Variation
Indian Ocean, Western	4,206,888	4,518,075	7.4%
Indian Ocean, Eastern	7,128,047	7,395,588	3.8%
World total	82,609,926	79,705,910	-3.5%

Table 12: Electricity access in 2011 (Source: International Energy Agency, 2013)

	Population without electricity (millions)	Electrification rate (%)	Urban electrification rate (%)	Rural electrification rate (%)
Bangladesh	61	60	90	48
Nepal	7	76	97	72
Pakistan	56	69	88	57
Sri Lanka	3	85	96	84

Table 13: Quality of trade and transport related infrastructure e.g., ports, railroads, roads, information technology (Source: LPI Global Rankings 2014)

	Ranking	Infrastructure indicator
<i>Germany</i>	<i>1</i>	<i>4.32</i>
Pakistan	69	2.67
Maldives	82	2.56
Nepal	122	2.26
Sri Lanka	126	2.23
Bhutan	132	2.18
Bangladesh	138	2.11
Afghanistan	158	1.82
<i>Somalia</i>	<i>160</i>	<i>1.50</i>

Table 14: Total Vehicle Population (million, 2003 - 2013 July) in Sri Lanka (Source: Sri Lankan Department of Motor Traffic)

Class of Vehicle	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013 end July
Motor Cars	275	294	311	339	361	381	387	410	468	500	514
Motor Tricycle	169	213	254	319	362	407	444	530	668	767	818
Motor Cycles	1,010	1,135	1,266	1,422	1,605	1,761	1,896	2,101	2,354	2,546	2,642
Buses	70	72	74	77	80	81	82	84	89	92	93
Dual purpose vehicles	163	174	181	188	193	196	198	209	243	280	295
Lorries	199	209	224	244	263	277	285	297	312	324	327
Land vehicles- Tractors	154	165	181	200	221	246	260	277	297	316	322
Land vehicles- Trailers	34	35	37	39	41	43	44	46	50	53	55
Total	2,074	2,298	2,527	2,828	3,126	3,391	3,595	3,954	4,480	4,877	5,066

Table 15: Road deaths proportional to a country's population (World Health Organisation, 2011)

	Road deaths per 100,000 (reported)	Road deaths per 100,000 (adjusted / estimated by WHO report) ⁷
Afghanistan	6.6	39.0
Bangladesh	2.6	12.6
Bhutan	16.9	14.4
Maldives	3.3	18.3
Nepal	3.4	15.1
Pakistan	4.4	25.3
Sri Lanka	12.1	13.5

Table 16: Countries most affected from 1994 to 2013, annual averages (Source: Germanwatch Long-Term Climate Risk Index CRI)

CRI 1994–2013 (1993–2012)	Country	CRI score	Death toll	Deaths per 100,000 inhabitants	Total losses in million US\$ PPP	Losses per unit GDP in %	Number of Events (total 1994–2013)
6 (5)	Bangladesh	20.83	749.10	0.54	3128.80	1.20	228
10 (12)	Pakistan	31.50	456.95	0.31	3988.92	0.77	14

⁷ The total fatalities figures comes from the WHO report and are often an adjusted number of road traffic fatalities in order to reflect the different reporting and counting methods among the many countries

Table 17: CO2 emissions, metric tons per capita (Source: Carbon Dioxide Information Analysis Center, Environmental Sciences Division, Oak Ridge National Laboratory, Tennessee, United States)

	2010
Afghanistan	0.3
Bangladesh	0.4
Bhutan	0.7
Maldives	3.3
Nepal	0.1
Pakistan	0.9
Sri Lanka	0.6

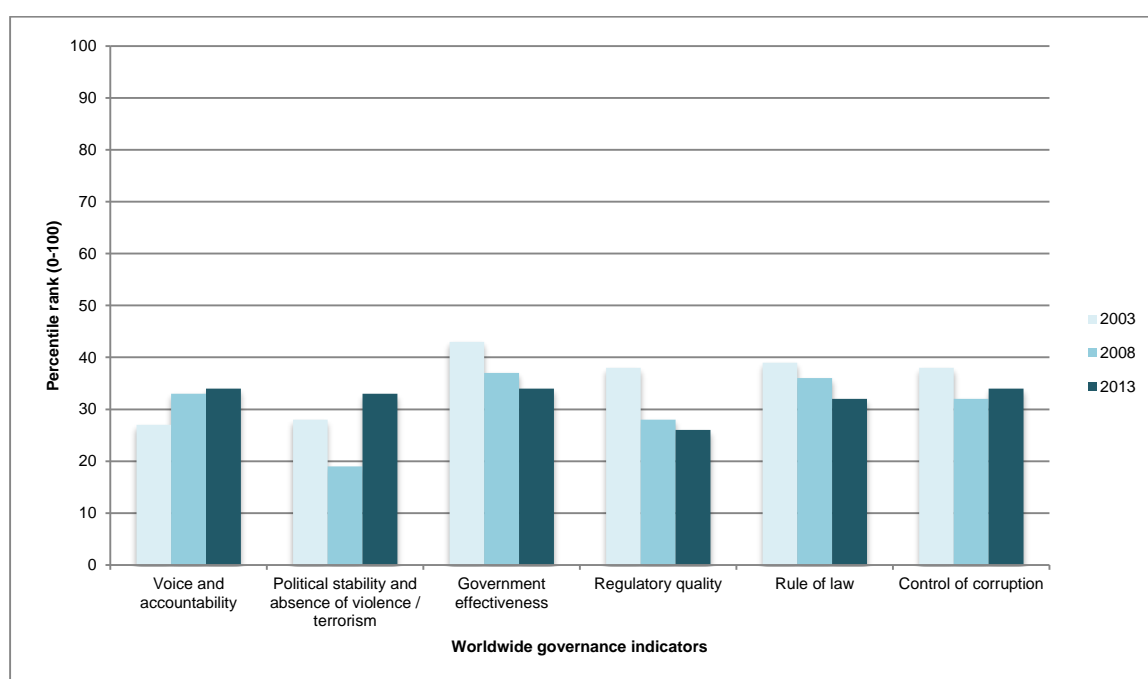


Figure 2: Governance indicators for South Asia (Source www.govindicators.org)

Table 18: Unemployment rates (Source: International Labour Organisation)

	Unemployment rate % ⁸
Afghanistan	35 (2008)
Bangladesh	5 (2012)
Bhutan	2.1 (2013)
Maldives	11.6 (2013)
Nepal	46 (2008)
Pakistan	6.6 (2014)
Sri Lanka	4.2 (2012)

⁸ International Labour Organisation

Table 19: Gender inequality index (Source: UNDP Human Development Reports)

HDI rank	Country	Gender Inequality Index Value, 2013	Gender Inequality Index Rank, 2013	Maternal mortality ratio, 2010	Adolescent birth rate, 2010/2015	Share of seats in parliament, 2013	Population with at least some secondary education, 25 +, female, 2005-2012	Population with at least some secondary education, 25 +, male, 2005-2012	Participation rate, 15+, female, 2012	Participation rate, 15+, male, 2012
73	Sri Lanka	0.383	75	35	16.9	5.8	72.7	75.5	35.0	76.4
103	Maldives	0.283	49	60	4.2	6.5	13.3	16.6	55.9	77.1
136	Bhutan	0.495	102	180	40.9	6.9	34.0	34.5	66.4	76.9
142	Bangladesh	0.529	115	240	80.6	19.7	30.8 e	39.3	57.3	84.1
145	Nepal	0.479	98	170	73.7	33.2	17.9 e	39.9	54.3	63.2
146	Pakistan	0.563	127	260	27.3	19.7	19.3	46.1	24.4	82.9
169	Afghanistan	0.705	149	460	86.8	27.6	5.8	34.0	15.7	79.7

Table 20: Stakeholder categories and their definitions

Stakeholder Type	Definition	Responsible For
National and local government:	Public and semi-public entities that have interest in Global Challenges and research priorities	<p>Mediate between private and public interests and as an actor with local, national and international connections.</p> <p>Coordination of different stakeholders at different levels.</p> <p>Develop and enforce rules, laws and regulations.</p>
International organisations:	Non-profit making organisations which possess membership of more than one country and set up as intergovernmental organisations or international non-governmental organisations	<p>Policy making.</p> <p>Coordination among different nations.</p> <p>Provide necessary aid and support.</p>
Community:	Individuals and groups that has direct interest in Global Challenges	<p>Users and occupants.</p> <p>Participation, experience and leadership towards the necessary actions.</p>
Civic society:	Non-governmental organisations (NGOs) that participate in research related Global Challenges, including not-for-profit and voluntary groups that are organised on a local, national or international level	<p>Work with and on behalf of most needy groups: the poorest and the most vulnerable.</p> <p>Operate at grassroots level with communities and local organisations as partners.</p> <p>Take a participatory approach to development planning. This allows them to respond better to local people's priorities and build on local capacities.</p>
Private and corporate sector:	Privately owned profit-orientated business and industrial groups	<p>Driving force behind socio-economic development.</p> <p>Developers, consultants, contractors and sub contractors, banks and finance institutions that design, construct, maintain and finance the necessary infrastructure/facilities.</p> <p>Responsible for implementation of policies, regulations and standards</p>
Academia and professional associations:	Universities, research organisations, and professional associations engaged in research, and training and development of individuals and organisations involved in Global Challenges	<p>Related education.</p> <p>Training.</p> <p>Research and development.</p> <p>Development of technical standards and guidelines.</p>

Table 21: CASCADE journal papers

Theme of the paper	Authors (Name and affiliated partner institution)	Targeted journal
Health, demographic change and well-being	<ol style="list-style-type: none"> 1. Champika Liyanage- University of Central Lancashire, UK 2. Rishiraj Dutta- Asian Disaster Preparedness Center 3. Shayani Weerasinghe- University of Moratuwa, Sri Lanka 4. Muhammad Umar- Local Councils Association of the Punjab, Pakistan 5. Bayer Darmel- Nangarhar University, Afghanistan 6. Basantha Kumar Parajuli- Volunteers for Development, Nepal 	Journal of Public Health (http://www.journals.elsevier.com/public-health/)
Food security, sustainable agricultures, marine and maritime research and the bio-based economy	<ol style="list-style-type: none"> 1. Shayani Weerasinghe- University of Moratuwa, Sri Lanka 2. Samantha Hettiarachchi- University of Moratuwa, Sri Lanka 3. N.M.S.I. Arambepola- Asian Disaster Preparedness Center 4. Anwar Hussain- Local Councils Association of the Punjab, Pakistan 5. Noorali Noor- Nangarhar University, Afghanistan 	Food Security (http://link.springer.com/journal/12571)
Secure, clean and efficient energy	<ol style="list-style-type: none"> 1. Kanchana Ginige- University of Huddersfield, UK 2. Sharif Sherzad- Nangarhar University, Afghanistan 3. Sachie Gunathilake- Federation of Sri Lankan Local Government Authorities, Sri Lanka 4. Ahmed Parvez- Patuakhali Science and Technology University, Bangladesh 5. Nagendra Raj Sitoula- Institute of Engineering, Nepal 	Energy for Sustainable Development (http://www.journals.elsevier.com/energy-for-sustainable-development)
Smart, green and integrated transport	<ol style="list-style-type: none"> 1. Champika Liyanage- University of Central Lancashire, UK 2. Sachie Gunathilake- Federation of Sri Lankan Local Government Authorities, Sri Lanka 3. Ahmed Parvez- Patuakhali Science and Technology University, Bangladesh 4. Sharif Sherzad- Nangarhar University, Afghanistan 	Case Studies on Transport Policy (http://www.journals.elsevier.com/case-studies-on-transport-policy/)
Climate action, resource efficiency and raw materials	<ol style="list-style-type: none"> 1. Richard Haigh- University of Huddersfield, UK 2. Rishiraj Dutta- Asian Disaster Preparedness Center 3. Hinna Khalid- Ecocare, Maldives 	International Journal of Climate Change Strategies and Management (http://www.emeraldgr)

	<ol style="list-style-type: none"> 4. Hemanthi Goonasekera- Federation of Sri Lankan Local Government Authorities, Sri Lanka 5. Samantha Hettiarachchi- University of Moratuwa, Sri Lanka 6. Naveed Ahmad- University of Peshawar, Pakistan 7. Jit Tshering- Royal Institute of Management, Bhutan 8. Irene Lill- Tallinn University of Technology 	ouppublishing.com/products/journals/journals.htm?id=IJCCSM)
A changing world, inclusive innovative and reflective societies	<ol style="list-style-type: none"> 1. Dilanthi Amaratunga- University of Huddersfield, UK 2. N.M.S.I. Arambepola- Asian Disaster Preparedness Center 3. Muhammad Umar- Local Councils Association of the Punjab, Pakistan 4. Jit Tshering- Royal Institute of Management, Bhutan 5. Naeem Jan Sarwary- Nangarhar University, Afghanistan 6. Kushani De Silva- University of Huddersfield, UK 7. Arturas Kaklauskas- Vilnius Gediminas Technical University 	Global Social Policy (http://gsp.sagepub.com/)
Secure societies	<ol style="list-style-type: none"> 1. Dilanthi Amaratunga- University of Huddersfield, UK 2. Hinna Khalid- Ecocare, Maldives 3. Hemanthi Goonasekera- Federation of Sri Lankan Local Government Authorities, Sri Lanka 4. Anwar Hussain- Local Councils Association of the Punjab, Pakistan 5. Abdullah Adil- Nangarhar University, Afghanistan 6. Kushani De Silva- University of Huddersfield, UK 	Disaster Prevention and Management (http://www.emeraldgroupublishing.com/products/journals/journals.htm?id=DPM)