

SDG Interlinkages in Asia

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The SDGs: 17 Goals, 169 Targets and 232 indicators form an integrated and indivisible framework for achieving sustainable development from a systemic perspective



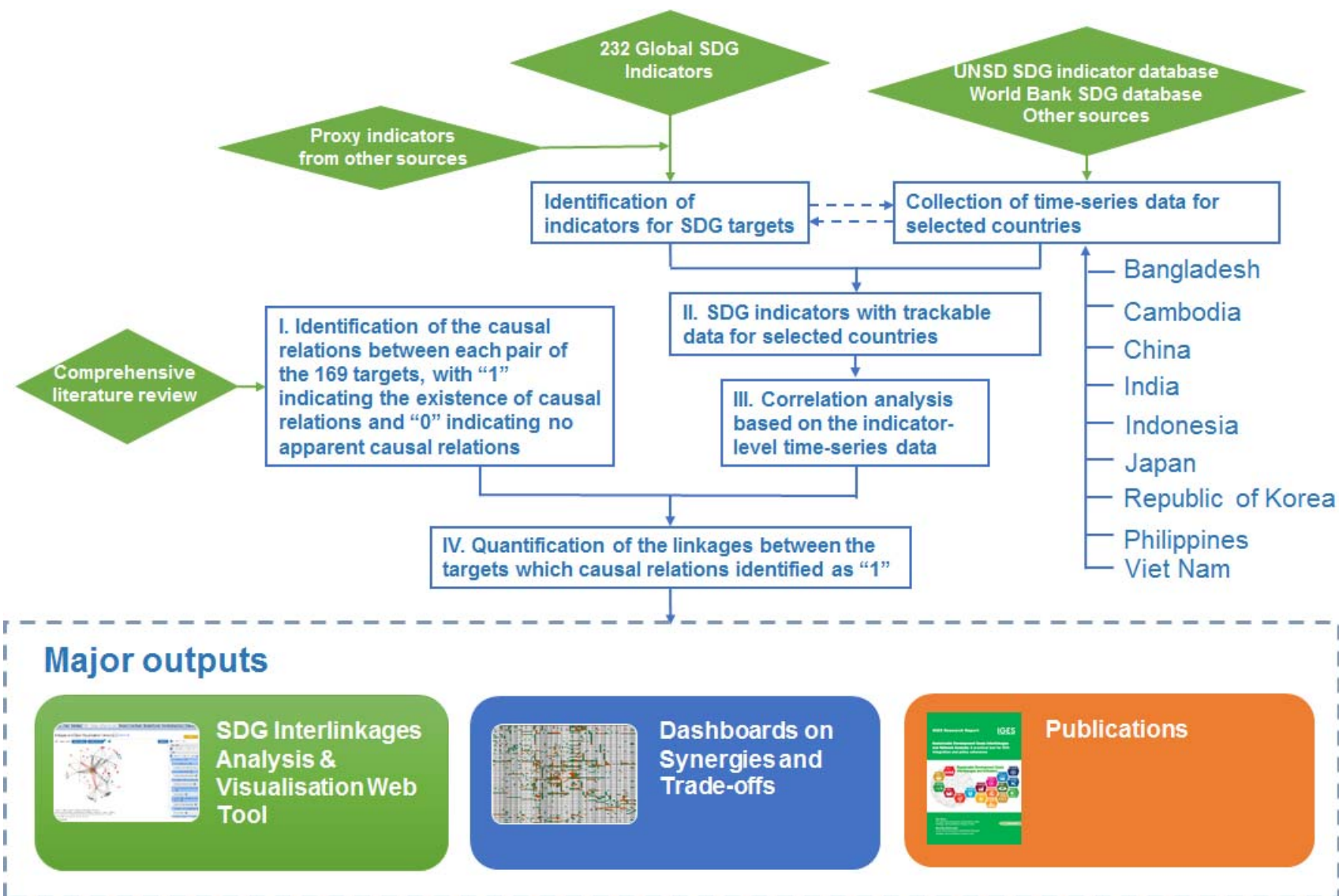
Importance of taking an integrated approach through SDG interlinkages

- Shifting from a siloed approach to an integrated approach is imperative for achieving the SDGs.
- Understanding the interlinkages between the SDG targets is important for taking an integrated approach which helps address the following issues:

- *How will achieving one target impact on achieving others and how strong are the impacts?*
- *Where are the synergies or trade-offs between the SDG targets?*
- *How countries are different in terms of SDG interlinkages?*
- *What are the policy implications for priority setting and institutional arrangement, etc.*



IGES initiated a pioneer project on SDG interlinkages and indicators (FY2015 -)



Identification of the SDG interlinkages based on literature review

Reference no.	Reference code	SDG coverage	Type of interlinkages/goal to goal (G-G), goal to target (G-T), target to goal (T-G) and target to target (T-T)	Source
1	IAEG-SDGs	All	T-T	IAEG-SDGs, 2015. List of Indicator Proposals (11 August 2015). Available at: https://unstats.un.org/sdgs/files/List%20of%20Indicator%20Proposals%201-8-2015.pdf
2	SDSN-1	All	T-T through shared indicators.	Leadership Council of the Sustainable Development Solutions Network (SDSN), 2015. Indicators and a Monitoring Framework for the Sustainable Development Goals: Launching a data revolution for the SDGs. A report to the Secretary-General of the United Nations. Available at: http://unsdsn.org/wp-content/uploads/2015/05/FINAL-SDSN-Indicator-Report-WEB.pdf
3	SDSN-Shared indicators	All	T-T through shared indicators.	2015. Indicators for the SDGs: Identifying inter-linkages. SDSN Issue Brief. Available at: http://unsdsn.org/wp-content/uploads/2015/09/150816-Identifying-inter-linkages-SDSN-Briefing-for-IAEG.pdf
4	ESCAP-SDG6	SDG6	T-T	United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), 2016. Analytical Framework for Integration of Water and Sanitation SDGs and Targets: Using Systems Thinking Approach, Annex I: Full Matrix of Analysis of Direct and Indirect Linkages Between the SDG 6 Targets and the Targets of the Other SDGs. UNESCAP Working Paper. Bangkok: UNESCAP. Available at: https://sustdev.unescap.org/Files/resource/300add205ca64d4ee4b1c4d1116855ce.pdf
5	WEF-Nexus	SDG2, SDG6 and SDG7.	T-T	Weitz, N., Nilsson, M., Davis, M., 2014. A Nexus Approach to the Post-2015 Agenda: Formulating Integrated Water, Energy and Food SDGs. Available at: https://www.oecd.org/pcd/Art%20Nexus%20SAIS%20weitz.pdf
6	UNECOSOC	All	G-T (for all SDGs except SDG17), G-G (SDG17)	Author(s) and publication date unknown. A Nexus Approach for the SDGs: Interlinkages between the goals and targets. Retrieved from the

Identification of the SDG interlinkages based on literature review (2)

Reference no.	Reference code	SDG coverage	Type of interlinkages/goal to goal (G-G), goal to target (G-T), target to goal (T-G) and target to target (T-T)	Source
				website of the United Nations Economic and Social Council: https://www.un.org/ecosoc/sites/www.un.org.ecosoc/files/files/en/2016/doc/interlinkages-sdgs.pdf
7	UNCTAD-Trade	Trade-related SDGs	T-T (trade-related targets link with each other)	United Nations Conference on Trade and Development (UNCTAD), 2016. Trading into Sustainable Development: Trade, Market Access, and the Sustainable Development Goals. Geneva: United Nations. Available at: http://unctad.org/en/PublicationsLibrary/ditctab2015d3_en.pdf
8	IOM-Migration	Migration-related SDGs	T-T (migration-related targets link with each other)	International Organization for Migration (IOM), publication date not known. 2030 Agenda for Sustainable Development. Available at: https://unofficeny.iom.int/2030-agenda-sustainable-development
9	Stakeholder Forum_1	All except for SDG17	G-G, T-G, T-T	Cutter, A., Osborn, D., Romano, J., Ullah, F., publication date unknown. Sustainable Development Goals and Integration: Achieving a better balance between the economic, social and environmental dimensions. Available at: http://www.stakeholderforum.org/fileadmin/files/Balancing%20the%20dimensions%20in%20the%20SDGs%20FINAL.pdf
10	Stakeholder Forum_SDG12	SDG12	T-T	Coopman, A., Osborn, D., Ullah, F., Auckland, E., Long, G., publication date unknown. See the Whole: Implementing the SDGs in an integrated and coherent way. A Research Pilot by Stakeholder Forum, Biregional and Newcastle University. Available at: http://www.stakeholderforum.org/fileadmin/files/SeeingTheWhole.ResearchPilotReportOnSDGsImplementation.pdf
11	ICSU-2017	SDGs 2, 3, 7, 14	G-G and T-T	ICSU, 2017. A guide to SDG interactions: From science To implementation. Available at: https://www.icsu.org/cms/2017/05/SDGs-Guide-to-Interactions.pdf .

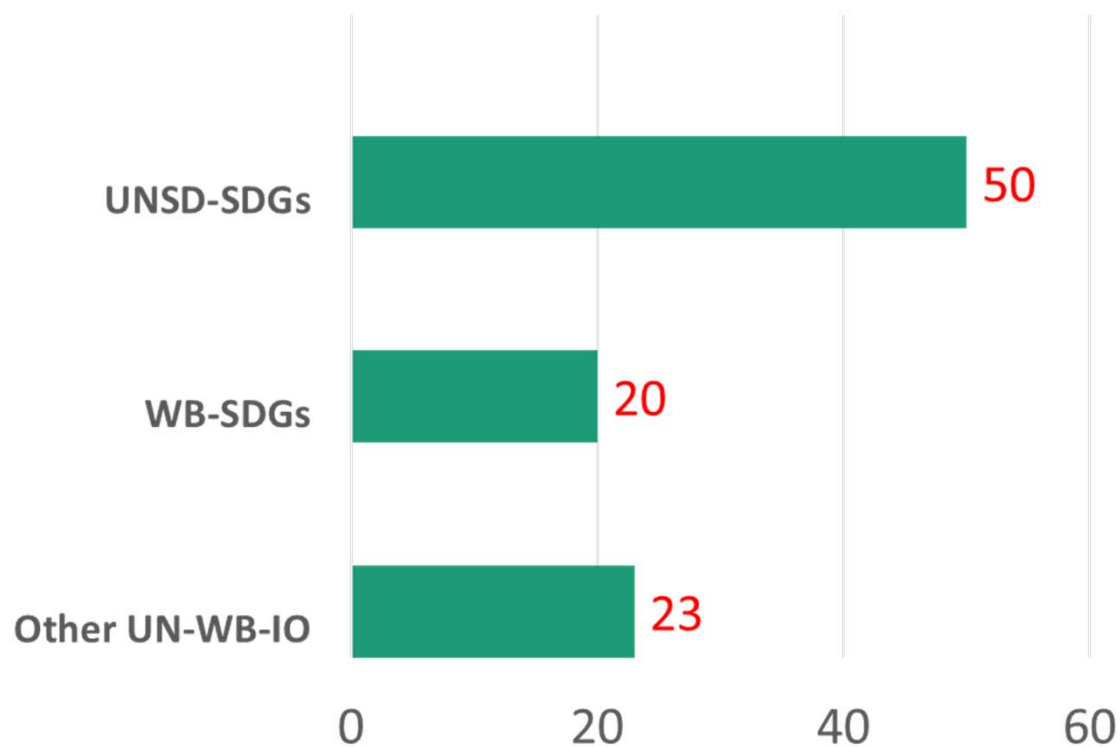
Source: Zhou and Moinuddin, 2017. IGES Research Report.

SDG indicators and data for the quantification of SDG interlinkages for countries

- 🌍 232 indicators of the Global Indicators Framework adopted by the UN General Assembly in July 2017 are used.
- 🌍 Identification of target-level indicators and data collection from major sources including:
 - UNSD SDG indicators database
 - World Bank SDG database
 - Other UN/World Bank databases
 - Other sources

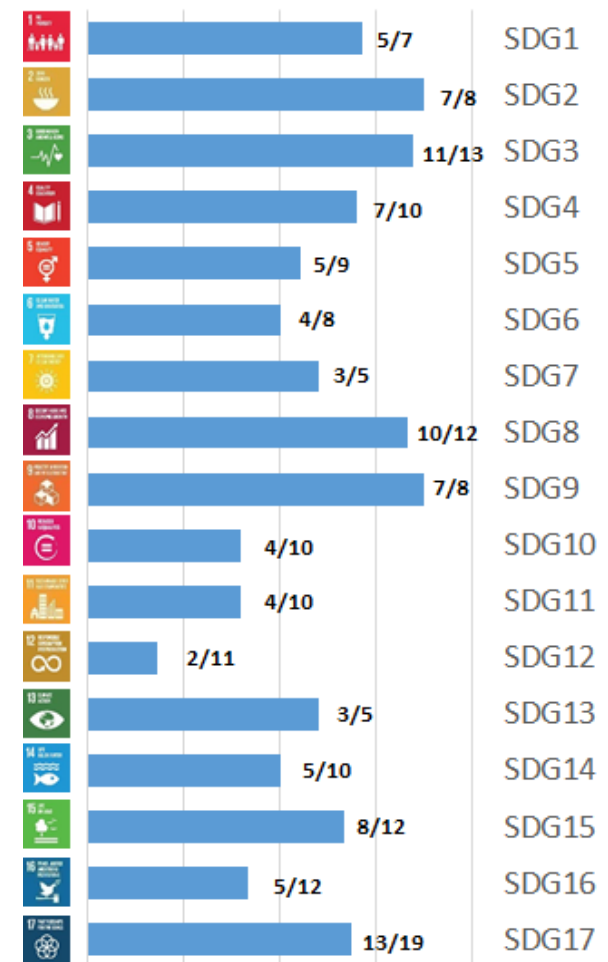
93 SDG indicators and data sources corresponding to 102 targets

Indicators and data source



Percentage of targets with indicator-level data

0% 25% 50% 75% 100%



IGES SDG Interlinkages Analysis & Visualisation Tool (V2.0)

(<https://sdginterlinkages.iges.jp/visualisationtool.html>)



SDG Interlinkages Analysis & Visualisation Tool (V2.0)



Home Project Methodology SDG Interlinkages and Data Visualisation Dashboards and Data Publications

Display Comparison

1 Bangladesh Visualisation Options Detailed Explanation Export Chart How To Use

2 Select all







4 Apply

3 Select SDG Targets & Indicators (See more)

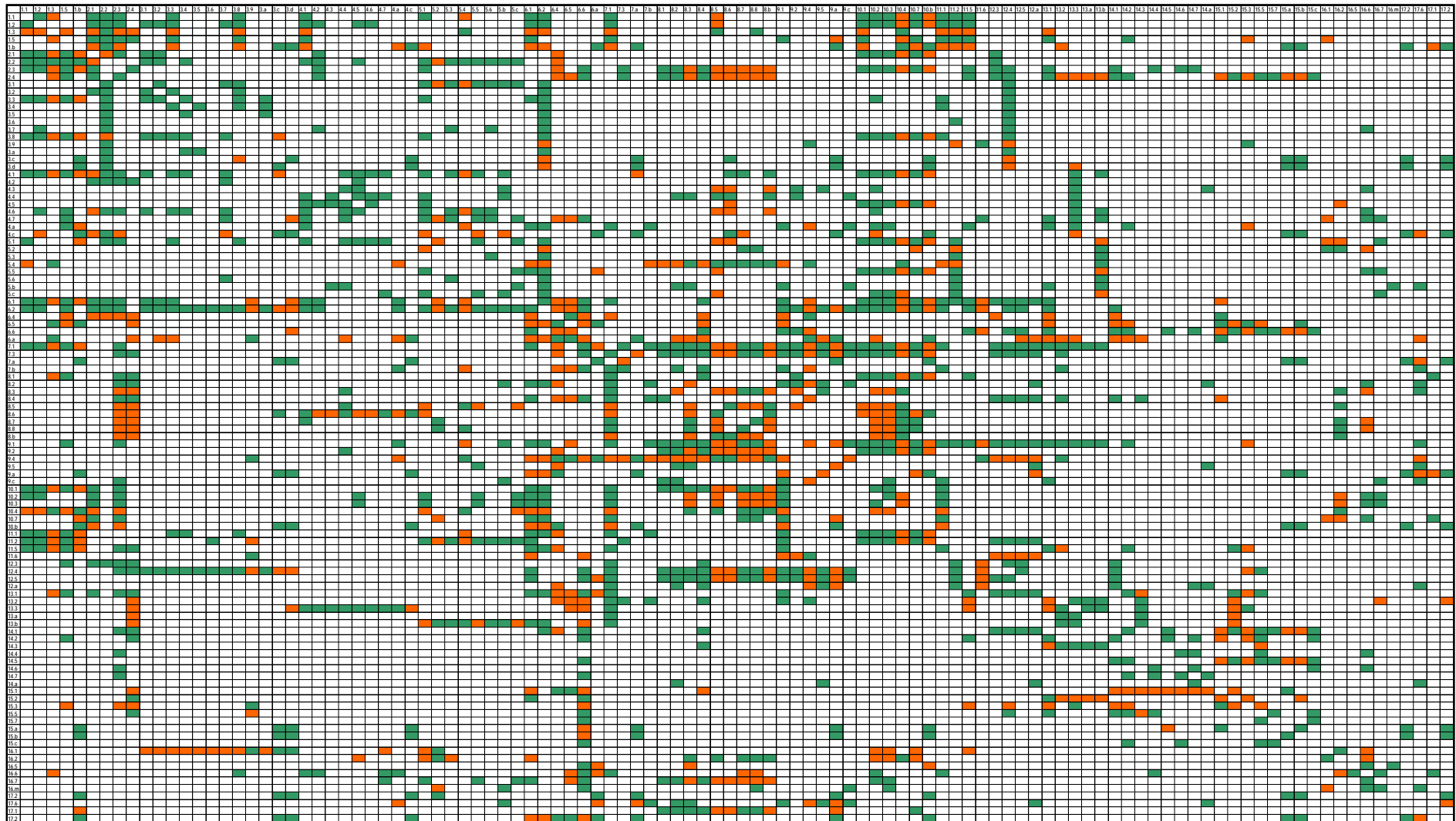
- Goal 1. No poverty
 - 1.1 End extreme poverty
 - Population below \$1.90 per day
 - 1.2 Halve national poverty
 - Population below national poverty line
 - 1.3 Implement social protection systems to the poor
 - Population covered by social insurance programs
 - 1.4 Full access to basic services and economic resources
 - Data not available.
 - 1.5 Build resilience of the poor to climate and other disasters
 - Losses from top ten natural disasters
 - 1.a Create pro-poor policy frameworks
 - Data not available.
 - 1.b Mobilize resources for ending poverty
 - Data not available.

Source: A screenshot taken from IGES SDG Interlinkages Analysis and Visualisation Web Tool.

Applications of the SDG Interlinkages Tool

-  UN ESCAP SDG Helpdesk Toolboxes
https://sdghelpdesk.unescap.org/toolboxes?field_sdgs_target_id=All&title=&page=2 .
-  United Nations Interagency Task Team on STI for the SDGs (IATT), STI Roadmaps related information
<https://sustainabledevelopment.un.org/TFM>
-  A case study for Bangladesh on national priority setting
-  Capacity building workshop in Indonesia, October, 2018
-  On-going projects: JICA's project on SDG interlinkages of Goals 9 & 11 in three African countries, KEI's project on the interlinkages between NDCs and SDGs, etc.
-  Applications to thematic issues
 - NDC-SDG interlinkages
 - Aichi Biodiversity Targets and SDG interlinkages
 - SCP and SDGs
 - SDG core indicators

Countries' dashboards indicating potential positive (green) and negative (red) linkages between SDG targets



Source: Zhou, et al. IGES SDG Interlinkages Analysis & Visualisation Web Tool (V2.0).

Bangladesh: Strategic targets identified by ranking various centrality metrics using the network analysis techniques

Target	Weighted indegree	Target	Weighted outdegree	Target	Weighted degree	Target	Closness centrality	Target	Betweenness centrality	Target	Eigen centrality	BGD
10. b	19. 59	17. 18	19. 04	6. 2	31. 60	17. 18	1	6. 2	623. 69001	2. 3	1	1. 2
2. 2	17. 12	1. 2	17. 46	1. 2	30. 73	2. 3	0. 624113	17. 18	609. 246702	7. 1	0. 844553	1. 3
2. 3	16. 57	6. 2	17. 26	10. b	30. 69	6. 2	0. 586667	2. 3	604. 024604	6. 1	0. 805111	2. 1
10. a	16. 36	3. b	14. 93	2. 3	30. 45	2. 4	0. 586667	12. 2	428. 36176	6. 2	0. 762825	2. 2
6. 2	14. 35	7. 1	14. 58	7. 1	27. 45	7. 1	0. 582781	17. 9	327. 649889	6. 4	0. 752795	2. 3
1. 3	13. 58	4. 1	14. 24	2. 2	27. 21	12. 2	0. 575163	6. 1	298. 655872	2. 1	0. 750612	3. 3
1. 2	13. 27	2. 3	13. 89	10. a	26. 86	7. 2	0. 567742	2. 4	295. 356565	10. b	0. 683297	3. b
7. 1	12. 88	1. 3	12. 46	3. b	26. 81	7. 3	0. 567742	10. b	264. 534633	1. 5	0. 673346	6. 1
3. 2	12. 82	6. 1	11. 83	1. 3	26. 03	6. a	0. 567742	8. 1	257. 201103	2. 2	0. 650799	6. 2
2. 1	12. 70	1. 1	11. 55	1. 1	22. 92	6. 1	0. 556962	8. 6	230. 643403	10. a	0. 650087	7. 1
3. 1	12. 65	3. c	11. 33	2. 1	22. 16	17. 9	0. 556962	7. 1	221. 215251	3. 3	0. 647894	7. 2
3. 3	12. 60	10. b	11. 10	6. 1	22. 07	9. 4	0. 55	2. a	217. 662124	2. 4	0. 637307	10. a
3. b	11. 89	7. 3	10. 98	4. 1	22. 00	8. 4	0. 533333	6. 4	204. 881425	8. 5	0. 60703	10. b
11. 1	11. 64	3. 8	10. 84	3. 3	21. 14	1. 2	0. 526946	10. a	201. 105326	13. 1	0. 571122	17. 9
1. 1	11. 38	10. a	10. 50	3. 8	20. 82	4. 1	0. 526946	2. 2	189. 420702	1. 3	0. 558995	17. 18
6. 1	10. 24	7. 2	10. 34	11. 1	20. 80	2. a	0. 526946	9. a	180. 65549	7. 2	0. 544314	
8. 5	10. 16	2. 2	10. 09	3. 1	19. 92	8. 7	0. 526946	3. b	169. 765616	12. 2	0. 51755	
3. 8	9. 98	17. 9	9. 58	3. c	19. 56	3. b	0. 52071	3. c	166. 967063	8. 6	0. 511381	
3. 7	9. 59	2. 1	9. 46	17. 18	19. 16	9. a	0. 52071	2. 5	154. 111054	9. a	0. 509964	
17. 9	9. 32	11. 1	9. 16	17. 9	18. 90	2. 5	0. 52071	2. 1	151. 926279	1. 2	0. 505594	

Japan: Strategic targets identified by ranking various centrality metrics using the network analysis techniques

Target	Weighted in-degree	Target	Weighted out-degree	Target	Weighted degree	Target	Closness centrality	Target	Betweenness centrality	Target	Eigen centrality	JPN
8.6	11.87	2.3	10.11	8.5	20.35	2.3	0.634409	2.3	489.323121	2.3	1	2.3
8.5	11.85	8.5	8.49	6.4	18.93	7.3	0.608247	8.6	289.633922	2.4	0.957	2.5
6.4	11.54	12.2	8.15	2.3	18.89	7.2	0.584158	8.1	253.48303	6.4	0.820291	3.1
8.2	9.75	8.2	8.09	8.6	18.74	2.4	0.578431	2.4	225.359306	7.2	0.774528	3.4
2.3	8.78	7.3	7.91	8.2	17.85	9.4	0.536364	6.4	210.71796	12.2	0.723708	6.4
8.1	7.89	6.4	7.38	12.2	14.26	8.1	0.526786	1.5	182.130894	13.1	0.696905	7.2
9.5	7.22	17.6	7.01	17.6	14.03	8.6	0.513043	8.5	177.851512	8.4	0.667975	7.3
8.10	7.06	8.6	6.87	8.1	12.44	13.3	0.508621	7.3	176.348277	8.1	0.622414	8.1
17.6	7.01	16.1	6.61	9.5	11.63	13.1	0.504274	7.2	163.135006	8.5	0.595516	8.2
8.4	6.98	14.7	5.37	12.a	11.52	4.1	0.504274	12.2	144.405721	1.5	0.581676	8.4
12.a	6.46	7.2	5.13	14.7	11.26	6.4	0.5	8.2	141.516215	7.3	0.570036	8.5
3.2	6.29	12.a	5.07	8.10	10.65	8.2	0.5	3.c	132.513082	8.2	0.551005	8.6
12.2	6.11	3.c	5.04	8.4	10.64	13.2	0.5	13.3	128.435813	8.6	0.544513	12.2
14.7	5.89	3.1	5.02	3.1	10.27	2.5	0.495798	10.a	120.551337	12.a	0.516091	12.a
17.8	5.68	8.1	4.55	7.3	10.00	8.5	0.491667	2.5	113.715116	9.4	0.510197	14.6
15.5	5.33	2.5	4.45	2.5	9.74	12.2	0.491667	9.4	98.967866	15.3	0.488649	
2.5	5.29	9.5	4.41	3.2	9.08	1.5	0.483607	3.4	98.532405	2.5	0.457346	
3.1	5.25	14.6	4.13	3.4	9.02	15.3	0.483607	3.1	96.892115	14.4	0.452486	
3.4	5.21	4.3	3.87	17.8	8.85	8.4	0.479675	14.6	78.493075	13.2	0.44933	
9.c	4.86	3.4	3.81	14.6	8.79	9.2	0.479675	3.8	78.384982	10.a	0.447141	

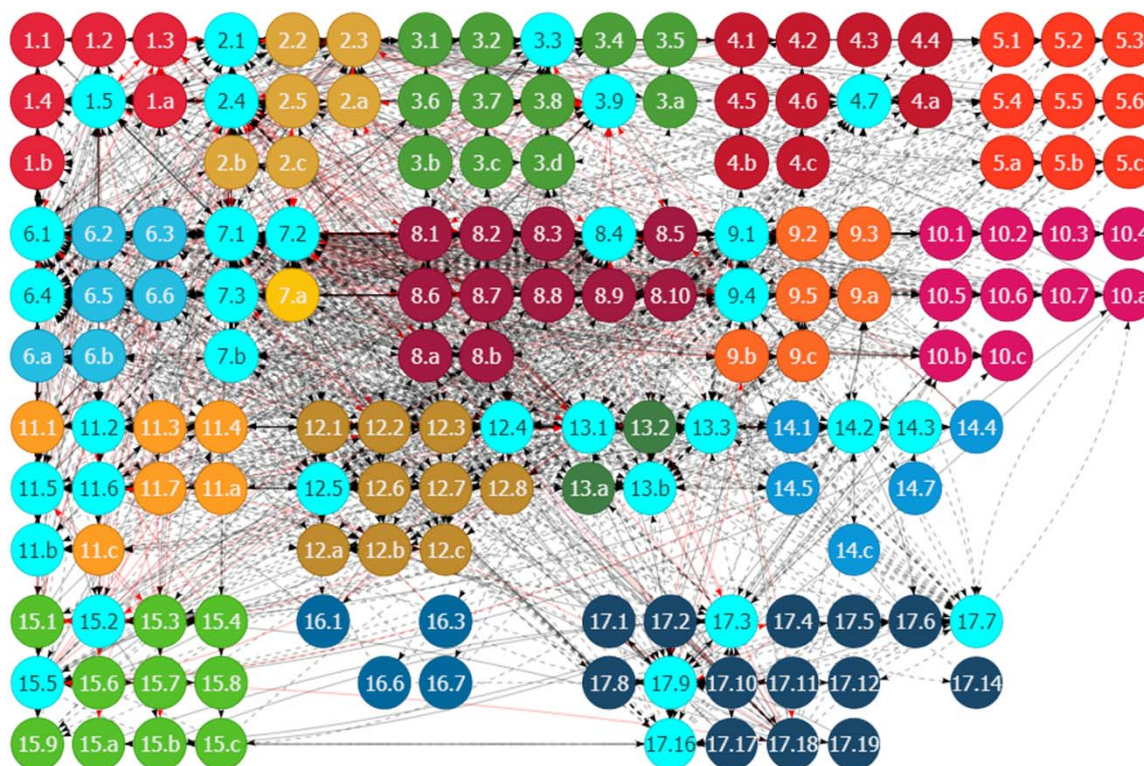
Applications to the NDC-SDG interlinkages analysis: Interlinkages between NDC climate actions and the SDGs for Bangladesh

Alignment of NDC climate actions and SDGs for Bangladesh



Source: Compiled based on ClimateWatch (WRI)

NDC-aligned targets and the interlinkages with other SDG targets for Bangladesh



Source: IGES SDG Interlinkages Web Tool.

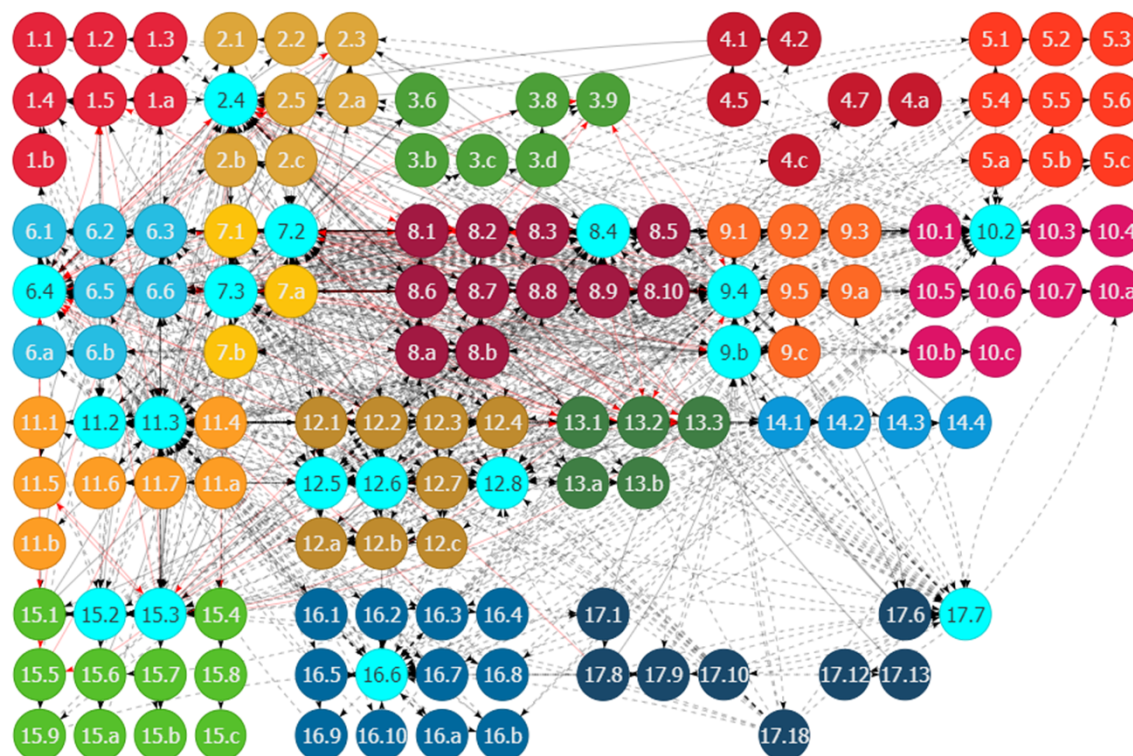
Applications to the NDC-SDG interlinkages analysis: Interlinkages between NDC climate actions and the SDGs for Japan

Alignment of NDC climate actions and SDGs for Japan



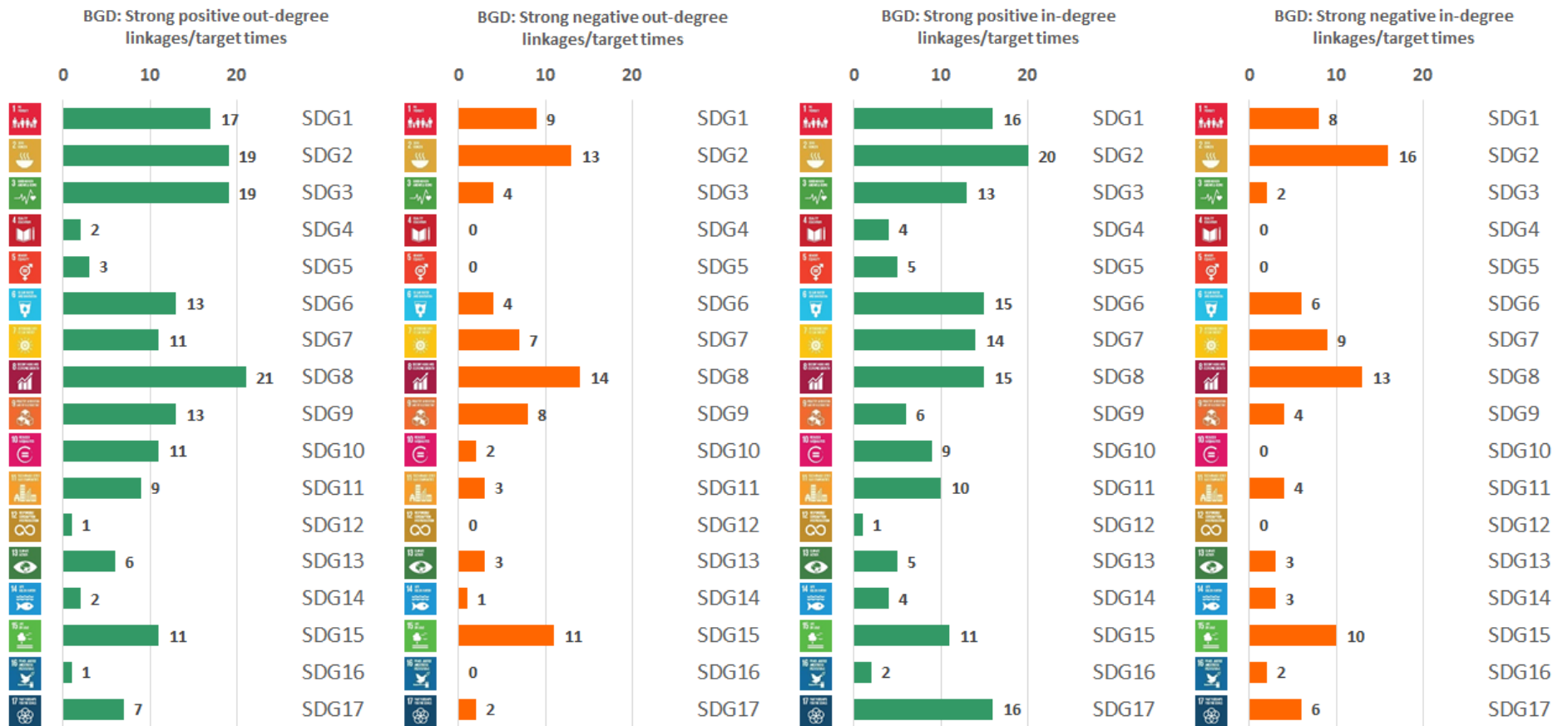
Source: Compiled based on ClimateWatch (WRI)

NDC-aligned targets and the interlinkages with other SDG targets for Japan

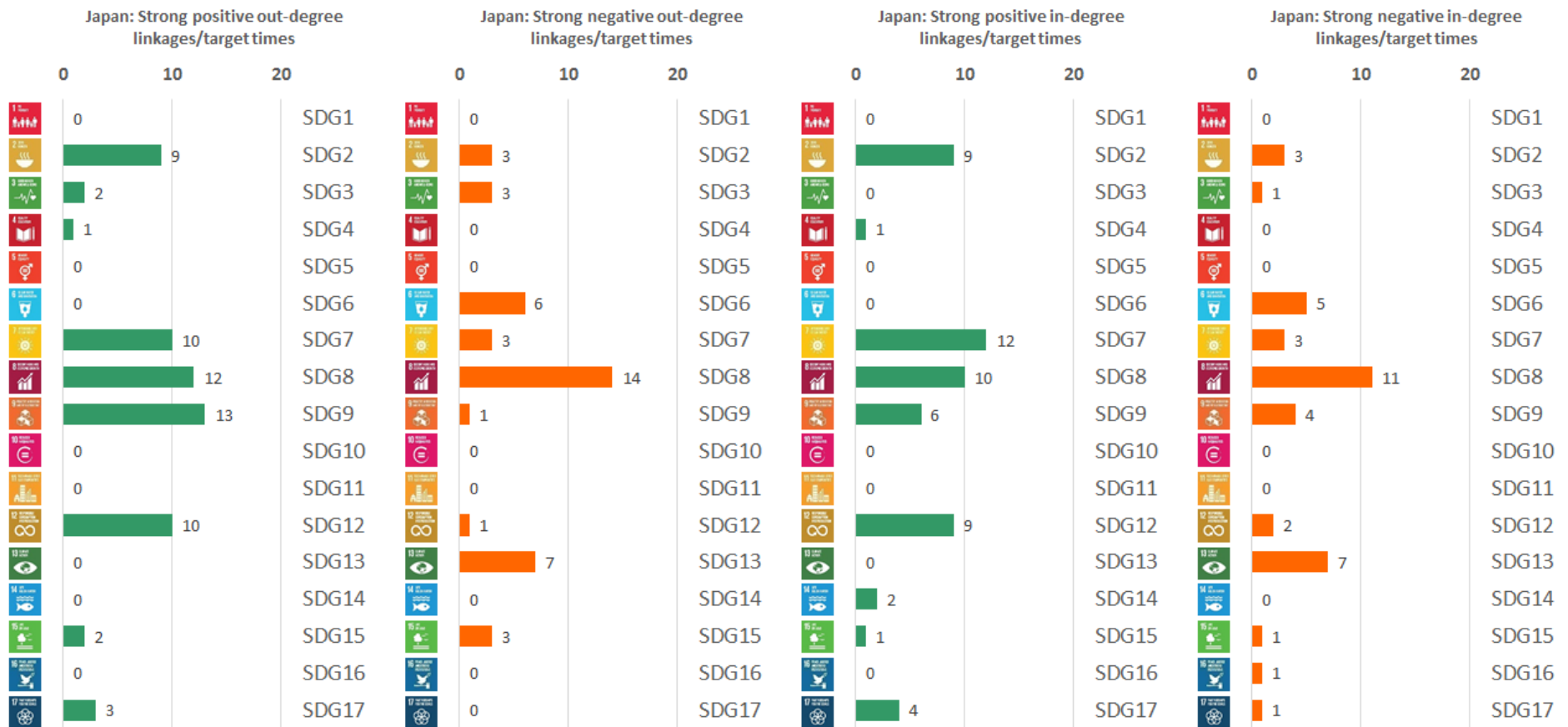


Source: IGES SDG Interlinkages Web Tool.

Bangladesh: Major synergies and trade-offs in the NDC-SDG interlinkages



Japan: Major synergies and trade-offs in the NDC-SDG interlinkages

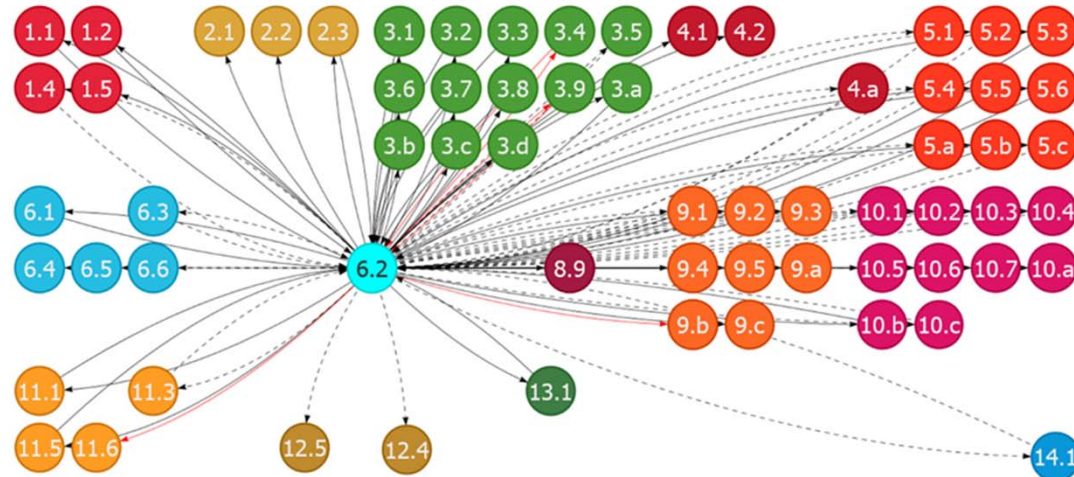


Priority setting based on the key targets for Bangladesh

Targets that are identified by both GIU-PMO and IGES

<p>1.1 End extreme poverty 1.2 Halve national poverty 2.2 End malnutrition 2.4 Build sustainable food production systems 6.1 Universal access to safe drinking water 6.2 Universal access to sanitation and hygiene</p>		<p>7.1 Universal access to energy 7.2 Increase renewable energy 8.1 Sustain inclusive economic growth 8.5 Decent work for all 13.1 Strengthen resilience to climate change</p>	
GIU-PMO only		IGES recommendations only	
<p>3.2 End preventable young children deaths 3.6 Halve traffic deaths 4.4 Increase skilled workers for decent jobs 4.a Improve education facilities 5.3 Eliminate forced marriage 5.5 Enhance women's participation in decision-making 8.6 Improve youth employment 9.1 Develop resilient infrastructure 9.2 Promote inclusive and sustainable industrialization 9.c Universal and affordable access to ICT 10.1 Income growth of bottom 40% population</p>	<p>10.7 Improve equality of migrants 11.2 Universal access to sustainable transport system 12.5 Reduce waste generation 14.5 Conserve 10 per cent of coastal areas 15.1 Sustainable use of terrestrial and inland freshwater 15.3 Combat desertification and soil degradation 16.9 Provide legal identity to all 16.a Capacity building for preventing violence and terrorism 17.1 Capacity building for tax collection in developing countries 17.8 Enhance ICT in LDCs</p>	<p>1.3 Implement social protection systems to the poor 1.5 Build resilience of the poor to climate and other disasters 2.1 End hunger 2.3 Double agriculture productivity 2.5 Maintain agricultural genetic diversity 3.3 End epidemics of diseases 3.8 Universal health coverage 3.b Access to essential medicines 5.1 End gender discrimination 9.a Enhance international aid to build resilient infrastructure 10.a Special trade treatment for LDCs</p>	<p>10.b Encourage ODA to LDCs 11.1 Universal access to urban housing and basic services 12.2 Sustainable resource use 17.9 International support for sustainable development 17.18 Capacity building for developing countries in</p>


Institutional arrangements through SDG interlinkages for Bangladesh: An example of Goal 6



Target 6.2 on sanitation and hygiene

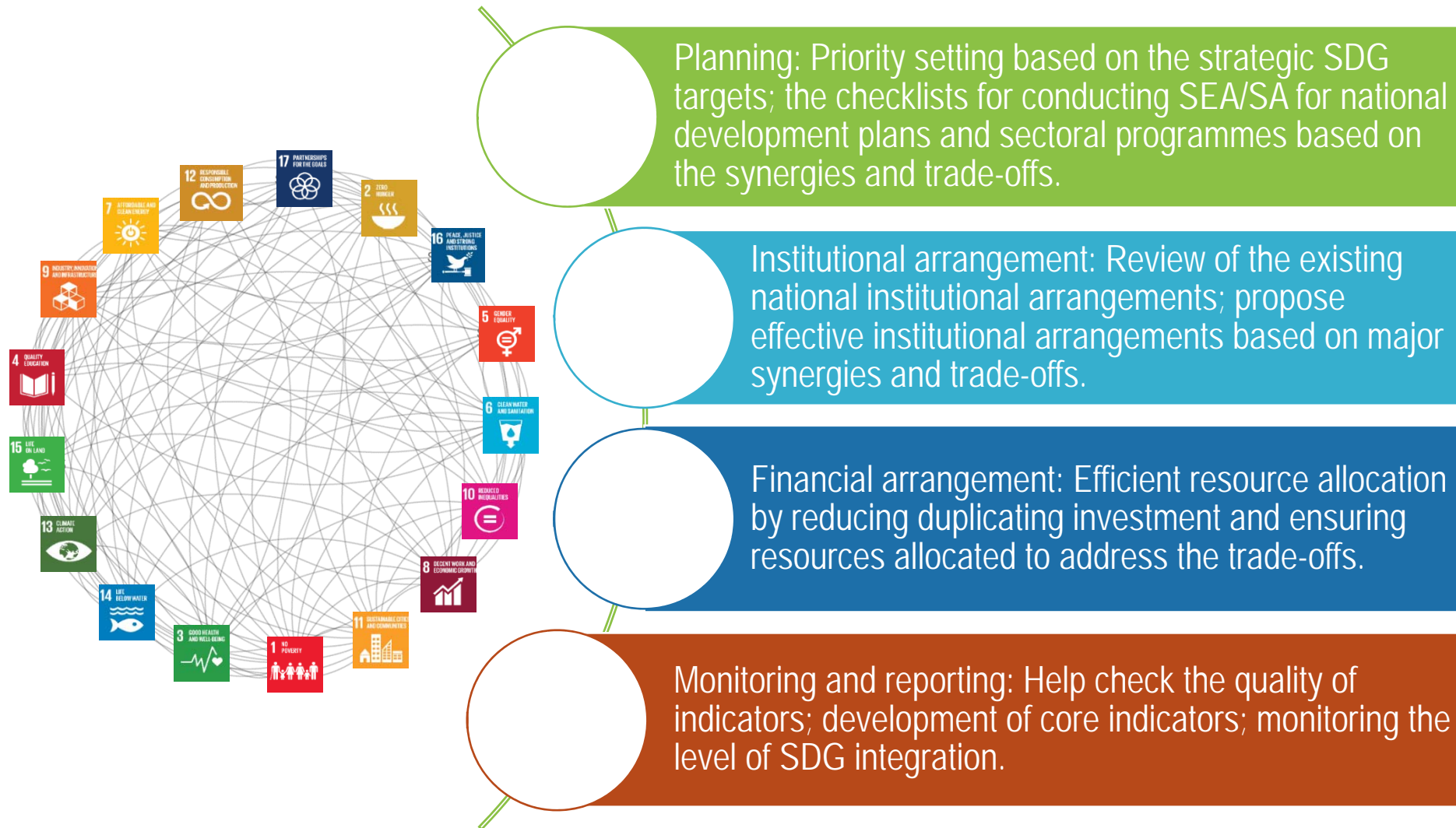
- 🌐 Mostly linked with social goals, some environmental goals and a few economic ones.
- 🌐 Strong influence on Goal 3 on Good health and well-being
- 🌐 Reinforce poverty reduction and fight against hunger
- 🌐 Critical connection Goal 5 on gender equality
- 🌐 Strongly linked with social inclusiveness

Recommendation for institutional arrangement for Bangladesh: A case for Target 6.2

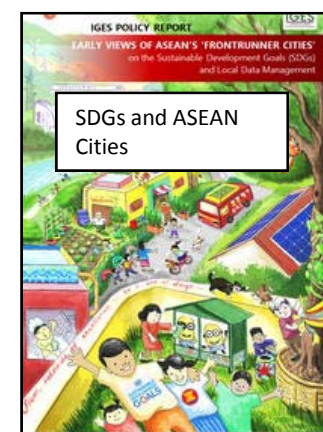
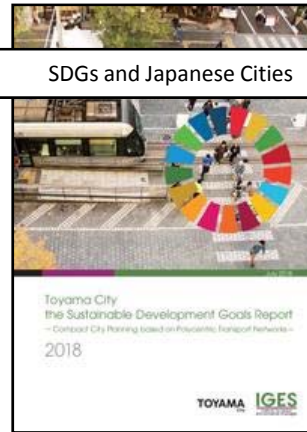
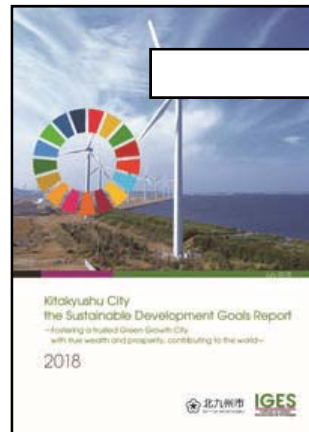
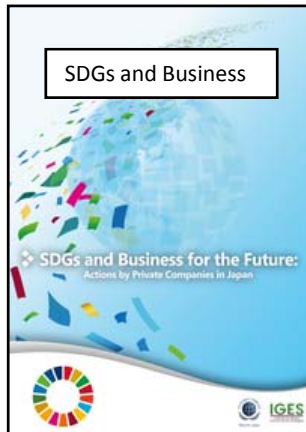
-  Appropriate institutional arrangements is important to practise integrated policy-making which will help strengthen the synergies and address the trade-offs.

Lead/Co-Lead	Associates	
Lead: LGD	<i>Ministries and divisions that are identified by both GED and IGES</i>	
	MoE; MoEF; MoF; MoHFW; MoPME; MoWCA; SID	
	<i>Additional provided by GED</i>	<i>Additional recommended by IGES</i>
	MoInf; PMO	<p><u>Strong links</u> CD; ERD; GED; ICTD; MoA; MoC; MoFL; MoInd; MoLE; MoST; MoTJ; PTD; RTHD</p> <p><u>Weak links</u> FD; LJD; MoCA; MoCAT; MoDMR; MoEWOE; MoFA; MoHA; MoHPW; MoSW; MoWR; RDCD</p>

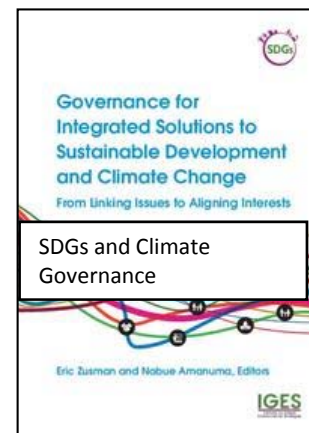
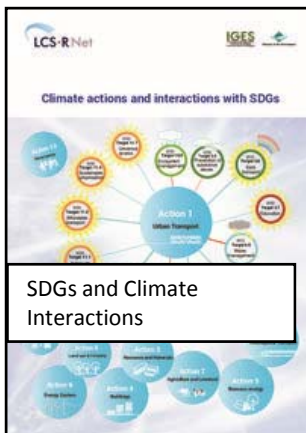
Applications of the SDG interlinkages tool for SDG integration at different stages of the policy cycle



Other IGES works on SDGs

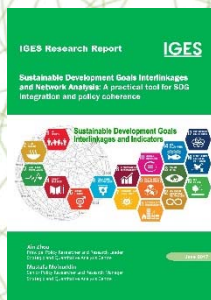


Please visit <https://www.iges.or.jp/en/sdgs/index.html> for other works on the SDGs

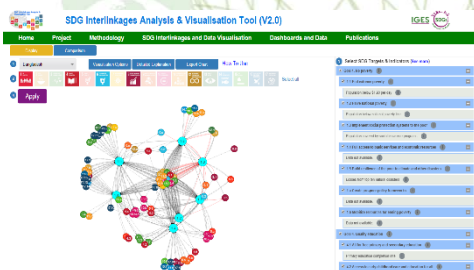


Thank you!

Contact: zhou@iges.or.jp



Zhou, X., Moinuddin, M., 2017. Sustainable Development Goals Interlinkages and Network Analysis: A practical tool for SDG integration and policy coherence. IGES Research Report. Hayama: IGES. Available at: https://sdginterlinkages.iges.jp/files/IGES_Research%20Report_SDG%20Interlinkages_Publication.pdf.



Zhou, X., Moinuddin, M., Li, Y., 2017. SDG Interlinkages and Data Visualisation Web Tool. Hayama: IGES. Available at: <https://sdginterlinkages.iges.jp/visualisationtool.html>.