

Green Economy in the Context of Sustainable Development and Poverty Eradication

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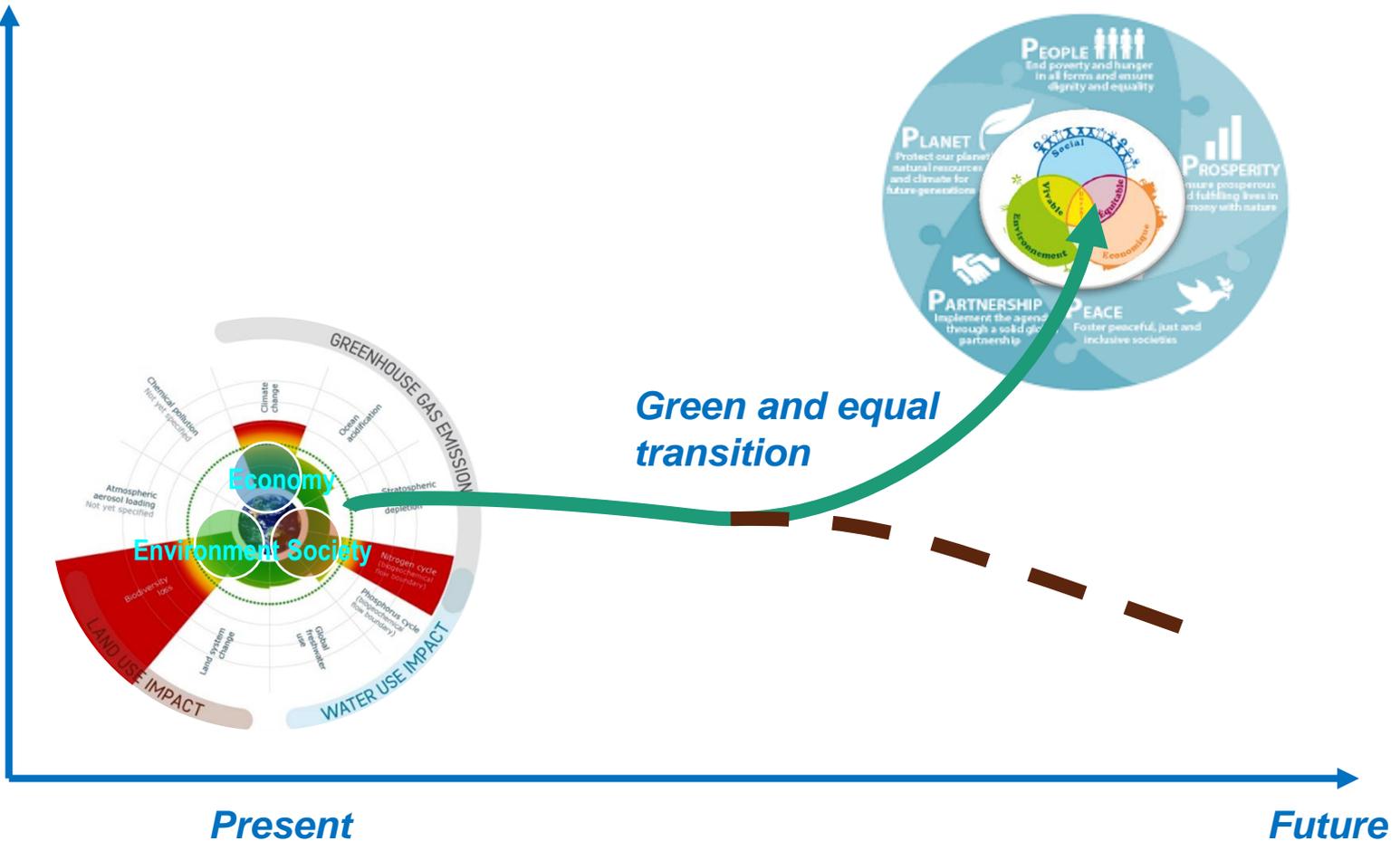
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Green and equal transition towards sustainable development

Sustainability



The SDGs with 17 Goals and 169 Targets forms an integrated framework leading the way ahead for delivering sustainability by 2030.



Green economy in the context of sustainable development and poverty eradication



A green economy is one that results in *improved human well-being and poverty eradication*, while significantly reducing *environmental damages and ecological scarcities*. In a green economy, *growth in industry, income and employment is driven by green investment* that reduce carbon emissions and pollution, enhance energy and resource efficiency and prevent the loss of biodiversity and ecosystem services.

Importance of understanding SDG interlinkages for breaking the silos and for SDG integration

- 17 SDGs and 169 targets inherently connect with each other forming an indivisible network of interlinkages 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 (VNRs).
- 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 developed a practical tool on SDG interlinkages analysis and visualisation

Identification of the interlinkages

- Identification of the interlinkages between SDG targets based on:
 - knowledge obtained from international consultation processes on SDG indicators; and
 - literature review.

Indicators and data collection

- Identification of the indicators for SDG targets with trackable data;
- Collection of time series data (2001-2014) for the indicators for nine Asian countries.

Quantification of the interlinkages

- Statistical treatment of data;
- Quantification of the interlinkages between SDG targets based on the correlation analysis of the corresponding indicators using time-series data.

Analysis and visualisation of the interlinkages

- Creation of a quantified network of the interlinkages between SDG targets for each country;
- Use of the Social Network Analysis to analyse the structure of the interlinkages and identify strategic targets based on the measurements of centrality;
- Development of a web tool to view the indicator-level data and visualise the interlinkages between SDG targets.

IGES SDG Interlinkages and Data Visualisation Web Tool Version 1.0 (free access at <https://sdginterlinkages.iges.jp/>)

1 Select One Country

User can select a country from here.

2 Select Sustainable Development Goals (SDGs)

User can select Goals from here.

3 Select SDG Targets & Indicators

User can select Targets from here.

4 For example, here we selected Japan, Goal 13 on climate action and Target 13.2 on integrating climate change measures into national policies. Target 13.2 has potential synergies with many targets of Goal 7 (energy) and other targets under Goal 13 but possible trade-offs with some targets of Goal 8 (jobs and growth), Goal 9 (Industry and infrastructure) and Goal 6 (water and sanitation).

6 Visualisation of interlinkages in a network

Economic targets

Social targets

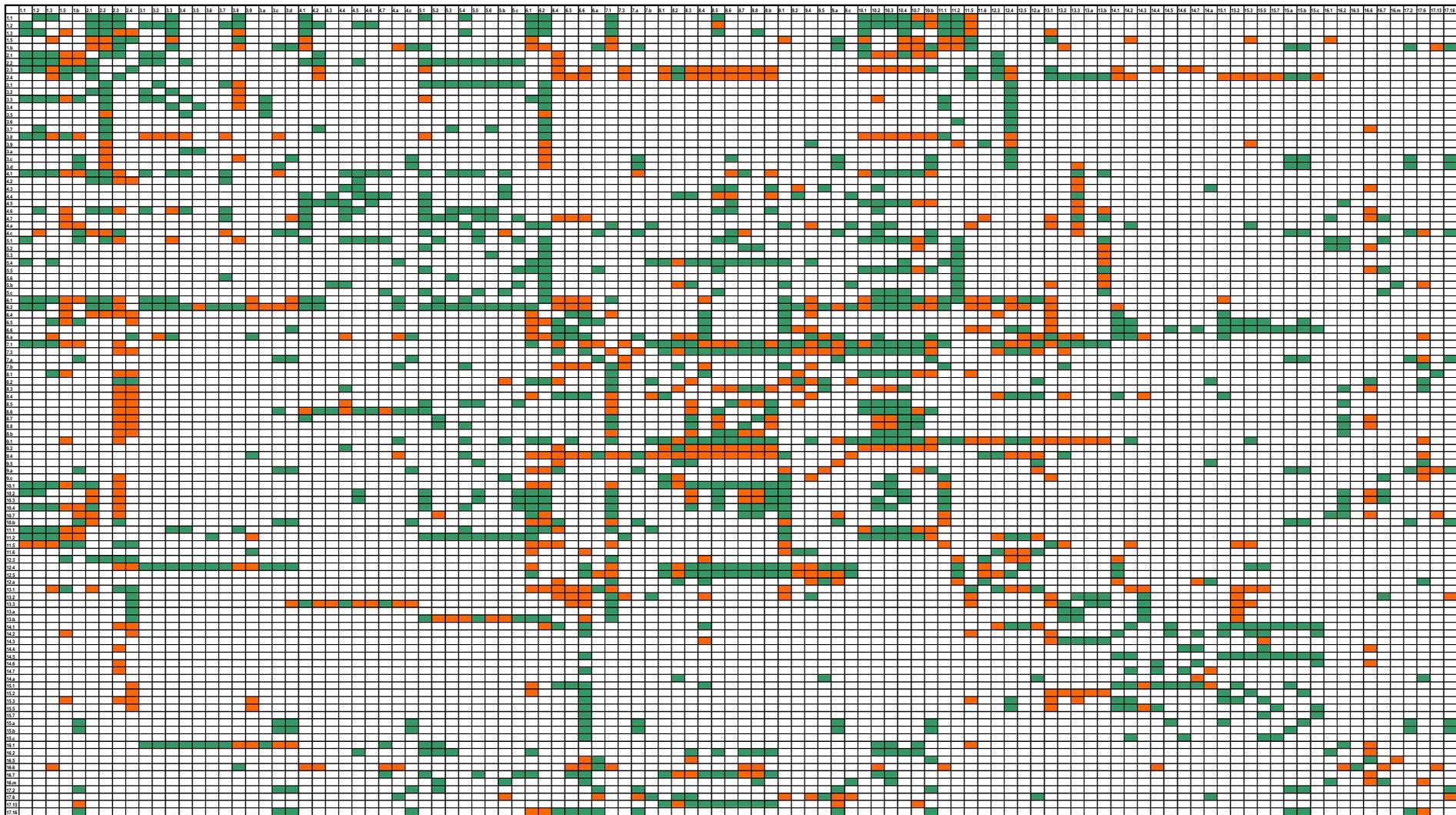
Means of implementation

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.

A dashboard indicating potential reinforcing (in green) and conflicting (in red) linkages between SDG targets

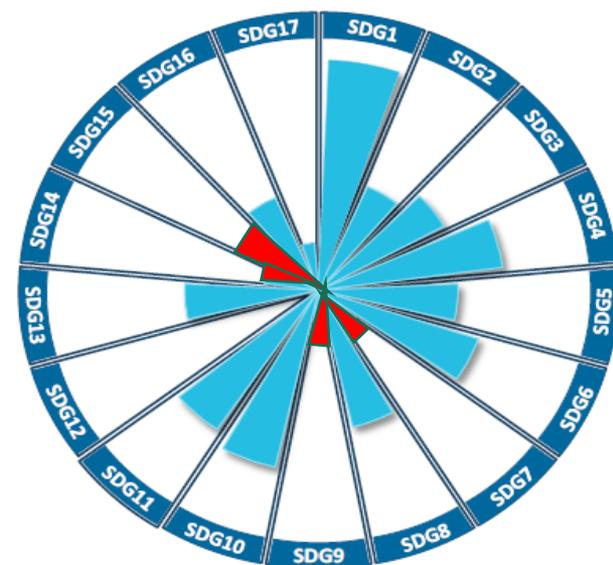
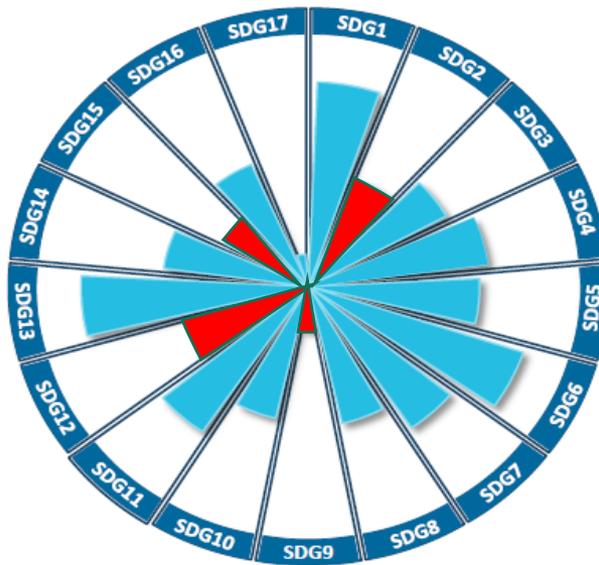
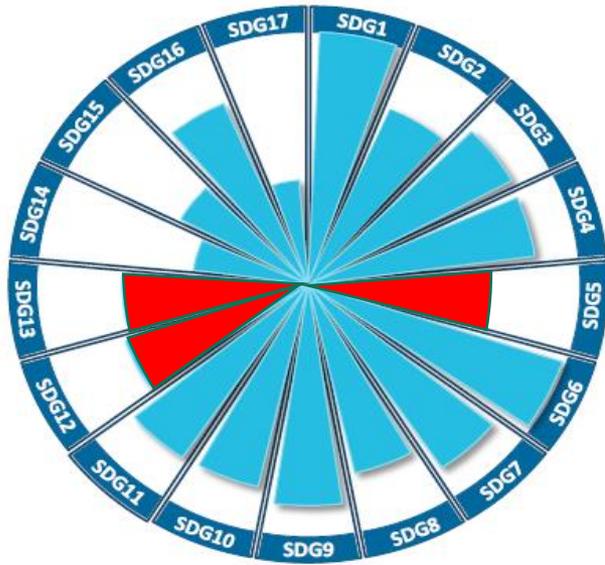


Japan

Synergies and trade-offs in addressing the environmental dimensions of SDGs: Cases in JPN, PHL and KHM

	Japan (JPN)	Philippines (PHL)	Cambodia (KHM)
Category by World Bank	High income economy	Lower middle economy	Lower middle economy
GNI per capita (2016)	\$38,000	\$3,580	\$1,140
GDP composition by sector (2016 est.)	Agriculture: 1.2% Industry: 27.7% Services: 71.1%	Agriculture: 9.7% Industry: 30.8% Services: 59.5%	Agriculture: 26.7% Industry: 29.8% Services: 43.5%
Poverty headcount ratio at \$1.90 a day (2012)	--	13.11	2.17
GINI	32.11 (2008)	43.04 (2012)	30.76 (2012)
Access to electricity % of population (2014)	100%	89.1%	56.1%
Annual freshwater withdrawals, total billion cubic meters (2014), (not counting evaporation losses from storage basins).	81.5	81.6	2.2
Total GHG emissions (kt CO₂-e, 2012)	1,478,859	167,298	127,400

Existing performance by SDGs in JPN, PHL and KHM



Japan



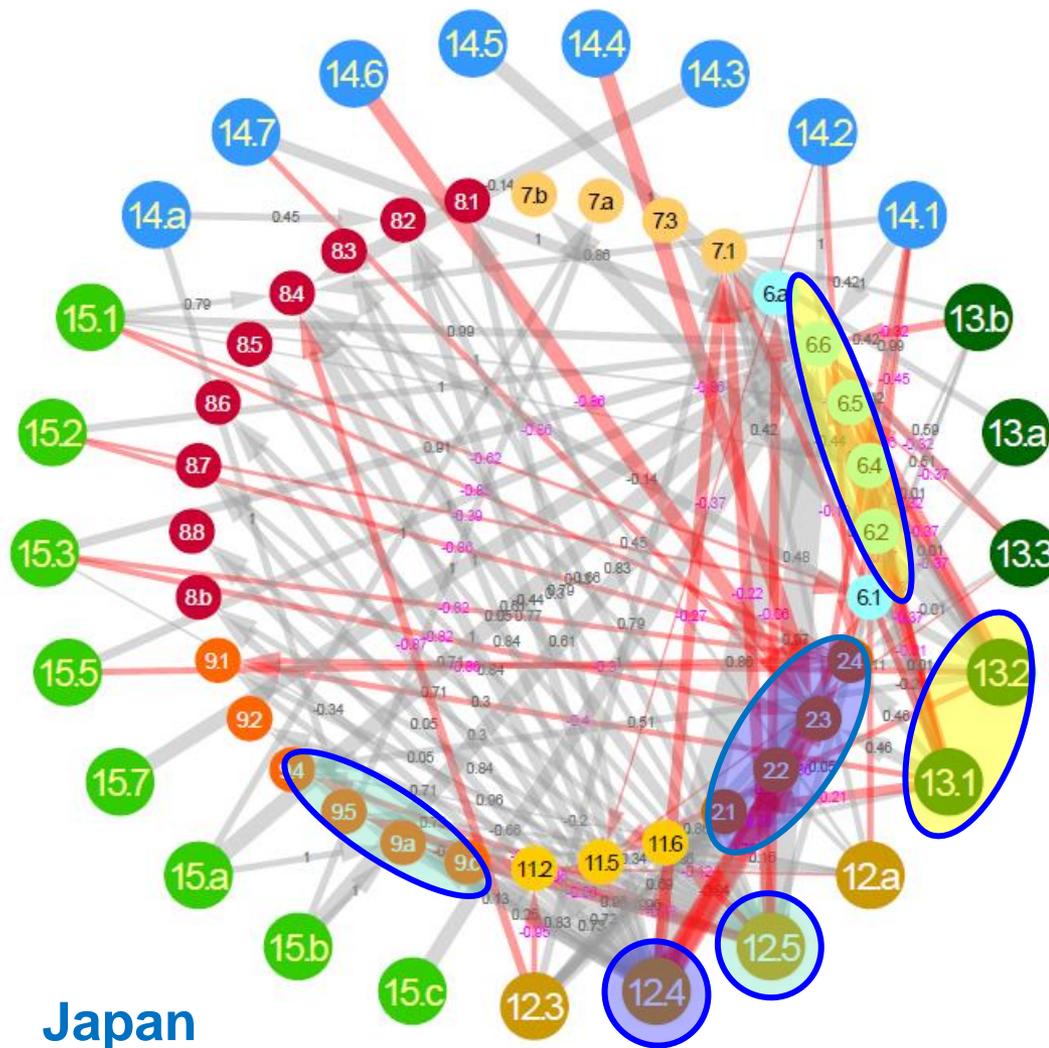
Philippines



Cambodia

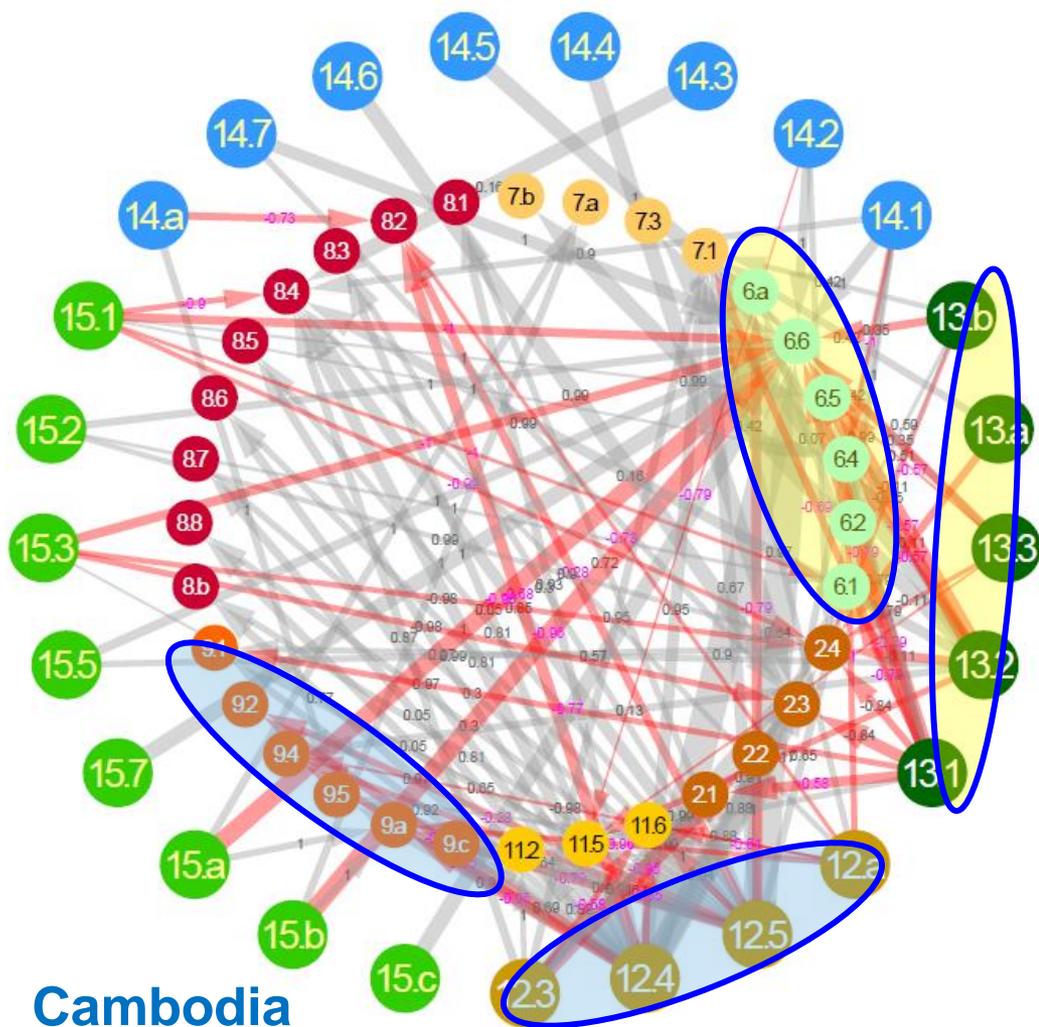
Source: SDG Index and Dashboards. SDSN report, 2016.

What we face now: Major synergies and trade-offs in the enviro-economic links in Japan



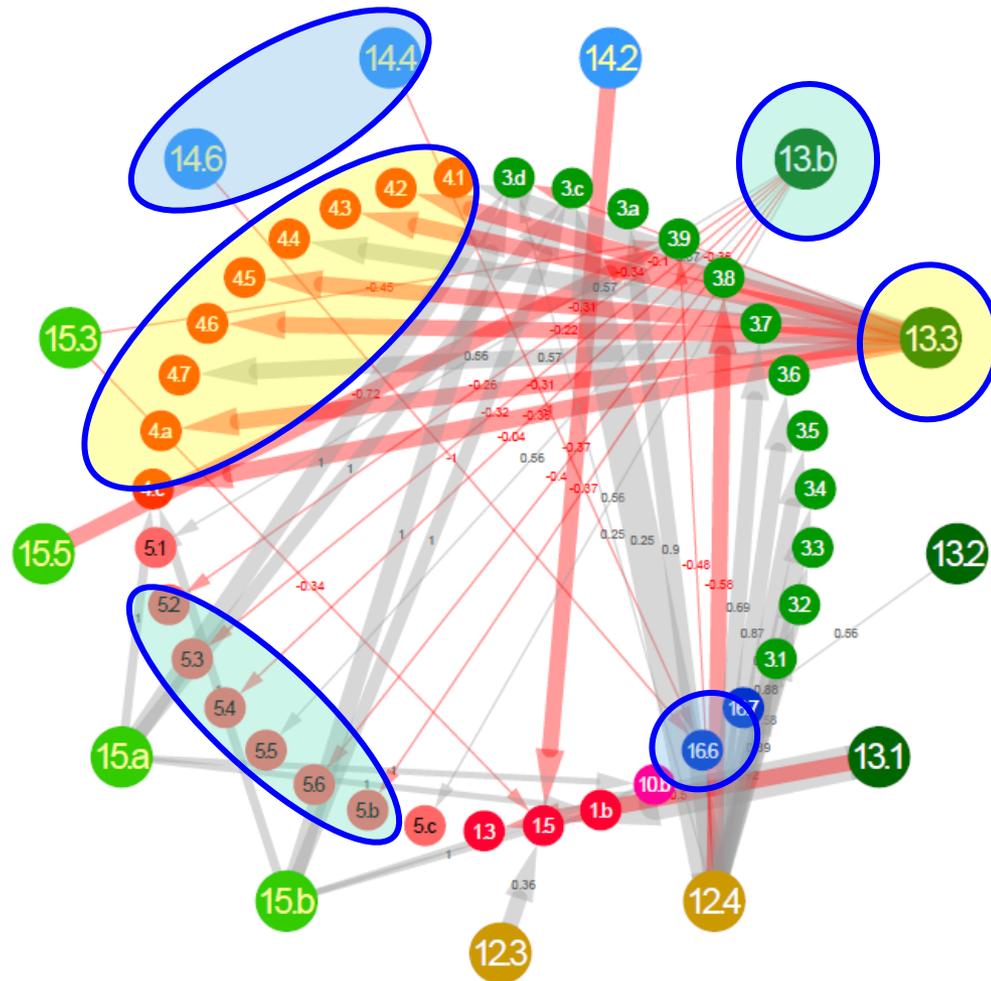
- Synergies: More synergies between environmental goals (Goals 12, 13, 14, 15) and Goals 6, 7, 8, 9 and 11. In particular Goals 14 and 15 will have more synergies with other economic Goals than Goals 12 and 13.
- Trade-offs: Environmental dimensions have more conflicts with Target 2.3 (Goals 12, 14) and Target 2.4 (Goals 14, 15). In particular, there are potential conflicts between Targets 13.1 and 13.2 and Goal 6, between Target 12.5 and Goal 9 and between Target 12.4 and Goal 2.
- Strengthening Goals 14 and 15 can be set as the leverage points and addressing Goals 12 and 13 and the linkages with Goals 2, 6 and 9 can be the priorities.

What we face now: Major synergies and trade-offs in the enviro-economic links in Cambodia



- Synergies: More synergies between environmental goals and Goals 7 and 8. Goals 14 will have more synergies with other economic Goals than Goals 12, 13 and 15.
- Trade-offs: Environmental dimensions have more conflicts, in particular between Goal 12 and Goal 9 and between Goal 13 and Goal 6.
- Strengthening Goals 14 can be set as the leverage points for enabling gains in many other areas and addressing Goals 12 and the linkages with Goal 9 and Goals 13 and the linkages with Goals 6 can be the priorities for joint implementation to avoid trade-offs.

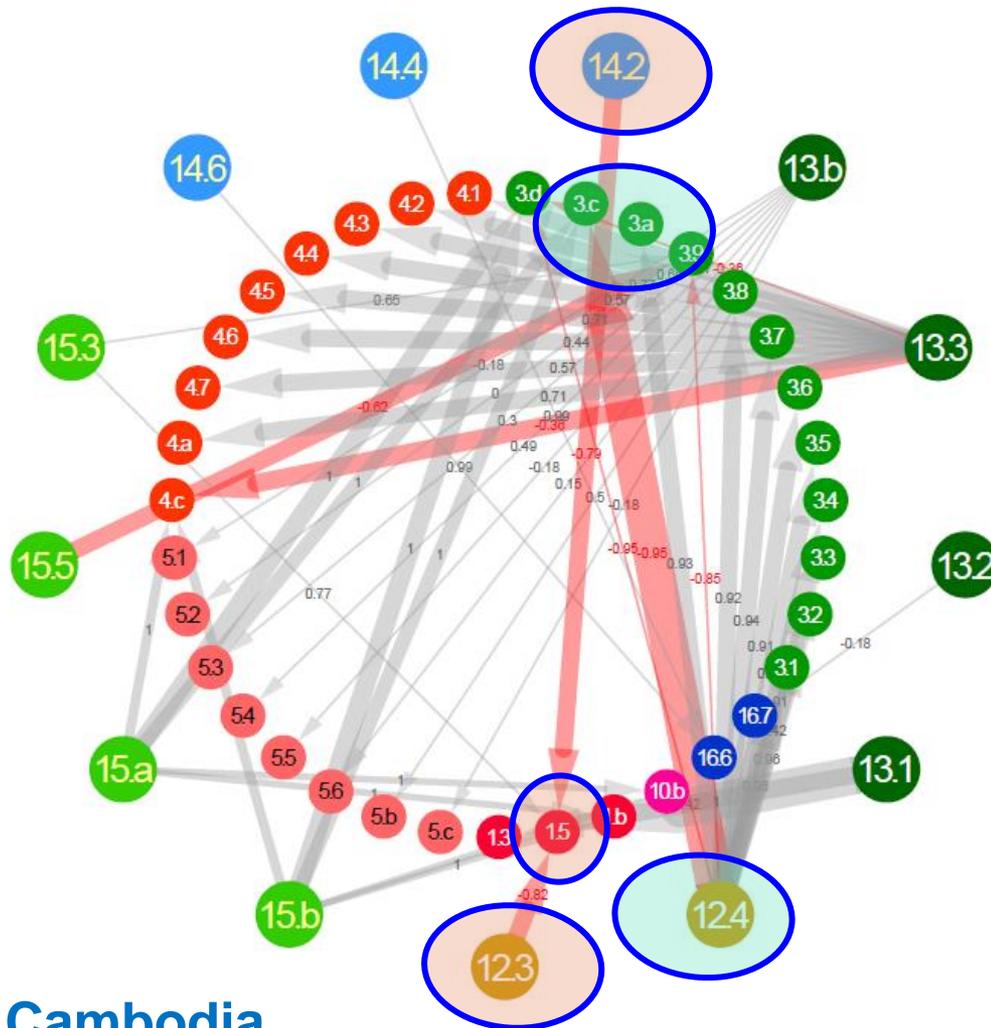
What we are now: Major synergies and trade-offs in the enviro-social links in Japan



Japan

- Synergies: More synergies between environmental goals and Goal 3. In particular Goals 12 and 15 have more synergies with other social Goals than Goals 13 and 14.
- Trade-offs: Environmental dimensions have more conflicts with Goals 4 and 5, in particular between Target 13.3 and Goal 4, between Target 13.b and Goal 5 and between Goal 14 and Goal 16.
- Strengthening Goals 12 and 15 can be set as the leverage points and addressing Goal 13 and the linkages with Goals 4 and 5 and between Goal 14 and 16 can be the priorities.

What we face now: Major synergies and trade-offs in the enviro-social links in the Cambodia



- Synergies: Environmental goals have more synergies with social goals in Cambodia than in JPN and PHL. Goals 13, 14 and 15 have more synergies with other social Goals than Goal 12.
- Trade-offs: Goal 12 have some conflicts with some health targets of Goal 3 and Goals 12 and 14 have some conflicts with Target 1.5.
- Achieving environmental goals will enable many gains in the social development. Addressing Goal 12 and the linkages with Goal 3, and between Goals 12, 14 and Target 1.5 can be the priorities for joint implementation.

The way forward: SDG integration at different stages of the policy cycle

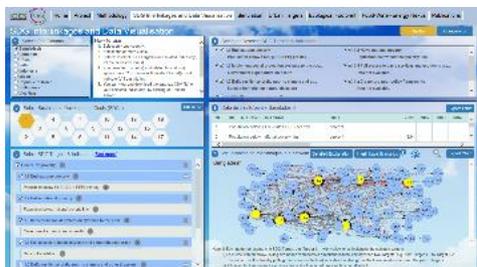


Thank you!

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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>.