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

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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
M² 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 maps\(^1\) 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’ (M\(^2\)). 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 (Snistveit 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

<table>
<thead>
<tr>
<th>Sector</th>
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<tbody>
<tr>
<td>Agriculture</td>
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<tr>
<td>Public Administration</td>
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<td>Law and Justice</td>
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<tr>
<td>Information and Communications</td>
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<tr>
<td>Education</td>
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<tr>
<td>Finance</td>
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<tr>
<td>Health</td>
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<tr>
<td>Energy and Mining</td>
</tr>
<tr>
<td>Transportation</td>
</tr>
<tr>
<td>Water, Sanitation and Flood protection</td>
</tr>
<tr>
<td>Industry and Trade</td>
</tr>
</tbody>
</table>

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 fulfill 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 fulfill 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**

<table>
<thead>
<tr>
<th>Database or Organisation</th>
<th>Web URL</th>
</tr>
</thead>
<tbody>
<tr>
<td>International Rescue Committee</td>
<td><a href="http://www.rescue.org">www.rescue.org</a></td>
</tr>
<tr>
<td>DFID</td>
<td><a href="https://www.gov.uk/dfid-research-outputs">https://www.gov.uk/dfid-research-outputs</a></td>
</tr>
<tr>
<td>UNICEF</td>
<td><a href="https://www.unicef.org">https://www.unicef.org</a></td>
</tr>
<tr>
<td>SBU</td>
<td><a href="http://www.sbu.se/en/">http://www.sbu.se/en/</a></td>
</tr>
<tr>
<td>Collaboration for Environmental Evidence (CEE)</td>
<td><a href="http://www.environmentalevidence.org/">http://www.environmentalevidence.org/</a></td>
</tr>
<tr>
<td>Evidence for Policy and Practice Information and Coordinating Centre (EPPI-Centre)</td>
<td><a href="http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=56">http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=56</a></td>
</tr>
<tr>
<td>Social Care Institute for Excellence (SCIE)</td>
<td><a href="https://www.scie.org.uk/">https://www.scie.org.uk/</a></td>
</tr>
<tr>
<td>3ie</td>
<td><a href="http://www.3ieimpact.org">www.3ieimpact.org</a></td>
</tr>
<tr>
<td>USAID</td>
<td><a href="http://eccnetwork.net/resources/evidence-gap-maps/">http://eccnetwork.net/resources/evidence-gap-maps/</a></td>
</tr>
</tbody>
</table>

**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 M\textsuperscript{2} 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 M\textsuperscript{2}, 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 abstract\textsuperscript{2}’ 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. M\textsuperscript{2} 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

\textsuperscript{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

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


## Appendix A: Data Extraction Form

### Descriptive Information

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
</tr>
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<tbody>
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<td>Study ID</td>
<td>Open answer</td>
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<tr>
<td>Coder ID</td>
<td>Open answer</td>
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<tr>
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<td>Open answer</td>
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<td>Regions</td>
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<td>- East Asia and Pacific</td>
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### Map methodology

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<th>Field</th>
<th>Type</th>
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<td>Visualisation</td>
<td>Select only one</td>
</tr>
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<td></td>
<td>- Interactive/web-based</td>
</tr>
<tr>
<td></td>
<td>- Published as hard-copy</td>
</tr>
<tr>
<td>Date updated</td>
<td>Date in format dd/mm/yyyy</td>
</tr>
<tr>
<td></td>
<td>Open answer</td>
</tr>
</tbody>
</table>

### Equity Data

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
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<tbody>
<tr>
<td>How does this map consider equity?</td>
<td>Select from dropdown menu. Select multiple options if necessary</td>
</tr>
<tr>
<td></td>
<td>- Assesses impact on a disadvantaged group</td>
</tr>
<tr>
<td></td>
<td>- Intervention aimed at reducing inequality</td>
</tr>
<tr>
<td></td>
<td>- Not applicable</td>
</tr>
<tr>
<td>Dimension of equity/Population group</td>
<td>Select from dropdown</td>
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<tr>
<td></td>
<td>- Age</td>
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<tr>
<td></td>
<td>- Caste</td>
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<td></td>
<td>- Disability</td>
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<td></td>
<td>- Education</td>
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<tr>
<td></td>
<td>- Sex</td>
</tr>
<tr>
<td></td>
<td>- Land ownership</td>
</tr>
</tbody>
</table>
menu. Select multiple options if necessary

- Place of residence
- Ethnicity, culture and language
- Religion
- Socioeconomic status
- Social capital
- Other vulnerable groups*

If ‘other vulnerable group’ describe*

Dimension of equity/
Population description

Open answer

<table>
<thead>
<tr>
<th>World Bank Intervention domains</th>
<th>Agriculture</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Public Administration</td>
</tr>
<tr>
<td></td>
<td>Law and Justice</td>
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<td></td>
<td>Information and Communications</td>
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<tr>
<td></td>
<td>Education</td>
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<td></td>
<td>Finance</td>
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<tr>
<td></td>
<td>Health</td>
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<tr>
<td></td>
<td>Energy and Mining</td>
</tr>
<tr>
<td></td>
<td>Transportation</td>
</tr>
<tr>
<td></td>
<td>Water, Sanitation and Flood protection</td>
</tr>
</tbody>
</table>

Open answer

<table>
<thead>
<tr>
<th>Sustainable Development Goals</th>
<th>Goal 1: End poverty in all its forms everywhere</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture</td>
</tr>
<tr>
<td></td>
<td>Goal 3: Ensure healthy lives and promote well-being for all at all ages</td>
</tr>
<tr>
<td></td>
<td>Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all</td>
</tr>
<tr>
<td></td>
<td>Goal 5: Achieve gender equality and empower all women and girls</td>
</tr>
</tbody>
</table>
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

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 (Snistveit et al., 2014), James et al. (2016), Snistveit et al. (2017), and Miakye-Lye et al. (2016).

The following criteria will be applied to all included amps 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?
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.

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

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

<table>
<thead>
<tr>
<th>Product</th>
<th>Aim</th>
<th>Scope</th>
<th>Time</th>
<th>Search</th>
<th>Inclusion criteria</th>
<th>Data extraction and critical appraisal</th>
<th>Analysis</th>
<th>Presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evidence maps</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evidence inventory&lt;sup&gt;2&lt;/sup&gt;</td>
<td>Provide rapid overview of available evidence to assess need for further research</td>
<td>Typically narrow</td>
<td>5-10 days</td>
<td>1-4 databases (relevant repositories of impact evaluations and/or systematic reviews), typically date and language restrictions</td>
<td>Impact evaluations and/or systematic reviews</td>
<td>List of studies categorised as per stakeholder needs. No critical appraisal</td>
<td>May include limited descriptive summary</td>
<td>Categorised list, with references, and brief note</td>
</tr>
<tr>
<td>Systematic map&lt;sup&gt;4&lt;/sup&gt;</td>
<td>Provide overview of research on a topic. Identify evidence clusters and gaps. Make existing research available</td>
<td>Depends on stakeholder interest, often broad but can also address more narrow questions.</td>
<td>3-6 months</td>
<td>All relevant databases and websites. Snowballing. Hand searching. Expert consultation</td>
<td>Depends on question, but not limited to counterfactual studies.</td>
<td>Descriptive characteristics of evidence base. May include some critical appraisal</td>
<td>Descriptive analysis of study characteristics, highlighting evidence clusters and gaps</td>
<td>Report describing characteristics of evidence, list or database of all studies</td>
</tr>
<tr>
<td>Evidence gap map (EGM)&lt;sup&gt;5&lt;/sup&gt;</td>
<td>Inform research commissioning and facilitate the use of evidence to inform decision making</td>
<td>Broad theme/sector</td>
<td>3-6 months</td>
<td>Key evidence repositories, select academic databases, snowballing</td>
<td>Impact evaluations, systematic reviews</td>
<td>Descriptive characteristics of studies, appraisal of systematic reviews</td>
<td>Descriptive analysis of evidence and gaps, summary of lessons from high quality SRs</td>
<td>Report + visual and interactive map website/matrix. Links to summaries of included studies</td>
</tr>
<tr>
<td>Evidence synthesis</td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Systematic review of intervention effects&lt;sup&gt;6&lt;/sup&gt;</td>
<td>Provide a comprehensive, unbiased assessment of evidence on intervention effects</td>
<td>Specific question(s)</td>
<td>12-18 months</td>
<td>All relevant databases and websites. Snowballing. Hand searching. Expert consultation</td>
<td>Impact evaluations</td>
<td>Descriptive characteristics of studies, empirical findings. Detailed critical appraisal</td>
<td>Quantitative and qualitative synthesis as appropriate</td>
<td>Full technical report, often user friendly summary report and brief</td>
</tr>
</tbody>
</table>

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<sup>2</sup>Hartling et al. (2015).
<sup>5</sup>Snilstveit et al. (2013), Snilstveit et al. (forthcoming)
<sup>6</sup>Cooper et al. (2009), Lavis (2009), Lavis et al. (2009), Petticrew and Roberts (2007), Waddington et al. (2012)
<table>
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<tr>
<th>Method Type</th>
<th>Description</th>
<th>Specific Question(s)</th>
<th>Timeframe</th>
<th>Contextual Details</th>
<th>Synthesis Type</th>
<th>Report Type</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Systematic review of implementation</strong></td>
<td>Provide a comprehensive, unbiased assessment and synthesis of evidence on intervention implementation</td>
<td>Specific question(s)</td>
<td>12-18 months</td>
<td>As above, and government documentation</td>
<td>Qualitative studies, process evaluations, correlational studies as appropriate</td>
<td>Descriptive characteristics of studies, empirical findings, Detailed critical appraisal</td>
</tr>
<tr>
<td><strong>Systematic review - full causal chain analysis</strong></td>
<td>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</td>
<td>Specific question(s)</td>
<td>12-24 months</td>
<td>As above, and government documentation.</td>
<td>Impact evaluations AND associated qualitative studies, process evaluations and project documents</td>
<td>Descriptive characteristics of studies, empirical findings, Detailed critical appraisal</td>
</tr>
<tr>
<td><strong>Rapid Evidence Assessment</strong></td>
<td>Provide a quick review and synthesis of available evidence under time and/or resource constraints</td>
<td>Specific question(s)</td>
<td>3-6 months</td>
<td>Time bound search of relevant subject matter databases. Snowballing</td>
<td>Depends on question</td>
<td>Similar to systematic reviews, but more limited</td>
</tr>
<tr>
<td><strong>Meta-synthesis</strong></td>
<td><strong>Review of reviews</strong></td>
<td>Specific question(s), but covering more than one intervention/outcome</td>
<td>6-9 months</td>
<td>All relevant databases and websites. Snowballing. Hand searching. Expert consultation</td>
<td>Systematic reviews</td>
<td>Quantitative and qualitative synthesis as appropriate, including meta-analysis where possible</td>
</tr>
</tbody>
</table>

Source: Snilstveit et al. 2017

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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 Azerbaijani 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 Camroons 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 Kirghizstan 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 Moldavia or Mongolia or Mongolia or Mozambique or Myanmar or Myanma or Burma or Namibia or Nepal or “Netherlands Antilles” or Curacao or “Sint Maarten” 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 Philippine or Philippines or “Puerto Rico” 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 Sao 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 Tadzhikistan or Tadjikistan or Tadzhik 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 (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
<table>
<thead>
<tr>
<th>Category</th>
<th>Subcategories</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Microfinance</strong></td>
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<tr>
<td><strong>Capital markets</strong></td>
<td></td>
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<tr>
<td><strong>Other non-bank financial intermediaries</strong></td>
<td></td>
</tr>
<tr>
<td><strong>General finance sector</strong></td>
<td></td>
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<tr>
<td><strong>Health and other social services</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Health</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Other social services</strong></td>
<td></td>
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<tr>
<td><strong>Energy and mining</strong></td>
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<tr>
<td><strong>Energy efficiency in power sector</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Thermal Power Generation</strong></td>
<td></td>
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<tr>
<td><strong>Coal Mining</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Other Mining and Extractive Industries</strong></td>
<td></td>
</tr>
<tr>
<td><strong>General energy sector</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Transportation</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Urban Transport</strong></td>
<td></td>
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<tr>
<td><strong>Ports, waterways and shipping</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Railways</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Rural and Inter-Urban Roads and Highways</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Aviation</strong></td>
<td></td>
</tr>
<tr>
<td><strong>General transportation sector</strong></td>
<td></td>
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<tr>
<td><strong>Water, sanitation and flood protection</strong></td>
<td></td>
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<tr>
<td><strong>Sanitation</strong></td>
<td></td>
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<tr>
<td><strong>Water supply</strong></td>
<td></td>
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<tr>
<td><strong>Wastewater Collection and Transportation</strong></td>
<td></td>
</tr>
<tr>
<td><strong>General water, sanitation and flood protection sector</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Industry and trade</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Agro-industry, marketing, and trade</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Petrochemicals and fertilizers</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Other domestic and international trade</strong></td>
<td></td>
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<tr>
<td><strong>Housing construction</strong></td>
<td></td>
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<tr>
<td><strong>Other industry</strong></td>
<td></td>
</tr>
<tr>
<td><strong>General industry and trade sector</strong></td>
<td></td>
</tr>
</tbody>
</table>
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)

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

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

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

1.4 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

1.5 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.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.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

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

Indicators

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

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

1.3.1 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

1.4.1 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

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

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

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

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

2.2.1 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 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

2.3.1 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 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

2.4.1 Proportion of agricultural area under productive and sustainable agriculture

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

2.5.1 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 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.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 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.b.1 Producer Support Estimate

2.b.2 Agricultural export subsidies

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

2.c.1 Indicator of food price anomalies

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

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.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 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.c.1 Health worker density and distribution

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

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

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

4.1.1 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 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

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

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

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 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

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

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

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

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 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

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
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

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

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

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

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

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

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

**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

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

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

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

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

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

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

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 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.a.1 Aid for Trade commitments and disbursements

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

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

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

9.1.1 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 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

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

9.2.2 Manufacturing employment as a proportion of total employment

9.3 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

9.3.1 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 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

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
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

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

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

12.10 Promote sustainable and efficient production patterns, 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

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

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

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

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

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

14.2 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

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

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

14.5 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

14.6 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]

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

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

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 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

15.1.1 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 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

15.2.1 Progress towards sustainable forest management

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

15.3.1 Proportion of land that is degraded over total land area

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

15.4.1 Coverage by protected areas of important sites for mountain biodiversity

15.4.2 Mountain Green Cover Index

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

15.5.1 Red List Index

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

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

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

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

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
16.5.2 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

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

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,
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
17.12 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

**Systemic issues**

*Policy and institutional coherence*

17.13 Enhance global macroeconomic stability, including through policy coordination and policy coherence
17.14 Enhance policy coherence for sustainable development
17.15 Respect each country’s policy space and leadership to establish and implement policies for poverty eradication and sustainable development

*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
17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of 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
17.19 By 2030, build on existing initiatives to develop measurements of progress on sustainable

17.11.1 Developing countries’ and least developed countries’ share of global exports
17.12.1 Average tariffs faced by developing countries, least developed countries and small island developing States

17.13.1 Macroeconomic Dashboard
17.14.1 Number of countries with mechanisms in place to enhance policy coherence of sustainable development
17.15.1 Extent of use of country-owned results frameworks and planning tools by providers of development cooperation
17.16.1 Number of countries reporting progress in multi-stakeholder development effectiveness monitoring frameworks that support the achievement of the sustainable development goals
17.17.1 Amount of United States dollars committed to public-private and civil society partnerships
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
17.19.1 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 |