Evaluating Interlinkages between Human Well-being and Planetary Well-being in Proposals for the Sustainable Development Goals

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Abstract

Sustainable development requires environmental, social and economic dimensions to be addressed simultaneously and in an integrated manner. This paper evaluates the degree of balance between these three dimensions in ten major proposals for achieving the Sustainable Development Goals (SDGs). The proposals were chosen for detailed review and evaluated in terms of coverage and interlinkages between goals, using a methodology that evaluated the frequency of keyword use associated with each issue area. Our analysis found that none of the proposals was completely comprehensive, that they tended to emphasize issues related to the Millennium Development Goals (MDGs), rather than planetary well-being and other issues, and that the Open Working Group outcome was comparatively well balanced. In addition, the inter-governmental proposals tended to cover a broader range of issues than research-led ones. This is because discussions in an international setting bring together views from multiple governments, which can ultimately lead to wider coverage of the issues, although this does not guarantee that they will be addressed in an integrated manner. As the SDGs are expected to be formulated at the national level, the challenge is to fully integrate the three dimensions of sustainable development so as to devise actions on the SDGs appropriately in order to achieve the transformation toward sustainability.

Key words: human well-being, interlinkages, Millennium Development Goals (MDGs), planetary well-being, Sustainable Development Goals (SDGs)

1. Background and Purposes

In 2000, the United Nations (UN) launched the Millennium Development Goals (MDGs) to shape a vision for addressing poverty in its many dimensions. Since then, efforts have resulted in the following MDG achievements: the population in extreme poverty has dropped to 14 percent; the primary school net enrolment rate has reached 91 percent; developing countries as a whole have achieved the goal to eliminate gender disparity in primary, secondary and tertiary education; the rate of child mortality reduction has tripled globally; the maternal mortality ratio has declined by 45 percent worldwide; HIV infections have dropped by 40 percent by 2003; 91 percent of the global population has access to improved drinking water; and finally, the amount of official development assistance has increased by 66 percent between 2000 to 2014 (UN, 2015). Despite these achievements, crucial and universal challenges lie in dealing with fundamental changes in the Earth system in the Anthropocene era, a term now commonly used in reference to the current epoch in which humans have a significant global impact on the Earth's ecosystems. Hence, the challenge for the Sustainable Development Goals (SDGs), which is one of the critical components of the 2030 Agenda for Sustainable Development that follows on the work of the MDGs, is to respond effectively to the sustainability challenges that take into account issues of human well-being while at the same time securing the Earth's life-support system (Young *et al*., 2014).

The United Nations' concept of sustainable development

has evolved in the past 25 years. The three-pillars concept of sustainable development was prominent at the World Summit on Sustainable Development (WSSD) in 2002, but a growing amount of evidence has shown that a lack or vulnerability of one pillar (economic, social or environmental sustainability) can threaten overall sustainability. With the growing recognition of transformations under way in the Earth system sciences, there arose a need for a new perspective on the sustainable management of human-environment relations.

Given those demands, Griggs *et al*. (2013) presented a reformed definition of sustainable development and argued that the three pillars are, in fact, nested. They argued that economic activities serve society, social sustainability relies on the Earth's life-support system, and these aspects are integrated as an organic system. Therefore, economic activities are also conditioned by the natural limits of the Earth's system as a precondition for development. They defined sustainable development in the Anthropocene as, "Development that meets the needs of the present while safeguarding Earth's life-support system, on which the welfare of current and future generations depends."

The need for such a new paradigm for sustainable development in the SDG era is also reflected in deliberations on the SDGs, and above all, in the outcome of Rio+20 which was held twenty years after the Earth Summit in 1992. While acknowledging the need to mainstream sustainable development, "The Future We Want" (the outcome document of Rio+20) also acknowledged the need for "integrating economic, social and environmental aspects and recognizing their interlinkages, so as to achieve sustainable development in all its dimensions" (UNGA, 2012). Throughout the document, the importance of integration of the three pillars and their interlinkages are emphasized, and it was likewise stressed in the inter-governmental deliberations on SDGs. The nexus between food, water and energy and possible trade-offs in the current policy mix are repeatedly mentioned, as well as possible trade-offs or synergies between energy and climate change. Interlinkages and integration are crucial for the SDGs to address their ultimate goal. Furthermore, "Transforming our world: the 2030 Agenda for Sustainable Development" adopted by the UN General Assembly on 25 September 2015, indeed confirms the importance of integrating three dimensions in a balanced manner (UNGA, 2015).

Discussions on the SDGs are attracting attention globally, but studies have yet to be conducted to evaluate the coverage of the proposals objectively and quantitatively. In this context, the present study aims to develop tools to evaluate the level of coverage of ten selected proposals published by internationally acknowledged organizations. The evaluation is conducted from the perspective of overall coverage and interlinkages among goals, and the results are presented visually in radar charts. Based on the results, the overall features of the proposals are analyzed and discussed by examining the extent to which each goal incorporates interlinkages among fields.

2. Methodology

Various proposals for SDGs have been made by not only through the UN process, but also from academia and non-governmental organizations over the past several years. In this paper, we chose ten internationally well-acknowledged proposals for SDGs that were published by UN-related intergovernmental institutions and research institutes during 2012 to 2014, in order to evaluate the interlinkages between goals within each proposal.

Each proposal was evaluated by counting the keywords

Table 1 List of proposals evaluated.

No. (#)	Author	Year	Title	Category
1	Open Working Group (OWG)	2014	Open Working Group Proposal for Sustainable Development Goals	Government
2	High Level Panel of Eminent Persons (HLP)	2013	A New Global Partnership: Eradicate Poverty and Transform Economies through Sustainable Development	Government
3	United Nations Conference on Sustainable Development (UNCSD)	2012	Proposal on Sustainable Development Goals	Government
4	Sustainable Development Solutions Network (SDSN)	2013	An Action Agenda for Sustainable Development	Research (institution to mobilize knowledge)
5	Griggs *et al*.	2013	Sustainable Development Goals for People and Planet	Research
6	Centre for International Governance Innovation (CIGI)	2012	Post-2015 Development Agenda: Goals, Targets and Indicators	Research (think tank)
7	Overseas Development Institute (ODI)	2012	Options for including Disaster Resilience in Post-2015 Development Goals	Research (think tank)
8	Karver *et al*.	2012	MDGs 2.0: What Goals, Targets, and Timeframes?	Research
9	Global Agenda Council on Benchmarking Progress (GAC)	2012	Getting to Zero: Finishing the Job the MDGs Started	Research (GAC was established by the World Economic Forum)
10	Asian Development Bank (ADB)	2013	A ZEN Approach to Post-2015: Addressing the Range of Perspectives across Asia and the Pacific	Research (regional organization)

contained in each goal. The keywords selected and used in this study were words frequently used in proposals for SDGs, associated with certain fields. To this end, the authors developed two types of tools for the evaluation: "score sheets" and "radar charts." The structures and details of these tools are explained in Sections 2.2 and 2.3.

2.1 Outline of Proposals Evaluated in This Study

Table 1 outlines the ten proposals evaluated in this study. These proposals were published by panels and working groups established through UN processes related to the SDGs, or by internationally well-acknowledged research institutions working on SDG issues. The former are categorized as "government-led" proposals through UN processes, and the latter as "research-led" proposals. The first three were developed in the context of international discussions (#1 and #3) or by panels established by the UN Secretary-General, with members who are political leaders from about 30 countries (#2). Proposals #4 to #9 are from internationally well-acknowledged researchers and research institutes. As their titles indicate, some of the proposals have a special focus. For example, #7 emphasizes disaster risk, and #9 focuses on issues related to the MDGs. Proposal #10 was made by a regional development bank as a working paper, so it is categorized as a research-led proposal in this study.

2.2 The Score Sheets

Figure 1 Structure of the score sheet (for each proposal)

depicts the structure of the score sheet we developed to evaluate proposals. The process of scoring is explained here.

2.2.1 The 14 Fields

In Box 1 of Fig. 1, the colored cells along the horizontal axis comprise 14 fields. The fields are listed in Table 2. They were determined by rearranging the 19 Focus Areas given in *Working Document for 5–9 May Sessions of Open Working Group* (OWG, 2014a) into 14. The fields combined in this study were closely related and frequently shared the same keywords; thus they were merged in order to eliminate overlap: "poverty eradication" with "sustainable agriculture, food security and nutrition," "gender equality and women's empowerment" with "promoting equality," "economic growth" with "industrialization" and "employment and decent work for all," and "sustainable cities and human settlements" with "promoting sustainable consumption and production." The 14 fields were then divided into three groups: fields closely related to issues about human well-being and derived from the MDGs (named "MDG-related issues"); issues related to human well-being but not recognized when the MDGs were formulated ("post-MDG issues"); and fields closely related to issues of planetary well-being ("planetary well-being issues").

2.2.2 Suggested Goals and Targets of Each Proposal

In terms of the vertical axis in Box 1 of Fig. 1, the

BOX 1

		14 Fields													
		Poverty and Food	Education	Equality	Health	Sanitation	MOI	Economic Growth	Infrast-ructure	Peace	Climate	Energy	Eco-system	Water	SCP
Goal A	Target A1	2	0	0	0	0	1	0	0	1	0	0	0	0	0
	Target A2	2	0	1	0	0	1	1	0	2	0	0	0	0	1
Goal B	Target B1	0	0	0	0	0	1	1	0	1	2	0	0	0	0
	Target B2	1	0	0	0	2	1	0	0	0	2	1	0	1	0
	Target B3	0	1	2	0	0	0	1	0	0	1	0	0	0	0

BOX 2

The sum of scores for each target is totalled, by goal

Goal A	Total Score	4	0	1	0	0	2	1	0	3	0	0	0	0	1
	Maximum possible total score	*4*	*4*	*4*	*4*	*4*	*4*	*4*	*4*	*4*	*4*	*4*	*4*	*4*	*4*
Goal B	Total Score	1	1	2	0	2	2	2	0	1	5	1	0	1	0
	Maximum possible total score	*6*	*6*	*6*	*6*	*6*	*6*	*6*	*6*	*6*	*6*	*6*	*6*	*6*	*6*

BOX 3

Total score converted to 3-point maximum

Total scores (from max. possible total score for each target) in Box 2 are converted to 3-point max. as follows:

Zero: 0 points
<0% to <33%: 1 point
33% to <67%: 2 points
≤67%: 3 points

Goal A	3	0	1	0	0	2	1	0	3	0	0	0	0	1
Goal B	1	1	2	0	2	2	2	0	1	3	1	0	1	0

BOX 4

Max. score for each goal selected from BOX 3, by field

Overall	3	1	2	0	2	2	2	0	3	3	1	0	1	1

Fig. 1 Structure of the score sheet (for each proposal).

goals from a proposal are listed in the left column and the targets that belong to each goal in the right column. The scores are calculated by counting keywords contained under each goal. The keywords used in this study were words that were frequently used in SDG proposals and were associated with one (or more) field(s) out of the 14. The goals and targets in any proposal were associated with certain fields, so we broke down each target into words and then allocated them to the 14 fields. The numbers in Box 1 of Fig. 1 are the scores of each target in each goal. If the target contained one keyword that belonged to "Poverty and Food," the target obtains a score of 1 in the cell at the intersection of the target (horizontal) and "Poverty and Food" (vertical). Likewise, if it contains two or more keywords of that field, the target obtains a score of 2 in that cell.

The numbers in Box 1 of Fig. 1 are summed up by field (vertical) and goal (horizontal) and appear in Box 2 of Fig. 1. In Box 3 of Fig. 1, the scores are recalculated to give a 3-point maximum, rather than the simple sum of scores. These converted scores, by goal, are then used to create "sub-radar charts" for each proposal.

The total scores (from the maximum possible total score for each target) in each respective cell in Box 2 are converted into a 3-point maximum as follows:

- Zero: 0 points
- Above zero and less than 33%: 1 point
- 33% to less than 67%: 2 points
- 67% or more: 3 points

Finally, the maximum numbers of the converted scores, by field, are selected as overall scores for each proposal (Box 4 of Fig. 1). These scores are used to draw an "integrated radar chart" for each proposal. The structure of the charts is explained in Section 2.3

2.3 Radar Charts

The evaluation results (scores obtained through the process described in Section 2.2) are presented visually in radar charts. The color scheme is the same as in the score sheets, and the values represented by the vertices come from the horizontal rows in score sheets (Fig. 1), with the abbreviated field names shown (Table 2). The structure of a radar chart is shown in Fig. 2.

Integrated radar charts are created to help visualize a given proposal's overall coverage of fields. The overall scores of a proposal determine the shape of the polygon in its integrated radar chart (process described in Section 2.2.1). A list of integrated radar charts of all the proposals is given in Section 3. Meanwhile, sub-radar charts indicate the coverage of fields, by goal, and help

Table 2 List of 14 fields used for evaluation.

No	Field (abbreviated version in parentheses)	Group Name
1	Poverty eradication and food security (Poverty and Food)	MDG-related issues
2	Education (Education)	
3	Equality (Equality)	
4	Health (Health)	
5	Sanitation and water (Sanitation)	
6	Means of implementation including global partnership (MOI)	
7	Economic growth, industrialization and employment (Economic Growth)	Post-MDG issues
8	Infrastructure (Infrastructure)	
9	Peace and non-violent societies (Peace)	
10	Climate change and resilient societies (Climate)	Planetary well-being issues
11	Energy (Energy)	
12	Ecosystem and biodiversity (Ecosystems)	
13	Water resources (Water)	
14	Sustainable consumption and production (SCP)	

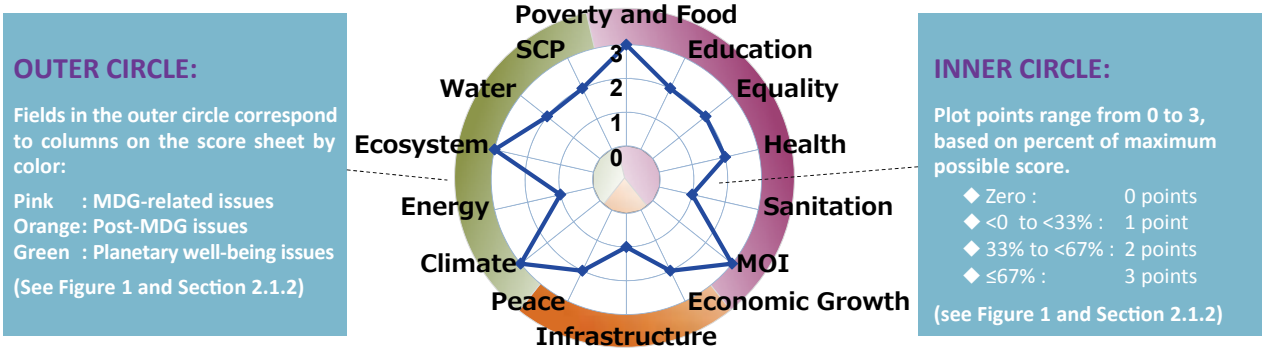

Fig. 2 Structure of a radar chart.
(Same structure used for integrated and sub-radar charts.)

visualize interlinkages among the fields in each goal. The shape of the charts is the same as those of the integrated radar charts. Each proposal has as many sub-radar charts as its number of goals. Lists of sub-radar charts, by goal and by proposal, are given in the Appendix. This tool does not consider negative linkages (e.g., trade-offs between bio-energy and food), however.

3. Results

Using the methodology explained in Section 2, the ten proposals were evaluated from the perspective of overall coverage and interlinkages among their goals. Figure 3 shows the integrated scores for each proposal, while the Appendix shows the radar chart for each proposal's interlinkages.

Proposal #1, by OWG (2014b), obtained the highest possible score (3) in almost all fields, with lower scores only in infrastructure, peace, and sustainable consumption and production (SCP) (2). From the perspective of interlinkages, all the goals of this proposal are linked to the fields of economic growth and means of implementation (MOI). Some interlinkages are strong, such as poverty alleviation, food security and sustainable agriculture, and water and sanitation.

Proposal #2, by HLP (2013), scored 3 in several development-related fields (pink and orange). Figure 3 reveals that this proposal has an emphasis on the right half of the chart (education, equality, health, sanitation, and economic growth), while the left half shows a weakness in planetary well-being issues, with no fields scoring 3. From the perspective of interlinkages, goals such as catalyzing long-term financing have stronger interlinkages, while goals such as ensuring healthy lives and good governance are weak. There are no linkages to MOI for the goals on poverty alleviation, gender equality, healthy lives, food security, water and sanitation, and energy.

Proposal #3, by UNCSD (2012), scored 3 in five fields (equality, MOI, peace, energy, and ecosystems), suggesting that this proposal is relatively well-balanced compared to the others. The coverage of post-MDG issues, however, is relatively low, while interlinkages are relatively small and weak.

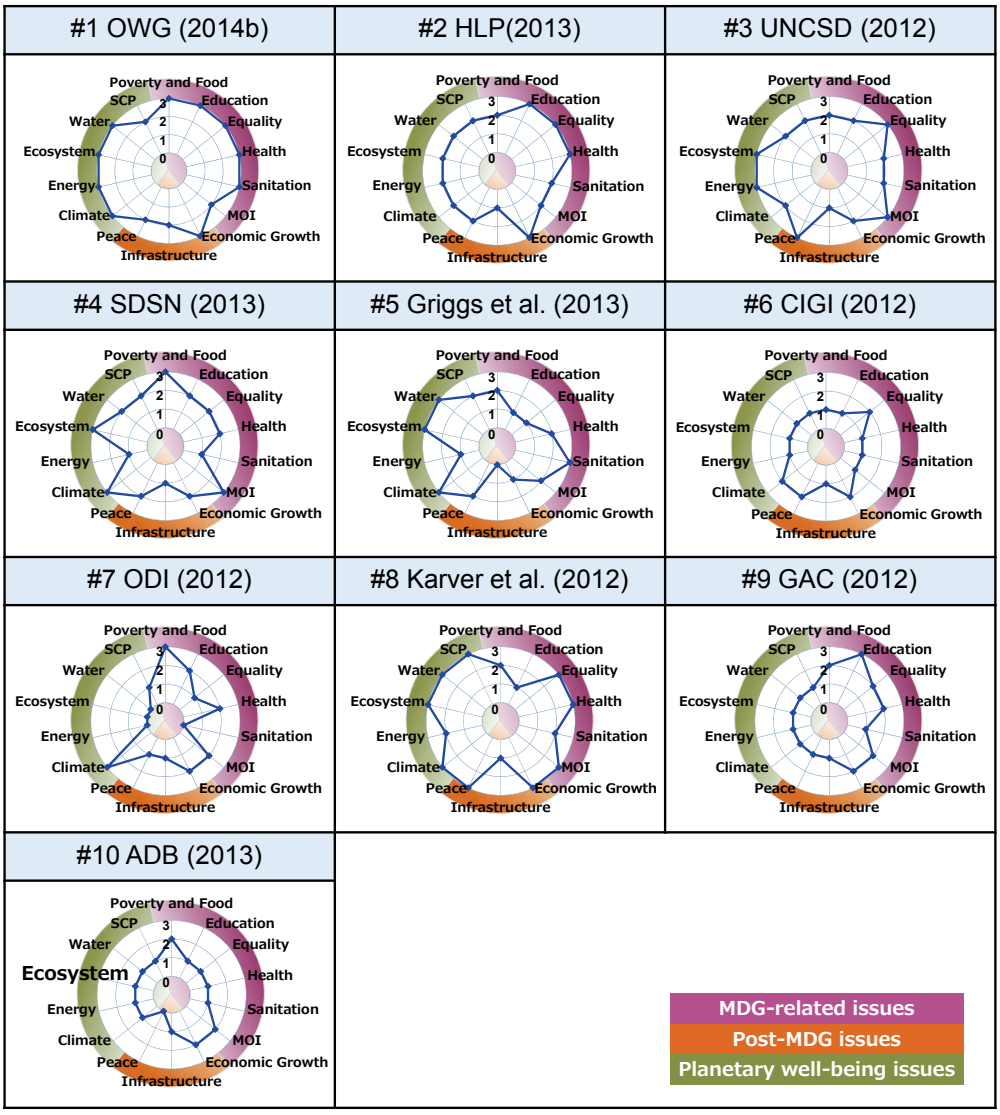

Fig. 3 Integrated radar charts of the ten proposals.

Proposal # 4, by SDSN (2013), covers all fields relatively well and scores the maximum of 3 in poverty and food and MOI among MDG-related issues and post-MDG issues (pink and orange fields), as well as climate change and ecosystem among planetary well-being issues (green). The proposal has broad interlinkages, with all goals making a link to poverty and food, equality, MOI, economic growth, and peace.

The chart for proposal #5, by Griggs *et al.* (2013), reveals an emphasis on planetary well-being issues, over the other two groups of issues, in contrast to the preceding proposals. A score of 3 is achieved only in sanitation, among MDG-related issues, and no fields score 3 among post-MDG issues, while climate, ecosystems and water score 3 in planetary well-being issues. Some interlinkages are broad and strong, such as the goal related to energy.

Proposal #6, by CIGI (2012), scored relatively high in post-MDG issues, unlike other proposals. Although it did not score 3 in any fields, the relatively high score of 2 was achieved in economic growth and peace (i.e., two out of three post-MDG issues). Each goal in this proposal has broad and weak interlinkages.

Proposal #7, by ODI (2012), has a special focus on disaster risk, and covers a wider range of MDG-related issues than the other two groups. Most planetary well-being issues fields are barely covered, while only "climate" scores 3, which is a distinguishing feature of this proposal, as disaster risks are closely linked with extreme weather events incurred by changes in climate.

Proposal #8, by Karver *et al.* (2012), shows a relatively wider coverage of fields, including equality, health, MOI, economic growth, peace, climate, ecosystem, water, and SCP. Moreover, this proposal covers more fields in the planetary well-being issues group than the other two, unlike other proposals. Interlinkages are broad and strong on goals related to protecting the environment and issues related to Africa.

Proposal #9, by GAC (2012), focuses on finishing the work of the MDGs, and covers more MDG-related issues than the other two groups, while planetary well-being issues are barely covered. The chart shows a small polygon, meaning that this proposal covers a narrower range of fields. Interlinkages are small in range and relatively weak. All goals except gender equality, however,

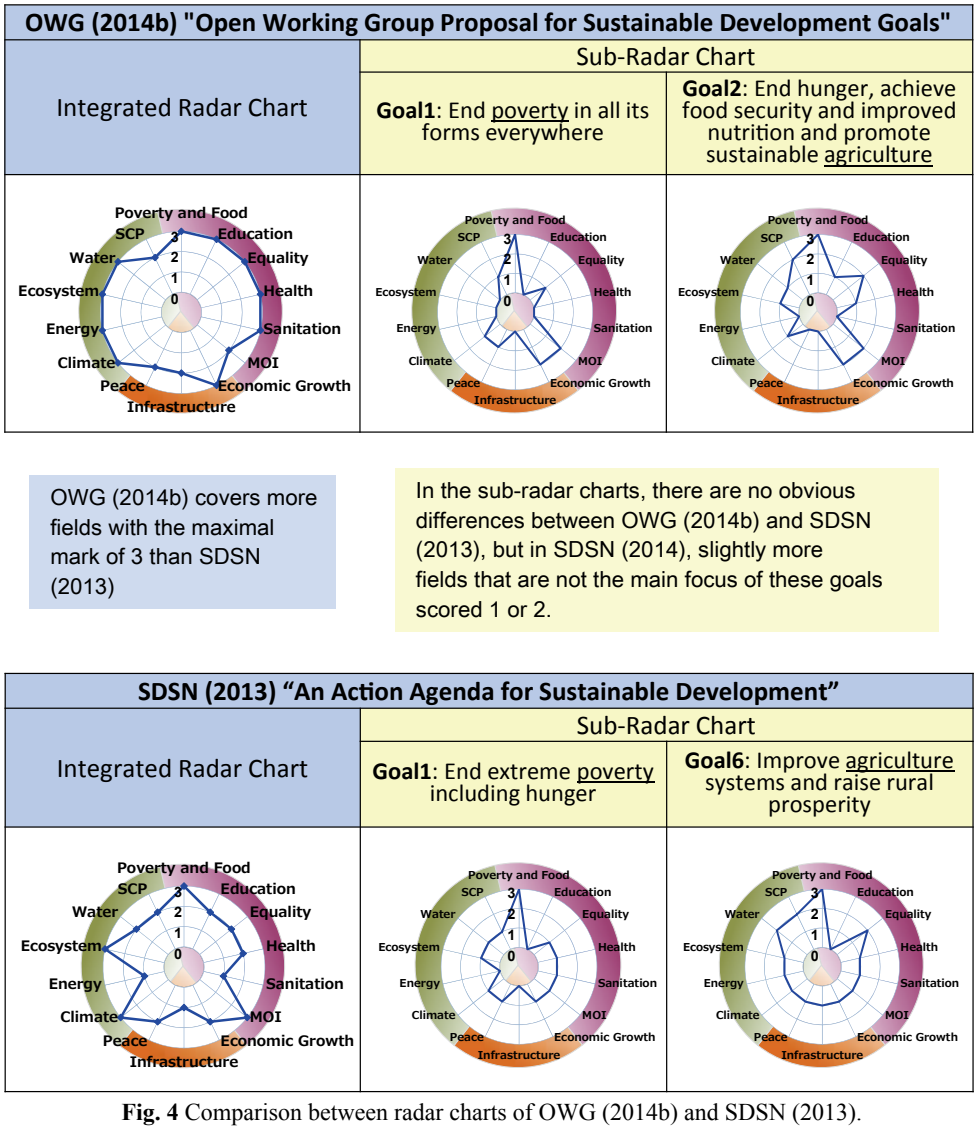

Fig. 4 Comparison between radar charts of OWG (2014b) and SDSN (2013).

link to MOI.

Proposal #10, by the ADB (2013), scored 2 in poverty and food, MOI, and economic growth, but did not score 3 in any fields. Thus, this proposal can be regarded as having low coverage, and could perhaps be improved by increasing its scope. Meanwhile, its interlinkages are broad but not strong.

4. Discussion

4.1 Overall Features of the Proposals Studied

This study found that the ten proposals reviewed cover MDG-related issues slightly more than the other two groups. Post-MDG issues are covered the least. Some proposals (such as UNCSD (2012)) cover planetary well-being issues well, although the differences between proposals in coverage of fields are generally not large.

The results of this study reveal some of the points missing in each of the proposals, and suggest that they could be made more effective by referring to more fields. In this regard, OWG (2014b) stands out among the ten proposals by achieving the highest score (3) in the greatest number of fields.

Government-led proposals tend to cover a wider range of fields than research-led proposals. One explanation for this might be that in the context of international discussions, there is a greater need to incorporate the views of various governments, which may lead to a wider coverage of issues, and results that are more complex and less simple. In contrast, research-led proposals often have a specific area of interest (e.g., disaster risk and finalizing MDG issues), or may tend to seek simplicity.

To interpret our findings, it is important to remember that this study does not evaluate the depth of analysis or target of a goal, but only the coverage of the key issues, by reviewing the proposals for their use of keywords.

4.2 Interlinkages of Suggested Goals in Each Proposal

Based on this study, we regard the wider coverage of fields in one goal as something that is favorable, because wider coverage means the proposal is cognizant of the importance of interlinkages among fields. Our charts by goal make this coverage more visual.

Interlinkages among fields in each goal can be observed from sub-radar charts for each proposal. Both government-led and research-led proposals have similar levels of interlinkages (e.g., goals related to energy and water).

The radar charts for OWG (2014b) and SDSN (2013) are compared in Fig. 4, for poverty and agriculture issues. As mentioned in Section 4.1, the radar chart for OWG (2014b) suggests that it is more comprehensive than the other proposals. When it comes to the sub-radar charts, however, there are no obvious differences between OWG (2014b) and SDSN (2013). In fact, the latter achieves a score of 1 or 2 in slightly more fields that are not the main focus of the goal. This suggests that SDSN (2013) refers to a wider variety of fields in each goal and embraces better "interlinkages."

The message here is that the proposals could be improved with more interlinkages among fields in each goal. Even if a proposal covers many fields well in its integrated radar chart, more comprehensiveness could be achieved in each goal by introducing more interlinkages among fields.

5. Conclusions

This study evaluated ten major proposals relating to the SDGs in terms of overall coverage and interlinkages among related fields and presented the findings visually in the form of radar charts.

We developed score sheets and radar charts as tools to evaluate the overall coverage and interlinkages among 14 crucial fields. We then used the tools to analyze the ten proposals, published by UN-related intergovernmental institutions and research institutes during 2012 to 2014.

Integrated radar charts were used to present the evaluations of the proposals visually, revealing that they cover more fields of MDG-related issues than post-MDG issues and planetary well-being issues. Also, government-led proposals tend to cover a wider range of fields than research-led proposals. This might be because discussions in international settings need to incorporate views from various governments, perhaps ultimately leading to a wider coverage of issues.

Sub-radar charts for goals in each proposal were used to present visually the level of interlinkages among fields for each goal. Most of the ten proposals could be improved by covering more fields. Both government-led and research-led proposals had a similar level of interlinkages.

This study can contribute to efforts to evaluate the coverage of and interlinkages among goals suggested in proposals relating to the SDGs. It is hoped that the approaches developed here can assist policymakers when analyzing proposals, help identify gaps and enhance the comprehensiveness of proposals. It is expected that proposals relating to the SDGs will be formulated at national, regional, and sectoral levels in future processes, so these tools could be used for further analysis of the level of integration of proposals. Work on the SDGs should encompass more fields and embrace more interlinkages among fields in each goal in order to maximize synergies and avoid trade-offs and to tackle the more complex and challenging problems that present and future generations will face.

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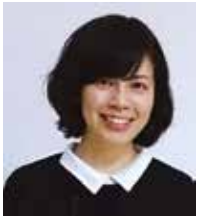

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Appendix: List of Charts, by Proposals and by Goals (Figures A1–A10)

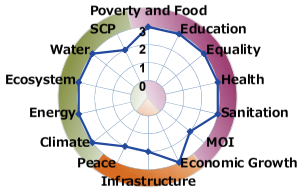
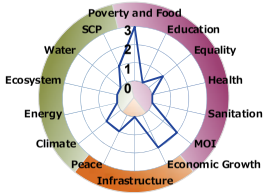
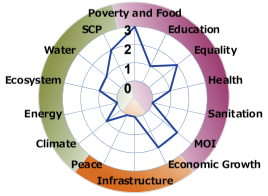
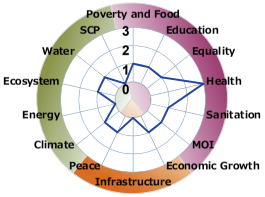
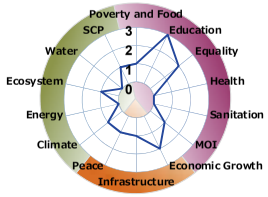
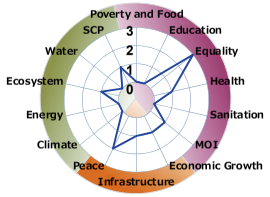
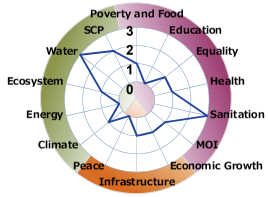
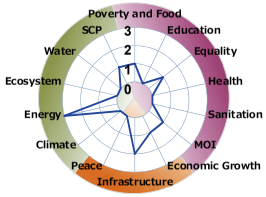
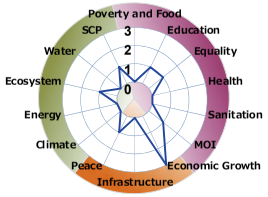
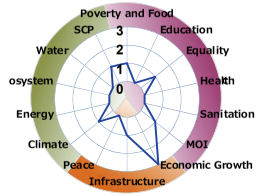
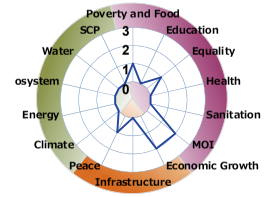
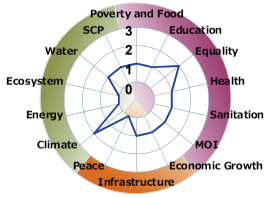
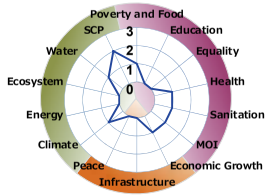
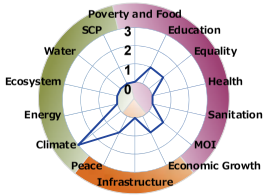
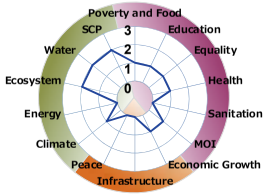
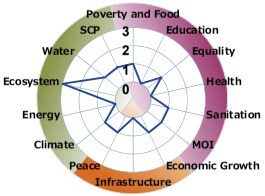
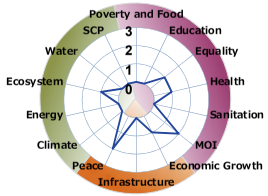
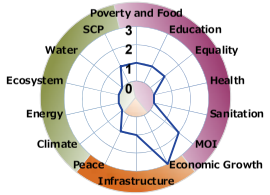
OWG (2014b) "Open Working Group Proposal for Sustainable Development Goals"					
Integrated Radar Chart	**Sub-Radar Charts**				
	End poverty in all its forms everywhere	End hunger, achieve food security and improved nutrition and promote sustainable agriculture	Ensure healthy lives and promote well-being for all at all ages	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	Achieve gender equality and empower all women and girls
					
Ensure availability and sustainable management of water and sanitation for all	Ensure access to affordable, reliable, sustainable and modern energy for all	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	Reduce inequality within and among countries	Make cities and human settlements inclusive, safe, resilient and sustainable
					
Ensure sustainable consumption and production	Take urgent action to combat climate change and its impacts	Conserve and sustainably use the oceans, seas and marine resources for sustainable development	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive	Strengthen the means of implementation and revitalize the global partnership for sustainable development
					

Figure A1. Integrated Radar Chart and Sub-Radar Charts of OWG (2014b)

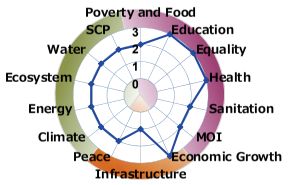
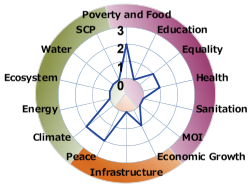
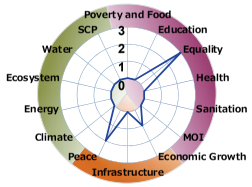
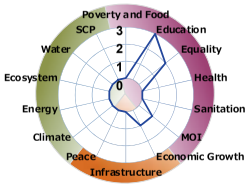
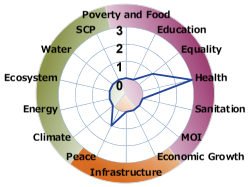
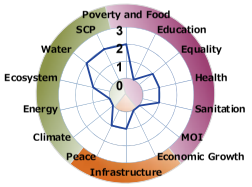
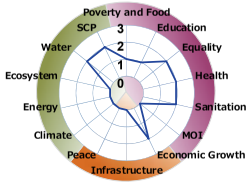
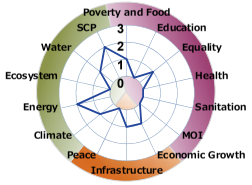
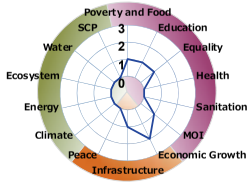
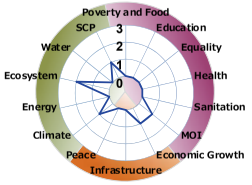
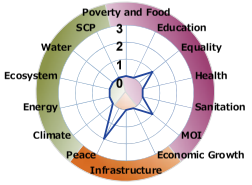
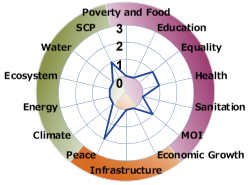
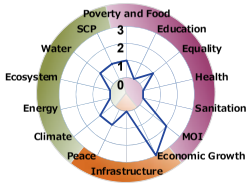
HLP (2013) "A New Global Partnership: Eradicate Poverty and Transform Economies through Sustainable Development"					
Integrated Radar Chart	**Sub-Radar Charts**				
	End poverty	Empower girls and women and achieve gender equality	Provide quality education and lifelong learning	Ensure healthy lives	Ensure food security and good nutrition
					
Achieve universal access to water and sanitation	Secure sustainable energy	Create jobs, sustainable livelihoods, and equitable growth	Manage natural resource assets sustainably	Ensure good governance and effective institutions	Ensure stable and peaceful societies
					
Create a global enabling environment and catalyse long-term finance					
					

Figure A2. Integrated Radar Chart and Sub-Radar Charts of HLP (2013)

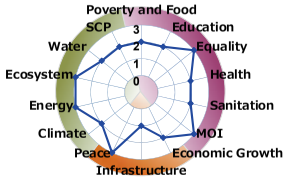
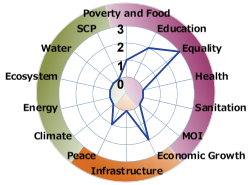
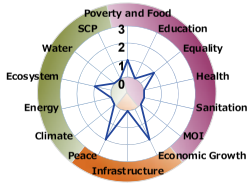
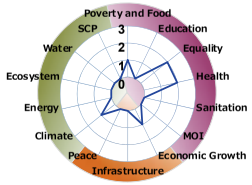
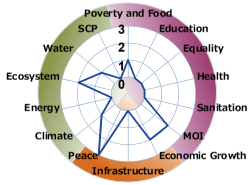
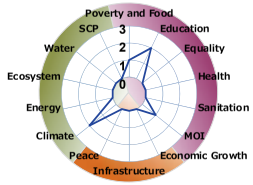
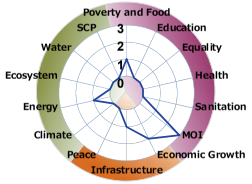
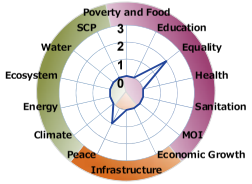
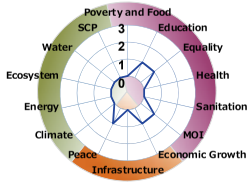
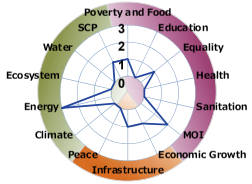
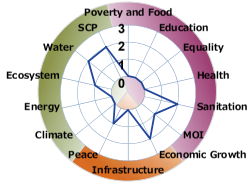
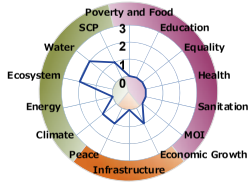
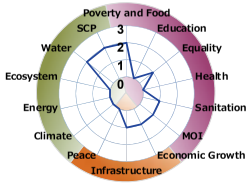
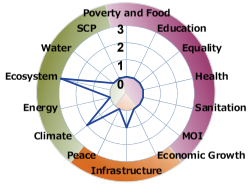
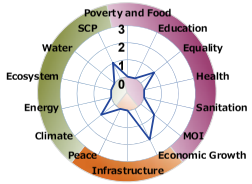
UNCSD (2012) "Proposal on Sustainable Development Goals"					
Integrated Radar Chart	**Sub-Radar Charts**				
	Promote gender equality and participation	Promote the decent work agenda and poverty eradication	Scale up access to primary health care	End armed conflict, promote peace and ensure sustainable post-conflict development	Improve disaster risk preparedness with a particular focus on youth
					
Eco-partnerships for technology development, innovation, and sustainability	The implementation on a global convention on principle 10: "Environmental issues are best handled with participation of all concerned citizens"	Recognizing the role of young people in the sustainable development governance	Promote energy access and efficiency	Promote water access and cross sectoral efficiency	Ensure the health, protection and preservation of oceans, seas and marine ecosystems
					
Promote sustainable food-systems	Forests and biodiversity	Promote the development of sustainable cities and human settlements			
					

Figure A3. Integrated Radar Chart and Sub-Radar Charts of UNCSD (2012)

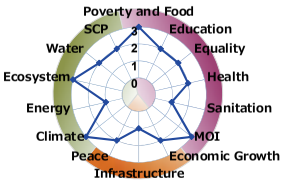
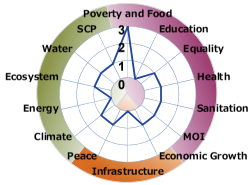
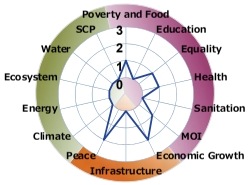
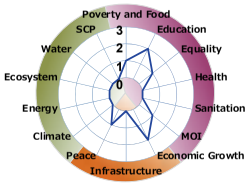
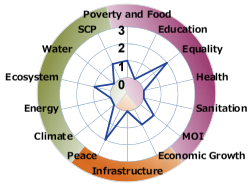
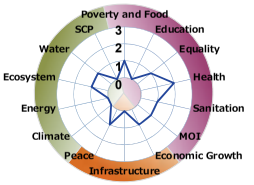
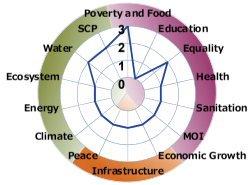
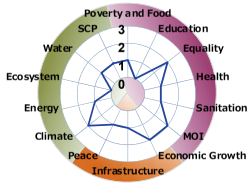
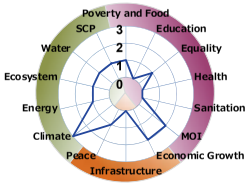
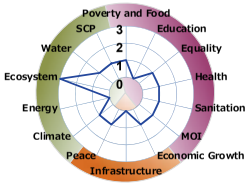
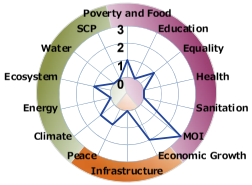
SDSN (2013) "An Action Agenda for Sustainable Development"					
Integrated Radar Chart	**Sub-Radar Charts**				
	End extreme poverty including hunger	Achieve development within planetary boundaries	Ensure effective learning for all children and youth for life and livelihood	Achieve gender equality, social inclusion, and human rights for all	Achieve health and wellbeing at all ages
					
Improve agriculture systems and raise rural prosperity	Empower inclusive, productive, and resilient cities	Curb human-induced climate change and ensure sustainable energy	Secure ecosystem services and biodiversity, and ensure good management of water and other natural resources	Transform governance for sustainable development	
					

Figure A4. Integrated Radar Chart and Sub-Radar Charts of SDSN (2013)

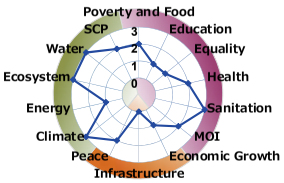
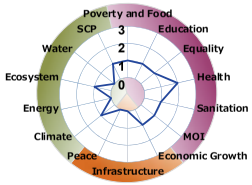
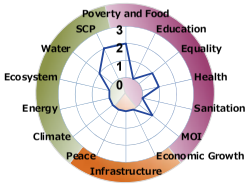
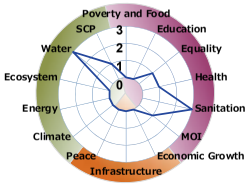
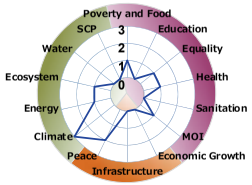
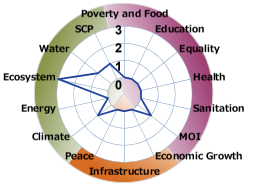
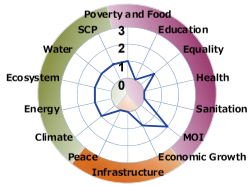
Griggs *et al.* (2013) "Sustainable Development Goals for People and Planet"					
Integrated Radar Chart	**Sub-Radar Charts**				
	Thriving lives and livelihoods	Sustainable food security	Sustainable water security	Universal clean energy	Healthy and productive ecosystems
					
Governance for sustainable societies					
					

Figure A5. Integrated Radar Chart and Sub-Radar Charts of Griggs *et al.* (2013)

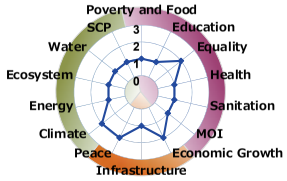
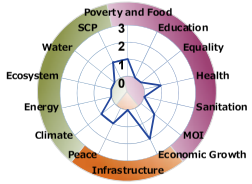
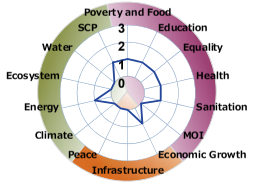
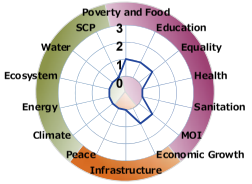
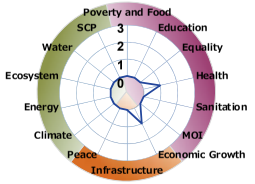
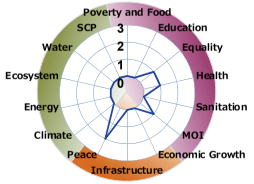
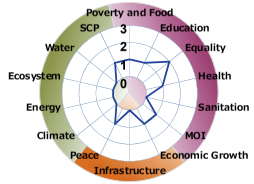
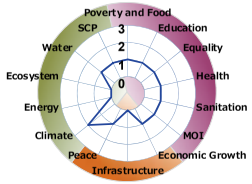
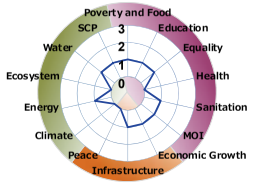
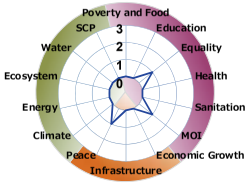
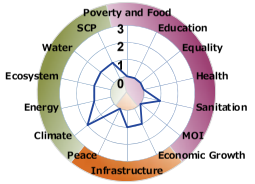
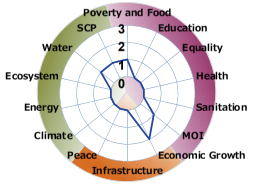
CIGI (2012) "Post-2015 Development Agenda: Goals, Targets and Indicators"					
Integrated Radar Chart	**Sub-Radar Charts**				
	Inclusive economic growth for dignified livelihoods and adequate standards of living	Sufficient food and water for active living	Appropriate education and skills for full participation in society	Good health for the best possible physical, mental and social well-being	Security for ensuring freedom from violence
					
Gender equality enabling men and women to participate and benefit equally in society	Resilient communities and nations for reduced disaster impact from natural and technological hazards	Quality infrastructure for access to energy, transportation and communication	Empowering people to realize their civil and political rights	Sustainable management of the biosphere, enabling people and the planet to thrive together	Global governance and equitable rules for realizing human potential
					

Figure A6. Integrated Radar Chart and Sub-Radar Charts of CIGI (2012)

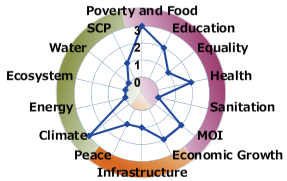
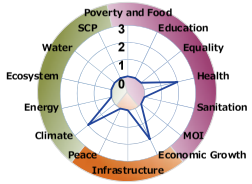
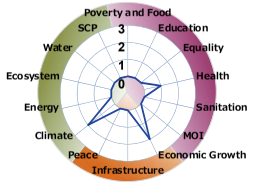
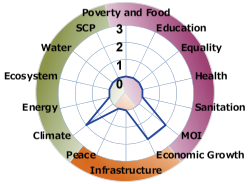
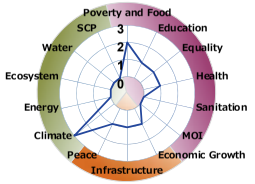
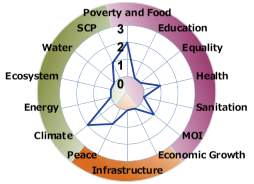
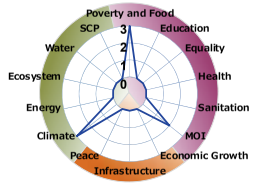
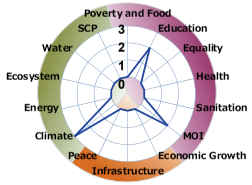
ODI (2012) "Options for including disaster resilience in post-2015 development goals"					
Integrated Radar Chart	**Sub-Radar Charts**				
	To reduce risk and build resilience to disasters for all (Version 1, UN System Task Team)	To reduce risk and build resilience to disasters for all (Alternative)	Disaster resilient nations	Disaster resilient communities	Resilience to shocks and stresses
					
Eliminate absolute poverty	Universal numeracy and literacy				
					

Figure A7. Integrated Radar Chart and Sub-Radar Charts of ODI (2012)

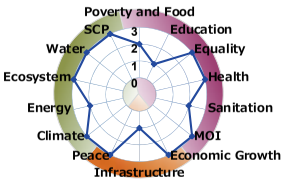
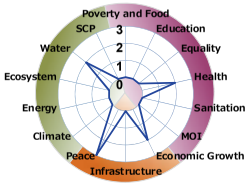
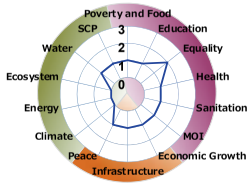
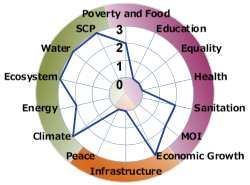
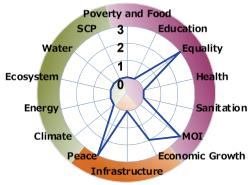
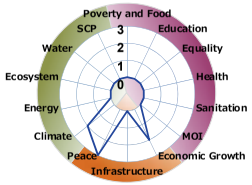
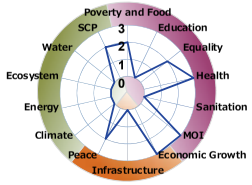
Karver et al. (2012) "MDGs 2.0: What Goals, Targets, and Timeframe?"					
Integrated Radar Chart	**Sub-Radar Charts**				
	Peace, security and disarmament	Development and poverty eradication	Protecting our common environment	Human rights, democracy and good governance	Protecting the vulnerable
					
Meeting the special needs of Africa					
					

Figure A8. Integrated Radar Chart and Sub-Radar Charts of Karver *et al.* (2012)

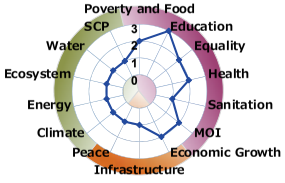
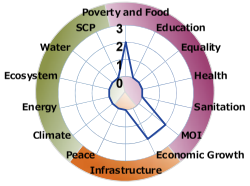
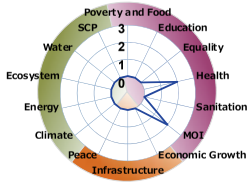
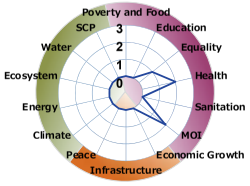
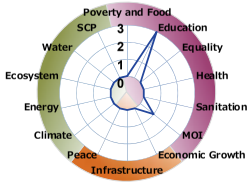
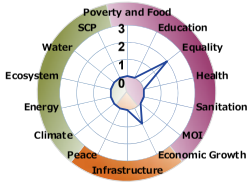
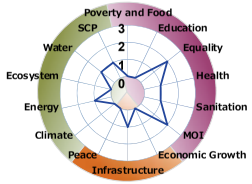
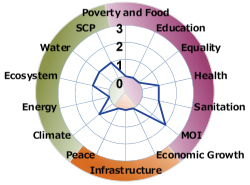
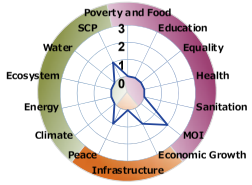
GAC (2012) "Getting to Zero: Finishing the Job the MDGs Started"					
Integrated Radar Chart	**Sub-Radar Charts**				
	Zero goal for income poverty	Zero goal for hunger	Goal of basic health for all	Goal of education for all	Goal of gender equality
					
Zero goal for infrastructure	Goal of clean and sustainable environment for all	Goal of global partnership and good governance			
					

Figure A9. Integrated Radar Chart and Sub-Radar Charts of GAC (2012)

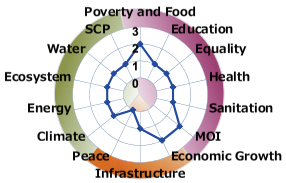
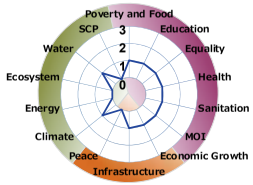
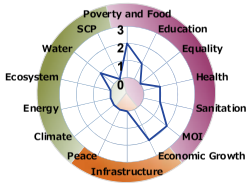
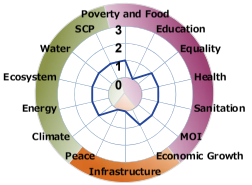
ADB (2013) "A ZEN Approach to Post-2015: Addressing the Range of Perspectives across Asia and the Pacific"				
Integrated Radar Chart	**Sub-Radar Charts**			
	Z "zero extreme poverty"	E "each country's unique targets above the minimum Z standard"	N "environmental priorities"	
				

Figure A10. Integrated Radar Chart and Sub-Radar Charts of ADB (2013)