



A map of systematic evidence maps relating to lower-and middle income countries: study protocol

V4: 20/02/2017

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Abbreviations and acronyms

CEDIL	Centre of Excellence for Development, Impact and Learning
EGM	Evidence Gap Map
L&MIC	Lower-and Middle-Income Countries
M ²	Map of Maps
SDG	Sustainable Development Goals

1. Introduction

1.1 The issue: mapping the evidence

The last decade has seen an increase in the production of impact evaluations and systematic reviews aimed at identifying effective development interventions (White and Waddington, 2012). But this growth in impact evaluations and systematic reviews also presents a challenge in ensuring existing evidence is accessible to decision-makers, that new studies avoid duplication and that evidence gaps are addressed.

In response to this, researchers, governments and non-governmental organisations (NGOs) are increasingly investing in broad evidence mapping exercises. For example, the Department for International Development (DFID) in the UK (for example, Bakrania, 2015) and the Department for Planning, Monitoring and Evaluation in South Africa have commissioned evidence maps (for example, DPME 2016). Similarly, both the International Rescue Committee (IRC) and Sightsavers have conducted evidence maps to help inform their programming (IRC, 2017; Sightsavers 2017). Finally, 3ie has developed Evidence Gap Maps (EGMs) as a means for establishing what we know and do not know about the effects of development interventions (Snilstveit et al., 2016) and have published ten EGMs as of February 2017 (3ie, 2017).

Evidence maps¹ are not limited to international development, but span a range of public policy domains. For instance, a recent systematic review of maps focusing primarily on health identified 34 evidence maps (Miakye Lye et al., 2016), while the Collaboration for Environmental Evidence library includes 14 systematic maps focused on environmental policy, many of them with an explicit emphasis on lower- and middle-income countries (L&MICs) (CEE, 2017). The Eppi centre has also produced 15 systematic maps spanning education, social welfare and health (Eppi-Centre, 2017).

While there are various efforts to standardise methods for systematic reviews, evidence mapping is still a relatively emergent field. To minimise duplication and inform the further development of methods for evidence mapping, we will conduct a stock-taking exercise to provide an overview of the methods and thematic focus of existing systematic evidence maps focusing on L&MICs. The results will inform the thematic focus of a number of evidence maps to be commissioned by the Centre of Excellence for Development, Impact and Learning (CEDIL).

This document provides the study protocol for 'Map of Maps' (M²). Below we outline the study objectives and a brief summary of the overall methodological approach. Section two describes the scope, inclusion criteria, search strategy, screening, data extraction and analysis. Section three provides a summary of plans for stakeholder engagement, a draft timeline and list of deliverables.

¹ Throughout, we use 'evidence map' as a catch-all term for maps, including systematic maps, evidence gap maps etc.

1.2 Objectives

The aim of this project is to provide an overview of completed and ongoing systematic evidence maps focusing on development programmes in low- and middle-income countries (L&MICs). In doing so we have three objectives:

- 1) To identify, critically appraise and summarise the characteristics of existing systematic evidence maps
- 2) To identify thematic gaps where new systematic evidence maps could add value
- 3) To provide easy access to existing systematic evidence maps through an interactive platform

1.3 Methodological approach

The following section summarises the methodology that we will adopt in completing the M². The methodology will draw on methods for systematic evidence mapping, in particular that of 3ie EGMs (Snilstveit et al., 2016). Specifically, we will structure the map around a framework or matrix of interventions and outcomes, allowing us to visually map out where systematic evidence maps exist and where there are gaps.

The EGM will draw on systematic methods to identify systematic evidence maps corresponding to the concepts included in the framework. Key elements of the methodology will include a systematic search of the published and unpublished literature, and the application of systematic inclusion and exclusion criteria.

Throughout, we use the term ‘systematic evidence map’ to refer to any evidence mapping approach that follows a systematic process to identify, determine inclusion and extract data from included studies. A summary of the evidence captured will be provided in a published report and in an interactive, online evidence gap map.

2. Scope of the Map of Maps

EGMs typically involve the construction of a framework of interventions and outcomes based on a review of the literature and consultation with stakeholders. The overall scope of the M², to cover all systematic evidence maps of international development programmes in L&MICs, has already been stipulated by CEDIL. We will draw on the World Bank sectoral classification of interventions, while the outcomes will be classified using the United Nations sustainable

development goals (SDGs). These two classifications were chosen because of their comprehensive scope and relevance to international development research and programmes. Broadly then, the M² will include any map that catalogues evidence relating to one or more interventions and outcomes of interest. We outline the inclusion criteria in more detail below.

2.1 Populations

To be included, systematic evidence maps need to have an explicit focus on capturing evidence from L&MICs. This does not mean they cannot include evidence from High Income Countries.

2.2 Interventions

To be included systematic evidence maps need to focus on one or more of the 73 types of development interventions classified into 10 intervention sectors, as specified in the World Bank typology. Appendix E provides the World Bank's overview of all interventions, subdivided by intervention sectors. The ten intervention sectors are as follows:

Table 1: Intervention sectors

-
- Agriculture
 - Public Administration
 - Law and Justice
 - Information and Communications
 - Education
 - Finance
 - Health
 - Energy and Mining
 - Transportation
 - Water, Sanitation and Flood protection
 - Industry and Trade
-

The M² intervention categorisation will be made up of these ten intervention sectors, with all included maps categorised into one or more of these sectors (the scope of some maps may cover several World Bank sectors).

2.3 Outcomes

To be included systematic evidence maps need to focus on one or more of the outcomes specified by the SDGs. The United Nations classify 126 target indicators by 17 sustainable development goals in all welfare domains including equity across income and gender. The M² outcome categorisation will be made up of these seventeen SDGs, with all included maps categorised into one or more of these goals (the scope of some maps will likely cover several SDGs). Appendix F provides the UN's overview of all SDGs, subdivided by indicators. The seventeen SDGs are as follows:

Table 2: Outcomes by SDG goal

-
- Goal 1: End poverty in all its forms everywhere
 - Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture
 - Goal 3: Ensure healthy lives and promote well-being for all at all ages
 - Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
 - Goal 5: Achieve gender equality and empower all women and girls
 - Goal 6: Ensure availability and sustainable management of water and sanitation for all
 - Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all
 - Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
 - Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
 - Goal 10: Reduce inequality within and among countries
 - Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable
 - Goal 12: Ensure sustainable consumption and production patterns
 - Goal 13: Take urgent action to combat climate change and its impacts
 - Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development
 - Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
 - Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
 - Goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development
-

2.4 Study types

A range of systematic approaches to evidence mapping and synthesis have emerged to address different decision-making needs, objectives and contexts (Moher, Stewart and Shekelle 2015). Systematic maps first emerged in 2007 (Bates et al. 2007) and since then researchers have adopted a range of different approaches to systematically mapping and describing the evidence base. These approaches have been variously described as 'systematic maps' (Haddaway et al., 2016), 'evidence maps' (Bragge et al., 2011; Miake-Lye *et al.* 2016; ADD DFID MAPS, DPME, IRC) and 'evidence gap maps' (Snilstveit et al., 2013; Sightsavers, 2017).

In this study, our primary interest is to identify systematic evidence maps, broadly defined as studies, typically broad in scope, that primarily address questions related to the size and characteristics of the evidence base, with the purpose of identifying existing research and

research gaps (Haddaway *et al.* 2016; Miake-Lye *et al.* 2016). Some systematic evidence maps also aim to inform decision-making by compiling existing research to make it more accessible to users, either in the form of lists or a searchable database (Bragge *et al.* 2011; Haddaway *et al.*, 2016; Snilstveit *et al.*, 2017). Finally, systematic evidence maps limit data extraction and analysis to study characteristics, and do not provide a formal synthesis of the findings of included studies (Haddaway *et al.* 2016; Miake-Lye *et al.* 2016).

A recent paper by Snilstveit *et al.* (2017) provides a summary of the key features of a 'systematic map' and contrasts them with other mapping and synthesis approaches. They identify a number of key features of systematic maps (see Appendix C for the full table): the aim of providing an overview of research on a theme, identifying research cluster and evidence gaps and making the research accessible; a flexible scope; a timeline of 3-6 months; a search of relevant databases and websites that can include 'snowballing', hand-searching and expert consultation; flexible inclusion criteria for study designs; descriptive analysis of included studies and sometimes some quality appraisal. In contrast, a systematic review of maps by Miakye-Lye *et al.* (2016, p18) also identified the following common components for 'evidence maps', "a systematic search of a broad field to identify gaps in knowledge and/or future research needs that presents results in a user-friendly format, often a visual figure or graph, or a searchable database".

James *et al.* (2016) and Miakye-Lye *et al.* (2016, p19) both note the similarity of many mapping methodologies to that of scoping reviews, with the latter distinguishing the two through, "the involvement of stakeholders early in the search process, the rigor of the search strategy, and the production of a visual or searchable database, with the stated goal that such products are more 'user friendly' or digestible".

Our interest is in identifying and mapping completed or ongoing 'systematic evidence maps', as broadly defined above. Thus, the inclusion criteria outlined below draw on descriptions of the key characteristics of maps, as reported in existing literature on evidence mapping methodologies (Haddaway *et al.*, 2016; James *et al.*, 2016; Miakye-Lye *et al.*, 2016; Snilstveit *et al.*, 2016).

2.5 Other inclusion/exclusion criteria

M² will include both completed and ongoing maps. To be included, studies must also have been published in or after the year 2010. This date is justified by the fact that evidence maps are a relatively recent innovation in international development, with a review of maps published in 2013 (Schmucker *et al.*) finding only seven maps. Likewise, the first map of international development evidence that we are aware of was published in 2010 by Stewart *et al.*

2.6 Screening tool

The map will include maps assessing the evidence on social, behavioural and economic development in Low and Middle Income Countries (L&MICs),

We will screen maps at two levels – firstly at title (and abstract/summary if available), then at full-text. We will then further categorise maps into two categories (systematic and non-

systematic maps). Inclusion for these two categories will depend on the number of includable maps returned by our search strategy. The full screening process is as follows:

Screening criteria at title:

The following initial criteria will be used to screen search results at title:

- 1) Methodological:
 - i. Primary studies are excluded, as are discussion pieces
 - ii. Systematic reviews, rapid reviews and rapid evidence appraisals are excluded

- 2) Publication date
 - i. Only maps published in 2010 or after will be included
This is justified by the fact that evidence maps are a relatively recent innovation in international development, with a review of maps published in 2013 (Schmucker et al.) finding only seven maps. Likewise, the first map of international development evidence that we are aware of was published in 2010 by Stewart et al.

- 3) Relevance
 - i. Only maps that may conceivably fit within one of the World Bank sectors or provide evidence relating to one or more of the SDGs are includable.

- 4) Health
 - i. Maps of mental health, substance abuse, NCD and preventative interventions on NCD, mindfulness, with no explicit focus on LMICs or global evidence are not includable.

Screening at full-text:

At full-text, we will apply both the title level criteria above and the following additional criteria:

- 5) Geographical scope:
 - i. We will not include maps focused on a single country. This decision is based on both substantive and pragmatic considerations. Maps relating to a single country are less relevant to our research objectives than those that include evidence from multiple contexts. Excluding maps relating to only a single country also ensures that the map's scope is manageable.

- 6) Methodological scope:
 - i. To be included, maps must provide inclusion criteria that allow for the inclusion of studies of effects (primary or secondary). Maps with inclusion criteria that include this type of study, but also a broader range of evidence, are includable.
 - ii. Reviews of development programming (rather than evaluation evidence) are not includable

- 7) L&MIC:

- i. Studies focused on a region where the majority of countries are L&MICs are included.
 - ii. Maps only containing evidence from high income countries are excluded.
 - iii. The focus of the map is on the broad field of international development. As such, to be included studies need to focus on evidence from L&MICs (World Bank, 2017). To be considered to have an L&MIC ‘focus’, maps must either
 - i. convey this in their title or text, OR
 - ii. provide a descriptive analysis of the evidence base included in a map by country/region, AND 25 per cent of studies or more be from L&MICs (using latest L&MIC designations).
- 8) Mapping approach: to be included, maps must fulfil criterion i) AND either ii) or iii)
- i. Provide a list of included studies
 - ii. For each included study, provide details on any of the following meta-data: intervention type, sectoral area, outcomes/exposures, study designs
 - iii. Provide descriptive analysis across the body of studies included in a map. Descriptive analysis could provide meta-data for any of the following: intervention type, sectoral area, outcomes/exposures, study designs.
- 9) Systematic and non-systematic:
- To be included, maps must fulfil the following two criteria:
- A. Substantive AND methodological inclusion criteria must be specified
 - i. Substantive: maps must explicitly state a thematic or intervention inclusion criterion
 - ii. Methodological: maps must provide basic information on the types (or designs) of studies that are included in the map. There is no standard for the studies, but maps should be transparent about the types of studies included.
 - B. Search methods should be clearly outlined. To meet this criterion, maps must report BOTH
 - i. Resources searched
 - ii. Search string or search terms used

Maps meeting criterion 8 will be considered to be ‘systematic maps’ and will be included in the map of maps. Maps meeting all other criteria, but not criterion 8 will be classed as ‘non-systematic’ maps and likely excluded. Given the timescale and resources available to the project, inclusion of ‘non-systematic’ maps in M² will be dependent on there being a relatively low number of includable ‘systematic maps’ returned by our search strategy.

2.7 Search strategy

As many systematic maps are unlikely to appear in academic databases, the search strategy will focus on a search of topical website databases, the contacting of map authors and commissioning organisations, and checking references. We will search the list of website-based

databases in Table 3. We will check the references of included maps and check references and forward citation-track key literature on evidence-mapping. We will also contact authors of included maps, as well as mapping experts and commissioners to ask about further maps. Finally, we will use listservs and social media to request suggestions for studies for inclusion.

We will also undertake a search of limited number of academic databases. The full search strategy for academic databases is outlined in Appendix D. It combines the following terms: "evidence map" OR "evidence maps" OR "evidence mapping" OR "evaluation map" OR "evaluation maps" OR "evaluation mapping" OR "systematic map*" We will apply variants of this search string to topical website databases.

Academic databases to be searched: Discovery, Google Scholar.

Website-based databases to be searched include the following:

Table 3: List of website-based databases

Database or Organisation	Web URL
International Rescue Committee	www.rescue.org
DFID	https://www.gov.uk/dfid-research-outputs
UNICEF	https://www.unicef.org
SBU	http://www.sbu.se/en/
Collaboration for Environmental Evidence (CEE)	http://www.environmentalevidence.org/
Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre)	http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=56
Social Care Institute for Excellence (SCIE)	https://www.scie.org.uk/
3ie	www.3ieimpact.org
Oxfam Humanitarian Evidence Programme	http://policy-practice.oxfam.org.uk/our-work/humanitarian/humanitarian-evidence-programme
Department: Planning, Monitoring and Evaluation (DPME)	http://www.dpme.gov.za/Pages/default.aspx
USAID	http://eccnetwork.net/resources/evidence-gap-maps/

Text mining

We expect the majority of search results to be found through a search of the grey literature, through searching websites and through networks and listservs, rather than more traditional

academic database searches. One possible subsidiary output of the search and screening process is the development of a text mining algorithm designed to make the screening process more efficient. Text mining uses automated machine learning to make the screening process more efficient by prioritising search results by relevance (Shemilt et al., 2014). It may be possible to apply text mining techniques to the search results for M² to make the screening process and future updating more efficient. However, text mining requires sufficient numbers of research hits stored within reference management software. Given that we expect the majority of includable maps to be sourced from the grey literature, there may not be enough search results to facilitate data mining. Furthermore, even if data-mining can be used, the learning will only be applicable to a small proportion of all screening (text mining learning will not help prioritise results from the grey literature search). For M², text mining will only be used if our search results make it possible and worthwhile.

2.8 Screening protocol, data extraction and critical appraisal

Screening

Screening will be undertaken in two stages, 'title and abstract²' and 'full-text', though as many of the search results will come from the grey literature, in practice much of the screening is likely to be undertaken at full-text. M² is intended to be a rapid process and therefore screening will not be undertaken by two independent researchers at either stage. Instead, to ensure consistent application of screening criteria, we will trial the screening process with a small sample of studies, with discrepancies discussed within the team and inclusion criteria clarified where necessary. Any studies for which inclusion/exclusion is unclear will be reviewed by a second coder. All studies identified for inclusion at full text will be screened by a second person before being added to the EGM.

Where multiple versions of the same systematic map are available, we will choose the most comprehensive or most up-to-date.

Data extraction

We will use a standardised data extraction form to extract descriptive data from all studies meeting our inclusion criteria. Data extracted from each study include commissioning agency, bibliographic details, interventions and outcomes covered, region covered where applicable and quality appraisal. 3ie is piloting 'Equity-sensitive EGMs' which identify to what extent and how current research practice incorporates equity (Masset and Snilstveit, 2016). These criteria build on other related work on reporting of equity (for example, Welch et al., 2012) As a result, we will also aim to extract data on the extent to which systematic maps provide evidence relating to the equity groupings listed below.

- Age: for instance, programs targeting youth or the elderly
- Caste

² If abstract or similar summary is unavailable, preliminary screening will be on title only

- Disability
- Education
- Sex
- Land ownership
- Place of residence
- Ethnicity, culture and language
- Religion
- Socioeconomic status: this may be measured in different ways, including grouping results by income level, defining people as poor etc
- Social capital or for other vulnerable groups
- Other vulnerable group: open category, to be used iteratively to record details of any vulnerable groups otherwise identified

A map will be considered to provide evidence relating to equity if it fulfils the following:

- If included maps are designed to include interventions that target any group considered vulnerable or otherwise aim to reduce inequalities
- If included maps undertake any analysis of outcomes that applies specifically to a vulnerable group

A full list of the data extracted is described in our coding tool in Appendix A. To ensure that the tool is fit for purpose and to promote consistent application of data extraction criteria, we will trial the process and discuss within the team before finalising the data extraction template. Data extraction will then be completed by a single coder.

Critical appraisal

We will critically appraise all maps that are included in M². Maps will be given a 'confidence' rating of high, medium or low confidence based on the maps' methodological processes. The criteria for appraising maps are outlined in full in Appendix B, along with the 'decision-rules' for determining overall confidence ratings. As with the screening criteria and data extraction template, we will pilot the critical appraisal tool on a small number of maps before confirming a finalized version.

Analysis and visualisation

The dataset of included studies will be analysed in Microsoft Excel to explore and describe the interventions, outcomes, regions and equity groups covered by our included maps. Visualisation of M² will necessitate either some amendments to the existing platform or the sourcing of alternative data visualisation software. The finalised M² framework will help inform what visualisation is needed.

3. Project plan and timeline

Construction of an advisory group

We will engage an Advisory Group of key stakeholders to assist in the construction of the EGM matrix, suggest includable maps, provide expert inputs on the EGM protocol and assist in generating wider interest in the project. Key stakeholders will be made up of CEDIL members.

Piloting

We intend to pilot or test our screening, data extraction and critical appraisal tools in order to ensure they are fit for purpose. As well as ensuring that these tools are clear, this stage is intended to ensure that important evidence is not excluded, but equally that a clear distinction is made between what lies within the map's scope.

Timeline

The draft timeline in Figure 1 is preliminary and intended to identify the stages of the EGM process and indicate how long each will take.

Figure 1: Provisional timeline

	Feb 2017	March	April	May	June
Advisory Group of key stakeholders for the study agreed					
Draft M2 evidence gap map framework including interventions, outcomes and cross-cutting themes prepared					
M2 EGM protocol drawn up including map quality appraisal tool					
Convening of key stakeholders to comment on framework and protocol					
M2 EGM framework and protocol completed					
Platform development undertaken to support M2 EGM					
Literature search conducted					
Screening for includable maps					
Coding of included maps					
Evidence gap map constructed					
M2 EGM report written up					
Second convening key M2 stakeholders held to feedback on map and report					

M2 and report finalised and formally published by CEDIL and 3ie and launched on CEDIL and 3ie websites					
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3.1 Deliverables

1. A report containing: a description of the methodological process used; a description and critical appraisal of the maps found; a brief analysis of the distribution of included maps – thematic areas that have been mapped or are the subject of ongoing maps
2. An interactive map of maps on the 3ie website
3. A set of recommendations of priority maps in key areas where there are no pre-existing maps

References

- 3ie (2017). Find Evidence. [Online]. New Delhi: International Initiative for Impact Evaluation (3ie), available from: <http://www.3ieimpact.org/en/evidence/> [Accessed 10 February 2017].
- Bakrania, S. (2015). Security and justice evidence mapping. Birmingham, UK: GSDRC, University of Birmingham.
- Bates, S, Clapton, J and Coren, E. (2007). Systematic maps to support evidence base in social care. *Evidence & Policy*, 3(4), pp.539–551.
- Bragge, P., O. Clavisi, T. Turner, E. Tavender, A. Collie, and R.L. Gruen. (2011). The global evidence mapping initiative: scoping research in broad topic areas. *BMC Medical Research Methodology* 11: 92.
- DPME 2016, Policy Relevant Evidence Maps: A Method to Inform Decision-making in the Public Sector. Department: Planning, Monitoring and Evaluation (DPME). Cape Town, South Africa.
- Eppi-Centre 2017, *Eppi-Centre publications*. Available from: <http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=56>. [23 February 2017].
- Haddaway, N., Bernes, C., Jonsson, B-G and Hedlund, K. (2016). The benefits of systematic mapping to evidence-based environmental management. *Ambio*. 45. 613-620.
- Hartling L., Guise, J.M., Kato, E., Anderson, J., Belinson, S., Berliner, E., Dryden, D.M., Featherstone, R., Mitchell, M.D., Motu'apuaka, M., Noorani, H., Paynter, R., Robinson, K.A.,
- IRC (2017), *Strategy 2020: the outcomes and evidence framework—evidence maps* [Online], available from: <https://www.rescue.org/resource/strategy-2020-outcomes-and-evidence-framework-evidence-maps> [accessed 16/2-2017]
- James, K, L, Randall, N, P, Haddaway, N, R. 2016. Methodology for systematic mapping in environmental sciences. *Environmental Evidence*. The official journal of the Collaboration for Environmental Evidence, 2016 5:7
- Masset, E. and Snilstveit, B. 2016. Note on equity-sensitive gap maps. Unpublished manuscript.
- Miake-Lye, I.M., Hempel, S., Shanman, R. and Shekelle, P.G. (2016). What is an evidence map? A systematic review of published evidence maps and their definitions, methods and products. *Systematic Reviews*. 5(28) DOI 10.1186/s13643-016-0204-x
- Moher, D, Stewart, L and Shekelle, P. (2015). All in the Family: systematic reviews, rapid reviews, scoping reviews, realist reviews, and more. *Systematic Reviews*, 4(183). Available from doi: 10.1186/s13643-015-0163-7 [Accessed 10 February 2017].
- Schmucker C, Motschall E, Antes G, Meerpohl JJ. (2013) Methods of evidence mapping : A systematic review. *Bundesgesundheitsblatt-Gesundheitsforschung-Gesundheitsschutz*: 2013 28.

Schoelles, K., Umscheid, C.A. and Whitlock, E. (2015). A taxonomy of rapid reviews links report types and methods to specific decision-making contexts. *Journal of Clinical Epidemiology*. 68(12):1451-62.e3. doi: 10.1016/j.jclinepi.2015.05.036.

Shemilt I, Simon A, Hollands G, Marteau TM, Ogilvie D, O'Mara-Eves A, Kelly MP, Thomas J (2014) Pinpointing needles in giant haystacks: use of text mining to reduce impractical screening workload in extremely large scoping reviews. *Research Synthesis Methods*.5(1): 31-49

Sightsavers 2017, *Evidence gap maps*. Available from: < <https://www.sightsavers.org/gap-maps/> >. [23 February 2017].

Snilstveit, B, Vojtkova, M, Bhavsar, A, Gaarder, M, (2016). Evidence & gap maps – a tool for promoting evidence informed policy and prioritising future research. *Journal of Clinical Epidemiology*, 79, pp.120–129.

Snilstveit, B., Bhatia, R., Rankin, K., Leach, B. (2017) Evidence gap maps: a starting point for strategic evidence production and use. International Initiative for Impact Evaluation (3ie): London.

Stewart R, van Rooyen C, Dickson K, Majoro M, de Wet T. (2010) *What is the impact of microfinance on poor people? A systematic review of evidence from sub-Saharan Africa*. Technical report. London: EPPI-Centre, Social Science Research Unit, University of London. <http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=2965>

Waddington et al. (2014). Water, Sanitation and Hygiene Evidence Gap Map, available from: <http://gapmaps.3ieimpact.org/evidence-maps/water-sanitation-and-hygiene-evidence-gap-map - accessed 2/9-2016>

Welch, V., Petticrew, M., Tugwell, P., Moher, D., O'Neill, J., Waters, E. & White, H. 2012. PRISMA-Equity 2012 Extension: Reporting Guidelines for Systematic Reviews with a Focus on Health Equity. *PLOS Medicine*, 9, 1-7.

World Bank, 2017. World Bank Country and Lending Groups. Available from: <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>

Appendix A: Data Extraction Form

Descriptive Information	Study ID	Open answer	
	Coder ID	Open answer	
	Title	Open answer	
	Author	Open answer	
	Citation	Open answer	
	Publication date	Open answer	
	Regions (select multiple options if necessary)	<input type="radio"/> East Asia and Pacific <input type="radio"/> South Asia <input type="radio"/> Europe <input type="radio"/> CIS <input type="radio"/> Middle East and North Africa <input type="radio"/> Sub-Saharan Africa <input type="radio"/> Latin America and the Caribbean <input type="radio"/> North America	
	Funder	Open answer	
	Map methodology	Visualisation (select only one)	<input type="radio"/> Interactive/web-based <input type="radio"/> Published as hard-copy
		Date updated (date in format dd/mm/yyyy)	Open answer
Equity Data		How does this map consider equity (Select from dropdown menu. Select multiple options if necessary)	<input type="radio"/> Assesses impact on a disadvantaged group <input type="radio"/> Intervention aimed at reducing inequality <input type="radio"/> Not applicable
	Dimension of equity/ Population group (Select from dropdown)	<input type="radio"/> Age <input type="radio"/> Caste <input type="radio"/> Disability <input type="radio"/> Education <input type="radio"/> Sex <input type="radio"/> Land ownership	

- o Place of residence
- o Ethnicity, culture and language
- o Religion
- o Socioeconomic status
- o Social capital

- o Other vulnerable groups*

If 'other vulnerable group' describe*

Open answer

Dimension of equity/
Population description

Open answer

World Bank Intervention domains

- o Agriculture
- o Public Administration
- o Law and Justice
- o Information and Communications
- o Education
- o Finance
- o Health
- o Energy and Mining
- o Transportation
- o Water, Sanitation and Flood protection

Intervention description

Open answer

Sustainable Development Goals

- o Goal 1: End poverty in all its forms everywhere
- o Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture
- o Goal 3: Ensure healthy lives and promote well-being for all at all ages
- o Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
- o Goal 5: Achieve gender equality and empower all women and girls

-
- o Goal 6: Ensure availability and sustainable management of water and sanitation for all
 - o Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all
 - o Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
 - o Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
 - o Goal 10: Reduce inequality within and among countries
 - o Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable
 - o Goal 12: Ensure sustainable consumption and production patterns
 - o Goal 13: Take urgent action to combat climate change and its impacts
 - o Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development
 - o Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
 - o Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
 - o Goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development

Outcome
descriptions

Open answer

Appendix B: Systematic map critical appraisal tool

The following tool draws on the SURE checklist for systematic review quality appraisal, the 3ie systematic review quality appraisal checklist (Snilstveit et al., 2014), James et al. (2016), Snilstveit et al. (2017), and Miakye-Lye et al. (2016).

The following criteria will be applied to all included maps to assess the methods they have applied to identify, include and map studies.

A: Identification and inclusion

1. Were the criteria used for deciding which studies to include in the review reported?

Did the authors specify:

- a. Study designs
- b. Any of: participants/settings/population
- c. Intervention(s)
- d. Outcome(s)

Note that if studies report that they include any research design, for example, or the interventions(s) are implicit, that can be considered to meet the criteria.

- YES (*all four criteria should be met*)
 - PARTIALLY (*study design, setting and intervention inclusion criteria should be explicit/implicit*)
 - NO (*any other*)
-

2. Was the search for evidence reasonably comprehensive?

Did the search involve:

- e. Searching at least two academic databases
- f. Searching at least one source of grey literature, including google scholar
- g. Contacting external experts

- YES (*all three criteria should be met*)
 - PARTIALLY (*e. and f. should be met*)
 - NO (*any other*)
-

3. Does the map cover an appropriate time period?

For evidence maps, this should be at least as far back as 2000

Note: With reference to the above – there may be important reasons for adopting different dates for the search, e.g. depending on the intervention theme covered by a map. If you think there are limitations with the timeframe adopted for the search that have not been noted and justified by the authors, you should code this item as a NO and specify your reason for doing so in the comment box below. Older maps should not be downgraded, but the fact that the search was conducted some time ago should be noted in the quality assessment. Always report the time period for the search in the comment box.

YES (search at least as far back as 2000, or search dates otherwise justified)

NO (any other)

4. Was bias in the selection of studies minimised?

Did the authors:

- h. Report how studies were selected for inclusion – by whom and by what process.
- i. Carry out some form of piloting/testing of screening tools or employ independent double-screening at key stages of inclusion/exclusion.
- j. List of included studies provided

YES (all criteria should be met)

PARTIALLY (only criterion h and j met)

NO (any other)

Rating for section A

- High: Questions 1, 2 and 3 should all be 'YES' and 4 should be at least partially.
- Medium: At least two questions must be adjudged to be high confidence and the others should be partially.
- Low: Any other

B: Data extraction and analysis

5. Was data extraction from included studies reliably carried out and reported?

Did the authors:

- k. Report how data was extracted – by whom and by what process.
- l. Explain what data was extracted from included studies
- m. Carry out some form of piloting/testing of data extraction tools or was data extraction undertaken by two independent researchers for included studies?

- YES (*all criteria should be met*)
- PARTIALLY (*only criterion k and l met*)
- NO (*any other*)

6. Are the methods used by the review authors to populate the map clear?

- n. Did authors explain how studies were combined to produce the map? Is it clear how included studies were combined into a data visualization, chart, figure or list/table of studies?

- YES (*criterion n. met.*)
- NO (*criterion n. not met*)

7. Did the authors provide a clear summary of the characteristics of included studies?

Did the authors specify:

- o. Study designs
- p. Any of: participants/settings/population
- q. Intervention(s)
- r. Outcome(s)

- YES (*all four criteria should be met*)
- PARTIALLY (*study design, setting and intervention inclusion criteria should be explicit/implicit*)
- NO (*any other*)

8. Are research gaps and knowledge clusters identified?

- s. Did the authors include a discussion of the dispersion of the evidence, identifying important bodies of evidence and significant gaps?

- YES (*criterion s. met*)
- NO (*criterion s. not met*)

9. Do the authors stick to describing the characteristics of included studies and not draw conclusions on the findings of those studies? For example, studies should be marked down if authors undertook a vote count or similar synthesised measure of effectiveness.

t. Did authors avoid drawing conclusions regarding the findings of included studies?

- YES (*criterion t. met*)
- NO (*criterion t. not met*)

Rating for section B

- High: Questions 6, 7, 8 and 9 should all be 'YES' and 5 should be at least partially.
- Medium: At least two questions must be adjudged to be high confidence and the others should be partially.
- Low: Any other

Overall rating

- High: Sections A and B should both be adjudged to be 'high confidence'
- Medium: Both sections should be adjudged to be at least 'medium confidence'
- Low: Any one section is adjudged to be 'low confidence'

Missing data

If information for a given criterion is unavailable, maps will be assumed not to have met that criterion. We will write to map authors to advise them of confidence ratings, any reasons for downgrading and offer them the opportunity to provide additional information.

Appendix C: Systematic approaches to evidence mapping & synthesis

Product	Aim	Scope	Time	Search	Inclusion criteria	Data extraction and critical appraisal	Analysis	Presentation
Evidence maps								
Evidence inventory³	Provide rapid overview of available evidence to assess need for further research	Typically narrow	5-10 days	1-4 databases (relevant repositories of impact evaluations and/ or systematic reviews), typically date and language restrictions	Impact evaluations and/ or systematic reviews	List of studies categorised as per stakeholder needs. No critical appraisal	May include limited descriptive summary	Categorised list, with references, and brief note
Systematic map⁴	Provide overview of research on a topic. Identify evidence clusters and gaps. Make existing research available	Depends on stakeholder interest, often broad but can also address more narrow questions.	3-6 months	All relevant databases and websites. Snowballing. Hand searching. Expert consultation	Depends on question, but not limited to counterfactual studies.	Descriptive characteristics of evidence base. May include some critical appraisal	Descriptive analysis of study characteristics, highlighting evidence clusters and gaps	Report describing characteristics of evidence, list or database of all studies
Evidence gap map (EGM)⁵	Inform research commissioning and facilitate the use of evidence to inform decision making	Broad theme/ sector	3-6 months	Key evidence repositories, select academic databases, snowballing	Impact evaluations, systematic reviews	Descriptive characteristics of studies, appraisal of systematic reviews	Descriptive analysis of evidence and gaps, summary of lessons from high quality SRs	Report + visual and interactive map website/ matrix. Links to summaries of included studies
Evidence synthesis								
Systematic review of intervention effects⁶	Provide a comprehensive, unbiased assessment of evidence on intervention effects	Specific question(s)	12-18 months	All relevant databases and websites. Snowballing. Hand searching. Expert consultation	Impact evaluations	Descriptive characteristics of studies, empirical findings. Detailed critical appraisal	Quantitative and qualitative <i>synthesis</i> as appropriate	Full technical report, often user friendly summary report and brief

³ Hartling et al. (2015).

⁴ Clapton and Coren (2007), Oakley et al., (2005), Haddaway et al., (2016)

⁵ Snilstveit et al. (2013), Snilstveit et al. (forthcoming)

⁶ Cooper et al. (2009), Lavis (2009), Lavis et al. (2009), Petticrew and Roberts (2007), Waddington et al. (2012)

Systematic review of implementation⁷	Provide a comprehensive, unbiased assessment and synthesis of evidence on intervention implementation	Specific question(s)	12-18 months	As above, and government documentation	Qualitative studies, process evaluations, correlational studies as appropriate	Descriptive characteristics of studies, empirical findings. Detailed critical appraisal	Quantitative and qualitative <i>synthesis</i> as appropriate	Full technical report, often user friendly summary report and brief
Systematic review - full causal chain analysis⁸	Provide a comprehensive, unbiased assessment and synthesis to address both if an intervention works or not, for whom, and identify potential barriers and facilitators of effectiveness	Specific question(s)	12-24 months	As above, and government documentation.	Impact evaluations AND associated qualitative studies, process evaluations and project documents	Descriptive characteristics of studies, empirical findings. Detailed critical appraisal	Quantitative and qualitative <i>synthesis</i> as appropriate	Full technical report, often user friendly summary report and brief
Rapid Evidence Assessment⁹	Provide a quick review and synthesis of available evidence under time and/or resource constraints	Specific question(s)	3-6 months	Time bound search of relevant subject matter databases. Snowballing	Depends on question	Similar to systematic reviews, but more limited	May be similar to SRs, but often more limited narrative, descriptive or tabular analysis.	Full technical report, often user friendly summary report and brief
Meta-synthesis								
Review of reviews¹⁰	To provide users with an accessible overview of SRs available in a particular area	Specific question(s), but covering more than one intervention/ outcome	6-9 months	All relevant databases and websites. Snowballing. Hand searching. Expert consultation	Systematic reviews		Quantitative and qualitative synthesis as appropriate, including meta-analysis where possible.	Full technical report, often user friendly summary report and brief

Source: Snilstveit et al. 2017

⁷ Hartling et al. (2015)

⁸ Waddington et al. (2012),

⁹ Gannan et al. (2009), Khangura et al. (2012), Government Social Research REA Toolkit

¹⁰ Becker et al. (2011)

Appendix D: Search terms

Methodology search string:

1. (evidence NEAR/2 map*) OR (evaluation NEAR/2 map*)

L&MIC search string:

2. ((Afghanistan OR Albania OR Algeria OR Angola OR Antigua OR Barbuda OR Argentina OR Armenia OR Armenian OR Azerbaijan OR Bahrain OR Bangladesh OR Barbados OR Benin OR Byelarus OR Byelorussian OR Belarus OR Belorussian OR Belorussia OR Belize or Bhutan or Bolivia or Bosnia or Herzegovina or Hercegovina or Botswana or Brasil or Brazil or Bulgaria or “Burkina Faso” or “Burkina Fasso” or Burundi or Cambodia or Cameroon or Camerouns or Cameroun or “Cape Verde” or “Cabo Verde” or “Central African Republic” or Chad or Chile or China or Colombia or Comoros or “Comoro Islands” or Comores or Mayotte or Congo or Zaire or “Costa Rica*” or “Cote d'Ivoire” or “Ivory Coast” or Croatia or Cuba or Czechoslovakia or “Czech Republic” or Slovakia or “Slovak Republic” or Djibouti or “French Somaliland” or Dominica or “Dominican Republic” or “East Timor” or “East Timur” or “Timor Leste” or Ecuador or Egypt or “El Salvador” or Eritrea or Estonia or Ethiopia or Fiji or Gabon or “Gabonese Republic” or Gambia or Gaza or “Georgia Republic” or “Georgian Republic” or Georgia or Ghana or Grenada or Guatemala or Guinea or Guiana or Guyana or Haiti or Honduras or Hungary or India or Maldives or Indonesia or Iran or Iraq or Jamaica or Jordan or Kazakhstan or Kazakh or Kenya or Kiribati or Korea or Kosovo or Kyrgyzstan or Kirghizia or “Kyrgyz Republic” or Kirghiz or Kirgizstan or “Lao PDR” or Laos or Latvia or Lebanon or Lesotho or Liberia or Libya or Lithuania or Macedonia or Madagascar or Malaysia or Malaya or Malay or Malawi or Mali or Malta or “Marshall Islands” or Mauritania or Mauritius or Mexico or Micronesia or “Middle East” or Moldova or Moldovia or Moldovian or Mongolia or Montenegro or Morocco or Mozambique or Myanmar or Myanma or Burma or Namibia or Nepal or “Netherlands Antilles” Curacao or “Sint Maartin” or Nicaragua or Niger or Nigeria or “Northern Mariana Islands” or Oman or Pakistan or Palau or Palestine or Panama or Paraguay or Peru or Philippines or Philipines or Phillipines or Phillipines or “Puerto Ric*” or Romania or Rumania or Roumania or Russia or “Russian Federation” or Rwanda or Ruanda or “Saint Kitts” or “St Kitts” or “Nevis” or “Saint Lucia” or “St Lucia” or “Saint Vincent” or “St Vincent” or Grenadines or Samoa or “Samoan Islands” or “Sao Tome” or “Saudi Arabia” or Senegal or Serbia or Montenegro or Seychelles or “Sierra Leone” or Slovenia or “Sri Lanka” or “Solomon Islands” or Somalia or “South Africa” or Sudan or Suriname or Surinam or Swaziland or Syria or “Syrian Arab Republic” or Tajikistan or Tadzhiistan or Tadjikistan or Tadzhiik or Tanzania or Thailand or Togo or “Togolese Republic” or Tonga or Trinidad or Tobago or Tunisia or Turkey or Turkmenistan or Turkmen or Tuvalu or Uganda or Ukraine or Uruguay or Uzbekistan or Uzbek or Vanuatu or Venezuela or Vietnam or “Viet Nam” or “West Bank” or Yemen or Zambia or Zimbabwe)) OR ((developing or “less* developed” or “under developed” or underdeveloped or under-developed or “middle income” or “low* income”) NEAR/3 (countr* or nation*)) OR ((low* NEAR/3 (middle NEAR/3 (countr*)) OR (Africa or Asia or Caribbean or “West Indies” or “South America” or “Latin America” or “Central America”)) NOT (“African-

American*" OR "African-American*" OR "Mexican American*" OR "American Indian*" OR "Asian American*" OR "native american*"))

The search will combine the methodology search string and the L&MIC search string in the following format: 1. AND 2.

Appendix E: World Bank sectors

Agriculture, fishing, and forestry

Agricultural extension and research

Irrigation and drainage

Forestry

Crops

Animal production

General agriculture, fishing and forestry sector

Public Administration, Law, and Justice

Central government administration

Law and justice

Compulsory health finance

Public administration- Information and communications

Public administration- Financial Sector

Public administration- Other social services

Public administration- Energy and mining

Public administration- Water, sanitation and flood protection

Compulsory pension and unemployment insurance

Sub-national government administration

Public administration- Agriculture, fishing and forestry

Public administration- Education

Public administration- Health

Public administration- Industry and trade

Public administration- Transportation

General public administration sector

Information and communications

Information technology

General information and communications sector

Telecommunications

Education

Pre-primary education

Primary education

Tertiary education

General education sector

Adult literacy/non-formal education

Secondary education

Vocational training

Finance

Banking

Housing finance

Payments, settlements, and remittance systems

Non-compulsory health finance

Non-compulsory pensions and insurance

SME Finance

Microfinance

Other non-bank financial intermediaries

General finance sector

Health and other social services

Health

Capital markets

Credit Reporting and Secured Transactions

Other social services

Energy and mining

Energy efficiency in power sector

Thermal Power Generation

Coal Mining

Other Mining and Extractive Industries

General energy sector

Oil and gas

Large Hydropower

Other Renewable Energy

Transmission and Distribution of Electricity

Transportation

Urban Transport

Ports, waterways and shipping

Railways

Rural and Inter-Urban Roads and Highways

Aviation

General transportation sector

Water, sanitation and flood protection

Sanitation

Water supply

Wastewater Collection and Transportation

General water, sanitation and flood protection sector

Solid waste management

Flood protection

Wastewater Treatment and Disposal

Industry and trade

Agro-industry, marketing, and trade

Petrochemicals and fertilizers

Other domestic and international trade

Housing construction

Other industry

General industry and trade sector

Appendix F: Sustainable Development Goal indicators

Sustainable Development Goal indicators should be disaggregated, where relevant, by income, sex, age, race, ethnicity, migratory status, disability and geographic location, or other characteristics, in accordance with the Fundamental Principles of Official Statistics (General Assembly resolution 68/261).

Goals and targets (from the 2030 Agenda)

Indicators

Goal 1. End poverty in all its forms everywhere

1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day

1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)

1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions

1.2.1 Proportion of population living below the national poverty line, by sex and age

1.2.2 Proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions

1.3 Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable

1.3.1 Proportion of population covered by social protection floors/systems, by sex, distinguishing children, unemployed persons, older persons, persons with disabilities, pregnant women, newborns, work-injury victims and the poor and the vulnerable

1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance

1.4.1 Proportion of population living in households with access to basic services

1.4.2 Proportion of total adult population with secure tenure rights to land, with legally recognized documentation and who perceive their rights to land as secure, by sex and by type of tenure

1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters

1.5.1 Number of deaths, missing persons and persons affected by disaster per 100,000 people^a

1.5.2 Direct disaster economic loss in relation to global gross domestic product (GDP)^a

1.5.3 Number of countries with national and local disaster risk reduction strategies^a

1.a Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions

1.a.1 Proportion of resources allocated by the government directly to poverty reduction programmes

1.a.2 Proportion of total government spending on essential services (education, health and social protection)

1.b Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions

1.b.1 Proportion of government recurrent and capital spending to sectors that disproportionately benefit women, the poor and vulnerable groups

Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture

2.1 By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round

2.1.1 Prevalence of undernourishment

2.1.2 Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES)

2.2 By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons

2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment

2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality

2.5 By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed

2.a Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries

2.b Correct and prevent trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round

2.c Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility

Goal 3. Ensure healthy lives and promote well-being for all at all ages

2.2.1 Prevalence of stunting (height for age <-2 standard deviation from the median of the World Health Organization (WHO) Child Growth Standards) among children under 5 years of age

2.2.2 Prevalence of malnutrition (weight for height $>+2$ or <-2 standard deviation from the median of the WHO Child Growth Standards) among children under 5 years of age, by type (wasting and overweight)

2.3.1 Volume of production per labour unit by classes of farming/pastoral/forestry enterprise size

2.3.2 Average income of small-scale food producers, by sex and indigenous status

2.4.1 Proportion of agricultural area under productive and sustainable agriculture

2.5.1 Number of plant and animal genetic resources for food and agriculture secured in either medium or long-term conservation facilities

2.5.2 Proportion of local breeds classified as being at risk, not-at-risk or at unknown level of risk of extinction

2.a.1 The agriculture orientation index for government expenditures

2.a.2 Total official flows (official development assistance plus other official flows) to the agriculture sector

2.b.1 Producer Support Estimate

2.b.2 Agricultural export subsidies

2.c.1 Indicator of food price anomalies

3.1.1 Maternal mortality ratio

- 3.1 By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births
- 3.2 By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births
- 3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases
- 3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being
- 3.5 Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol
- 3.6 By 2020, halve the number of global deaths and injuries from road traffic accidents
- 3.7 By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes
- 3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all
- 3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination
- 3.a Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate
- 3.1.2 Proportion of births attended by skilled health personnel
- 3.2.1 Under-five mortality rate
- 3.2.2 Neonatal mortality rate
- 3.3.1 Number of new HIV infections per 1,000 uninfected population, by sex, age and key populations
- 3.3.2 Tuberculosis incidence per 1,000 population
- 3.3.3 Malaria incidence per 1,000 population
- 3.3.4 Hepatitis B incidence per 100,000 population
- 3.3.5 Number of people requiring interventions against neglected tropical diseases
- 3.4.1 Mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease
- 3.4.2 Suicide mortality rate
- 3.5.1 Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders
- 3.5.2 Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol
- 3.6.1 Death rate due to road traffic injuries
- 3.7.1 Proportion of women of reproductive age (aged 15-49 years) who have their need for family planning satisfied with modern methods
- 3.7.2 Adolescent birth rate (aged 10-14 years; aged 15-19 years) per 1,000 women in that age group
- 3.8.1 Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population)
- 3.8.2 Number of people covered by health insurance or a public health system per 1,000 population
- 3.9.1 Mortality rate attributed to household and ambient air pollution
- 3.9.2 Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services)
- 3.9.3 Mortality rate attributed to unintentional poisoning
- 3.a.1 Age-standardized prevalence of current tobacco use among persons aged 15 years and older

3.b Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all

3.c Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States

3.d Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks

Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes

4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education

4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university

4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations

4.6 By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy

4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural

3.b.1 Proportion of the population with access to affordable medicines and vaccines on a sustainable basis

3.b.2 Total net official development assistance to medical research and basic health sectors

3.c.1 Health worker density and distribution

3.d.1 International Health Regulations (IHR) capacity and health emergency preparedness

4.1.1 Proportion of children and young people: (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex

4.2.1 Proportion of children under 5 years of age who are developmentally on track in health, learning and psychosocial well-being, by sex

4.2.2 Participation rate in organized learning (one year before the official primary entry age), by sex

4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex

4.4.1 Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill

4.5.1 Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict-affected, as data become available) for all education indicators on this list that can be disaggregated

4.6.1 Percentage of population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex

4.7.1 Extent to which (i) global citizenship education and (ii) education for sustainable development, including gender equality and human rights, are mainstreamed at all levels in: (a) national education policies, (b) curricula, (c) teacher education and (d) student assessment

diversity and of culture's contribution to sustainable development

4.a Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all

4.b By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries

4.c By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States

Goal 5. Achieve gender equality and empower all women and girls

5.1 End all forms of discrimination against all women and girls everywhere

5.2 Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation

5.3 Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation

5.4 Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate

5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life

4.a.1 Proportion of schools with access to: (a) electricity; (b) the Internet for pedagogical purposes; (c) computers for pedagogical purposes; (d) adapted infrastructure and materials for students with disabilities; (e) basic drinking water; (f) single-sex basic sanitation facilities; and (g) basic handwashing facilities (as per the WASH indicator definitions)

4.b.1 Volume of official development assistance flows for scholarships by sector and type of study

4.c.1 Proportion of teachers in: (a) pre-primary; (b) primary; (c) lower secondary; and (d) upper secondary education who have received at least the minimum organized teacher training (e.g. pedagogical training) pre-service or in-service required for teaching at the relevant level in a given country

5.1.1 Whether or not legal frameworks are in place to promote, enforce and monitor equality and non-discrimination on the basis of sex

5.2.1 Proportion of ever-partnered women and girls aged 15 years and older subjected to physical, sexual or psychological violence by a current or former intimate partner in the previous 12 months, by form of violence and by age

5.2.2 Proportion of women and girls aged 15 years and older subjected to sexual violence by persons other than an intimate partner in the previous 12 months, by age and place of occurrence

5.3.1 Proportion of women aged 20-24 years who were married or in a union before age 15 and before age 18

5.3.2 Proportion of girls and women aged 15-49 years who have undergone female genital mutilation/cutting, by age

5.4.1 Proportion of time spent on unpaid domestic and care work, by sex, age and location

5.5.1 Proportion of seats held by women in national parliaments and local governments

5.5.2 Proportion of women in managerial positions

5.6 Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences

5.a Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws

5.b Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women

5.c Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels

Goal 6. Ensure availability and sustainable management of water and sanitation for all

6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all

6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations

6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate

6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes

6.a By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies

6.b Support and strengthen the participation of local communities in improving water and sanitation management

5.6.1 Proportion of women aged 15-49 years who make their own informed decisions regarding sexual relations, contraceptive use and reproductive health care

5.6.2 Number of countries with laws and regulations that guarantee women aged 15-49 years access to sexual and reproductive health care, information and education

5.a.1 (a) Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; and (b) share of women among owners or rights-bearers of agricultural land, by type of tenure

5.a.2 Proportion of countries where the legal framework (including customary law) guarantees women's equal rights to land ownership and/or control

5.b.1 Proportion of individuals who own a mobile telephone, by sex

5.c.1 Proportion of countries with systems to track and make public allocations for gender equality and women's empowerment

6.1.1 Proportion of population using safely managed drinking water services

6.2.1 Proportion of population using safely managed sanitation services, including a hand-washing facility with soap and water

6.3.1 Proportion of wastewater safely treated

6.3.2 Proportion of bodies of water with good ambient water quality

6.4.1 Change in water-use efficiency over time

6.4.2 Level of water stress: freshwater withdrawal as a proportion of available freshwater resources

6.5.1 Degree of integrated water resources management implementation (0-100)

6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation

6.6.1 Change in the extent of water-related ecosystems over time

6.a.1 Amount of water- and sanitation-related official development assistance that is part of a government-coordinated spending plan

6.b.1 Proportion of local administrative units with established and operational policies and procedures for

participation of local communities in water and sanitation management

Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all

7.1 By 2030, ensure universal access to affordable, reliable and modern energy services

7.2 By 2030, increase substantially the share of renewable energy in the global energy mix

7.3 By 2030, double the global rate of improvement in energy efficiency

7.a By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology

7.b By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States and landlocked developing countries, in accordance with their respective programmes of support

7.1.1 Proportion of population with access to electricity

7.1.2 Proportion of population with primary reliance on clean fuels and technology

7.2.1 Renewable energy share in the total final energy consumption

7.3.1 Energy intensity measured in terms of primary energy and GDP

7.a.1 Mobilized amount of United States dollars per year starting in 2020 accountable towards the \$100 billion commitment

7.b.1 Investments in energy efficiency as a percentage of GDP and the amount of foreign direct investment in financial transfer for infrastructure and technology to sustainable development services

Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

8.1 Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries

8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors

8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services

8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-Year Framework of Programmes on Sustainable Consumption and Production, with developed countries taking the lead

8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value

8.6 By 2020, substantially reduce the proportion of youth not in employment, education or training

8.1.1 Annual growth rate of real GDP per capita

8.2.1 Annual growth rate of real GDP per employed person

8.3.1 Proportion of informal employment in non-agriculture employment, by sex

8.4.1 Material footprint, material footprint per capita, and material footprint per GDP

8.4.2 Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP

8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities

8.5.2 Unemployment rate, by sex, age and persons with disabilities

8.6.1 Proportion of youth (aged 15-24 years) not in education, employment or training

8.7 Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms

8.8 Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment

8.9 By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products

8.10 Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all

8.a Increase Aid for Trade support for developing countries, in particular least developed countries, including through the Enhanced Integrated Framework for Trade-related Technical Assistance to Least Developed Countries

8.b By 2020, develop and operationalize a global strategy for youth employment and implement the Global Jobs Pact of the International Labour Organization

Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

9.2 Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries

9.3 Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets

9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities

8.7.1 Proportion and number of children aged 5-17 years engaged in child labour, by sex and age

8.8.1 Frequency rates of fatal and non-fatal occupational injuries, by sex and migrant status

8.8.2 Increase in national compliance of labour rights (freedom of association and collective bargaining) based on International Labour Organization (ILO) textual sources and national legislation, by sex and migrant status

8.9.1 Tourism direct GDP as a proportion of total GDP and in growth rate

8.9.2 Number of jobs in tourism industries as a proportion of total jobs and growth rate of jobs, by sex

8.10.1 Number of commercial bank branches and automated teller machines (ATMs) per 100,000 adults

8.10.2 Proportion of adults (15 years and older) with an account at a bank or other financial institution or with a mobile-money-service provider

8.a.1 Aid for Trade commitments and disbursements

8.b.1 Total government spending in social protection and employment programmes as a proportion of the national budgets and GDP

9.1.1 Proportion of the rural population who live within 2 km of an all-season road

9.1.2 Passenger and freight volumes, by mode of transport

9.2.1 Manufacturing value added as a proportion of GDP and per capita

9.2.2 Manufacturing employment as a proportion of total employment

9.3.1 Proportion of small-scale industries in total industry value added

9.3.2 Proportion of small-scale industries with a loan or line of credit

9.4.1 CO₂ emission per unit of value added

9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending

9.a Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States

9.b Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities

9.c Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020

Goal 10. Reduce inequality within and among countries

10.1 By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average

10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

10.3 Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard

10.4 Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality

10.5 Improve the regulation and monitoring of global financial markets and institutions and strengthen the implementation of such regulations

10.6 Ensure enhanced representation and voice for developing countries in decision-making in global international economic and financial institutions in order to deliver more effective, credible, accountable and legitimate institutions

10.7 Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies

10.a Implement the principle of special and differential treatment for developing countries, in

9.5.1 Research and development expenditure as a proportion of GDP

9.5.2 Researchers (in full-time equivalent) per million inhabitants

9.a.1 Total official international support (official development assistance plus other official flows) to infrastructure

9.b.1 Proportion of medium and high-tech industry value added in total value added

9.c.1 Proportion of population covered by a mobile network, by technology

10.1.1 Growth rates of household expenditure or income per capita among the bottom 40 per cent of the population and the total population

10.2.1 Proportion of people living below 50 per cent of median income, by age, sex and persons with disabilities

10.3.1 Proportion of the population reporting having personally felt discriminated against or harassed within the previous 12 months on the basis of a ground of discrimination prohibited under international human rights law

10.4.1 Labour share of GDP, comprising wages and social protection transfers

10.5.1 Financial Soundness Indicators

10.6.1 Proportion of members and voting rights of developing countries in international organizations

10.7.1 Recruitment cost borne by employee as a proportion of yearly income earned in country of destination

10.7.2 Number of countries that have implemented well-managed migration policies

10.a.1 Proportion of tariff lines applied to imports from least developed countries and developing countries with zero-tariff

particular least developed countries, in accordance with World Trade Organization agreements

10.b Encourage official development assistance and financial flows, including foreign direct investment, to States where the need is greatest, in particular least developed countries, African countries, small island developing States and landlocked developing countries, in accordance with their national plans and programmes

10.c By 2030, reduce to less than 3 per cent the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5 per cent

Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable

11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries

11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage

11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in

10.b.1 Total resource flows for development, by recipient and donor countries and type of flow (e.g. official development assistance, foreign direct investment and other flows)

10.c.1 Remittance costs as a proportion of the amount remitted

11.1.1 Proportion of urban population living in slums, informal settlements or inadequate housing

11.2.1 Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities

11.3.1 Ratio of land consumption rate to population growth rate

11.3.2 Proportion of cities with a direct participation structure of civil society in urban planning and management that operate regularly and democratically

11.4.1 Total expenditure (public and private) per capita spent on the preservation, protection and conservation of all cultural and natural heritage, by type of heritage (cultural, natural, mixed and World Heritage Centre designation), level of government (national, regional and local/municipal), type of expenditure (operating expenditure/investment) and type of private funding (donations in kind, private non-profit sector and sponsorship)

11.5.1 Number of deaths, missing persons and persons affected by disaster per 100,000 people^a

11.5.2 Direct disaster economic loss in relation to global GDP, including disaster damage to critical infrastructure and disruption of basic services^a

11.6.1 Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities

11.6.2 Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (population weighted)

11.7.1 Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities

particular for women and children, older persons and persons with disabilities

11.a Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning

11.b By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels

11.c Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials

Goal 12. Ensure sustainable consumption and production patterns

12.1 Implement the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries

12.2 By 2030, achieve the sustainable management and efficient use of natural resources

12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses

12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment

12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle

12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities

11.7.2 Proportion of persons victim of physical or sexual harassment, by sex, age, disability status and place of occurrence, in the previous 12 months

11.a.1 Proportion of population living in cities that implement urban and regional development plans integrating population projections and resource needs, by size of city

11.b.1 Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015-2030^a

11.b.2 Number of countries with national and local disaster risk reduction strategies^a

11.c.1 Proportion of financial support to the least developed countries that is allocated to the construction and retrofitting of sustainable, resilient and resource-efficient buildings utilizing local materials

12.1.1 Number of countries with sustainable consumption and production (SCP) national action plans or SCP mainstreamed as a priority or a target into national policies

12.2.1 Material footprint, material footprint per capita, and material footprint per GDP

12.2.2 Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP

12.3.1 Global food loss index

12.4.1 Number of parties to international multilateral environmental agreements on hazardous waste, and other chemicals that meet their commitments and obligations in transmitting information as required by each relevant agreement

12.4.2 Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment

12.5.1 National recycling rate, tons of material recycled

12.6.1 Number of companies publishing sustainability reports

12.7.1 Number of countries implementing sustainable public procurement policies and action plans

12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature

12.a Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production

12.b Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products

12.c Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities

Goal 13. Take urgent action to combat climate change and its impacts[b]

13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

13.2 Integrate climate change measures into national policies, strategies and planning

13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

13.a Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible

12.8.1 Extent to which (i) global citizenship education and (ii) education for sustainable development (including climate change education) are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment

12.a.1 Amount of support to developing countries on research and development for sustainable consumption and production and environmentally sound technologies

12.b.1 Number of sustainable tourism strategies or policies and implemented action plans with agreed monitoring and evaluation tools

12.c.1 Amount of fossil-fuel subsidies per unit of GDP (production and consumption) and as a proportion of total national expenditure on fossil fuels

13.1.1 Number of countries with national and local disaster risk reduction strategies^a

13.1.2 Number of deaths, missing persons and persons affected by disaster per 100,000 people^a

13.2.1 Number of countries that have communicated the establishment or operationalization of an integrated policy/strategy/plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other)

13.3.1 Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula

13.3.2 Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions

13.a.1 Mobilized amount of United States dollars per year starting in 2020 accountable towards the \$100 billion commitment

13.b Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities

13.b.1 Number of least developed countries and small island developing States that are receiving specialized support, and amount of support, including finance, technology and capacity-building, for mechanisms for raising capacities for effective climate change-related planning and management, including focusing on women, youth and local and marginalized communities

Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development

14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution

14.1.1 Index of coastal eutrophication and floating plastic debris density

14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans

14.2.1 Proportion of national exclusive economic zones managed using ecosystem-based approaches

14.3 Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels

14.3.1 Average marine acidity (pH) measured at agreed suite of representative sampling stations

14.4 By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics

14.4.1 Proportion of fish stocks within biologically sustainable levels

14.5 By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information

14.5.1 Coverage of protected areas in relation to marine areas

14.6 By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation[c]

14.6.1 Progress by countries in the degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing

14.7 By 2030, increase the economic benefits to small island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism

14.7.1 Sustainable fisheries as a percentage of GDP in small island developing States, least developed countries and all countries

14.a Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries

14.b Provide access for small-scale artisanal fishers to marine resources and markets

14.c Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in the United Nations Convention on the Law of the Sea, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of "The future we want"

Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements

15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world

15.4 By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development

15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species

15.6 Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed

15.7 Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products

14.a.1 Proportion of total research budget allocated to research in the field of marine technology

14.b.1 Progress by countries in the degree of application of a legal/regulatory/policy/institutional framework which recognizes and protects access rights for small-scale fisheries

14.c.1 Number of countries making progress in ratifying, accepting and implementing through legal, policy and institutional frameworks, ocean-related instruments that implement international law, as reflected in the United Nations Convention on the Law of the Sea, for the conservation and sustainable use of the oceans and their resources

15.1.1 Forest area as a proportion of total land area

15.1.2 Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type

15.2.1 Progress towards sustainable forest management

15.3.1 Proportion of land that is degraded over total land area

15.4.1 Coverage by protected areas of important sites for mountain biodiversity

15.4.2 Mountain Green Cover Index

15.5.1 Red List Index

15.6.1 Number of countries that have adopted legislative, administrative and policy frameworks to ensure fair and equitable sharing of benefits

15.7.1 Proportion of traded wildlife that was poached or illicitly trafficked

15.8 By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species

15.9 By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts

15.a Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems

15.b Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation

15.c Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities

Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

16.1 Significantly reduce all forms of violence and related death rates everywhere

16.2 End abuse, exploitation, trafficking and all forms of violence against and torture of children

16.3 Promote the rule of law at the national and international levels and ensure equal access to justice for all

16.4 By 2030, significantly reduce illicit financial and arms flows, strengthen the recovery and return of stolen assets and combat all forms of organized crime

16.5 Substantially reduce corruption and bribery in all their forms

15.8.1 Proportion of countries adopting relevant national legislation and adequately resourcing the prevention or control of invasive alien species

15.9.1 Progress towards national targets established in accordance with Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity 2011-2020

15.a.1 Official development assistance and public expenditure on conservation and sustainable use of biodiversity and ecosystems

15.b.1 Official development assistance and public expenditure on conservation and sustainable use of biodiversity and ecosystems

15.c.1 Proportion of traded wildlife that was poached or illicitly trafficked

16.1.1 Number of victims of intentional homicide per 100,000 population, by sex and age

16.1.2 Conflict-related deaths per 100,000 population, by sex, age and cause

16.1.3 Proportion of population subjected to physical, psychological or sexual violence in the previous 12 months

16.1.4 Proportion of population that feel safe walking alone around the area they live

16.2.1 Proportion of children aged 1-17 years who experienced any physical punishment and/or psychological aggression by caregivers in the past month

16.2.2 Number of victims of human trafficking per 100,000 population, by sex, age and form of exploitation

16.2.3 Proportion of young women and men aged 18-29 years who experienced sexual violence by age 18

16.3.1 Proportion of victims of violence in the previous 12 months who reported their victimization to competent authorities or other officially recognized conflict resolution mechanisms

16.3.2 Unsentenced detainees as a proportion of overall prison population

16.4.1 Total value of inward and outward illicit financial flows (in current United States dollars)

16.4.2 Proportion of seized small arms and light weapons that are recorded and traced, in accordance with international standards and legal instruments

16.5.1 Proportion of persons who had at least one contact with a public official and who paid a bribe to a public official, or were asked for a bribe by those public officials, during the previous 12 months

16.6 Develop effective, accountable and transparent institutions at all levels

16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels

16.8 Broaden and strengthen the participation of developing countries in the institutions of global governance

16.9 By 2030, provide legal identity for all, including birth registration

16.10 Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements

16.a Strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, in particular in developing countries, to prevent violence and combat terrorism and crime

16.b Promote and enforce non-discriminatory laws and policies for sustainable development

Goal 17. Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

Finance

17.1 Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection

17.2 Developed countries to implement fully their official development assistance commitments, including the commitment by many developed countries to achieve the target of 0.7 per cent of gross national income for official development assistance (ODA/GNI) to developing countries and 0.15 to 0.20 per cent of ODA/GNI to least developed countries; ODA providers are encouraged to consider

16.5.2 Proportion of businesses that had at least one contact with a public official and that paid a bribe to a public official, or were asked for a bribe by those public officials during the previous 12 months

16.6.1 Primary government expenditures as a proportion of original approved budget, by sector (or by budget codes or similar)

16.6.2 Proportion of the population satisfied with their last experience of public services

16.7.1 Proportions of positions (by sex, age, persons with disabilities and population groups) in public institutions (national and local legislatures, public service, and judiciary) compared to national distributions

16.7.2 Proportion of population who believe decision-making is inclusive and responsive, by sex, age, disability and population group

16.8.1 Proportion of members and voting rights of developing countries in international organizations

16.9.1 Proportion of children under 5 years of age whose births have been registered with a civil authority, by age

16.10.1 Number of verified cases of killing, kidnapping, enforced disappearance, arbitrary detention and torture of journalists, associated media personnel, trade unionists and human rights advocates in the previous 12 months

16.10.2 Number of countries that adopt and implement constitutional, statutory and/or policy guarantees for public access to information

16.a.1 Existence of independent national human rights institutions in compliance with the Paris Principles

16.b.1 Proportion of population reporting having personally felt discriminated against or harassed in the previous 12 months on the basis of a ground of discrimination prohibited under international human rights law

17.1.1 Total government revenue as a proportion of GDP, by source

17.1.2 Proportion of domestic budget funded by domestic taxes

17.2.1 Net official development assistance, total and to least developed countries, as a proportion of the Organization for Economic Cooperation and Development (OECD) Development Assistance Committee donors' gross national income (GNI)

setting a target to provide at least 0.20 per cent of ODA/GNI to least developed countries

17.3 Mobilize additional financial resources for developing countries from multiple sources

17.4 Assist developing countries in attaining long-term debt sustainability through coordinated policies aimed at fostering debt financing, debt relief and debt restructuring, as appropriate, and address the external debt of highly indebted poor countries to reduce debt distress

17.5 Adopt and implement investment promotion regimes for least developed countries

Technology

17.6 Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge-sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism

17.7 Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed

17.8 Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology

Capacity-building

17.9 Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the Sustainable Development Goals, including through North-South, South-South and triangular cooperation

Trade

17.10 Promote a universal, rules-based, open, non-discriminatory and equitable multilateral trading system under the World Trade Organization,

17.3.1 Foreign direct investments (FDI), official development assistance and South-South Cooperation as a proportion of total domestic budget

17.3.2 Volume of remittances (in United States dollars) as a proportion of total GDP

17.4.1 Debt service as a proportion of exports of goods and services

17.5.1 Number of countries that adopt and implement investment promotion regimes for least developed countries

17.6.1 Number of science and/or technology cooperation agreements and programmes between countries, by type of cooperation

17.6.2 Fixed Internet broadband subscriptions per 100 inhabitants, by speed

17.7.1 Total amount of approved funding for developing countries to promote the development, transfer, dissemination and diffusion of environmentally sound technologies

17.8.1 Proportion of individuals using the Internet

17.9.1 Dollar value of financial and technical assistance (including through North-South, South-South and triangular cooperation) committed to developing countries

17.10.1 Worldwide weighted tariff-average

including through the conclusion of negotiations under its Doha Development Agenda

17.11 Significantly increase the exports of developing countries, in particular with a view to doubling the least developed countries' share of global exports by 2020

17.11.1 Developing countries' and least developed countries' share of global exports

17.12 Realize timely implementation of duty-free and quota-free market access on a lasting basis for all least developed countries, consistent with World Trade Organization decisions, including by ensuring that preferential rules of origin applicable to imports from least developed countries are transparent and simple, and contribute to facilitating market access

17.12.1 Average tariffs faced by developing countries, least developed countries and small island developing States

Systemic issues

Policy and institutional coherence

17.13 Enhance global macroeconomic stability, including through policy coordination and policy coherence

17.13.1 Macroeconomic Dashboard

17.14 Enhance policy coherence for sustainable development

17.14.1 Number of countries with mechanisms in place to enhance policy coherence of sustainable development

17.15 Respect each country's policy space and leadership to establish and implement policies for poverty eradication and sustainable development

17.15.1 Extent of use of country-owned results frameworks and planning tools by providers of development cooperation

Multi-stakeholder partnerships

17.16 Enhance the Global Partnership for Sustainable Development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the Sustainable Development Goals in all countries, in particular developing countries

17.16.1 Number of countries reporting progress in multi-stakeholder development effectiveness monitoring frameworks that support the achievement of the sustainable development goals

17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships

17.17.1 Amount of United States dollars committed to public-private and civil society partnerships

Data, monitoring and accountability

17.18 By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts

17.18.1 Proportion of sustainable development indicators produced at the national level with full disaggregation when relevant to the target, in accordance with the Fundamental Principles of Official Statistics

17.18.2 Number of countries that have national statistical legislation that complies with the Fundamental Principles of Official Statistics

17.18.3 Number of countries with a national statistical plan that is fully funded and under implementation, by source of funding

17.19 By 2030, build on existing initiatives to develop measurements of progress on sustainable

17.19.1 Dollar value of all resources made available to strengthen statistical capacity in developing countries

development that complement gross domestic product, and support statistical capacity-building in developing countries

17.19.2 Proportion of countries that (a) have conducted at least one population and housing census in the last 10 years; and (b) have achieved 100 per cent birth registration and 80 per cent death registration
