

# Sustainable Development Goals (SDG) Interlinkages Analysis and Visualisation

*A practical tool supporting SDG integration and  
policy coherence*

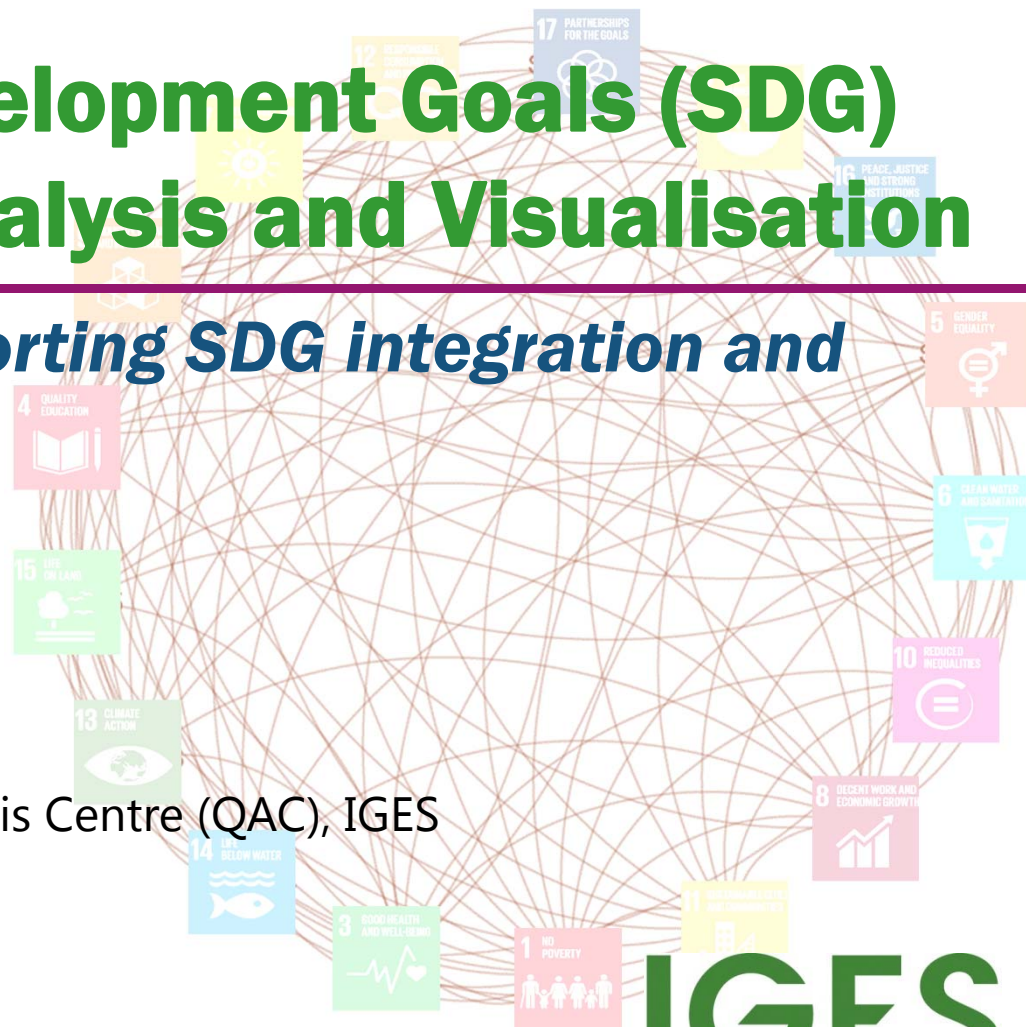
**Dr. Xin Zhou**

Research Leader


Strategic and Quantitative Analysis Centre (QAC), IGES

***Regional Knowledge Sharing Workshop, organised by ADB, UN  
Environment and ESCAP, 21-22 February 2018, UNCC, Bangkok***

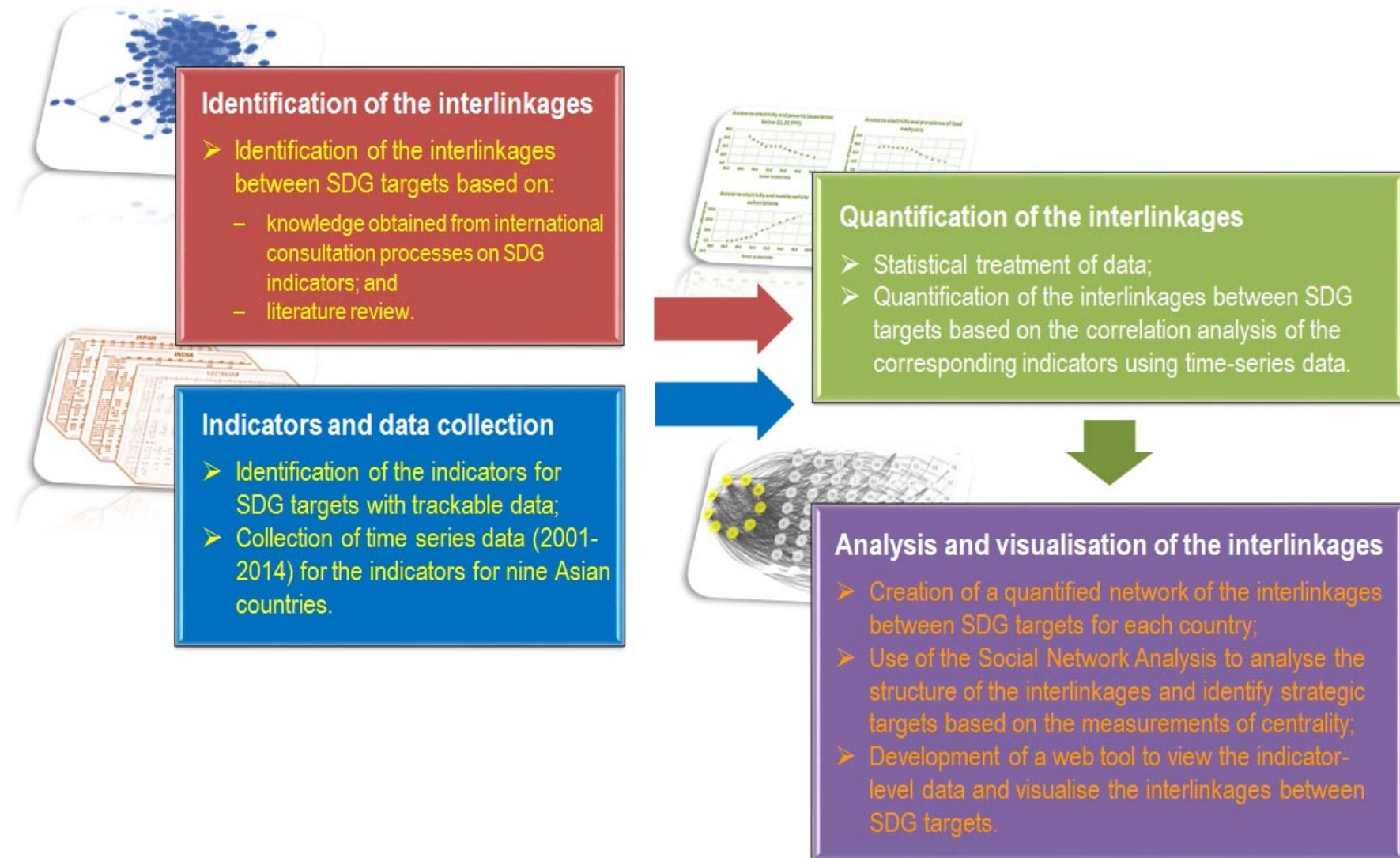
**IGES**  
Institute for Global  
Environmental Strategies



# ***Importance of SDG interlinkages analysis and existing knowledge gaps for SDG integration***

- 
- 17 SDGs and 169 targets inherently connect with each other forming an indivisible network for delivering sustainability from a systemic perspective.
  - SDG integration has been highly recognised through out the negotiation process of SDGs formation as well as in the planning and reporting processes.
  - Understanding the interlinkages within and between SDGs is important for SDG integration to address critical issues such as:
    - *How will achieving one target impact on achieving other targets?*
    - *How strong are the impacts?*
    - *Where are the areas of SDG synergies or trade-offs?*
    - *How countries are different in terms of SDG interlinkages, etc.*

# IGES' innovative and practical tool on SDG interlinkages analysis and visualisation





# IGES SDG Interlinkages and Data Visualisation Web Tool

## Version 1.0 (free access at <https://sdginterlinkages.iges.jp/>)

**User can select a country from here.**

**User can select Goals from here.**

**User can select Targets from here.**

**Economic targets**

**Social targets**

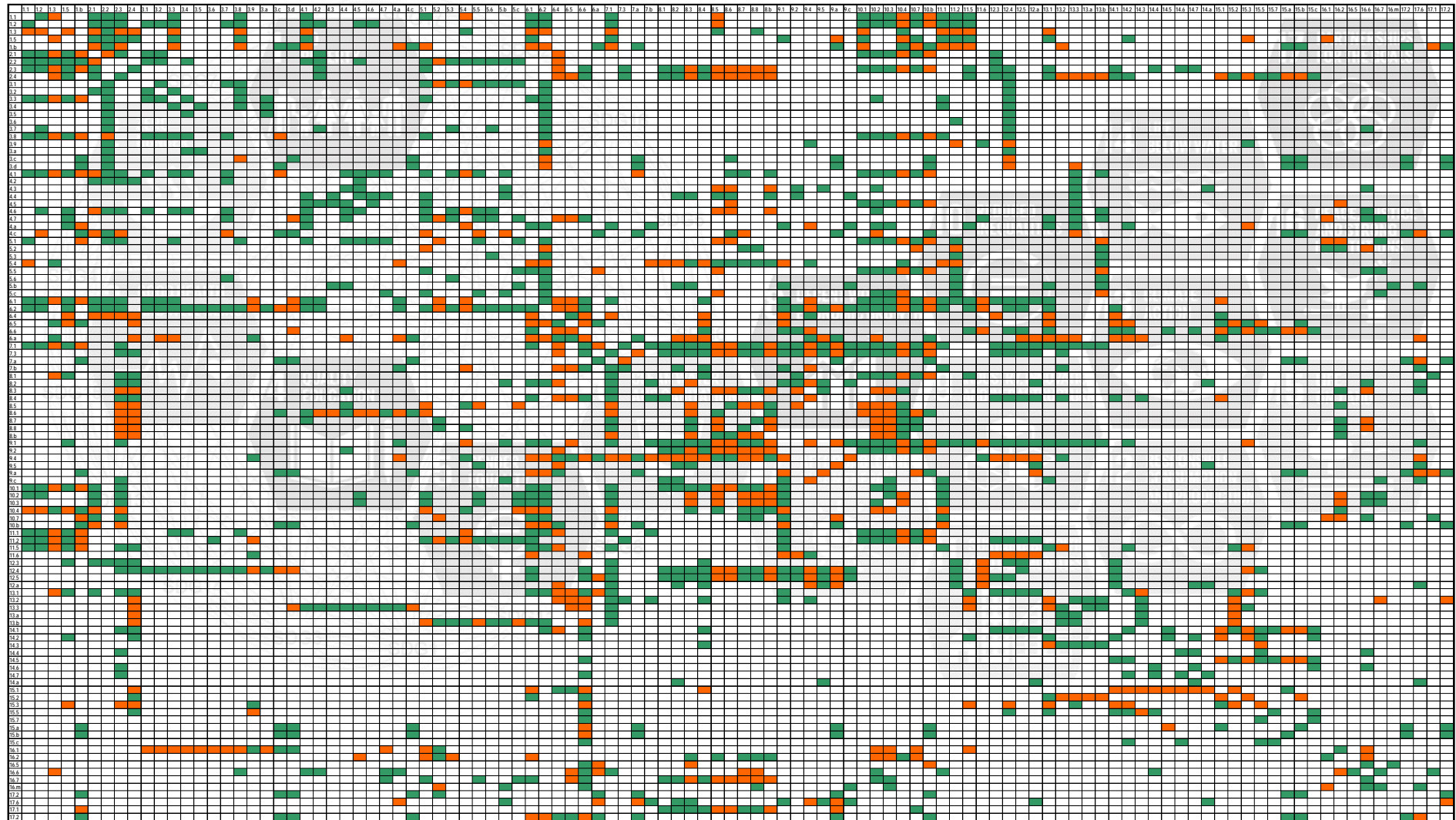
**Means of implementation**

**Other environmental targets**

Note: i) Each node represents one SDG Target, e.g. Target 1.1, with yellow ones indicating the selected target.  
ii) Each line with an arrow linking two nodes represents a directional/causal link between two Targets, e.g. from Target 1.1 to Target 1.2. The value over the line (by putting the cursor on the line) indicates the strength of the linear relationship between the pair of targets.  
iii) A line in black represents a positive link and a line in red represents a negative link.

Source: A snapshot taken from IGES SDG Interlinkages and Data Visualisation Web Tool for Japan.

# Country-specific dashboards indicating potential reinforcing (green) and conflicting (red) linkages



Bangladesh

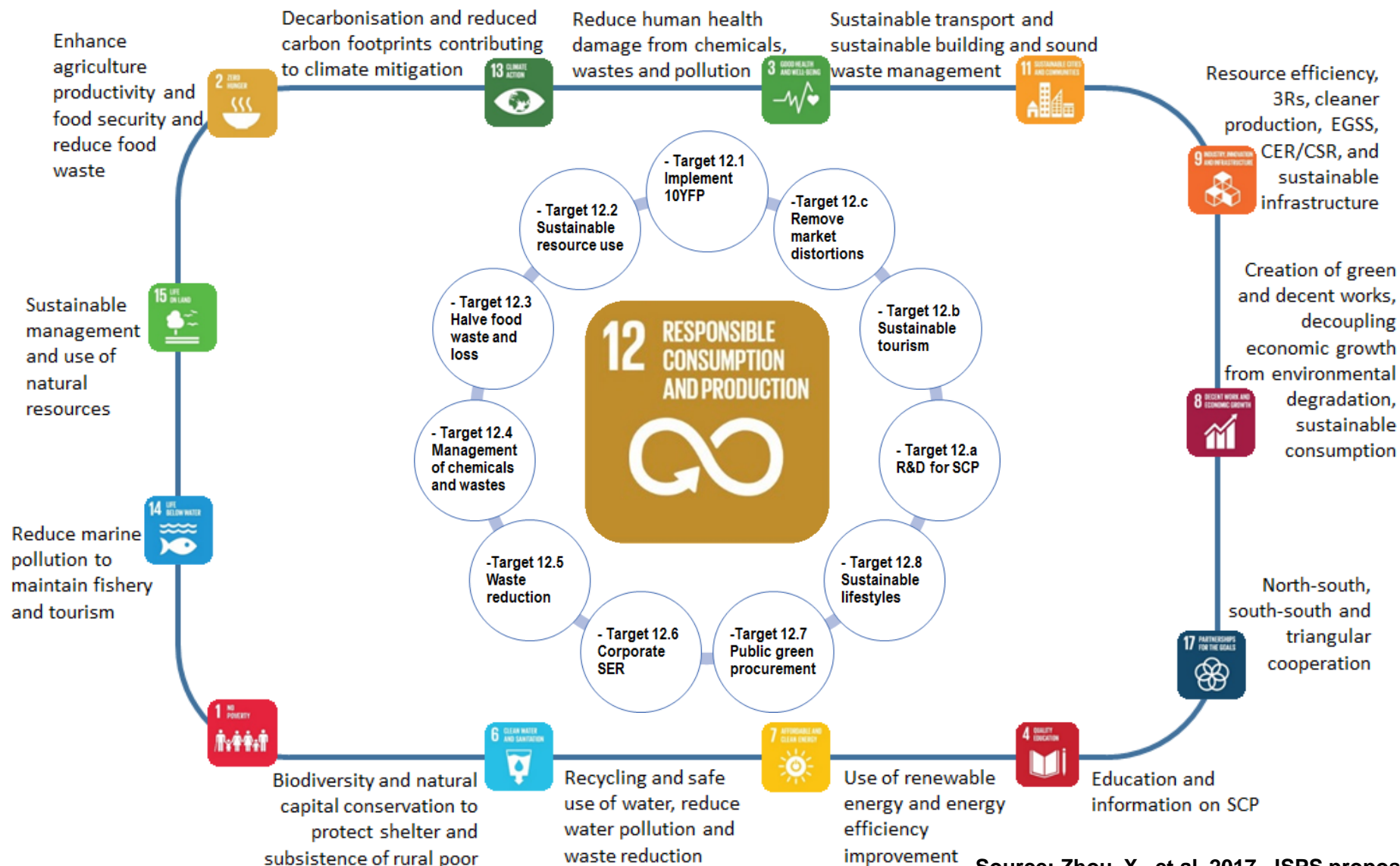
## Using Social Network Analysis techniques, ranking various centrality metrics help identify strategic SDG targets

Rank	In-degree	Out-degree	Degree	Closeness	Eigenvector	Betweenness
1	6.2	6.2	6.2	15.7	2.3	6.2
2	2.3	9.1	7.1	15.c	7.1	12.4
3	6.1	7.1	6.1	14.a	6.1	2.3
4	7.1	6.1	2.3	14.5	10.2	6.6
5	10.2	12.4	9.1	14.6	10.4	2.4
6	6.6	2.4	12.4	14.4	6.2	7.1
7	10.3	2.3	2.4	14.7	10.3	6.1
8	10.4	4.1	6.6	14.3	9.1	9.1
9	8.5	6.a	10.2	5.3	8.5	16.6
10	10.b	7.3	1.b	9.5	10.7	1.b
11	2.4	9.4	5.1	5.6	1.5	13.3
12	9.1	1.b	10.4	15.b	8.3	11.2
13	12.4	5.1	10.3	13.a	2.1	2.2
14	8.3	11.2	4.1	3.a	8.7	5.1
15	10.7	1.2	9.4	3.5	8.8	8.6
16	1.b	6.6	8.5	3.6	2.4	6.a
17	6.4	12.5	11.2	3.2	10.b	8.2
18	2.2	4.c	2.2	14.2	6.4	5.b
19	5.1	4.6	1.5	3.4	8.b	10.b
20	1.5	10.2	10.b	15.5	11.1	13.b

Source: Zhou & Moinuddin, 2017. IGES Research Report No. RR1602.

[https://sdginterlinkages.iges.jp/files/IGES\\_Research%20Report\\_SDG%20Interlinkages\\_Publication.pdf](https://sdginterlinkages.iges.jp/files/IGES_Research%20Report_SDG%20Interlinkages_Publication.pdf)

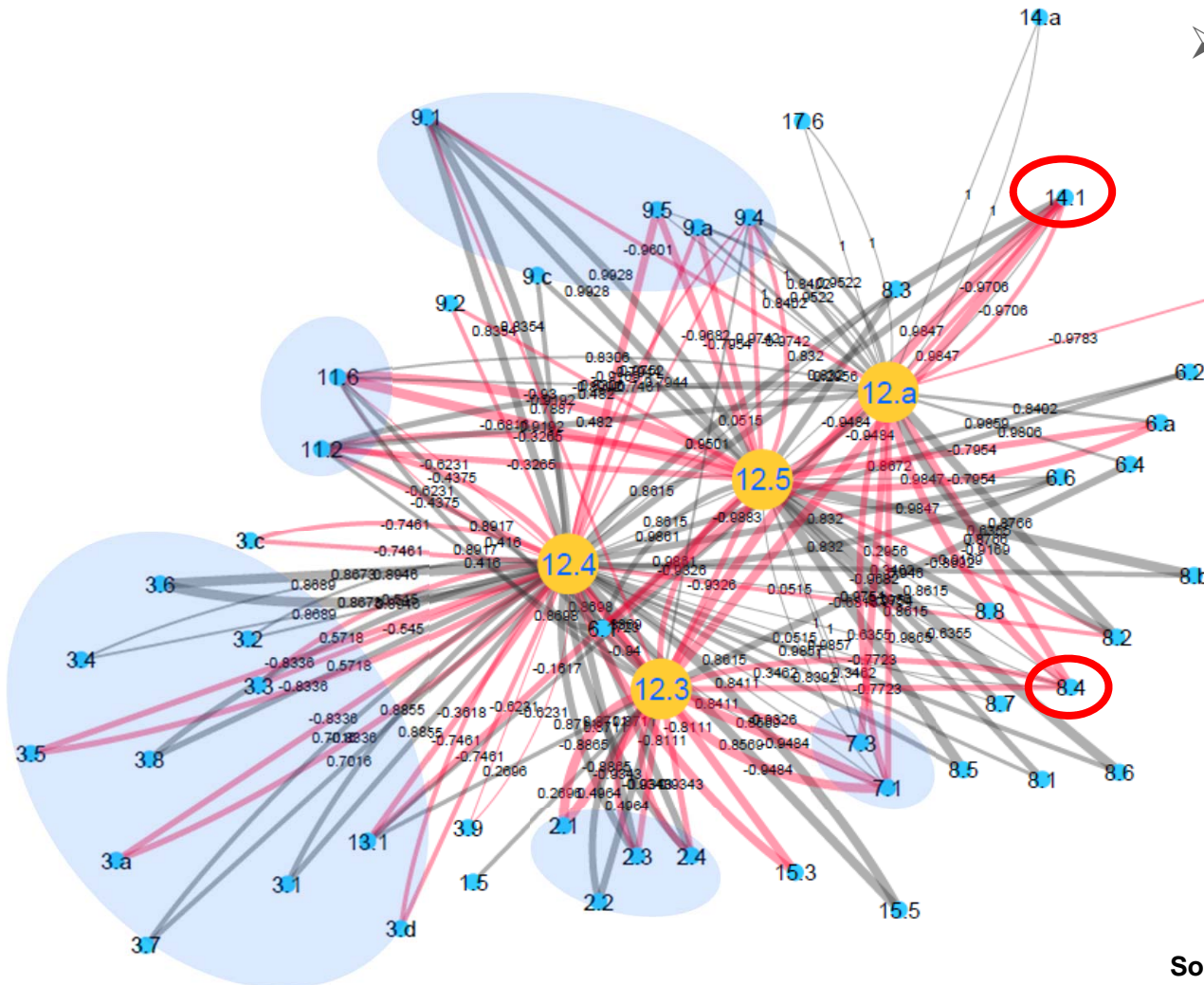
# A conceptual framework of Goal 12 as an overarching theme links extensively with other goals and targets



Source: Zhou, X., et al. 2017. JSPS proposal.



## Features of the quantified SCP interlinkages with other SDG targets: An example in Indonesia



➤ **Major existing conflicts**

- Goal 2 Zero hunger
- Goal 3 Health and well-being
- 4.7 ○ Goal 7 Affordable and clean energy
- Goal 9 Industrial, innovation and infrastructure
- Goal 11 Sustainable cities
- 8.4 Improve resource efficiency
- 14.1 Reduce marine pollution

**Source: Zhou, X., et al. 2017. JSPS proposal.**

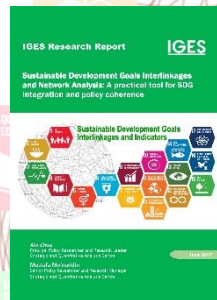


# Applications of the tool for SDG integration

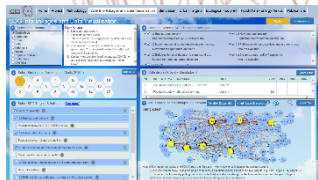


# Thank you!

Contact: [zhou@iges.or.jp](mailto: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](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>.