Post-2015 Data Test
country level experiences

Measuring Sustainable Development to 2030: A view from Turkey

Mehmet Arda (Coordinator)
Fikret Adaman
Bülent Anil
Alper Dinçer
Haluk Levent
Haluk Özüerzifon
İnsan Tunali

May 2015
Istanbul, Turkey

www.post2015datatest.com

CENTRE FOR POLICY DIALOGUE (CPD)
B A N G L A D E S H
a civil society think tank

NPSIA
The Norman Paterson School of International Affairs

Southern Voice
2015 On Post-MDG International Development Goals

Content

Acknowledgements

The authors have benefited from significant intellectual contributions by numerous experts and generous financial contributions from several institutions. While most of the intellectual contributions were obtained on a friendly and collegial basis and so enumeration would be impossible, a few went beyond helpful substantive chats and are mentioned here. Thank you to Esengül Tanrıkulu, Head of the Economic and Social Statistics Division, as well as experts Arzu Eratak and Övünç Uysal at TurkStat, and Sema Bayazit, Head of the Environment and Sustainable Development Division, at the Turkish Ministry of Development, who have shared their first-hand experiences and information. The authors are grateful to former Undersecretary of Ministry of Foreign Affairs, Ambassador Ertuğrul Apakan and former Deputy Undersecretary Ambassador Selim Kuneralp for their insights. The authors would also like to thank participants at the validation workshop and Alpay Filiztekin, who as the external referee provided very useful inputs for the final version of the report.

The Post-2015 Data Test is a multi-country initiative and face-to-face meetings are indispensable for coordination and coherence, even in this age of advanced communication technologies. Participation by the Turkish research team at international meetings in Nairobi and Washington was made possible by funding from the Partnership for African Social and Governance Research and the United Nations Foundation, as well as the International Development Research Centre's Think Tank Initiative and the William and Flora Hewlett Foundation, which served as the principal supporters of the Post-2015 Data Test initiative. The three meetings held by the Turkish team, including the validation workshop, were hosted by Boğaziçi University. The Turkish team is grateful for all financial support. Finally, colleagues at the Centre for Policy Dialogue in Bangladesh and Norman Paterson School of International Affairs in Canada provided invaluable guidance with inexhaustible energy. The Turkish team expresses much gratitude to all.

Acronyms and Abbreviations

ADNKS	Adrese Dayalı Nüfus Kayıt Sistemi (Address-Based Population Registry System)
CO2	carbon dioxide
EM-DAT	Emergency Events Database
EU	European Union
Eurostat	European Union Statistical Office
EU-SILC	European Union Statistics on Income and Living Conditions
GDP	gross domestic product
GNI	gross national income
HBS	Household Budget Survey
HLFS	Household Labour Force Survey
IPCC	Intergovernmental Panel on Climate Change
LDC	least developed country
LTU	large tax unit
MDG	Millennium Development Goal
MOD	Ministry of Development (Turkey)
MONE	Ministry of National Education (Turkey)
ODA	official development assistance
OECD	Organisation for Economic Co-operation and Development
PISA	Programme for International Student Assessment
PPP	purchasing power parity
SDG	Sustainable Development Goal
SILC	Survey of Income and Living Conditions
TIKA	Türk İşbirliği Koordinasyon Ajansı (Turkish Cooperation and Coordination Agency)
TIMSS	Trends in International Mathematics and Science Study
TurkStat	Turkish Statistical Institute
UN	United Nations
UNDP	United Nations Development Programme

List of Tables and Boxes

Tables

Boxes

Report Highlights

About the study

In 2015, governments will negotiate a set of Sustainable Development Goals (SDGs) to replace the Millennium Development Goals (MDGs), which expire in 2015. Like the MDGs, the SDGs will comprise goals, targets and indicators against which countries and the world will track progress on sustainable development. But unlike the MDGs, the SDGs are set to be universal in nature, applying to all countries, including middle-income developing countries like Turkey. The implementation of the SDGs is also expected to allow countries space to identify their own national priorities within the broad sustainable development framework. A key question in this context is how the SDGs will be effectively applied across countries at different stages of development. In an effort to address this question, this report examines what the SDGs could mean for Turkey. It is part of a broader multi-country initiative – the Post-2015 Data Test – which looks at how the SDGs could be applied and measured across a range of low-, middle- and high-income countries.

The key objective of this study is to identify the opportunities and challenges that may arise for Turkey from the implementation of a universal, country-relevant SDG framework, including those related to measuring progress. The study unpacks Turkey's national priorities for candidate goals, targets and indicators in seven areas – poverty, education, employment and inclusive growth, energy and infrastructure, environmental sustainability and disaster resilience, governance, and global partnership for sustainable development. It provides an overview of key data sources and identifies the factors for realising progress in the Turkish context.

The report makes a number of valuable contributions. First, it serves as a comprehensive overview of Turkey's sustainable development challenges, broadly understood in terms of economic, social and environmental well-being. Second, the report also takes stock of the current state of Turkey's national statistical system and data availability for monitoring progress on the SDGs. Given the breadth of issues addressed, the report is divided into sections according to candidate SDG areas and measurement issues. Finally, the report provides a concrete example of how a universal, country-relevant sustainable development agenda could be applied to middle-income developing countries.

Key findings

Sustainable Development in Turkey

Turkey is a middle-income developing country where most of the MDGs have been met. Lagging behind on gender issues and to some extent equality and environmental issues, the country is facing the middle-income trap and overcoming it is a major concern. Turkey's emphasis in discussions on the post-2015 framework centres on issues related to inclusiveness and quality across goal areas such as education and governance. The leading role played by the Turkish Ministry of Development is indicative of the importance attached to these issues. Although the general public and even academics do not closely follow progress on the MDGs or the SDG process, the concerned government entities are actively involved in MDG achievement and negotiations going forward. Turkey has had a fairly successful record with regard to the MDGs, particularly eradicating extreme poverty. Its principal shortcomings are in the areas of promoting gender equality and empowering women as well as ensuring environmental

sustainability. The Turkish Statistical Institute (TurkStat) is fully aware of the eventual demands that will fall upon it once the post-2015 framework is adopted.

The study finds that Turkey has participated in the ongoing negotiations on the post-2015 framework. In the context of the participatory process initiated by the United Nations Development Programme, Turkey's priorities were inequalities and poverty, which were regarded as the underlying causes of deficiencies and challenges across all the thematic areas, though the issue at the forefront was gender equality. Turkey seeks to make the post-2015 framework human-centred, just and equitable. So far as the development problematique of the country is concerned, avoiding (or getting out of) the middle-income trap appears to be a key issue. At the global level, Turkey shares the vision of an equitable, rights-based and sustainable process of global development, which the post-2015 process is expected to support.

Addressing poverty and inequalities, particularly gender inequality, is a key priority for Turkey post-2015. Turkey will also take steps to break through the middle-income trap.

Regarding the selection of national targets and indicators, given that targets are fairly general and comprehensive, no new targets were included other than those that were in the long list of targets suggested during the Ministry of Development's preparatory process for the negotiations on the post-2015 framework. New national indicators were linked to selected targets from this list. In many instances these selections align with the concerns expressed during the national consultations on the post-2015 agenda, as mentioned above, but no attempt has been made to ensure one-to-one correspondence. Indicators were proposed when it was predicted that missing data could be generated. Migration, which is an issue of not only local but global concern since it has potentially significant effects for sustainable development, is a case in point.

In education, quality rather than quantity is the concern in Turkey. Rather than being concerned about the number of students attending school, their comparative standing with respect to other countries is more relevant for Turkey. Data requirements for identifying the reasons of unsatisfactory results, such as teacher turnover, are an important data-related concern for the government.

In terms of promoting employment and realising inclusive growth, ample employment-related data are available. However, some interesting information can only be found in the microdata of surveys. Some definitional problems such as identifying representative occupations arise in monitoring gender equality. Notably, the issue of work-related injuries – important for Turkey –has not been satisfactorily monitored. This suggests that additional emphasis on the data revolution is needed.

While energy-related data are available, some of it may be less meaningful than expected. For example, the environmental impact of hydroelectric generation may be negative. This has implications for interpreting indicators related to the use of renewable energy in the Turkish context. On infrastructure, macro-level data are satisfactory but disaggregation is often unsuitable for monitoring the candidate SDGs. Some potential targets, such as availability of modern cooking solutions, are not relevant for countries at Turkey's level of development.

Regarding environmental sustainability, what some of the targets and indicators measure, such as a percentage of a country's forest area or frequency of disasters, may need careful interpretation in country contexts because progress is largely determined by a country's geographical location. Some indicators, such as that on water availability, are both nationally and globally important and should be included.

Some indicators, such as that on a country's ecological footprint, are more relevant as part of a globally implemented programme that includes comparisons.
The biggest concern for governance-related indicators is that many are based on perceptions. Not only do perceptions differ among different social groups, but in Turkey they may not be correctly reported. Information is often unsuitable for statistical use.

Finally, the selection of targets and indicators for global partnership will require important consideration. For example, separating South-South cooperation from general development cooperation is not meaningful for Turkey, which only provides "aid." While measurements regarding the existence of duty-free, quota-free treatment for developing country imports are useful, whether treatment is effectively applied or restricted may be more meaningful.

The feasibility of global minimum targets was examined to determine whether the selected targets are formulated in a way that allows the determination of a global minimum level and whether monitoring is possible. Most proposed targets, such as "Provide free and universal legal identity, such as birth registrations," are both meaningful and measurable. Sometimes, however, what is meant is unclear (e.g., ensuring "full access" to developed infrastructure). Moreover, it is important to ask whether it makes sense to strive for reaching certain global minimum targets. In some cases, progress on one indicator depends on progress on others. In some others, the minimum target, (e.g., publishing environmental accounts) can be achieved but achievement may not be meaningful for achieving the desired goal (e.g., the goal "Establish a sustainable, healthy and resilient environment for all" depends on how published environmental accounts are used).

Measuring Progress Post-2015

Regarding measuring progress on post-2015 in Turkey, data availability in Turkey is considered satisfactory in general, although some gaps exist. Most important among these, and particularly important for the SDGs, is disaggregation along ethnic lines. Sometimes – with considerable difficulty – a partial remedy may be found by using microdata. Nevertheless, minorities and ethnic groups more broadly are almost impossible to identify. Official statistics do not provide information according to ethnic identities. Given Turkey's difficult history with regard to various minorities, asking survey respondents to identify their ethnicity could result in unforeseen biases in official data collection efforts. Standard markers – such as mother tongue and, more recently, ethnicity – are indicated in Turkey's Demographic and Health Survey, but the sample sizes are small and independent verification of whether adequate coverage has been achieved is not possible. This data gap precludes the use of any targets that call for reducing ethnic inequalities.

Overall, data availability is satisfactory in Turkey, though additional steps will be needed to track disparities between regions and minority groups.

Administrative data is not being harness to its full potential and could be harnessed to improve data availability.

Another challenge is tracking changes at the regional level. Following recent laws targeting municipal demarcations (most recently in 2012), urban/rural disaggregation became rather meaningless in much of Turkey. TurkStat decided to adjust its sample frame to reflect the administrative changes. As a consequence, it stopped releasing data based on urban/rural distinctions until further research is completed (microdata would allow this disaggregation albeit with some difficulty and extra work). This hinders consistency and reduces availability of information. Problems with disaggregation probably occur in many countries. One way to address this issue may be to disaggregate according to the dominance of agricultural or non-agricultural activities.

The statistical work of TurkStat conforms to international standards, particularly since the institute follows Eurostat's methods and procedures in much of its work, especially surveys. One of the limitations that constrains data availability in Turkey is that administrative data, collected by various parts of the government, are used at less than full potential. Thus, considerable amounts of highly reliable data remain unexploited by researchers. If more administrative data were utilised, problems with sources that need to be solved notwithstanding, data quality would improve and more resources could become available for alternative uses, such as conducting surveys, which are the principal means for generating original data and information.

The availability of data in Turkey for monitoring of the selected goals, targets and indicators seems fairly satisfactory but certain significant gaps exist. The data mapping component of the study led to the identification of 124 sources for the 97 indicators studied. Roughly 43 percent of indicators are available from TurkStat, and about 38 percent from other domestic sources. International sources have to be consulted for about 16 percent of indicators examined for all Post-2015 Data Test country studies – global indicators – and 11 percent of the indicators selected specifically for the Turkey case study – national indicators. Data were unavailable for about 4 percent of global indicators and 8 percent of national indicators. Data are available for a baseline of 2007 for all goals. Information on minorities, ethnic groups and migrants is essentially unavailable. The lack of data constrains the assessment and evaluation of some crucial elements of progress on reducing inequalities, identified as one of the important concerns in Turkey. Information is also missing on some indicators that may be important in the global context, such as the percentage of adults with an account at a formal financial institution. Perception-based indicators are also rather poor.

Problems with participation rates aside, the quality of data made public by TurkStat is good. The data collected, tabulated and announced by the institute are particularly good when done according to Eurostat standards. Many of the definitions used by Turkey concur with those of Eurostat or international organisations such as the International Labour Organization, although sometimes there are problems with applicability. Some Eurostat standards and certain related questions used in surveys are not the most appropriate for Turkey. Information published by TurkStat is easily accessible and the institute's website is user-friendly. The large number of TurkStat webpages listed in this report's references section demonstrates the extent of data availability.

Data quality in Turkey is good, particularly when it is produced according to Eurostat standards. The data quality assessment revealed that data is highly accurate, reliable, timely, coherent, and comparable in general. Room for improvement exists with respect to relevance, accessibility and clarity.

An extensive data quality assessment demonstrated the extent to which the quality of data is good. Considering all of the goal areas together, scores for "accuracy and reliability" as well as "timeliness and punctuality" were the highest. The score for "coherence and comparability" follows, benefiting from links with Eurostat. The score for "relevance" is hurt by problems with education data. Significant improvements are needed on accessibility. Access restrictions to microdata by administrative bodies undermine data quality. In some cases, such as the use of electronic registration for school, the reality may be considerably different from what is reported.

Improving the National Statistical System

The main source of data, TurkStat, is professional, impartial, and respected, but it is not administratively independent. Other entities that generate data, such as the Central Bank of the Republic of Turkey, are also highly esteemed institutions. No political intervention is observed in the process of data collection, manipulation, publication, though may exist in deciding what data to collect. Some ministries, agencies and directorates are not professionally equipped to collect key statistical data. Resourcing could be improved to considerably increase the availability of reliable, comparable information. Reinforcing TurkStat's coordinating role could also help improve data availability and reliability. Very good data are generated in conjunction with Eurostat, but some areas, such as the applicability of common questions in surveys, require review, which is being done. There are few non-governmental sources of official data. The roles of academic institutions and civil society organisations in this respect could be usefully expanded and facilitated. TurkStat could provide leadership in supporting such organisations, which could considerably improve data availability.

TurkStat could play an important role in facilitating the greater use of administrative data in Turkey, particularly in terms of ensuring reliability and consistency.

Problems originating within administrative units of the central government may be due to the reluctance to make data public or share them with TurkStat given concerns that poor results will become widely known. Although TurkStat does not say this, it is purported that administrative microdata are not shared with the institute. An important avenue for improving data availability is the expanded use of administrative records. This necessitates some upgrading in terms of the statistical procedures of administrative units that collect data. Further coordination with TurkStat and following TurkStat's guidance would be very important in terms of ensuring consistency and reliability.

TurkStat's microdata are available to the public within the confines of confidentiality. Some legal constraints exist and punishment is mandated for those responsible for leaking confidential data. Sometimes, however, such constraints are contrary to the principles of openness, such as in the case of tax information. In general, the use of statistical data in governmental decision making is often rudimentary. The same can be said about the media, opinion leaders and public opinion as well. Thus, those who have the information are not hard-pressed to make it available because it is not widely demanded.

One of the main results expected from the data revolution is that the vast amount of the central government's administrative data will be able to be turned into usable statistical information that meets strict quality requirements including not only accuracy, reliability and timeliness but also clarity, coherence and comparability. TurkStat also expects that subjective indicators, such as life satisfaction and mental health, will be better covered both in the post-2015 framework and data collection work.

Members of civil society expect the data revolution to result in the collection and dissemination of official data on socially and politically sensitive subjects, or at least the validation of their own data by government entities. These subjects are specified in many of the indicators proposed for the goal area on governance and some for the goal areas on employment and environment. Furthermore, better accessibility to data collected by administrative bodies would be a desirable outcome. The expectations of academics are somewhat similar to those of members of civil society more generally – they would like to see some major gaps that hamper their research filled. Segments of the Turkish bureaucracy, particularly

those participating in international meetings, would like to have access to complete datasets that are required at those meetings.

Implications for the Sustainable Development Framework and Montoring Post-2015

An examination of possible targets and indicators for seven candidate SDG areas – poverty, education, employment and inclusive growth, energy and infrastructure, environmental sustainability and disaster resilience, governance and global partnership for sustainable development – shows that the SDGs are relevant for Turkey. Most of the proposed global targets examined under this study are relevant for Turkey, but this study reveals that careful consideration will be needed in ongoing post-2015 negotiations on goals, targets and indicators to ensure their relevance across countries at different levels of development. For example, in the Turkish context, given that abject poverty has been nearly eliminated, concerns focus more on equality, both regionally and intra-regionally. Important issues that attract Turkish policy-makers' attention include material deprivation, populations at risk and multidimensional poverty.

Some of the data problems observed in Turkey are of a general nature and probably relevant globally. These include response problems in surveys and reporting problems, particularly for gender-based violence. In many developing countries, such as Turkey, the existence of rules is not a good proxy for desired outcomes. Focusing on rules may provide a misleading picture of reality. For some indicators, multiplicity may also distort the view of the actual situation. For example, the same internet account can be used by several people or one person can have several bank accounts, which may make it difficult to capture accurate internet- and banking-related figures. These issues can only be remedied by resorting to microdata available in surveys. Some definitional questions also arise – for example, measuring "full access to developed infrastructure" will require additional work on relevant definitions.

Finally, even with the best data and indicators, the usefulness of the post-2015 framework depends on what policy-makers do with them. The main problem is the lack of interest in data-driven, evidence-based policy making. The challenge here is how to persuade policy-makers and practitioners that the new set of goals, targets and indicators are important tools of sustainable development policy and to help them use the next framework, at least as one of their guides, in policy design, implementation and assessment. Policy-makers may be reluctant to use the framework or appear disinterested if the goals and targets do not coincide with their political priorities. Or they may be simply unaware of how to use it. Opinion leaders and the general public who might advocate for the post-2015 process may also be uninformed. Increasing public awareness is an important aspect of the second challenge. There is a sense among researchers that, even if data were available and relevant for political priorities, there is significant reluctance to acknowledge the importance of hard data and analytical knowledge and mistrust toward those involved in such work.

There will be a need to increase acceptance among governments and policy-makers that the consolidated post-2015 framework is the result of arduous international negotiations. The next set of goals, targets and indicators will be worthy of monitoring and taking into account in policy making and implementation. Increasing acceptance will likely be difficult. The MDGs and proposed SDGs are not supported outside a small group of Turkish bureaucrats involved in ongoing negotiations and those providing support to them, including a smaller group of academics and a still smaller group in the media.

Introduction

This report has been drafted as part of the Post-2015 Data Test initiative, which examines how the proposed universal post-2015 development framework can be applied and measured across a variety of country contexts. The international community has discussed a data revolution as being an important aspect of the post-2015 framework, the blueprint of which is here understood as the proposed Sustainable Development Goals (SDGs) (see OWG 2014). Having observed the need for statistical information during the implementation and monitoring of the Millennium Development Goals (MDGs), the international community has deemed it imperative that data gaps be identified and eventually closed in countries at all stages of sustainable development. In the process of identification and negotiation of the post-2015 framework, care must be taken to determine whether the proposed new set of goals and targets can indeed be monitored and evaluated across a large number of countries. The Post-2015 Data Test aims to contribute to this process by identifying the principal challenges related to the availability of and access to data for the establishment and implementation of the consolidated post-2015 framework (for a discussion on consolidation and the data revolution, see Box 1).

Box 1. The post-2015 agenda, SDGs and a data revolution

In 2012, governments agreed to establish a set of SDGs at the Rio+20 United Nations (UN) Conference on Sustainable Development.[1] The 2015 deadline for the MDGs is approaching, with deliberations and negotiations intensifying on what the successor framework – widely known as the post-2015 agenda – should be. There is broad consensus that the post-2015 agenda and SDGs should be one and the same and the consolidated post-2015 framework should include goals, targets and indicators, as is the case with the MDGs. However, unlike the MDGs, the new framework will be universal – it will apply to both developing and developed countries – and all countries will likely have space to determine their own sustainable development priorities at the national level.

An important aspect of the post-2015 agenda is the call to "leave no one behind," in other words to ensure that all members of society are benefiting from progress. As such, monitoring and evaluation will require significant amounts of disaggregated data. In its May 2013 report to the UN secretary-general, the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda (HLP) called for a "data revolution" to support the monitoring and implementation of the post-2015 agenda.[2] It argued that a data revolution should promote the integration of statistics into public and private decision making and support efforts to build trust between societies and states through transparency and accountability (HLP 2013). In August 2014, the UN secretary-general established the Independent Expert Advisory Group on a Data Revolution for Sustainable Development. In its November 2014 report, the group called for a number of initiatives, including the establishment of global principles and standards on data and additional resources to support capacity development and technology sharing on data collection, analysis and reporting (IEAG 2014).

The Post-2015 Data Test also aims to contribute to this process through a critical appraisal, in view of country priorities and challenges, of a sample set of potential targets and indicators in seven potential post-2015 goal areas: poverty, education, employment and inclusive growth, energy and infrastructure, environmental sustainability and disaster resilience, governance, and global partnership for sustainable

[1] See http://www.uncsd2012.org for more information on the conference's outcomes.
[2] See http://www.post2015hlp.org for more information.

development. Turkey is one of seven countries participating in the multi-country initiative. The other six countries are Bangladesh, Canada, Peru, Senegal, Sierra Leone and Tanzania. The work in Turkey was undertaken by a group of researchers experienced in data usage. Details about the Turkish research team are provided in Annex 1.

The remainder of this introduction illustrates the context in Turkey. It outlines the rather scant attention paid to the MDGs as a benchmark for measuring development and touches on the current state of discussions on the SDGs in the country. The second section outlines the research process and summarises the key activities undertaken. The third section is organised around the seven proposed SDGs analysed by each country participating in the Post-2015 Data Test initiative. A brief assessment is made of the goals as well as their associated targets and indicators, including those examined by all countries participating in the initiative (denoted by "global") and those proposed by the Turkish team specifically for Turkey (denoted by "national"). Turkey's priorities, realities and interests influenced choices made by the Turkish team. The fourth section goes into detail regarding data availability for measuring the proposed SDGs in Turkey. After a general overview of the Turkish Statistical Institute (TurkStat), the national statistical authority,[3] and some of its surveys that provide critical information, data availability and data concerns for each goal area are outlined, particularly for the global targets and indicators. Baseline data availability is also discussed to identify an appropriate baseline year for benchmarking post-2015 progress. This section includes a data quality assessment of Turkish data for the global targets and indicators. The fifth section discusses the political economy dimension of the data revolution in Turkey. The final section concludes.

Turkey and the MDGs

Since the SDGs share a lineage with the MDGs, it is necessary to begin the Turkey case study with an overview of where the country is situated in respect to the MDGs. Turkey's particular aspirations and expectations for the future and its priorities with regard to the SDGs are inevitably linked to its experience with the MDGs. This experience has two aspects. The first is the country's performance and standing in relation to the targets set in the MDGs. The second aspect, of equal importance from a strategic perspective, is how the Turkish government and the public view the MDGs and how the next set of sustainable development goals could be used. Together, these aspects determine the context in Turkey informing the content and nature of the discussions on the SDGs.

The MDGs and Turkey's performance against them do not occupy significant places in the Turkish media, governmental discourse or academic research. The benchmarks for Turkey's social and economic development are found outside the MDGs, particularly in reference to European countries. Nevertheless, there are occasional articles in the press – mostly reporting information emanating from international sources – that emphasise Turkey's successful performance, such as that in the case of reducing maternal mortality (see, for instance, TRT 2014).

Neither the Turkish government nor TurkStat regularly publish specialised information on Turkey's MDG performance. Related information can be found within the general work programme of TurkStat, particularly in its work on sustainable development indicators. Two MDG reports exist, both of which were prepared under the coordination of the then State Planning Organization with technical support from the Office of the United Nations Resident Coordinator in Turkey. One report is for the year 2005 (see SPO 2005) and the other is for 2010 (see SPO 2010). The 2010 report provides information on most, but not all, of the indicators associated with MDG targets, in most cases up to 2008. According to the report, "in

[3] TurkStat's website is available in Turkish at http://www.tuik.gov.tr and English at http://www.turkstat.gov.tr.

many respects, Turkey is well on her way to reaching the MDG targets. Yet structural inequalities, especially those related to geographical and social gender disparities, remain a challenge. Special attention must be paid to Goal 3 (gender inequality) which is the area where Turkey is most likely to encounter serious difficulties and structural obstacles" (SPO 2010, 13).

The information with global coverage currently available on MDG monitoring websites, such as mdgtrack.org,[4] stops at 2010. Turkey's performance according to the data on that website differs from that according to national data. Strict adherence to the wording of the MDGs, as done on that website, may lead to misrepresentation of the actual situation in the country. For example, poverty under the US$1.25 (purchasing power parity [PPP]) per day threshold is not calculated by Turkey because the assumption is that the proportion of people living in such poverty has become negligible, yet on that MDG monitoring website the target is understood to be unachieved. The United Nations Development Programme (UNDP), which provides probably the best and most easily accessible MDG achievement status on its website, indicates:

> The most outstanding achievement of Turkey in the past years in attaining the Millennium Development Goals has been the reduction of the levels of poverty. Poverty, defined as living on a dollar a day, was practically eliminated standing at 0.01 % in 2006 compared to 0.2 % in 2002 and has completely been eradicated since 2007. According to Turkish Statistical Institute (TÜİK), the proportion of population below $ 2.15 a day in 2011 was 0.14% while it was 3.04% in 2002; the proportion of population below $ 4.3 a day in 2011 was 2.79% while it was 30.30% in 2002. (UNDP n.d.b)

UNDP (n.d.c) confirms that the situation regarding gender-related issues is somewhat unsatisfactory: "Although Turkey has almost reached its goal of eliminating gender disparity in primary school education, gender is still an issue that requires attention." Notably, Turkey is unlikely to achieve MDG 7, which focuses on environmental sustainability. UNDP (n.d.a) notes that "Turkey still needs to integrate its environmental policies to its economic and social policies."

Although not in the context of the MDGs, TurkStat has looked at sustainable development according to the set of sustainable development indicators developed by Eurostat, the European Union's (EU) statistical office, since 2007. This set contains 132 indicators under 10 themes, many of which correspond to the MDGs.[5] Updates are conducted every two years and summary data are conveniently available on TurkStat's website in occasional press releases.[6] There is some talk within TurkStat that specific MDG- and SDG-related data will eventually be included in its system.

With a few exceptions, Turkish civil society and think tanks have not been actively engaged in MDG implementation and monitoring. Most activities in this context have been spearheaded by UN entities based in Turkey. Much interest is being expressed, however, in the SDGs, including in conjunction with the Post-2015 Data Test initiative, as evident by the range of participants who took part in the validation workshop.

[4] The country analysis for Turkey can be accessed at http://www.mdgtrack.org/index.php?tab=c&c=TUR.
[5] The themes are Socioeconomic Development, Sustainable Consumption and Production, Social Inclusion, Demographic Change, Public Health, Climate Change and Energy, Sustainable Transport, Natural Resources, Global Partnership, Good Governance. See http://www.turkstat.gov.tr/PreTablo.do?alt_id=1097 for more information.
[6] Access to these press releases is provided at www.tuik.gov.tr (a Turkish website, from which an English website is directly accessible as well) and on www.turkstat.gov.tr (the English website). TurkStat (2012a) includes data for 2000–11 and TurkStat (2014g) provides, in most cases, data for 2009–12.

Turkish Engagement in the Post-2015 Process

Turkey has participated in the ongoing negotiations on the post-2015 framework. The substantive work has been carried out by the Turkish Ministry of Development (MOD), formally called the State Planning Organization. The two documents that provide the background for the Turkish negotiating position are the MOD's 10th Development Plan (MOD 2013) and its Sustainable Development Report (MOD 2012) prepared before the Rio+20 UN Conference on Sustainable Development. Both documents contain detailed principles on which the Turkish position is based. Turkey is actively involved in negotiations, but has not played a leading role. Some of the country's priorities, as emphasised in these documents, are mentioned below.

While the MOD has provided leadership on the government's side, UNDP initiated a participatory process in Turkey in 2012 on the basis of a process devised by the United Nations Development Group. This process aimed to identify global development challenges beyond 2015 through consultations with people from all over the world. Consultations with various Turkish stakeholders were held in order to understand their expectations and dreams for the post-2015 period (United Nations Turkey 2013). In August 2012, Turkey was selected as one of the first 50 countries – the number was later expanded to 86 – to be part of a global UN consultation process. In cooperation with partners, the UN in Turkey led a dialogue on the post-2015 agenda, asking Turkish stakeholders the question asked by the UN globally: "What future do you want?" [7]

The official message from the Turkish Ministry of Foreign Affairs during this global consultation process cast a rather wide net: "For a more equitable, rights-based and sustainable process of global development, Turkey, among other issues, gives priority to universal access to quality education and health; water, energy, and food security; sustainable use of natural resources; ageing; inclusion of disadvantaged groups, girl child, youth, disabled people, women's empowerment in economic, social and political realms; inclusive economic development, eradicating poverty, ensuring decent work and reducing unemployment; sustainable cities; resilience to natural disasters; alliance of civilizations, conflict resolution and mediation" (United Nations Turkey n.d.). This all-embracing perspective was not very helpful for identifying Turkey's priorities. A greater focus was sought in the context of the participatory process initiated by UNDP. Thematic discussions were held in October and November of 2012. Regional consultative meetings were held where participants identified the developmental needs and concerns of their respective regions. In addition, surveys were conducted among youth groups and universities. Concerns with inequalities and poverty, which were regarded as the underlying causes of deficiencies and challenges across all the thematic areas, were pervasive during the meetings, but the issue at the forefront was gender equality (United Nations Turkey 2013, 11).

How much direct impact this participatory process had on the official Turkish negotiating position is unclear. Turkish negotiators have consistently expounded the importance of having SDGs that are "human-centred" as well as "just and equitable." The minister of state responsible for the negotiations emphasises these points when expressing the principal parameters of Turkey's approach: "Turkey believes that the only way world citizens can live a peaceful and prosperous life, is through ensuring an environment where poverty is eliminated, gender equality is established, environment is protected, and equitable education and health services are available for all with a rights-based approach" (MOD 2012, 6). Therefore, the public's priorities of inequalities, poverty and gender equality are closely associated with the government's priorities in negotiations.

[7] See https://www.worldwewant2015.org for more details.

Research Process

Research Team

The Turkey case study was conducted by a team of seven senior researchers with experience in data utilisation and established contacts with data sources. Responsibilities for identifying data availability were shared among the researchers, each of whom was responsible for one of the goals selected under the Post-2015 Data Test initiative. The information gathered was organised into this report by one of the researchers, who was also responsible for overall coordination. When the requirement to actually download data emerged, another researcher with data manipulation experience joined the Turkish team to undertake that task, bringing the size of the team to eight. Annex 1 introduces the team and highlights their respective responsibilities.

Team members, who are not only users of data but also occasional advisors regarding the generation of data, were able to secure cooperation from government bodies at all stages of the research process. They were granted access to the most up-to-date information on all of the topics covered in terms of both data and Turkey's position on the SDGs. This cooperation generated optimism that the work of the team as well as the findings of the whole initiative, including those from other countries, will resonate at high levels of government and civil society. Moreover, team members are either active within or have close relations with civil society organisations in their areas of expertise. These connections facilitated the solicitation of ideas from them regarding which national targets and indicators could be usefully included. Connections also helped in communicating the significance of the post-2015 framework to members of Turkish civil society and the national media who were largely unaware of key issues.

Research Activities Undertaken

The decision to include Turkey in the Post-2015 Data Test initiative was taken with some delay, so the Turkish team did not participate in the initial methodology and planning workshop in New York in November 2013. Therefore, in line with the understanding reached when joining the initiative, the inception stage of the research process proceeded somewhat differently than those for other participating countries.

Given the advantages stemming from the expertise of the group of seven senior researchers from diverse backgrounds, including academic institutions, civil society organisations and the private sector, the inception stage comprised of three separate events in lieu of a large-scale inception workshop. Moreover, the research group informally contacted a variety of experts and structured key informant interviews rather than holding focus group discussions.

Regarding the inception stage, the first of the three events, which took place in May 2014, brought together the seven members of the Turkish team with Debapriya Bhattacharya, one of the leading organisers of the Post-2015 Data Test. This event was crucial for the conceptualisation, configuration and structuring of the research activities in Turkey. Many questions on the Turkish team's minds, which had already been raised during the methodology and planning workshop that was missed by the team, were answered and the team expressed strong commitment to the initiative. Held in June 2014, the second event was a meeting of the Turkish team that was attended by members of the Economic and Social Statistics Division of TurkStat who are largely responsible for working on the indicators under consideration for the post-2015 framework. The third event was a series of telephone interviews with the

senior staff member at the MOD who is the lead participant in the negotiations on the SDGs. These interviews were preceded by a discussion with the undersecretary of the MOD and an aide. They all expressed their beliefs in the importance of the initiative, particularly its country-level approach, and committed the MOD to full cooperation.

Apart from these events, informal discussions and occasional telephone interviews were held with ambassadors who are knowledgeable on the post-2015 process. Depending on the topic, international organisations were also contacted for discussions. Several were particularly helpful on specific topics, such as UNDP (employment, global partnership), the United Nations Children's Fund (education) and the World Bank (environment and education).

The three events indicated that the Turkish team had secured the support and interest of relevant segments of the Turkish bureaucracy. Crucial at this stage was the realisation that TurkStat was involved in a similar data-mapping exercise, although not on all the same targets, indicators and data sources as the Post- 2015 Data Test initiative. A frank off-the-record discussion took place with members of TurkStat involved in the internal exercise. Their overall concerns are similar to those of the Post-2015 Data Test, especially with regard to the availability, timeliness and international comparability of data. The results of this case study may inspire some ideas at TurkStat in these areas.

It was pointed out in discussions that "unpacking the data revolution at the country level" could be a positive contribution and bring impetus to the preparatory work being done in Turkey on post-2015 and SDG issues. The Turkey case study would certainly bring a new dimension, in terms of content, coverage and international comparability, to TurkStat's approach. It could be a useful input, introducing a perspective on feasibility, into the Turkish position in the negotiations on the post-2015 framework. This depends, of course, on the Turkish government's approach to the negotiations and its openness to outside contributions. An additional positive outcome could be the generation of interest in the use of statistical data among politicians and the media.

The validation workshop for the draft Turkey case study took place in December 2014. It was attended by 26 participants, including experts from TurkStat, who provided the bulk of the data reviewed in the study, and the MOD. Half of the participants were from academic institutions. Members of activist civil society organisations, think tanks and the media were also present.

Given that the post-2015 process is not well known by the Turkish public, which was also the case for some of the workshop participants, a presentation on the post-2015 process set the stage and initiated discussions. It was evident that participants were more knowledgeable about climate change negotiations than other aspects of the process. Situating the proposed SDGs, together with Rio+20 and Financing for Development, in a broader perspective helped answer some of the questions by participants. Valuable insights on Turkey's negotiating position were provided by the MOD representative. In response to comments regarding higher inclusivity during earlier phases of the post-2015 process, details were provided about the internal preparatory process at the MOD for the negotiations on the post-2015 framework. Also shared were enlightening details regarding Turkey's substantive participation in the preparatory process for the inter-governmental negotiations in 2015 as well as some salient points of the outcome document of the Open Working Group (OWG) on SDGs (see Box 2). Comments on the SDGs highlighted the difficulties associated with universality and the likelihood of missing important targets. The worry that, as usual, action will not follow commitments was generally expressed. The usefulness of widely disseminating information on best practices for reaching goals and targets was emphasised.

Box 2. Sustainable development beyond 2015

Over two decades ago, the World Commission on Environment and Development (1987), better known as the Brundtland Commission, first defined sustainable development in its report *Our Common Future* as a process of development that "meets the needs of the present without compromising the ability of future generations to meet their own needs." In 1992, the UN Conference on Environment and Development held in Rio de Janeiro led to the creation of Agenda 21, a programme of action aimed to improve outcomes for the economic, social and environmental pillars of sustainable development.

Building on this history, the OWG on SDGs – a 30-member inter-governmental committee of the UN General Assembly tasked with preparing a proposal for the SDGs following the 2012 Rio+20 conference – released a set of 17 candidate SDGs, with 169 corresponding indicators, in July 2014. The proposed SDGs capture the environmental, social and economic pillars of sustainable development and include provisions on a wide range of issues such as environmental conservation, climate change, food security, gender equality and social inclusion, effective institutions and rule of law, employment, infrastructure, and industrialisation, *inter alia*.[8]

In addition, the proposed SDGs also include a number of global minimum standards. The SDGs are set to provide countries with the space to establish national targets. However, the idea behind global minimum standards, as proposed by the HLP, is that they should apply to all individuals or countries. For example, ending extreme poverty as measured by US$1.25 (PPP) per day is a global minimum standard that seeks to ensure no person globally is living under the international poverty line by 2030.

Specifically regarding the draft Turkey case study, the findings related to each of the seven selected goals were presented after a general introduction of the Post-2015 Data Test initiative. Regarding the general design of the initiative, questions were raised about the representativeness of the countries selected in terms of income levels. The participants were briefed on the background of the initiative, the selection process and related constraints. Members of the Turkish research team explained the reasons behind their evaluation of the global targets and indicators as well as their proposals for adding new ones for Turkey. TurkStat experts responded to questions about data availability and quality. Problems, such as the coverage of the informal sector and the extent to which this sector is captured by surveys, were also discussed. It was explained that in some cases data may not be collected due to the cost of surveys, although very useful proxies could be used. Insufficient disaggregation of data, particularly for ethnic and social groups, was stressed.

In general, the findings of the draft Turkey case study were confirmed during the discussions. There was consensus on the necessity for cross-referencing between some targets, such as education and child labour. The specific suggestions for introducing new targets included "the extent of "unionisation," "respect for the rights of mentally and physically disabled," "respect for the rights of mentally and physically disadvantaged," "action to prevent disasters" and "acceptance of international arbitration." These have been incorporated into the final report.

The importance of monitoring, follow-up and reporting both at the national and international levels was underscored by all participants. There was one important comment to the effect that the validation workshop was very useful because it clarified in participants' minds "what the post-2015 process was all about." Some had heard of it but had little understanding of its nature and the issues involved. This

[8] See OWG (2014) for the full proposal.

workshop will likely cause them to take the process more seriously in their work and participate more actively in related events in the future.

Taking into account the proposals made at the validation workshop, Table 1 gives the numbers of targets and indicators by goal area examined in the study. Targets and indicators are outlined in detail in Annex 2.

Table 1. Number of targets and indicators by goal area examined in the Turkish case study

Goal area	For all countries		Additional priorities for Turkey	
	Targets	Indicators	Targets	Indicators
End poverty	3	5	1	8
Ensure quality education for all	2	5	4	13
Create jobs, sustainable livelihoods and inclusive growth for all	4	7	2	5
Ensure sustainable energy and develop infrastructure for all	2	8	0	5
Establish a sustainable, healthy and resilient environment for all	3	5	3	8
Establish open, accountable, inclusive and effective institutions, rule of law and a peaceful and inclusive society	5	9	3	7
Establish a global partnership for sustainable development	2	6	2	6
Total	20	45	15	52

Challenges and Lessons Learned Throughout the Research Process

The key challenges and lessons for the data revolution learned throughout the research process can be looked at from two different perspectives. The narrower, more immediate perspective concerns data availability, adequacy and quality, with the challenge being how to improve data through both increasing quality and filling the gaps. This challenge seems to be the easier one to tackle because improvements in data availability, adequacy and quality can be achieved at the operational level. Increased finance and improved technology, nationally or internationally funded, and improvements in human and material resources would solve many problems. Moreover, practitioners in data generation who are interested in doing their jobs better are aware of the importance of the requisite improvements as well as the necessary steps to be taken. There is little need, if at all, of an awareness-raising campaign within the statistics community. Awareness raising may be useful, however, with regard to the specific importance of the SDGs and the need for data that may be slightly different in focus than data that can be obtained by a general improvement in statistical work. The case for the data revolution could be strengthened by emphasising the opportunities as well as constraints in this regard and helping the statistics community to identify priority needs in terms of substantive areas and major gaps in information collection and data generation.

A broader perspective beyond data availability, adequacy and quality concerns the second challenge. Even with the best data and indicators, the usefulness of the post-2015 framework depends on what policy-makers do with them. The main problem is the lack of interest in data-driven, evidence-based policy making. The challenge here is how to persuade policy-makers and practitioners that the new set of

goals, targets and indicators are important tools of sustainable development policy and to help them use the next framework, at least as one of their guides, in policy design, implementation and assessment. Policy-makers may be reluctant to use the framework or appear disinterested if the goals and targets do not coincide with their political priorities. Or they may be simply unaware of how to use it. Opinion leaders and the general public who might advocate for the post-2015 process may also be uninformed. Increasing public awareness is an important aspect of the second challenge. There is a sense among researchers that, even if data were available and relevant for political priorities, there is significant reluctance to acknowledge the importance of hard data and analytical knowledge and mistrust toward those involved in such work.

Moreover, there will be a need to increase acceptance among governments and policy-makers that the consolidated post-2015 framework is the result of arduous international negotiations. The next set of goals, targets and indicators will be worthy of monitoring and taking into account in policy making and implementation. Increasing acceptance will likely be difficult. The MDGs and proposed SDGs are not supported outside a small group of Turkish bureaucrats involved in ongoing negotiations and those providing support to them, including a smaller group of academics and a still smaller group in the media. An internet search (in Turkish) indicates that the MDGs have been referred to in very few news items, although always as a Turkish success story (e.g., the success of reducing child deaths related to pregnancy).[9] The MDGs appear among the operational principles of some civil society organisations. Among these are "sendegel,"[10] which provides development assistance to least developed countries (LDCs), "ışığayürüyoruz"[11] for the blind and "kaosgl"[12] for the lesbian, gay, bisexual and transsexual community. A similar internet search in English (and in French for Senegal), using the search terms "MDG" or "Millennium Development Goals" followed by the name of the country, revealed that among all the countries participating in the Post-2015 Data Test, Turkey is the country with the least number of search results. Improving awareness of the post-2015 framework in Turkey would help the design and implementation of Turkey's domestic development policy and serve as a useful guide for making Turkey's development cooperation more effective. Turkish civil society would also benefit from an improved understanding of the framework since it would help in focusing their activities and bringing them in line with global priorities.

[9] See, for instance, TRT (2014).
[10] For more information, see http://sendegelblog.com.
[11] For more information, see http://www.isigayuruyoruz.com.
[12] For more information, see http://www.kaosgl.com.

Post-2015 Priorities for Turkey

Overview

The research process included the identification of national-level targets and indicators for a selection of candidate SDGs.[13] Reflecting a mix of MDG-like goal areas and new issues that are likely to be covered by the post-2015 framework, the following goal areas were selected:

- poverty
- employment and inclusive growth
- education
- global partnership for sustainable development
- energy and infrastructure
- governance
- environmental sustainability and disaster resilience

Based on the methodology developed for the Post-2015 Data Test initiative by the Centre for Policy Dialogue, Norman Paterson School of International Affairs and Southern Voice on Post-MDG International Development Goals, researchers examined 5–6 targets and approximately 8–12 indicators for each candidate goal. The institutions pre-selected some targets and indicators to be examined in *all countries* under each selected goal area to allow for comparison on data availability across country case studies. Within this set of pre-selected targets and indicators, they also included one target reflecting a potential global minimum standard (see Box 2) for each goal area. These targets and indicators are referred to as "global" throughout the study. All other targets and indicators, referred to as "national," were chosen in consultation with national stakeholders. Further, to ensure consistency, global targets and indicators make use of international definitions, typically from UN agencies, where possible. Within the "national" set of targets and indicators, research teams were instructed to ensure that at least one target (and corresponding indicator[s]) connects to another theme to support intersectionality between goals.

Selecting National Targets and Indicators

Turkey's priorities for the post-2015 period are inevitably influenced by its own experience and the shortcomings in its own development process. These were mentioned above in the section on Turkish engagement in the post-2015 process. Reducing inequalities, eliminating poverty and particularly achieving gender equality emerged as the overall priorities in the minds of the public. So far as the Turkish government is concerned, a human-centred as well as just and equitable post-2015 framework is the objective in ongoing negotiations. The MOD's 10th Development Plan (MOD 2013) and Turkey's *Sustainable Development Report: Claiming the Future* (MOD 2012), both of which are comprehensive documents, provide the necessary guidance for Turkish negotiators.

From the perspective of development, Turkey – as an upper middle-income country facing the middle-income trap – would be particularly interested in goals and targets that help it design and implement policies for advancing to high-income status. Therefore, so far as its own development process is concerned, the country is interested in variables that may be considered important in that context, both for assessing the actual situation and identifying the potential for moving to high-income status. These variables include indicators on the quality of education and scientific achievements, as well as the

[13] See Bhattacharya, Higgins and Kindornay (2014) for further details on how candidate goals were selected and the key priority areas included under each goal.

situations and participation of women in the workforce and public life. The conditions of early childhood and youth, as well as regional disparities, also fall into this group of variables.

Among the “global” targets and indicators, those related to peace and security are high among Turkey’s priorities. Given its national development priorities, some global targets and indicators, such as those covering the protection of the environment, receive less attention than they should in the official discourse. They have been included, however, by the Post-2015 Data Test.

With these considerations in mind, several “national” indicators were added alongside the global ones for each goal area. Given that targets are fairly general and comprehensive, no new targets were included other than those that were in the long list of targets suggested during the MOD’s preparatory process for the negotiations on the post-2015 framework. New national indicators were linked to selected targets from this list. In doing so, attention was paid to choosing indicators that are relevant not only to Turkey but also a large number of countries, if not globally. These indicators were selected both from the long international list of indicators drawn up during preparatory work for the post-2015 agenda and those proposed by various experts during discussions in Turkey. Some of the latter indicators make use of TurkStat’s available high-quality statistical work, often corresponding to Eurostat’s sustainable development indicators (e.g., for poverty). In many instances these selections align with the concerns expressed during the national consultations on the post-2015 agenda, as mentioned above, but no attempt has been made to ensure one-to-one correspondence. In some cases where concern was expressed and national indicators proposed, the data may not be readily available. Indicators were proposed when it was predicted that missing data could be generated. Migration, which is an issue of not only local but global concern since it has potentially significant effects for sustainable development, is a case in point.

End Poverty

Extreme poverty, as measured by international thresholds, does not appear to be an issue in Turkey, an upper middle-income country. TurkStat has stopped releasing poverty figures for the population living under US$1 per day since that population has become marginal. The 10th Development Plan (MOD 2013, 27) expects that Turkey will definitely solve its “absolute poverty” problem. Statistics indicate a general decline in poverty rates. The proportion of the population living under US$4.30 per day (the economic vulnerability line for Eastern Europe and the Commonwealth of Independent States as defined by the World Bank) declined from 13.3 percent in 2006 to 2.8 percent in 2011. Some indicators point to an improvement in income distribution (although how improvement should be measured is debatable). The Gini coefficient fell from 0.40 to 0.38 over the same period, the aim being 0.36 for 2018, and the ratio of the income of the top 20 percent to that of the bottom 20 percent – the Palma ratio – fell from 8.1 times to 7 times (MOD 2013, 43). The Gini coefficient and/or median income can stay same, yet there would be an improvement in income distribution if the ratio of top to bottom got smaller.

The proportion of people living in relative poverty, which refers to those earning less than 60 percent of median income, fell from 25 percent of the population in 2006 to 22.6 percent in 2011, with the aim being 19 percent for 2018 (MOD 2013, 43). However, the meaning of this measure is dubious because a medium income for all of Turkey obscures the extremes. For example, while there seems to be hardly any extreme poverty in Istanbul, the capital, rates are extremely high in the southeast of the country. Nevertheless, calculations based on regional median income also show a slight decline in poverty rates (Gürsel, Anıl and Acar 2013), but rural poverty remains a significant challenge (MOD 2013, 135). While the share of the population’s poorest quintile in total consumption increased between 1994 and 2008 in Turkey overall and in urban areas, this share increased in rural areas until 2005 but started to decrease thereafter (MOD 2012).

The 10th Development Plan calls for improving social safety nets and emphasises education in the fight against poverty. Information on social protection is available for 2008–12, with expenditures organised according to type of expenditure (e.g., health, retirement, unemployment) as a percentage of gross domestic product (GDP) rather than who receives these funds. Disaggregated data are available for means-tested and non-means-tested groups.[14]

If the thresholds of richer countries are used for international comparisons, the picture is not very bright. According to EU standards, almost two out of every three children in Turkey live in severe material deprivation (Gürsel, Uysal and Kökkızıl 2014). This estimate, however, is generally considered too high to be credible. Several Turkish groups, such as trade unions, announce their own calculations of poverty and hunger rates. Poverty, according to these calculations, is much higher than officially announced.

One important outcome of the measurement of poverty using a national measure, be it absolute or relative poverty, is the demonstration that the majority of poverty appears to be concentrated in certain parts of a country – the eastern part in the case of Turkey – and specifically in rural regions. Median income in Istanbul and the western part of Turkey is higher than that in the eastern part. When such regional inequalities exist, an absolute national measure will count people as poor only in poorer regions, underestimating the number of poor in Istanbul and the western part of the country. Many of the national indicators are proposed with these regional differences in mind (Table 2).

[14] For more information, see TurkStat (2013c).

Table 2. End poverty: Targets and indicators Target	Indicator	Notes
Global		
End extreme income poverty	Proportion of population below US$1.25 (PPP) per day	Indicator used to be tracked in Turkey but TurkStat does not release these data anymore.
Reduce poverty	Proportion of population below US$2 (PPP) per day	World Bank has suggested an absolute poverty line of US$2.15 per day and a vulnerable-to-poverty line of US$4.30 per day. Turkey finds these figures to be relevant. The Survey of Income and Living Conditions, in compliance with EU standards, has been conducted and field application of the survey is carried out each year.
	Proportion of population living below national poverty line, absolute	Denotes absolute poverty. Food poverty can be calculated more reliably than non-food poverty given a minimum calorie intake level.
	Proportion of population living below national poverty line, relative	Denotes relative poverty, which is calculated as below 60 percent of median income.
	Share of employed persons living below the nationally-defined poverty line	Can be calculated using microdata.
Reduce the proportion of people who suffer from hunger	Prevalence of child stunting in boys and girls under 5, %	Irregularly measured using international standards.
National		
Reduce inequality and sustain income growth of the bottom 40%	Gini coefficient	
	Palma ratio	Incomes of top 10% to bottom 40%. Possible to calculate using microdata.
	Growth rate of income of the bottom 40%	Possible to calculate using microdata.
	Ratio of income/consumption of top 20% to bottom 20%	
Reduce poverty	Multidimensional poverty	Work has started on this indicator.
	Severely materially deprived people (%) (percentage of total population)	Calculated using “Social Inclusion – Eurostat sustainable development indicator,” but work is being done on a new question format to suit Turkey.
	Persistent-at-risk-of-poverty rate (%) (percentage of total population)	Calculated using “Social Inclusion – Eurostat sustainable development indicator,” but work is being done on a new question format to suit Turkey.
	Calorie intake	Figures available from the Food and Agriculture Organization of the United Nations.

Data on Poverty

Data for most of the indicators that measure progress on ending poverty are available in surveys through TurkStat. Data are not available for multidimensional poverty, which is considered to be an important national issue, although work on an indicator – a work was organised in 2013 – is being conducted at TurkStat (discussed below). Data that are produced are done so in a timely manner, are of good quality and generally align with international standards, particularly those of Eurostat. Given the constraints mentioned above, problems may arise and microdata may need to be studied in some cases where disaggregation is required. In Turkey, the use of microdata is often desirable since regional disparities can be obscured by national averages. While regional disaggregation is often possible to some degree, microdata may be necessary to ensure analytical relevance. One problem that sometimes arises is changes in survey methodology, but this does not seem to be a major problem since useful time series are available at least since 2006 through the Survey of Income and Living Conditions (SILC) (2002 for the Household Budget Survey [HBS]), which can be a baseline year for this goal area.

Among the global indicators, the only one for which official statistics are not collected is that on child stunting, though data are available in Turkey Demographic and Health Survey that is conducted every five years by the Hacettepe University Institute of Population Studies (see Hacettepe University Institute of Population Studies 2009). Figures from the United Nations Children's Fund,[15] however, may be more relevant and easily comparable across countries. One problem with the global indicators is that the poverty threshold of US$1.25 per day is no longer calculated for Turkey. TurkStat used to release data related to the poverty threshold of US$1 in addition to those of US$2.15 and US$4.30 per day (poverty line and economic vulnerability limit respectively, as defined by the World Bank for Eastern Europe and the Commonwealth of Independent States) by applying information gathered by the HBS. For the poverty threshold of US$1 per day, the latest year for which data are available is 2005. Official statistics continue to be released for the US$2.15 and US$4.3 per day thresholds, the latest available data being from 2012. Since 2006, relative poverty rates along national and regional lines based on the SILC – using 40, 50, 60 and 70 percent of median equivalent income calculated according to the OECD/EU equivalence scale – have been announced.

Regarding the proposed national target on reducing inequality, data are available in the HBS for calculating the indicators on income distribution. Gini coefficients at various degrees of disaggregation, such as region and household type, are readily available, but the Palma ratio and other ratios using income quintiles, deciles or 5 percent groups need to be calculated using microdata. Two important national indicators, given Turkey's stage of development and social realities, that TurkStat has proposed are severely materially deprived people as percent of population and persistent-at-risk-of-poverty rate as percent of population. They have been recently adopted in accordance with Eurostat's set of sustainable development indicators, although TurkStat, which uses questions from the EU Statistics on Income and Living Conditions (EU-SILC) instrument, is working on a new question format to improve the identification of severely materially deprived people. The persistent-at-risk-of-poverty rate refers to having an equivalised disposable income below the at-risk-of-poverty threshold (60 percent of equivalised household disposable median income in the current year and in at least two of the preceding three years). It should be noted that the persistent-at-risk-of-poverty rate is only 0.3 percentage points lower than the at-risk-of-poverty threshold (TurkStat 2013b).

[15] The UN Children's Fund figures are available in *The State of the World's Children* reports, which can be accessed at http://www.unicef.org/sowc.

TurkStat calculates another national absolute poverty measure that is based on expenditures. This is done by finding the minimum possible income that is sufficient for spending on food and non-food items. For food expenditures, there is a general consensus across countries on minimum calorie intake level. The minimum income to buy food that has 2,100 kilocalories (that is the minimum calorie intake level used by Turkey, although for some countries the minimum level can be as high as 2,500 or 3,000 kilocalories) is therefore calculated. For non-food items, on the other hand, there is no general consensus. There is a debate on which items should be included in budgets. Generally, it is assumed that food expenditures should represent a certain share of a budget in absolute poverty calculations. Assuming that several external factors and exogenous parameters may affect this calculation, TurkStat is considering ways to improve the calculation process.

National absolute poverty lines identify only the eastern part of Turkey as being poor and underestimate the number of poor in Istanbul and the western part of the country. One option for a better understanding of poverty is the establishment of regional absolute poverty lines. It is very likely that similar problems with national absolute poverty lines occur in other countries as well.

TurkStat started to release relative poverty figures in 2006 and seems to emphasise the relative poverty measure over absolute poverty measure. As seen in its data-mapping exercise, TurkStat calculates relative poverty at the level of "statistical region 1" as well.[16] This calculation provides more detailed information about overall poverty. Since Turkey follows EU guidelines for much of its national statistical work, TurkStat measures material deprivation and "severe material deprivation." These indicators are based on whether respondents can afford things such as meals with meat, new clothing, heating, a phone, a vacation, unplanned expenditures, etc. These indicators probably suffer from measurement errors as the comprehension of questions can vary from one location to another and individual preferences may create challenges for interpreting results.

A national indicator based on calorie intake could be considered for Turkey because there are regional differences in prices and measuring whether people have access to sufficient amounts of food to survive is important. This indicator could focus on "food poverty" as a separate measure from absolute poverty. Regarding national data, TurkStat already conducts calorie-based calculations to estimate absolute poverty and extrapolates non-food poverty from food poverty. This calculation of non-food poverty is problematic, however. It is possible but rather difficult to eliminate the measure of non-food poverty and use calorie-based food poverty as a separate indicator. Thus, an indicator based on a measure of non-food poverty has not been included among the proposed national indicators. Internationally comparable national data are available from the Food and Agriculture Organization of the United Nations, but there are no regional data, which would be important for Turkey.

TurkStat recently started to work on an indicator for multidimensional poverty. The concept of multidimensional poverty is new and there is little consensus on how to proceed. How dimensions should be assigned and which items and weights should be used have caused disagreements among stakeholders. Multidimensional poverty and material deprivation are important indicators that do not measure the same factors. Income-based poverty estimations are criticised because they do not include factors such as education, employment and health. People living under the national poverty line can be considered poor despite having easy access to such factors, while people who do not have such access

[16] At "level 1", there are 12 statistical regions, with Istanbul being a statistical region by itself. For further information about regions, including the more detailed levels 2 (26 regions) and 3 (81 regions). See TurkStat (2014e).

can be considered poor in different ways. That is why Eurostat started to use material deprivation as an indicator and researchers are attempting to develop multidimensional poverty measures.

Overall, Turkish data to be used for poverty-related indicators in the post-2015 framework can be qualified as good because reliable data are available for almost all selected indicators over a reasonable period of time. The baseline year for this goal area could be as early as 2006. In general, TurkStat's poverty data are in conformity with Eurostat standards, with data being well-defined and internationally comparable. Data are accessible by researchers and institutions, though a few restrictions are in place. Disaggregated data, including on regional value added, exist for statistical region 2 (comprised of 26 regions), but data disaggregated along ethnic lines are lacking, which is the case for all goal areas. The lack of information on migration, which is an increasingly important phenomenon in Turkey, compromises overall data reliability.

Ensure Quality Education for All

Turkey made significant progress on ensuring quality education for all between 1997 and 2013. The pre-primary level, however, has only been accorded importance since the 2009–10 school year. In terms of making education accessible, net enrolment rates soared from 85 percent to 99 percent at the primary level and from 38 percent to 77 percent at the secondary level over this period. These changes have been accompanied by political determination prioritising the domain of education policy. Compulsory schooling was extended from five to eight years in 1997 and from eight to 12 years in 2012. The number of teachers employed at the primary and secondary levels has almost doubled, increasing from 440,000 in 1997 to 847,000 in 2013. Additionally, the share of the budget of the Ministry of National Education (MONE) in the central government's overall budget increased from 8 percent (1.7 percent of GDP) to 13 percent (3.2 percent of GDP) between 1997 and 2014 (MONE 2014b). Nevertheless, it should be noted that similar figures for Organisation for Economic Co-operation and Development (OECD) countries are 6 percent of GDP on average (OECD 2014) and the United Nations Educational, Scientific and Cultural Organization recommends the allocation of 6 percent of GDP to education provision for developing countries (UNESCO 2009). Moreover, gender, regional and ethnic inequalities in access to education are still prevalent in Turkey. There is still a non-negligible gender gap in access to secondary-level education, which is much more pronounced in the relatively disadvantaged and predominantly Kurdish east and southeast regions of the country (Dinçer 2013).

The quality of education in Turkey is only trackable by the Programme for International Student Assessment (PISA), which measures the life skills that the 15-year-old student population has learned in the areas of mathematics, reading and science. Turkey participated in PISA assessments in 2003, 2006, 2009 and 2012. According to the results, the share of 15-year-old students without basic life skills has decreased from 52 percent to 42 percent in mathematics, from 37 percent to 22 percent in reading and from 47 percent to 27 percent in science between 2003 and 2012. Although these figures indicate improvement in the quality of education, PISA also documents severe regional inequalities in countries. In Turkey, for instance, students in Western Marmara are two school years ahead of students in Central East Anatolia in mathematics. Additionally, variance between programme types (i.e., selective vs. non-selective institutions and academic vs. vocational institutions) explains 62 percent of in the results for the area of mathematics, which highlights significant structural inequalities in the country (MONE 2013).

Ensuring all children have access to early childhood and quality primary and secondary education is a global target that is desirable to achieve. However, the target does not mention or put an emphasis on the need for quality of early childhood education (see Table 3). Thus, "ensure all children have access to quality early childhood, primary and secondary education" may be an alternative wording for this target. Emphasising the quality of early childhood education is consistent with the existence of the indicators on high levels of education.

Increasing the number of adults with skills, including technical and vocational skills, is a complex target, the pursuance of which may have positive as well as unexpected consequences. First of all, foreseeing what types of technical and vocational skills will be needed in the coming decades is very challenging if not impossible. Investing in technical and vocational skills that may become obsolete in the near future would be inefficient uses of resources. Second, the general perception among the Turkish population toward technical and vocational education is not positive. Parents and students largely consider technical

and vocational schools as the least desired institutions to attend, so underachieving students are systematically concentrated in these schools.

Public expenditure may be a significant indicator of the prioritisation of education. At the national level, public expenditure on education has been reported at least since 2002 in the MONE's statistical records. Budgeting nomenclature has been consistent since 2006 at the province and district levels. Pre-2006 expenditure data may be generated but requires extensive, tedious efforts.

While the global indicators selected for this study are relevant for Turkey, there may be country-specific caveats with regard to completion rates. In Turkey, people who are 17 years of age or younger cannot legally drop out of school and repeating grades is not an option at the primary level. At the secondary level, students over the age of 17 can drop out of formal educational institutions, but they are directed into non-formal secondary institutions. In this way, the MONE ensures that all students and their parents remain within the legal boundaries of Turkey's education system. TurkStat has declared basing more statistics on administrative records to be a goal, as explained below. The current low-quality administrative data on schooling suggest there are limits in that regard. Household surveys can and do provide supplementary information on schooling.

National targets on education were last set in the MONE's Strategic Plan for 2010–14 (MONE 2009). National targets for net enrolment rates in pre-primary, primary and secondary education are as follows:

- Pre-primary education: Net enrolment rate of 70 percent for those who are aged between three and five in 2014 (base rate was 33 percent in 2009);
- Primary education: Net enrolment rate of 100 percent in 2014 (base rate was 98 percent in 2009);
- Secondary education: Gross enrolment rate of 90 percent in 2014 (base rate was 77 percent in 2009).

The MONE's Strategic Plan does not contain any targets regarding completion rates or quantifiable measures of learning. Therefore, all global targets and indicators in the goal area of education can be considered relevant and useful for Turkey.

While completion rates are more relevant than enrolment rates in tracking access to education, in the case of Turkey, completion rates alone are not enough to track access to education. Therefore, student absenteeism has been selected as a complementary indicator. Recently, the MONE published its 2013 Activities Report (MONE 2014a), which revealed that no less than 174,000 students missed more than 51 school days during first term of the 2013–14 school year. Since early 2009, the MONE has been designing a new module to be integrated into its main e-School Information Management System,[17] henceforth referred to as the e-School database. The main purpose of this new module will be to monitor student absenteeism. Many students under 17 years of age in Turkey remain continuously absent instead of dropping out since they cannot legally drop out. Another critical issue is teacher absenteeism. Relatively disadvantaged eastern (mainly Kurdish) regions experience severe teacher turnover. The MONE reports that teachers' mean service time in these regions is 1.25 years. Students in these regions are constantly assigned substitute teachers with no qualifications and temporary contracts or cannot be assigned a teacher at all. Therefore, tracking the loss of instructional time due to teacher absenteeism is also crucial.

[17] The e-school is a system established in January 2007 by the Ministry of National Education. The system follows all the details regarding a student's education through secondary school. See http://www.eokul.web.tr/e-okul-nedir.html for more information.

An indicator of teacher quality may also be selected for Turkey (see Table 3). However, the lack of data precludes constructing a meaningful, quantifiable and trackable indicator. Currently there are no public efforts or intent to generate and disseminate indicators of teacher quality in Turkey.

Table 3. Ensure quality education for all: Targets and indicators

Target	Indicator	Notes
Global		
Ensure all children have access to early childhood and quality primary and secondary education	% of girls and boys receiving at least one year in pre-primary programmes	Available from e-School database. May not reflect reality perfectly.
	% of girls and boys who complete primary school	Available from e-School database. May not reflect reality perfectly.
	% of girls and boys who complete secondary school	Available from e-School database. May not reflect reality perfectly.
	% of girls and boys who achieve a passing grade in national learning assessments at the primary school level	Access restricted by the MONE. International data available.
Increase the number of adults with skills, including technical and vocational skills	Proportion of individuals enrolled in a Technical and Vocational Education and Training institution	Given the considerably high incidence of schools for religious vocations and careers, whether vocational education contributes to technical performance is doubtful.
National		
Ensure all children have access to early childhood and quality primary and secondary education	% of girls and boys who complete primary school	Household surveys can be improved to provide better information.
	% of girls and boys who complete secondary school	Household surveys can be improved to provide better information.
	% of girls and boys who achieve a passing grade in national learning assessments at the primary school level by language spoken at home	
	% of high school graduates taking university entrance exam	Data come from the Center for Measurement, Selection and Placement and MONE.
	% of instructional time lost due to student and teacher absenteeism	Available from e-School database for students.
Increase the number of adults with skills, including technical and vocational skills	Proportion of individuals enrolled in a Technical and Vocational Education and Training (TVET) institution	Adult Education Survey, 2012 (TurkStat 2013a).
Ensure a safe, secure and effective learning environment in the classroom	Student-educator ratio	Available from e-School database.
Decrease inequality in access to education	Number of individuals with non-Turkish mother tongue with primary school diploma/Number of individuals with non-Turkish mother tongue	Requires work with microdata.
	Estimates of regional distribution of educational attainment based on exploratory spatial data analysis	Requires work with microdata.

	Average years/months of service of teachers, by school/province	Assumption that frequent moves disturb quality and longer service leads to better quality.
Decrease inequality in learning	% of girls and boys who achieve a passing grade in national learning assessments at the primary school level, by language spoken at home	Requires work with microdata.
Increase the number of adults participating in life-long learning	Proportion of adults enrolled in post career, technical or professional training programmes	Household surveys can be improved to provide better information.
	Proportion of adults who complete tertiary education	Household surveys can be improved to provide better information.

Date on Education

Data on formal education are available through the e-School database.[18] The MONE's e-School database and TurkStat's Household Labour Force Survey (HLFS) can provide the bulk of the data for the indicators related to the global targets "Ensure all children have access to early childhood and quality primary and secondary education" and "Increase the number of adults with skills, including technical and vocational skills." The HLFS provides statistics on the numbers of boys and girls who have reached a certain level of education (primary, secondary) by a certain age (15 and 19 years of age, respectively). For the national target "Increase the number of adults participating in life-long learning," available data pertain to people who are 24 years of age or older and have completed tertiary education.

The e-School database can provide a wealth of data on education in general but there are some problems related to the automatic registration of every child who reaches school age, which may lead to misleading analyses. Each year, all school-age children with a Turkish Identification Number appearing in the population database are automatically registered in school, so full enrolment appears to be achieved. Household surveys indicate that there is a major gap in current data on enrolment and completion rates, with continuous absenteeism being a pervasive problem since dropping out of school is illegal, as mentioned. Data analyses should therefore contrast e-School data on education with household survey results.

The introduction of electronic registration enabled the monitoring of some data but in some cases created problems of continuity and with baseline years. The baseline year should be 2007 because the MONE used population estimates based on the 2000 census when computing enrolment rates and relevant ratios until 2007. In 2007, the Ministry of the Interior launched the Address-Based Population Registry System (ADNKS), a population database. The MONE then started to publish enrolment rates based on population figures from the ADNKS. Thus, officially published enrolment rates and ratios from before 2007 are not compatible with those after that year. The MONE claims that estimates of school-age children based on the 2000 census were overestimated by about two million. Another problem with the data on education is that the age of entering first grade changed in 2013, which has affected the continuity of data.

Prior to the establishment of the e-School database, education statistics had been generated by the MONE based on administrative records and census-based population projections. The e-School database replaced this approach in 2007 and it is disputable whether data before and after 2007 are comparable or not. The calculation of relevant indicators using available data is straightforward but may

[18] The database can be accessed at https://e-okul.meb.gov.tr.

not be easy. The determination of pre-primary attendance, for instance, requires constructing trends over time based on early data entries in the e-School database, which can be less complete than more recent entries. Notably, the e-School database also contains information regarding siblings, parental demographics, and education, disability and conditional cash transfer status, so accurate statistical work may take time.

It is crucial to make a distinction between the absolute numbers or proportions of students in school and the quality of the education that they receive. This is particularly important in countries that are facing the middle-income trap, like Turkey. An indicator which specifies that students satisfy some performance criteria, be that the ability to read, write or calculate, apart from completing a level of education is very important but difficult to monitor. Indicators based on national examinations can be used but they are generally disadvantaged by yearly variations in difficulty, which complicates monitoring. Additionally, national examinations are high-stake tests, which according to a large body of literature makes them rather unsuitable for accurate assessment purposes. International comparisons are only partially available through PISA and Trends in International Mathematics and Science Study (TIMSS) evaluations. If the purpose is to achieve an improvement in an indicator, consistency in measurement over time counts more than international comparability, hence the focus should be on data availability and quality. A meaningful target for international comparisons, on the other hand, may be the reduction of the gap between the top and bottom performers based on an international benchmark, such as reading or math skills measured by internationally established standards.

The MONE conducted low-stakes national learning assessments in 1994, 2002, 2005 and 2008 at the primary level. These are no longer conducted and there is no explanation regarding this cancellation. The ministry has conducted a high-stakes national examination for eighth graders that determines placement to secondary schools since 1999, but the format of the test has been extensively revised, most recently in the 2013–14 school year. Therefore, if data on quality of education at the primary level are sought, 2013 has to be the benchmark year. The percentage of secondary school graduates taking university entrance examinations may be considered as an indicator of quality of education up to the completion of secondary school given that the readiness of secondary school graduates for tertiary-level education is measured by their propensity of taking university entrance examinations. Notably, the duration of secondary school was increased from three to four years in 2006 and length of study may be associated with graduates' decisions about taking university entrance examinations, so 2006 is proposed as the baseline year for this indicator. The indicator can be calculated based on administrative data available through the MONE and Center for Measurement, Selection and Placement. It is not possible to use test scores of university entrance examinations as a measure of quality of education (and inequality in quality of education) given that the difficulty of examinations is not comparable over time. Assessments of learning, measured by a satisfactory grade, as reported in TIMSS International Results in Mathematics and TIMSS International Results in Science, stop in 2011.[19]

As in other goal areas, equality concerns permeate the targets relating to the goal area on education. Four indicators have been proposed for the national target "Decrease inequality in access to education." They basically concern language issues. As mentioned, a linguistic minority, such as the Kurdish people who are mostly found in the eastern and southeastern parts of Turkey, can only be identified in statistics by their mother tongue, Kurdish. Such data come from a survey done by the Hacettepe University Institute of Population Studies at five-year intervals. Regarding the monitoring of regional inequality in access to education, it is possible to estimate regional distributions of educational attainment by making use of exploratory spatial data analysis. Exploratory spatial data analysis is a potential first step in

[19] The assessments can be accessed at http://timssandpirls.bc.edu.

describing spatial distributions, such as the regional distribution of education inequality (Rodríguez-Pose and Tselios 2011). Such analysis can be conducted using microdata in the HLFS, which are representative of 26 sub-regions of Turkey since 2004. However, given recent changes in the definitions of "urban" and "rural," spatial analysis cannot be extended to compare educational attainment distributions between urban and rural areas.

A related and important indicator that was considered is the gap between literacy and numeracy learning outcomes of the poorest and richest quintiles. The relevant data, however, are not easy to access because they require special permission. Therefore, this was not proposed as a national indicator. The e-School database contains information on family income and parental education as well as students' grades and Turkish literacy skills assessed by Turkish teachers. The family income variable available in the e-School database is a relative – not absolute – measure of income. Another measure of poverty may be conditional cash transfer status, data for which are available in the e-School database, but only a small proportion of the student population has conditional cash transfer status. Thus, family income and conditional cash transfer status are not considered to be robust indicators of income and/or poverty that could inform analyses of learning outcomes.

TurkStat collects information on adult education covering both formal and extended non-formal education, the latter through administrative registries and survey questions. A key source of data on adult education in general and the indicator "Proportion of adults enrolled in post career, technical or professional training programmes" in particular is TurkStat's 2012 Adult Education Survey (see TurkStat 2013a). The main goal of this survey, in which "adult" is defined as an individual aged 18 years or over, is to compile information on formal education, non-formal education and informal learning activities to develop the knowledge and skills of individuals in the context of life-long learning. The Adult Education Survey, which was first conducted in 2007 by interviewing adults in households using the face-to-face interview technique, was also conducted in 2012 to obtain national-level, comparable data needed at the international level. In addition to participation rates of individuals according to age group, gender, educational attainment and labour status, data participation during working hours and reasons for not to participating in education and training have also been obtained.

As in many other countries, Turkey has done fairly well in attaining a rather satisfactory level of literacy, so the qualitative aspects of education gain importance. In this context, a proposed national target for Turkey is "Ensure a safe, secure and effective learning environment in the classroom," with an indicator that looks at student-educator ratios. Again linked to reducing inequality, the indicator takes into consideration the time that a teacher spends at a school before moving somewhere else (most teachers want to move on speedily to more "comfortable" places from those schools considered hardship posts). The consideration is that too quick a turnover is detrimental to the quality of teaching and is implicated in large student-educator ratios. As of 2013, the MONE had assigned approximately 19,000 teachers to relatively disadvantaged eastern regions – where the mean service time is 1.25 years, as mentioned – to decrease the regional gap in student-educator ratios, since 9,000 teachers had moved from eastern to western (or from disadvantaged to advantaged) regions. There is a database that provides some information on this issue, the Ministry of National Education Informatics Systems database,[20] but the complete contents are only known to the MONE. Another indicator for the quality of learning could be access to information and communication technologies, which was not included because, while data on the quantity of equipment can be found, the use made of it is fairly unclear. Moreover, internet use is one of the key indicators in the goal area on energy and infrastructure, so it was not included here.

[20] The database can be accessed at https://mebbis.meb.gov.tr.

Overall, the availability of data for the selected global indicators on education is good, but there are significant data gaps for some of the key national indicators. For the baseline year for this goal area, 2007 seems to be reasonable. While data are available continuously until 2013 for all global indicators, some of the data for national indicators have experienced changes that affect continuity and thus reliability.

Create Jobs, Sustainable Livelihoods and Inclusive Growth for All

While the rate of unemployment measured by TurkStat – 9 percent as of April 2014 – is not exceptionally high, the high proportion of unemployment among the youth population necessitates rapid creation of decent jobs. The MOD's 10th Development Plan aims to reduce the unemployment rate to 7.2 by 2018 (MOD 2013, 27). Between 2006 and 2012, the labour participation rate increased, informal employment decreased (particularly in non-agricultural sectors), average hours worked per week also decreased and wage increases surpassed the inflation rate (MOD 2013, 20). Movement from rural areas and agriculture to cities has been a factor in the decline of both informal and unpaid labour (MOD 2012, 21). Nevertheless, the percentage of employed people in the total population has diminished as employment increases have lagged behind the increase in population. Average total factor productivity from 2007 to 2012 was negative at -0.5 percent per year (MOD 2013, 20).

In 2008, measures were introduced to reduce labour costs, encourage the employment of young people, women and the disabled, develop active labour market programmes, increase unemployment benefits, improve the relationship between education and employment, reduce unregistered employment, facilitate the opening of private employment offices, regulate relations with sub-contractors and reduce the red tape involved in opening new workplaces (MOD 2012, 20). One of the important characteristics of the Turkish labour market is the low labour force participation rate for women. In April 2014, the labour force participation rate was only 30.7 percent for women as opposed to 71.1 percent for men, in both cases over 15 years of age. A major problem is informal labour not being covered by social security institutions. That same year, the proportion of informal workers not covered by a social security institution was 34.8 percent, reflecting rates of 81.2 percent and 22.3 percent in agriculture and non-agricultural sectors, respectively (TurkStat 2013c). These statistics demonstrate the importance of this target for Turkey (see Table 4) and suggest that it could be relevant for many other countries. While aggregated data are easily accessible, microdata, which are fairly extensive and detailed, should be looked at whenever some detail is needed.

An indicator that comes to mind in the context of job creation is posted vacancies. There are two complementary sources of vacancy data in Turkey. Since 2008, the Turkish Employment Agency has been publishing data on vacancies on a monthly basis based on job openings submitted by employers to its regional offices.[21] Given trends in listed occupations, the Turkish Employment Agency vacancy data disproportionately promote low-wage jobs. By contrast, kariyer.net, a portal established by a private human resources company that has been matching job seekers with vacancies since 2000, emerges as the venue of choice for high-wage job postings. Gürcihan-Yüncüler, Şengül and Yavuz (2013) evaluated the performance of various available datasets as leading indicators of the unemployment rate and reported that the vacancy data published by the Turkish Employment Agency passed two of the selected three statistical tests. Arguably, vacancy data do not qualify as a good indicator of job creation, especially when sustainable livelihood and inclusive growth for all have been selected as key global goals.

Underemployment is widely discussed in developing countries, despite being a controversial concept and difficult to measure. In 1998, the International Labour Organization suggested using "time-related underemployment" or "inadequate employment situations" (ILO n.d.). TurkStat replaced its use of "underemployment" with these two concepts in 2009.

[21] Data can be accessed at http://www.iskur.gov.tr/tr-tr/kurumsalbilgi/istatistikler.aspx.

There are a number of important variables in the area of employment that can useful in cross-country comparisons. These include employment by branch of economic activity, average hours worked per week and share of wage employment in the non-agricultural sector. These variables have not been proposed as indicators, however, because in several of them the desired direction of change as an indicator of development is not globally uniform. They would need to be paired with country-specific targets in terms of the direction of change. For example, Turkey has the longest "weekly hours of work in main job" among EU members and candidate countries for EU accession. Producing more in a given time period through improved productivity is naturally desirable, but it is unclear whether reducing the number of hours worked (or increasing them) would be a move in the desired direction in a country that requires economic growth.

Table 4. Create jobs, sustainable livelihoods and inclusive growth for all: Targets and indicators

Target	Indicator	Notes
Global		
Achieve full and productive employment for all, including women and young people	Labour force participation rate	There is a break in the time series for Turkey.
	Time-related underemployment (thousands)	Must be calculated from microdata that provide insights on the reasons for underemployment.
Ensure equal pay for equal work	Mean nominal monthly earnings of employees (local currency)	
Support inclusive growth and reduce inequality	Gini coefficient	
	Palma ratio	Data are unsuitable for a simple calculation but could be calculated from microdata.
	Growth rate of income of the bottom 40%	Data are unsuitable for a simple calculation but could be calculated from microdata.
	Gross fixed capital formation (% of GDP)	
National		
Achieve gender parity in employment	Employment rate for women as a proportion of men	Would be more meaningful for representative occupations.
Achieve full and productive employment work for all, including women and young people	Occupational injury rate (fatal and non-fatal)	
	Rate of unionisation	Data on the rate of unionisation is easily accessible.
Eradicate child labour	% of children employed	Participation in surveys is not always satisfactory.
Achieve educational or employment opportunities for young people; curb inactivity	Youth not in education and not employed (aged 15–24)	

Data on Jobs and Inclusive Growth

Among the surveys that TurkStat conducts in conjunction with international activities in the area of education, the Structure of Earnings Survey is conducted every four years along the lines of those by Eurostat. Significant non-response rates are reported, but these surveys could provide useful data on the gender pay gap, an indicator used by Eurostat. One of the major data gaps concerns rates of occupational injuries and fatalities, which together would be an important indicator for many countries. Relevant questions are asked in some Turkish surveys, but they are not methodical. One complication is that some occupational injuries and fatalities are caused indirectly. Some information can be obtained, for example, on the number of people retiring for medical reasons, but this figure would provide incomplete and possibly misleading information. Another complicating factor is that much information is being withheld and obscured because there are serious penalties for occupational accidents. This is an area where labour unions have a big role to play. Moreover, considering that organised labour can have positive impacts on the situations of workers, the rate of unionisation is an important indicator for which information is fairly easily accessible. Just like several other indicators, however, this indicator can be complicated by politics. The independence of unions and freedom that they enjoy in their activities are very significant factors that affect the value and meaning of the indicator.

TurkStat's HBS, HLFS and SILC provide good data for almost all of the global indicators under this goal area. In other words, data exist – sometimes they are available from multiple sources – but often not in the desired format in terms of units and disaggregation. For example, while labour force participation rates and Gini coefficients are available, "time-related unemployment"[22] has to be calculated from grouped microdata available from the HLFS. One problem is that while there are microdata reflecting answers to questions about reasons for underemployment, the exact wording of some of the questions posed has changed over time. According to TurkStat staff, the Structure of Earnings Survey, which is less frequently conducted (once every four years), is a better source for some specific earnings-related issues. Researchers have pointed out, however, that those data suffer from the usual problems associated with data collected from firms and response rates are rather poor. Data for the global indicator, "Gross fixed capital formation (% of GDP)," are available from Turkey's macroeconomic accounts.

Among the proposed national targets, "Achieve gender parity in employment" is crucial for Turkey. Data are available from the HLFS for the associated indicator "Employment rate for women as proportion of men." The occupational divisions in the SILC align with the International Standard Classification of Occupations (ISCO-08). An indicator that was considered for this national target was share of women in employment in ISCO-88 major group 1 (legislators, senior officials and managers), but since "Proportion of women in senior manager positions" is proposed under the goal area on governance, it was not included here.

The HLFS also provides the requisite data for monitoring two other proposed national targets. The proposed indicator for the target "Achieve educational or employment opportunities for young people; curb inactivity" is "Youth not in education and not employed (aged 15–24)," while the indicator for the target "Eradicate child labour" is "% of children employed." The special modules of the HLFS provide data on children ages 6–14 in 1994 and 1999 and data on children ages 6–17 in 2006 and 2012. There is a close relationship between child labour and access to education for children.

[22] Which has been substituted for "underemployment " since 2009 in line with the International Labour Organization's recommendation. http://www.ilo.org/integration/themes/mdw/lang--en/index.htm While Eurostat marks "part time" based on the declaration of the respondent, TurkStat uses actual working hours.

The following types of disaggregation are possible for data from the main surveys:

- HLFS: Urban/rural (until 2013), male/female, age, education, region (Nomenclature of Territorial Units for Statistics 2).
- HBS and SILC: Urban/rural (until 2013), male/female, region (Nomenclature of Territorial Units for Statistics 1), occupation.
- Structure of Earnings Survey: Male/female, age group, occupation.

Given Turkey's development experience, which is likely not all that different from many other developing countries, "Occupational injury rate (fatal and non-fatal)" is another proposed national indicator that is considered important relative to the national target "Achieve full and productive employment work for all, including women and young people." The best data are available from a civil society organisation, İşçi Sağlığı ve İş Güvenliği Meclisi (Council for Workers' Health and Work Safety). The reporting of work-related accidents and deaths is precarious owing to high fines and other forms of punishment that may follow. This is an area where labour unions could do much useful work, which they are currently not doing. Officially, TurkStat publishes occasional reports based on its modular survey of work-related accidents and health problems.[23]

Taking into account inconsistencies in the generation and presentation of data, 2005 seems to be the preferable benchmark year for global and national indicators, for which data availability is considered to be very good, under this goal area. With expert involvement in data analysis, the available information can be put to good use. Notably, there is an evident relationship between many of the targets and indicators covered under this goal area and that of education.

[23] The latest report is TurkStat (2014d).

Ensure Energy and Develop Infrastructure for All

For Turkey's development priorities, the provision of energy based on domestic resources – roughly one-fourth of imports are energy imports – and improvement of energy efficiency appear among the main concerns in the MOD's 10th Development Plan. Given that primary energy consumption in the 2007–11 period increased annually on average by 2.8 percent and electricity consumption increased in the 2007–12 period at an average annual rate of 5.6 percent, the attention paid to energy provision in Turkey is unsurprising. Mentions of domestic resources inevitably bring the issue of renewable energy resources into discussions. Notably, local coal deposits have been opened to exploitation and work on nuclear energy has started in Turkey (MOD 2013, 22). Since many public projects on energy production, particularly that by hydroelectric plants, have already been completed and large-scale infrastructure investments in public works such as roads and airports will be based on public-private partnership models, public investments in the area of energy and infrastructure are expected to slow down (MOD 2013, 82).

This goal area combines two somewhat different areas of sustainable development, which potentially comprise a large number of targets and wide variety of indicators (see Table 5). While sustainable energy is more related to environmental aspects of sustainable development, infrastructure is linked more to the social and economic aspects. The global targets and indicators selected for this study emphasise access to energy and connectivity, thus favouring a narrow perspective. The national targets have been selected with balance in mind. It is noteworthy that several of the targets and indicators here, particularly those on sustainable energy, are related to the pollution indicators of the goal area on a sustainable, healthy and resilient environment for all.

Some of the global indicators are based on percentages of the population with access to a certain public good or service. These include access to roads, electricity, internet and even financial accounts. There is considerable difficulty in generating estimates for such indicators. The most difficult is probably estimating access to all-weather roads. Since 2001, statistics provide the lengths of roads by surface type, which can roughly indicate the state of access, but estimating the proportion of the population that has access to these roads seems impossible. Any estimation would be rather crude. If indicators of development are of interest, an increase in hard-surfaced roads would be an inaccurate indication of an increase in the number of people having access to them, especially since there are hardly any difficulties in accessing roads in the more developed parts of Turkey. The facts that about 90.5 percent of inter-city passenger traffic and 87.4 percent of cargo traffic is by road (MOD 2013, 107) point to the conclusion that access to all-weather roads is not a big problem in the country.

As of 2012, approximately 47.4 percent of individuals and 95 percent of enterprises employing 10 or more people were using the internet (MOD 2013, 95). Between 2007 and 2012, personal internet access increased, even in rural areas, from 15 percent to 26 percent. A difficulty with measuring access stems from multi-user contracts for access, given that several people in a household can have access to the internet through a single account. In many of these cases, however, a simple indicator that tracks the change in the number of accounts, rather than the proportion of the population, would be sufficient as an indicator of development. The number of accounts, of course, does not clarify the number of account holders and it should be noted that one person may be the holder of numerous accounts. The

differentiation between accounts of individuals and enterprises is available only as the total value of the accounts and not as the number of accounts.

Some possible indicators related to this goal area reflect the interests of and data collected by (or for) international organisations. For example, delay in obtaining an electricity connection appears to be an indicator used by the World Bank for its own assessment of a situation. Others, such as proportion of population with access to modern cooking solutions, do not seem to be of interest to Turkish authorities, although there are still people in Turkey using animal dung as fuel (but whether they do so for cooking is doubtful). Data for this indicator come from World Health Organization. Some other indicators are also best assessed according to international sources. For example, assessments of bandwidth speed are available from international sources online in real time. Any tracking of such data would require good guidelines to ensure consistency over time and across countries.

Table 5. Ensure sustainable energy and develop infrastructure for all: Targets, indicators and notes for Turkey

Target	Indicator	Notes
Global		
Ensure full access to developed infrastructure and communication technology	Internet users (per 1,000 people)	Survey data are available for Turkey from TurkStat.
	Average bandwidth speed (megabits/second)	
	% of the population with access to an all-season road	Impossible to count the proportion of the population. Data on lengths of roads are available. Any inference may be spurious.
	% of adults with an account at a formal financial institution	Number of real and legal persons cannot be differentiated – differentiation is only available as the total value of the accounts.
Ensure access to energy and improve efficiency and sustainability of energy supply, including renewable energy	# of hours per day households have access to electricity on average	Data are available on outages but not access.
	Rate of improvement in energy intensity	
	Share of the population with access to modern cooking solutions (%)	This indicator is not a point of concern for Turkey. Data for this indicator come from World Health Organization
	Share of renewable energy to total energy consumption	Access to share in consumption only by inference through production figures.
National		
Ensure access to energy and improve efficiency and sustainability of energy supply, including renewable energy	# of hours of power outages from public grid	Indicator could be used instead of average number of hours of access to electricity per day.
	Network losses	
	Electricity investments	
Ensure full access to developed infrastructure and communication technology	Average residential electricity tariff and average industrial tariff	Important for the international economic competitiveness of Turkish industry and agriculture.

While there was interest in introducing energy dependence as a national indicator, this was not done because it is difficult to establish how a change in that variable is indicative of sustainable development.

Although energy dependence is a very important factor in a country's economic situation, particularly for those countries that import much of their energy, it may not be very useful in analyses of prospects for sustainable development. In any case, Turkish industry and agriculture maintain that high energy costs seriously hamper their international economic competitiveness.

Renewable energy generation is another indicator that is seen by some to be of dubious usefulness. The concern emanates from the potential environmental impacts of hydroelectric power plants, particularly large ones. In Turkey, renewable energy generation is a rather contentious issue not only because of large dams but also because of the extremely large number of small-scale hydroelectric power plants under construction and in planning stages as well as doubts about the seriousness with which environmental impact assessments are made.

Data on Energy and Infrastructure

This goal area covers a variety of targets related to the generation and use of energy as well as physical and online infrastructure. Data sources are much more varied than those for the first three goal areas and data do not appear to be available for certain indicators. There are many one-off studies relevant to the targets under this goal area. The inclusion in the consolidated post-2015 framework of some of the targets and indicators for which data are available only in occasional one-off studies may prompt and their incorporation into TurkStat's general work programme and more regular data collection.

This goal area could include many national targets and indicators that also appear under the goal area on environment. Certain national indicators that would be helpful given the level of development and development concerns in Turkey, such as "% of population using energy-efficient home appliances," were not included here since definitions may be ambiguous and data would be very difficult, if not impossible, to find. Indicators such as goods and people transported by road or rail may be meaningful in specific country contexts as indicators of sustainable development but not necessarily as indicators associated with global targets.

The global target "Ensure full access to developed infrastructure and communication technology" has the associated indicator "Internet users (per 1,000 people)," for which data are easily accessible, some definitional problems notwithstanding. In fact, several different kinds of data could be used, such as the number of contracts or survey results that provide estimates of the number of people accessing the internet. TurkStat provides data collected by the Ministry of Transport, Maritime Affairs and Communications, the Information and Communication Technologies Authority and its own survey.[24] These data can be disaggregated by sex, age, education and employment situation. Detailed information is also available on the usage of information and communication technologies by enterprises. Information compiled from the various sources is actually available through TurkStat. Data are available from 1994 onward for mobile telephones and from 1998 onward for internet usage. TurkStat's research report covering the 2004–13 period provides additional information on the usage of computers and other information technology equipment. Various international sources such as the Real Time Statistics Project[25] or TestMy.net[26] can be used to access real-time data on internet usage but, the utility of such data for monitoring purposes is likely to be rather low. These sources can, however, be used for the global indicator "Average bandwidth speed (megabits/second)" – national data for Turkey do not appear to be available apart from some information supplied by internet providers.

[24] See, for example, Hanehalkı Bilişim Teknolojileri Kullanım Araştırması Sonuçları, 2004-2013 (Results of Research on ICT Usage in Households, 2004-2013). For the latest survey, see http://www.turkstat.gov.tr/PreHaberBultenleri.do?id=16197.
[25] For more information on the project, see http://realtimestatistics.org.
[26] A connection speed test for Turkey, for example, is available at http://testmy.net/country/tr.

It is very difficult to find data for the global indicator "% of the population with access to an all-season road" – that is, there are no data from a Turkish source that match people or even localities with the type of road that reaches them. Information exists regarding the length of roads by type, by administrative region of the General Directorate of Highways and by province. Any proxy based on this information and population figures for a region or province would lead to rather spurious results in analyses.

The global indicator that is rather different from the rest is "% of adults with an account at a formal financial institution." The reasoning underlying its association with the global target "Ensure full access to developed infrastructure and communication technology" appears to be unclear, but the extensive use of automated teller machines may be a justification. There are relevant data available through a periodic publication by a national oversight body for the banking sector in Turkey,[27] although some complications such as not differentiating between real and legal personalities and the fact that one person may have more than one account need to be kept in mind.

Of the global indicators relating to the global target "Ensure access to energy and improve efficiency and sustainability of energy supply, including renewable energy," the most straightforward is "Share of renewable energy to total energy consumption." For Turkey, annual data are available on the share of renewables in electricity production and the share of renewables in energy consumption can be inferred from this and the use of other sources such as wood. Caution is needed in the interpretation of this indicator however. Whether to consider large dams as renewable energy sources is questionable and, in the case of Turkey, the construction of small-scale hydroelectricity plants is threatening ecosystems. Another global indicator, "# of hours per day households have access to electricity on average," also does not appear to have data from a Turkish source, but a proxy could be "# of hours of power outages from public grid." There are no consistent data currently available but a strategic plan for 2011-2015 exists.[28] Data on network losses incurred in transmission seem to be useable. Finally, there are no data from a Turkish source for the global indicator "Share of the population with access to modern cooking solutions (%)" because this is not considered to be a pressing issue in Turkey. Relevant figures, however, can be obtained from the World Health Organization.

With regard to national targets and indicators, one of the proposed national indicators for the target "Ensure full access to developed infrastructure and communication technology" relates to an important constraint on Turkish industry, high electricity tariffs. Data to calculate the indicator "Average residential electricity tariff and average industrial tariff" are obtainable from TurkStat. Regarding the target "Ensure access to energy and improve efficiency and sustainability of energy supply, including renewable energy," electricity investments – also an important issue for the industrialisation process – are a proposed indicator that has relevant data available from the Turkish Electricity Transmission Corporation, which produces electricity generation and transmission statistics.

Overall for Turkey, the availability of data for the proposed indicators under this goal area can be considered fair. Potential benchmark years vary among indicators. For those where data series, rather than one-off studies, exist, the year 2000 would be a reliable benchmark. Notably, some of the global targets under this goal area are particularly relevant either for countries that use significant amounts of energy or those with rather special geographic characteristics and needs, such as access to all-weather roads. To be more widely applicable, associated indicators could be differently stated so that they measure things that make sense for a larger group of countries, such as "% of roads that remain open all

[27] Bankacılık Düzenleme ve Denetleme Kurumu (Banking Regulation and Supervision Agency) Structural Developments in Banking is available at http://www.bddk.org.tr.
[28] See http://www.teias.gov.tr/Dosyalar/TEIAS_Strtj_2011.pdf for more informaiton.

year.” Energy intensity, on the other hand, is a variable for which the preferred direction of movement is unclear. As industrialisation progresses in developing countries, energy intensity as measured in accordance with GDP should increase, whereas a decrease is expected for advanced industrialised countries. Finally, energy efficiency has to be monitored at the level of representative industries in key sectors for monitoring in this area to be meaningful.

Establish a Sustainable, Healthy and Resilient Environment for All

There is considerable debate on this goal area in Turkey because certain stakeholders, not the least in the Turkish government, believe that too much attention on environmental issues will constrain the economic (and perhaps social) development efforts of the government. The situation is murky because of definitional problems and implementation of legal requirements, such as the application of environmental impact assessment procedures and land utilisation directives that may be overly and negatively influenced by land rent considerations or unreported use of underground water sources.

Although sustainability in production and consumption is part of the government's vision for development, several action plans (for industry, for small and medium-sized enterprises) have been formulated and sustainability is often referred to in the MOD's 10th Development Plan covering the period 2014–18 (see MOD 2013), an overall assessment of Turkey's environmental context or a comprehensive, coherent action plan on the environment currently do not exist. Turkey's Disaster and Emergency Management Presidency (AFAD), an organisation established in 2009 that is responsible for disaster risk reduction in Turkey, has a 10-year national earthquake strategy and action plan (see AFAD 2012b), an overarching strategic plan for 2013–17 (see AFAD 2012a) for the organisation itself and a disaster intervention plan (see AFAD 2013) that specifies the roles and responsibilities of different institutions in case of a disaster or emergency situation. The national budget does not contain a specific item on investment in disaster risk reduction, apart from the budget of AFAD. Development plans do not have budgetary allocations and there are issue definitions outlining the contents of any ministry's budget. Data on earthquake risks and, to a lesser extent, flooding are available from the Ministry of Environment and Urbanization. Regarding infrastructure, construction permits are based on the appropriateness of the construction site as well as domestic construction standards and partial information is available on the issue of quality of construction.

An important factor that enables sustainability is the adoption and implementation of legislation that requires individuals, businesses and governments to pay the social cost of pollution and for the use of environmental services. Countries at all stages of development are reluctant to enact legislation and apply whatever legislation exists. In Turkey, the existence of legislation is no guarantee that it will be efficiently implemented given both the lack of political will and capacity for implementation. Only partial and indirect information is available for the following implementation issues: (i) amounts paid for water usage (the aggregate figure is probably impossible to find or calculate), (ii) amounts paid for wastewater (the aggregate figure is also probably impossible to find or calculate), (iii) amounts paid in terms of environmental taxes and (iv) fines paid in cases of environmental pollution. Regarding the application of legislation and requisite inspections, data are scattered since there are various institutions in charge of conducting inspections. The government is rather unwilling to conduct strict inspections that negatively affect production and economic growth.

With regard to global targets (see Table 6), assessment considered the paucity of data for developing countries owing to poor reporting by taxpayers and governments, the disconnection between legislation and implementation and the consequently questionable validity of indicators (such as trends in coverage of protected areas), and the differences inherent in international comparisons of percentage-based data (such as those on forest cover).

Regarding the global target "Safeguard ecosystems and biodiversity," data are available for the indicator "Net loss in forest area (% of land area)." While this may be a meaningful indicator for many countries, definitions of "forest" or "land area" may be inconsistent over time or across countries. Moreover, a significant percentage change in forest cover in a sizable country with forests covering a large part of its land area would have very different global implications than the same percentage change in a country with low forest cover. Therefore, global targets and indicators may not be appropriate in the case of forest area. An indicator found to be useful, however, was "growing stock of forest."

In terms of assessing the health of forests and forest ecosystems, one complication with the use of forest area in the context of Turkey regards the so-called "2B lands," which are legally defined as areas that have lost their forest quality and cannot be restored. In 2009, the Turkish government approved a law that allowed the sale of these 2B lands, which also opened the way to allocating these areas for other uses, such as construction. Many civil society organisations and scientists are worried that by allowing the sale of some degraded forest areas, which might still function as important habitats for various species (especially birds), the law threatens ecosystem sustainability. As a complement to change in forest area, an indicator that tracks changes in the uses of areas classified as degraded forests can provide information on efforts to protect forest ecosystems.

The General Directorate of Forestry is developing a Protected Areas Information Management System that should provide information on the global indicator "Trends in coverage of protected areas." There is one study from 2012 that compiles data on the current status of protected areas.[29] It is unclear how the information management system will make data available or how often it will be updated. Notably, "protected area" status does not guarantee effective management or protection in Turkey and many other countries. Hence, the coverage of protected areas may not be a good indicator of how well they are being protected. Some civil society oversight by respected organisations may bring more credibility to this indicator.

Carbon dioxide (CO2) emissions per capita is an indicator that could help assess progress in relation to climate change issues, especially given that rising CO2 emissions from upper middle-income countries are an increasingly serious concern. Trends in emissions intensity could also be put forth. Energy intensity by sector could generate data on changes in energy efficiency in production processes.

Although it may go beyond the confines of the Post-2015 Data Test initiative, which focuses on official country-level data, ecological footprint deserves consideration as a relevant indicator of sustainability. The Ecological Footprint index[30] is a standardised measure of human demand on Earth's ecosystems, which may be contrasted with the planet's ecological capacity for regeneration. It represents the amount of biologically productive land and sea areas necessary to supply the resources consumed by the human population and assimilate associated wastes. As such, it is a metric that enables the calculation of human pressure on the planet and is expressed in terms of global hectares per person. This index is arguably important in the current context of a globalised economy where the ecological impact of increasing consumption in high-income countries (and increasingly upper middle-income countries like Turkey) cannot be gauged from popular existing indicators given that production takes place in other countries, hence ecological impacts (e.g., air pollution) are concentrated in producing countries. The Ecological Footprint index should be considered in debates on the responsibility for ecological degradation and ecosystems loss.

[29] Presented as a powerpoint presentation. See http:www.milliparklar.gov.tr/korunanalanlar/korunanalan1.htm for more information.
[30] The index can be accessed at http://www.footprintnetwork.org.

At the national level, two targets that have been proposed are “Achieve development within planetary boundaries” and “Secure sustainable energy and reduce pollution.” The share of renewable energy in total energy consumption is a key indicator that is also covered under the goal area on energy and infrastructure. Together with the selection of related national indicators (both for these national targets and global targets), these choices reflect an understanding of the importance of global public goods and the simultaneous focus on the quality of life of any country’s citizens. In Turkey in 2013, CO2-equivalent greenhouse gas emissions reached 133 percent of the 1990 level. There were increases of 10 percentage points in each of the last four years that data were available. Annual data on various CO2-equivalent greenhouse gas emissions from the agricultural and energy sectors (but not the forestry sector) are available from TurkStat under the themes “environment and energy” and “environment statistics.”[31] National greenhouse gas emissions are calculated by using the Revised 1996 Intergovernmental Panel on Climate Change (IPCC) Guidelines, Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories published in 2000 and 2006 IPCC Guidelines for National Greenhouse Gas Inventories.

The selection of the indicator on water intensity is based on the specific threat of water scarcity that Turkey might face in the context of climate change and the need to put pressure on the Turkish government to better monitor water use. Of course, it is crucial to monitor water intensity in the context of sustainable development.

National indicators on endangered species and harvested species were selected for their utility in monitoring the health of ecosystems in consideration of the pressures that Turkey specifically faces in this regard. In particular, overfishing and loss of biological diversity due to habitat loss are major issues for Turkey, which is situated at a geographical crossroads of genetic diversity. Therefore, not only is it important to monitor developments related to the target “Safeguard ecosystems, species and genetic diversity,” but Turkey could meaningfully contribute in this area. That is why the selected national indicators include “% of native plant and animal species endangered versus secure” and “% of harvested species, including fish, within safe biological limits.” One of the expected benefits of the post-2015 framework, if it includes these indicators, could be to catalyse improvement in the availability of relevant data in Turkey. The Ministry of Forest and Water Affairs has data on endangered flora and fauna but they are not readily accessible – it is not possible to see from which year on the data are available or how often information is being updated. Data could be requested, however. Notably, the ministry is developing a biodiversity database, which is not yet fully operational and registration to use it is required. Some limited data on fish catch – in terms of harvest amounts, allowed periods of harvesting and compilation figures – are accessible from the Ministry of Forestry and Water Affairs, Ministry of Agriculture and Rural Affairs and TurkStat. Yet, no regulations exist with regard to safe biological limits in terms of the level of maximum sustainable biological productivity, which negates the production of useful data on the issue.

The proposed national indicator “% of industrial waste reduced, reused and recycled (by sector)” is important in terms of developed infrastructure, not only on environmental grounds but also because of the large amount of industrial raw materials imported into Turkey. While data on recycling and reuse are indeed collected, they are only provided according to waste types because of legislation that keeps the industrial waste generated by individual sectors confidential. Data on solid waste, both domestic and industrial, are available from 2012 onward but only for municipalities – not for rural areas – and there are no data on recycling by sector, a practice that is significant though carried out mostly as an informal activity. Data are provided every two years.[32]

[31] Statistics by theme can be accessed at http://www.turkstat.gov.tr/UstMenu.do?metod=kategorist.
[32] See http://www.turkstat.gov.tr/PreTablo.do?alt_id=1019 for more information.

Table 6. Establish a sustainable, healthy and resilient environment for all: Targets, indicators and notes for Turkey		
Target	**Indicator**	**Notes**
Global		
Build resilience and reduce deaths from natural hazards	Disaster deaths per 1,000 inhabitants	Depends on how "disaster-prone" a country is.
Safeguard ecosystems and biodiversity	Net loss in forest area (% of land area)	"Growing stock of forest" may be a meaningful alternative.
	Trends in coverage of protected areas	Implementation is inherently important.
Publish and use economic, social and environmental accounts in all governments and companies	Share of large tax unit (LTU) taxpayers using integrated reporting[33]	Perhaps applicable in advanced economies.
	Existence of national and sub-national government publishing according to the System of Environmental-Economic Accounting[34]	Perhaps applicable in advanced economies.
National		
Achieve development within planetary boundaries	Trends in carbon intensity of agricultural, forestry and energy sectors	
	Trends in water intensity	
Safeguard ecosystems, species and genetic diversity	% of native plant and animal species, endangered versus secure	
	% of harvested species, including fish, within safe biological limits	More work needed on how proportion can be calculated.
Build societies resilient to climate change and natural disasters	National disaster risk reduction and resilience plans adopted and budgets earmarked in national development plans	Depends on how "disaster-prone" a country is.
	Annual proportion of investment in disaster risk reduction in national budget	Depends on how "disaster-prone" a country is.
	% of area complying with by-laws on lands classified as high risk	Implementation is key.
Secure sustainable energy and reduce pollution	% change in particulate concentration in urban air	
	Percentage of industrial waste reduce, reuse and recycled (by sector)	Available "by type" but not by sector.

Data on the Environment

Data for this goal area, which has wide coverage, are available but relatively scattered. Institutional and legal provisions as well as difficulty in measuring effectiveness mean that some of the selected indicators

[33] Integrated reporting is a process founded on integrated thinking that results in a periodic integrated report by an organisation about value creation over time and related communications regarding aspects of value creation. An integrated report is a concise communication about how an organisation's strategy, governance, performance and prospects, in the context of its external environment, lead to the creation of value in the short, medium and long term (IIRC 2013). Large taxpayers are very different from other categories of taxpayers and present certain significant risks to effective tax administration. Key characteristics of large businesses include: concentration of revenues, complexity of business and tax dealings, withholding agent or intermediary role, use of professional tax advisors and possession of in-house tax organisation. Businesses may be publicly listed corporations, multinational companies or private groups (OECD 2009).

[34] This is primarily a "yes-no" indicator and has binary variables that can only have two possible values.

cannot be effectively monitored. This is particularly true for national targets and indicators, which are included as proposals since they are globally important and their inclusion could stimulate the systematic gathering of needed information.

Under this goal area, the three global targets and associated five global indicators necessitate statistical data (e.g., “Disaster deaths per 1,000 inhabitants,” “Net loss in forest area (% of land area),” “Trends in coverage of protected areas”) and other information that requires research and often calculation (e.g., “Share of large tax unit [LTU] taxpayers using integrated reporting,” “Existence of government publishing according to the System of Environmental-Economic Accounting”). While definitional problems may arise with statistical data, such problems often come up in the pursuit of this other information.

TurkStat has been producing environmental statistics since 1990. They are fairly comprehensive and go beyond the requirements outlined by the Post-2015 Data Test initiative. They cover air, water, wastewater, waste, as well as environmental employment, revenues and expenditure, and national greenhouse gas emissions and removals. Water and wastewater statistics are available for economic activities according to sectoral breakdowns. Since 2007, TurkStat has carried out its work on sustainable development indicators in accordance with Eurostat’s set of sustainable development indicators established that same year. The set contains 132 indicators under 10 themes, which are: socio-economic development, sustainable consumption and production, social inclusion, demographic changes, public health, climate change and energy, sustainable transport, natural resources, global partnership, and good governance. As of 2014, 96 indicators are being calculated for Turkey. For environmental expenditure statistics, there are data available for current expenditure, investment expenditure, and environmental revenues of the public and business sector. The environmental revenues of the public sector are fees and taxes collected by the municipalities. For the private sector it includes revenues earned from providing environmental services and selling items such as scrap.[35] Datasets for household environmental expenditure are incomplete. Methodological studies are currently ongoing to improve these datasets.

Since 2012, air quality data have been available in a new format. They come from 125 Stable Air Quality Measurement Stations and three Mobile Air Quality Measurement Stations in the context of National Air Quality Observation Network programme. The data are made available in real time to the general public through the Ministry of Environment and Urbanization website. Regarding greenhouse gas emissions, TurkStat is responsible for the coordination of the Greenhouse Gas Emissions Inventory Working Group, which was set up by the government’s Coordination Board on Climate Change and Air Management. Moreover, TurkStat is also the national focal point for greenhouse gas inventories under the UN Framework Convention on Climate Change, which Turkey ratified in 2004. The country ratified the Kyoto Protocol in 2009, which requires the compilation of annual inventories on emissions and removals of greenhouse gases. National greenhouse gas emissions in the Turkish National Emission Inventory are calculated by using the Revised 1996 IPCC Guidelines, Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories published in 2000 and 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Turkey’s greenhouse gas inventory includes emissions of the six direct greenhouse gases under the Kyoto Protocol. Notably, the emissions and removals from land use, land use change and forestry are included in the inventory apart from greenhouse gas emissions by the industrial, agricultural production and energy sectors. In some cases, TurkStat tracks country-specific emission factors, such as the electricity sector.

As the national focal point for the Turkish National Emission Inventory, TurkStat has been developing national inventory reports and common reporting format tables since 2006 and periodically reporting to

[35] See http://www.turkstat.gov.tr/PreTablo.do?alt_id=1019 for more information.

the UN Framework Convention on Climate Change Secretariat, with the latest submission being the *National Greenhouse Gas Emissions Inventory Report 1990-2012* in April 2014 (see TurkStat 2014f). The *National Inventory Report on Land Use, Land Use Change and Forestry*, published by the General Directorate of Forestry,[36] provides complementary information by covering outstanding data on land use, land use change and forestry.

The Ministry of Environment and Urbanization is working on improving the air quality management scheme in Turkey. Following the establishment of the Marmara Clean Air Center in June 2013, the ministry is preparing an Air Quality Action Plan at the national level. This national strategy will be followed by detailed air quality plans on regional and local levels based on the results of preliminary assessment studies that were to be finalised by 2014. The ministry is also preparing the transposition and implementation of the EU National Emissions Ceilings Directive.

Considering the global indicator "Disaster deaths per 1,000 inhabitants," data are available through the Turkish Disaster Data Bank.[37] These data cover as many as 35 different types of disasters involving, for instance, earthquakes, acid rain, fog and thunder. Data exist on almost as many kinds of "causes," such as ignorance and cigarettes, and nearly 20 kinds of "results," such as deaths, destroyed houses and lost cattle. The earliest entries relate to an earthquake in 1984. At the international level, the Emergency Events Database (EM-DAT), also known as the International Disaster Database,[38] compiled by Belgium's Centre for Research on the Epidemiology of Disasters provides data since 1903. While the database is compiled from various sources such as UN agencies and insurance companies, no source is specified for the data presented, so reliability may be an issue.

Regarding the rather qualitative global target "Publish and use economic, social and environmental accounts in all governments and companies," data for Turkey are either non-existent or available unofficially. Some companies voluntarily report the ecological impacts of their activities. This is done under the Carbon Disclosure Project carried out since 2010 by Sabancı University's Corporate Governance Forum of Turkey. The Carbon Disclosure Project has specific objectives such as facilitating dialogue between companies, helping consulting firms with visibility, supporting the communication efforts of the Turkish government, training and informing responding companies about possible benefits and sharing good practices. In the project's first year, the 50 companies of the Borsa Istanbul 50 index were invited to participate and 11 responded. In 2011, the 100 companies of the Borsa Istanbul 100 index were invited to participate, 17 of which responded, while three other companies that they were not invited responded voluntarily. The project received responses from 32 companies in 2012 and 41 in 2014.[39] In spite of these efforts, data availability for Turkey remains largely unsatisfactory for this global indicator. For the global indicator "Existence of government publishing according to the System of Environmental-Economic Accounting," Turkey is currently not reporting against this system (UNStats 2014), which appears not to be a priority in the Turkish context – this was an expectation of the Turkish research team that is relevant for most other developing country contexts as well.

Turning to the proposed national targets, the target "Secure sustainable energy and reduce pollution" is cross-cutting in terms of energy and emphasises the importance of reducing pollution. The associated indicator, then, is "% change in particulate concentration in urban air." Data for this indicator are being monitored by the Ministry of Environment and Urbanization. National-level data can be compiled, but are

[36] Reports can be accessed through the website of the General Directorate of Forestry at http://www.ogm.gov.tr.
[37] The database can be accessed at https://tabb.afad.gov.tr.
[38] The database can be accessed at http://www.emdat.be.
[39] For the various reports of the project see http://cdpturkey.sabanciuniv.edu/cdp-reports.

not currently readily accessible. Relevant provincial-level data from 2007 to 2011 are available as part of TurkStat's environmental statistics.

An indicator on water quality was considered, but data reliability in the Turkish context was found to be problematic. Annual data on water consumption in irrigation since 2000 are available from the General Directorate of State Hydraulic Works, but their reliability is questionable on the grounds that illegal use of underground water is widespread and most irrigation is done through furrow methods and not priced on a volumetric basis. Data on water consumption in the manufacturing sector are available for the years 2000, 2004, 2008, 2010 and 2012, but not for the energy or forestry sectors separately. The indicator on air quality was therefore considered to be particularly important since it is the only indicator that focuses on the direct link between environmental conditions and human health and for which data exist.

To achieve the proposed national target "Build societies resilient to climate change and natural disasters" investments in physical infrastructure must be made and institutional and legal frameworks must be established in Turkey. From the many potential indicators, three have been proposed here as national indicators. These are "National disaster risk reduction and resilience plans adopted and budgets earmarked in national development plans," "Annual proportion of investment in disaster risk reduction in national budget reports" and "% of area complying with by-laws on lands classified as high risk." The Turkish government has made progress on establishing statistical systems for natural resources and environmental protection. Data collected by line ministries and municipalities are available through TurkStat on key natural resources such as air, water and forests. Additional efforts are underway in TurkStat to create new modules or accounts. However, the government does not appear to be using them to effectively guide long-term development planning and policy making.

A potentially useful source of data that is not Turkish is the Environmental Performance Index prepared by the Yale Center for Environmental Law and Policy and Center for International Earth Science Information Network at Columbia University – both in the United States. The index is the result of a method of quantifying and numerically benchmarking the environmental performance of a national government's policies. The index ranks countries according to a set of performance indicators tracked across policy categories that cover the areas of environmental public health and ecosystem vitality. These outcome-oriented indicators gauge how close governments are to attaining established environmental policy goals. The index, which was developed to evaluate a country's environmental sustainability relative to the paths of other countries, works as a benchmark index that policy-makers, environmental scientists, civil society advocates and the general public can easily understand and use. The method underpinning the Environmental Performance Index is considered to be thorough, comprehensive and easy to communicate. Some of the indicators that are proposed in this report are also part of the Environmental Performance Index, such as those on air quality, change in forest cover and habitat protection. The Environmental Performance Index method can certainly provide useful insights for assessments of environmental sustainability under the consolidated post-2015 framework.[40]

Overall, like under other goal areas, the data collected by TurkStat – collected according to predetermined parameters and provided to international bodies – is very good and satisfies international requirements and norms. Turkey's data on greenhouse gas emissions are particularly good. For other relevant issues, serious work is underway to collect reliable and useful data. In general, although data are available from the 1990s in many cases, 2006 seems to be an acceptable benchmark year for most indicators. For more complete coverage, however, 2013 should be selected.

[40] The Environmental Performance Index can be accessed at http://epi.yale.edu.

Establish Open, Accountable, Inclusive and Effective Institutions, Rule of Law and a Peaceful and Inclusive Society

The 10th Development Plan aims to guarantee human rights and individual freedoms with a just and fast legal system and offer equal opportunities through effective, predictable and institutionalised public policies, supported by an accessible, high-quality social and administrative structure (MOD 2013, 28). Recent improvements related to governance and human rights include individual access to the Turkish Constitutional Court, the acknowledgement of the cultural rights of ethnic groups and permission to use languages other than Turkish in politics and within courts. Among the significant problems not included in the indicators, transparency of the public sector, effective improvement in the situation of women (in spite of a series of legal and administrative measures) as well as some recognition of the importance of local decision making and decentralisation appear to be the most significant in the context of this study.

Among the indicators selected for this goal area, several are related to the situation of women, one of Turkey's core social concerns. Some indicators are relatively easily measurable, such as the number of seats in parliament held by women and proportion of eligible voters who vote in elections. It is not always clear, however, what the preferred directions or even the targets should be for such indicators. For all indicators of discrimination, the preferred direction of change is clear. There are other indicators, however, that are based on perceptions. In those, so long as total numbers are not questioned and only the change in direction is monitored, few disputes would arise. Therefore, only the direction of change, not total numbers, should be included in indicators, which could preempt some objections that may come from governments, possibly including that of Turkey, concerning the measurement of perceptions. Indicators such as proportion of citizens who have confidence in the judicial system and courts, the police and parliament also fall into this category. The fact that TurkStat does not collect these statistics may cast some doubts about their reliability.

Potential national indicators on governance include issues related to awareness of rights or compliance with internationally accepted norms (see Table 7). These are not among the issues currently monitored by TurkStat. Nevertheless, data for several indicators related to the practice of justice are compiled in TurkStat's "justice statistics." These data do not imply much that is either positive or negative about the quality of justice delivered.

The global indicators selected for this study seem to emphasise the rights of minorities and women as well as participation in various aspects of community life by minorities and women. Considering that participation in public and social life by the general public is essential in a democracy, "Proportion of eligible voters who vote in provincial, territorial, municipal and federal elections" has been proposed as a national indicator. Some perception-based information, even though it is not tracked in official sources, also figures among the indicators. Safeguarding the rights of the mentally and physically disabled and disadvantaged is an important proposed target for which satisfactory data that go beyond simply enacting legislation can be found.

Table 7. Establish open, accountable, inclusive and effective institutions, rule of law and a peaceful and inclusive society: Targets and indicators		
Target	**Indicator**	**Notes**
Global		
Provide free and universal legal identity, such as birth registrations	Percentage of children under 5 who are registered with the civil authority	Assumption is that all children are registered. The presence of a significant number of unregistered migrants would affect the situation. Immigration laws are being developed which will encourage registration.
	Proportion of adults with a basic legal identity document	Assumption is that all adults have an identity document. The presence of a significant number of unregistered migrants would affect the situation. Immigration laws are being developed.
Monitor and end discrimination and inequalities in public service delivery, the rule of law, access to justice and participation in political and economic life on the basis of social status	Average time between filing a case and receiving a verdict	
	Proportion of seats held by women and minorities in national- or local-level government	Data on women but not minorities can be found. Data on minorities do not appear in official statistics, but some indication can be gleaned from statistics on languages that people know.
	% of adults with an account at a formal financial institution, disaggregated by sex	Number of real and legal persons cannot be differentiated – only the value of the accounts.
Improve personal safety	Prevalence of violence against women, including domestic violence	Imperfectly reported, e.g., not reported when peace is made at initial stages.
	Violent deaths per 100,000 people	
Reduce bribery and corruption in all forms	Survey data regarding bribes or gifts for service from a government official – “In the past year, how often (if ever) have you had to pay a bribe, give a gift, or do a favour to government officials in order to get a document or receive a service”	No official survey in Turkey.
Improve transparency in the revenue system	Share of eligible taxpayers who submit their taxes	
National		
Monitor and end discrimination and inequalities in economic life on the basis of social status	Proportion of senior managers who are women	Not meaningful in family firms.
Increase access to justice	Proportion of legal aid applications approved	Possibly available upon request.
Increase public participation in political processes, including elections at all levels of government	Proportion of eligible voters who vote in provincial, territorial, municipal and federal elections	
Build trust in public institutions	Proportion of citizens who have confidence in the judicial system and the courts	Survey data, doubtful that they will be accepted officially.

	Proportion of citizens who have confidence in the police	Survey data, doubtful that they will be accepted officially.
	Proportion of citizens who have confidence in parliament	Survey data, doubtful that they will be accepted officially.
Reduce bribery and corruption	Number of firms or individuals sanctioned under the World Bank's fraud and corruption policy	May be too few to be a meaningful reflection of the country's governance.
Safeguard rights of the physically and mentally disabled and disadvantaged	Extent of infrastructure for the disabled, use of encouraging regulations for the disadvantaged	

Data on Governance

The goal area "Establish open, accountable, inclusive and effective institutions, rule of law and a peaceful and inclusive society" can and does cover many targets and indicators. Data for the proposed global and national targets and indicators under this goal area come from a variety of sources – some are official statistics, while others are found in the reports of specialised governmental or non-governmental bodies.

The global target "Provide free and universal legal identity, such as birth registrations" and associated indicators relating to identification for children and adults are not particularly relevant for Turkey, which as an upper middle-income country provides identification for people residing within its borders. The assumption is that all children are registered and all adults have an identity document, hence no detailed data for the indicators are available. The ADNKS provides good population statistics that are disaggregated by age, sex, province and territory.[41] The presence of a significant number of unregistered migrants would affect the situation, but there seems to be no way to reliably estimate the number (which is probably very low) of migrants who are not registered. Given serious validation problems with census data before the introduction of the ADNKS in 2000, only ADNKS data should be used.

The global target "Monitor and end discrimination and inequalities in public service delivery, the rule of law, access to justice and participation in political and economic life on the basis of social status," on the other hand, is very significant not only for Turkey but for all countries at all levels of development. In Turkey, there are data on the proportion of women in elected offices, both national and local, that are generated whenever there are elections. Apart from official reports on elections, the Association for the Support and Training of Women Candidates[42] provides interesting tabulated information on women, including violence perpetuated against women. There are no comprehensive official figures concerning minorities. Only Armenian, Greek and Jewish societies are officially considered to be minorities in Turkey according to the Lausanne Treaty of 1923 and ethnic data are not collected. As mentioned, the only way to assess the presence of ethnic groups, such as the Kurdish people, in parliament would be to look at the languages that elected people speak, for example Kurdish. Further, adults with an account at a financial institution cannot be satisfactorily identified or disaggregated by sex or even as real persons or by corporate or any other legal entity. For Turkey, there is just information on the total number of accounts at banks (BDDK 2011, 49 Tables 3.1-4).

With regard to the indicators for the global target "Improve personal safety," sources of data are numerous for "Prevalence of violence against women, including domestic violence." Apart from the Association for the Support and Training of Women Candidates, TurkStat and the Ministry of Justice

[41] The ADNKS database can be accessed at http://tuikapp.tuik.gov.tr/adnksdagitapp/adnks.zul.
[42] For more information, see http://www.ka-der.org.tr.

provide information on number of victims by sex and crime type. TurkStat's 2008 Violence Against Women Survey is a one-off study that could provide some insight.[43] Regarding the global indicator "Violent deaths per 100,000 people," information is collected by the Ministry of Justice but data are not accessible by the public. These data can be requested, however, from the Ministry of the Interior or Turkish National Police Directorate.

For the global target "Improve transparency in the revenue system," the number of eligible taxpayers who actually submit their taxes can be obtained from the Turkish Revenue Administration (Türkiye Gelir İdaresi),[44] but the total number of eligible taxpayers has to be estimated from the HLFS in order to calculate the indicator "Share of eligible taxpayers who submit their taxes." Indicators such as this one require considerable heuristic assumptions. Moreover, international comparisons and, therefore, standards are difficult to establish in this case given the range of national tax regimes. In general, however, workers who only have salary income do not have to submit anything – their taxes are automatically deducted whenever they are paid by their employer. Thus, an increase in salaried workers would automatically lead to an increase in the share of eligible taxpayers who submit their taxes. In any case, the number of taxpayers can likely be found but what it indicates is not very clear. A better indicator might be the proportion of professionals within several key professions who file a tax return or pay taxes. This is a better indicator because these people have to take an action themselves in order to pay taxes, so an increase in this proportion would indicate an improvement in citizen consciousness.

Turning to proposed national targets and indicators, the national target "Increase public participation in political processes, including elections at all levels of government" has been suggested because, although public participation in political processes is fairly high in Turkey, it is a good measure of democratic participation (the problems with extremely high participation rates under dictatorships notwithstanding). Relevant data are available and easily accessible for Turkey through TurkStat's Justice and Elections window. The proportion of eligible voters who vote in provincial, territorial and municipal elections would show various levels of democratic participation. Since this proportion is already high in Turkey, the target would probably already be achieved, but it is important that the proportion is tracked and remains high over time for there to be success under the goal area in general.

The proposed national target "Build trust in public institutions" is particularly important for countries where democracy and rule of law are not soundly established. The three associated indicators are inevitably based on perceptions – "Proportion of citizens who have confidence in (i) the judicial system and the courts, (ii) the police and (iii) parliament." In Turkey, measurement of these indicators is conducted periodically by a respectable university, Kadir Has University, but results cannot be considered official data. Life satisfaction surveys, which have been conducted every year since 2004, can be used as a proxy for "confidence." These surveys include various questions about key public institutions and their activities and conform to Eurostat standards. Every three years beginning from 2013, the statistical representativeness of the survey will be at the statistical region 3 level.

Overall, the availability of data for the targets and indicators under this goal area can be considered fair. The potential benchmark years vary among indicators. For those indicators for which time series, rather than one-off studies, exist, 2005 may be the most useful benchmark. For others, informed by recently published reports and studies that contain data covering the later part of the 2000s, appropriate benchmark years differ.

[43] The results of this survey are available at TurkStat (2008).
[44] See http://www.gib.gov.tr/fileadmin/user_upload/VI/20141.htm for tabulations for 2014.

Establish a Global Partnership for Sustainable Development

Turkey is a significant emerging donor or South-South provider (or whatever qualification one chooses for a developing country providing development assistance to other developing countries), with official flows reaching 3.3 billion dollars in 2013 (TIKA 2013). It has a customs union with the EU, is a member of the OECD and is a recipient of around 3 billion dollars of official development assistance (ODA) (World Bank 2014c). Turkey's imports reached US$250 billion in 2013.[45] Its foreign direct investment is growing in developing countries and elsewhere. The targets and indicators selected for the goal area relating to global partnership are formulated in ways that are relevant for Turkey and Turkey's achievement of these targets would make a difference in attaining sustainable development in the country and across the world.

In recent years, Turkey has substantially increased its ODA. In 2010 and 2011, it was the second largest non-Development Assistance Committee donor among countries for which the OECD publishes ODA data. In providing 0.16 percent of its gross national income (GNI) as ODA, it places fourth in that group after Malta, the United Arab Emirates and Iceland. Regarding the ODA-like flows of the BRICS countries,[46] only those of China surpass those of Turkey. In 2011, Turkey's ODA was more than that of six OECD-Development Assistance Committee members. Hence, the country has become a key participant in the international development community.

In 2013, motivated by the necessity to assist Syrian refugees given their plight in Syria's ongoing civil war, Turkey's assistance amounted to US$3.3 billion, reaching 0.42 percent of its GDP. That year, Turkey was the world's fourth largest provider of humanitarian assistance (İşler 2014). This figure aside, the country's assistance has been hovering around US$600–700 million per year since 2005. Turkey, however, does not have an official development cooperation strategy. The 10th Development Plan envisages the preparation of such a strategy and a law on development cooperation (MOD 2013, 142). Turkey has a programme of action for cooperation with Africa and was the host of the Fourth UN Conference on the Least Developed Countries in 2011, where it made significant pledges for cooperation with this country group. Keeping these pledges is emphasised in the 10th Development Plan. Notably, Turkey's private sector is present and active in many developing countries, often providing increasing amounts of foreign direct investment. Civil society is particularly active as suppliers of humanitarian assistance in many countries, particularly LDCs.

Turkey's ODA has been on a steadily rising trend. Some of the apparent increase in earlier years arose from changes in definitions in line with the introduction of Development Assistance Committee norms and the progressive inclusion of some previously unreported – or under-reported – items in the development assistance portfolio. In particular, in-kind assistance provided for programmes and projects was under-calculated (e.g., the provision of expertise was not previously included in aid figures, as it now is). Much of the latest sharp increase in aid figures reflected in data for 2012, on the other hand, is due to expenditures in Turkey for assistance to Syrian refugees, which are included as development assistance according to OECD-Development Assistance Committee practice under the rubric of "humanitarian aid" (OECD 2012).

[45] See http://www.turkstat.gov.tr/PreTablo.do?alt_id=1046 for more information.
[46] The BRICS countries are Brazil, Russia, India, China and South Africa.

Turkey's total development assistance amounted to approximately US$3.3 billion in 2012, with about US$2.5 billion channelled through public entities as ODA, US$735 million in foreign direct investment by the Turkish private sector and about US$111 million from Turkish non-governmental organisations – their own resources. Capable of delivering only US$70–80 million in ODA in 2003, Turkey has consistently increased ODA volumes, particularly in the form of humanitarian assistance, culminating in a ratio of assistance to GDP of 0.17 percent in 2011 and 0.32 percent in 2012 (TIKA 2012). Geographically, 46.6 percent of Turkish assistance was delivered to the Middle East, 31 percent to Africa, 18 percent to South and Central Asia and 3 percent to the Balkans and Eastern Europe. In descending order, the 10 largest recipients of Turkish assistance in 2012 were Syria, Egypt, Afghanistan, Kyrgyzstan, Somalia, Sudan, Tunisia, Palestine, Kazakhstan and Bosnia-Herzegovina. Turkish assistance to LDCs was estimated at US$280 million in 2011 and increased by 21 percent to over US$337 million in 2012.

While a large part of the recent rise in assistance comes in the form of domestic expenditures on Syrian refugees in Turkey, there is a rising trend even without these major expenditures. The fact that Turkish assistance is increasing at a time when most developed countries are reducing their development assistance budgets is indicative of the attention that Turkey pays to cooperation with countries in need. Much of Turkey's assistance is directed at social and humanitarian areas and emergency needs rather than activities that would directly improve economic productivity. Improving education and health definitely helps in the development process, but less directly than assistance targeted at, for example, boosting the agricultural sector.

Unlike some other developing and developed countries, Turkey's development assistance does not have strict geographical or topical rules that explicitly call for emphasis on certain countries and activities. It is strictly demand-based, which in this case means responding to the needs expressed by recipient countries. The down side of this arrangement is that sometimes demands refer to ad hoc needs rather than the real priorities of a country, so continuity and follow-up remain lacking. Turkey espouses a moral approach to cooperation that prioritises humanitarian needs, which has resulted in the concentration of major activities in a small number of countries, although the total number of countries where Turkey has carried out some cooperation activity is quite large and those countries are found in almost all regions of the world. The countries where assistance is concentrated are mostly in Turkey's close proximity and have historical, ethnic or religious – primarily Islamic – ties. The countries in dire need of emergency, humanitarian and recovery assistance happen to be these proximate countries, in many case owing to the crisis in Syria.

Regarding duty-free, quota-free market access, Turkey's customs union agreement with the EU obliges the country to provide duty-free, quota-free treatment to LDCs. Since the agreement only applies to industrial goods, however, duty-free, quota-free treatment is confined to the industrial sector. Turkish politicians have found it extremely difficult to accord this treatment to agricultural products, claiming that there will potentially be serious international competition that would harm Turkish farmers, particularly those producing sugar beets, rice and tea as well as some fruits and other vegetables.

Table 8 provides an overview of the global and national targets and indicators examined for Turkey.

Table 8. Establish a global partnership for sustainable development: Targets and indicators		
Target	**Indicator**	**Notes**
Global		
Create an enabling environment for sustainable development	Low-income country debt forgiveness or reduction (% of GDP)	Eximbank credits may be relevant for some developing countries.
	Share of trade in goods and services from low-income countries under duty-free, quota-free market access	LDCs may be a more useful country group for this indicator.
	Existence of laws for ensuring country-by-country reporting by multi-national corporations, disclosure of beneficial ownership and the prevention of money laundering	More work may be needed to ensure the clarity of this indicator.
Increase financing to productive capacity in low- and middle-income countries	Share of aid to the productive sector	
	Proportion of foreign direct investment to the productive sector	
	Share of South-South cooperation to the productive sector	Turkey calls its development assistance "assistance" and not "South-South cooperation."
National		
Create an enabling environment for sustainable development	Eximbank credits rescheduled	Some occasional credit rescheduling, which can be considered debt rescheduling, has recently occurred.
	Acceptance of international arbitration	
Increase official flows to developing countries	% change in amount of official flows to LDCs	
	% of GNI to ODA	
Develop further an open, rule-based, non-discriminatory international trading system	Import and export restrictions by country groups	This indicator is more meaningful when it considers temporary measures by country, not by country groups.
	Total agricultural support estimated as % of GDP	This indicator has the most implications for low-income food-deficit countries.

Data on Global Partnership for Sustainable Development

This goal area, which is a major priority of the post-2015 process, includes two global targets, "Create an enabling environment for sustainable development" and "Increase financing to productive capacity in low- and middle-income countries." Most of the indicators are concerned with the actions of assistance-providing countries, be they traditional or emerging donors. Middle-income countries that are both providing and receiving development assistance, such as Turkey, are in an ambiguous situation. Therefore, the identification of "low-income countries" as beneficiaries is a key component of the latter of the aforementioned targets. However, the category "LDCs" will likely be used as an operational designation, given the existence of various LDC-specific programmes such as the Istanbul Programme of Action for the Least Developed Countries for the Decade 2011–2020.

One of the associated indicators, “Low-income country debt forgiveness or reduction (% of GDP),” is not relevant for Turkey because it does not record “debt,” but occasionally the Türk Eximbank, the Turkish government’s export credit agency, engages in “credit rescheduling.” Therefore, the national indicator “Eximbank credits rescheduled” has been proposed, data for which can be extracted from development assistance reports of the Turkish Cooperation and Coordination Agency (TIKA),[47] the Turkish government’s agency responsible for implementing international development policies.

At first sight, the global indicator “Share of trade in goods and services from low-income countries under duty-free, quota-free market access” appears to refer to easily obtainable information. In principle, Turkey provides duty-free, quota-free treatment to industrial products imported from LDCs as a result of its Customs Union Agreement with the EU. TurkStat currently provides some data on imports by country and commodity, while general information on import regimes can be found on the internet. Although some relevant data on trade are available, satisfactory tables could not be generated on TurkStat’s website in spite of numerous attempts. Only very simple data that were not totally useful for the purposes of the Post-2015 Data Test initiative, could be compiled. Similar information was more readily available from the UN Comtrade Database[48] and the UN Conference on Trade and Development’s online statistics portal[49] under "International trade in goods and services."

Even if satisfactory tables could be easily generated on TurkStat’s website and up-to-date information on Turkey’s import regime could be obtained from the website of the Turkish Ministry of Economy,[50] there would still be certain complications. Owing to frequent claims of subsidies and dumping, there are significant gaps in duty-free, quota-free market access application. Ongoing post-2015 negotiations must make a decision on how to treat these instances in general. The Turkish research team looked at the situation from the Turkish perspective and proposed the national indicator “Import and export restrictions by country groups” associated with the national target “Develop further an open, rule-based, non-discriminatory international trading system.”

Among the global indicators, “Existence of laws for ensuring country-by-country reporting by multi-national corporations, disclosure of beneficial ownership and the prevention of money laundering” is to a large extent a binary indicator, with only a “yes” or “no” answer possible, though the components of the indicator could be disaggregated. Progress on the indicator cannot be judged unless these components’ content is measured in terms of comprehensiveness and focus and their strictness, applicability and effectiveness are assessed. Such measurement and assessment is extremely difficult. In Turkey and presumably many other countries, analyses of titles of legal instruments will likely be conducted to see whether they express something akin to what the indicator expresses.

The global target “Increase financing to productive capacity in low- and middle-income countries” has to be looked at differently by assistance-providing countries and recipient countries. Turkish data include information on the purpose of cooperation and productive sectors indeed figure among the destinations for assistance. Notably, Turkey calls its assistance “aid” and not “South-South cooperation,” so the indicator “Share of South-South cooperation to the productive sector” seems irrelevant but “Share of aid to the productive sector” can simply be used instead. Sectoral distribution of development assistance and foreign direct investment going to productive sectors could be easily included as global indicators since relevant data are generally available, although standards and definitions in the two cases may be different. In Turkey, for instance, TIKA follows OECD guidelines regarding development assistance. On

[47] See, for instance, TIKA (n.d.).
[48] The database can be accessed at http://comtrade.un.org.
[49] The portal can be accessed at http://unctadstat.unctad.org.
[50] For details, see Republic of Turkey Ministry of Economy (2012).

investments, the Central Bank of the Republic of Turkey has applied the EU's Statistical Classification of Economic Activities in the European Community, Rev.2 since April 2012, which led to some modifications in data.

The importance of LDCs as recipients of aid, the need to increase development assistance in general and Turkey's status as an emerging donor inspired the proposal of two national indicators, "% change in amount of official flows to LDCs" and "% of GNI to ODA." Both of these indicators can be easily monitored by assessing data provided in TIKA's annual reports (see, for example, TIKA 2012).

The proposed national indicator "Total agricultural support estimated as % of GDP" has relevant data that can be accessed through the OECD.StatExtracts database.[51] Although the total amount of support provided in Turkey is considerable as a proportion of agricultural value added or the final price of the product, it is dwarfed by total amounts in developed countries. This indicator has been proposed not because agricultural support in Turkey distorts agricultural markets and thus harms global partnership for development, but because it should be included by all countries and monitored closely over time.

Overall, data availability in Turkey for targets and indicators under this goal area is good, although in some instances (e.g., duty-free, quota-free market access) accessing useable data is more difficult than was expected. The year 2004 appears to be a good benchmark.

[51] The database can be accessed at http://stats.oecd.org. Data on producer and consumer support estimates can be found under the "Agriculture and Fisheries" theme.

Measuring Progress on Post-2015 in Turkey

Overview of the Current Situtation

In general, data availability in Turkey is considered satisfactory, although some gaps exist. Some of these gaps reflect general problems that are experienced by all countries. For example, violence against women remains under-reported because of the associated stigma of reporting such violence, which is a general problem. What is most often reported comes from court proceedings, but complaints about the police regardless of ending in a court case or not, for which administrative data exist, may better reflect situations. Apart from the stigma and the mediation role played by the police, which reduces the number of court cases, costs associated with legal proceedings become statistics that tend to misrepresent situations.

Regarding the case of Turkey and the subjects covered in this report, there are some categorical gaps in the available data. First of all, minorities and ethnic groups more broadly are almost impossible to identify. Official statistics do not provide information according to ethnic identities. This approach can be justified from a methodological perspective on statistics. Given Turkey's difficult history with regard to various minorities, asking survey respondents to identify their ethnicity could result in unforeseen biases in official data collection efforts. Standard markers – such as mother tongue and, more recently, ethnicity – are indicated in the Turkey Demographic and Health Survey, but the sample sizes are small and independent verification of whether adequate coverage has been achieved is not possible. This data gap precludes the use of any targets that call for reducing ethnic inequalities. The absence of certain immigration laws in Turkey prevents taking account of immigrants. Many of them are not registered and are missed by official data. While participation figures are reported to be considerable, any immigrant participating in economic activities is doing so illegally, apart from some exceptional circumstances.

Another challenge is tracking changes at the regional level. Historically, regions have been defined at various levels of disaggregation. Under the direction provided by Eurostat, geographic designations (North, Central, South, Southeast, etc.) were replaced by statistical agglomerations according to the Nomenclature of Territorial Units for Statistics. Although mapping between the old and new schemes is possible, the creation of new provinces by combining areas from old ones that were part of different regions results in complications. Yet another fuzzy concept is the distinction between urban and rural areas. According to the administrative definition, rural areas consist of villages and dispersed settlements that lack administrative unity. According to the statistical definition, rural areas are identified by population size (up to 20,000 and 10,000 inhabitants according to survey data collected by TurkStat and Hacettepe University Institute of Population Studies, respectively). Clearly both definitions have their advantages and disadvantages. Another problem has recently appeared. Following recent laws targeting municipal demarcations (most recently in 2012), urban/rural disaggregation became rather meaningless in much of Turkey. TurkStat decided to adjust its sample frame to reflect the administrative changes. As a consequence, it stopped releasing data based on urban/rural distinctions until further research is completed (microdata would allow this disaggregation albeit with some difficulty and extra work). Some researchers though that the urban/rural disaggregation was not working well anyway, owing to the definitions of "urban" and "rural" based on population size. Problems with disaggregation probably occur in many countries, with one suggestion being to disaggregate according to the dominance of agricultural or non-agricultural activities.

Notably, changes do not arise only from revised legal definitions. Sometimes they are undertaken in order to make improvements in data generation, but inadvertently create problems for data users, particularly for those interested in long-term time series. To avoid such problems when a fundamental change is made, TurkStat continues to collect information according to the previous definition as well just to make time series longer.

The statistical work of TurkStat, explained in some detail in the following sub-section, conforms to international standards, particularly since the institute follows Eurostat's methods and procedures in much of its work, especially surveys. One of the limitations that constrains data availability in Turkey is that administrative data, collected by various parts of the government, are used at less than full potential. Thus, considerable amounts of highly reliable data remain unexploited by researchers. If more administrative data were utilised, problems with sources that need to be solved notwithstanding, data quality would improve and more resources could become available for alternative uses, such as conducting surveys, which are the principal means for generating original data and information. Regarding surveys, apart from the normal errors in survey design and implementation, there are difficulties with getting respondents to truthfully answer survey questions, even though the questions are legally binding. Further, sometimes administrative data do not correspond with the needs of TurkStat and international coding standards, although with some minor adjustments this can be remedied and administrative data can be transformed to conform to internationally accepted standards and definitions. Definitions of occupations and geographic regions are examples in this regard. As mentioned later in the section titled "Political Economy of the Data Revolution," although there is an intention to standardise the compilation of administrative data and make them available through TurkStat, there has been little progress to this end.

Turkish Statistical Institute (TurkStat)

The recent history of TurkStat, which has existed under different names since Ottoman times, is defined by a widening of the institute's scope and concerns about conforming to international standards. While it used to conduct censuses of the population, agriculture and business, TurkStat has recently undertaken periodic surveys of households covering budgets, labour force participation and living conditions, which provide a wealth of data. It also publishes occasional reports on specific issues, such as its modular survey of work-related accidents and health problems. Its website[52] provides statistics organised around 17 "themes" and 83 sub-themes, which are presented in Table 9. Each sub-theme contains numerous statistical tables. As mentioned above, information relating to MDGs is not collected under an explicit MDG heading. Relevant indicators are distributed across the various themes and most of the necessary data are available. The Official Statistics Portal provides access to all statistics collected and released under the Official Statistics Programme.[53]

[52] TurkStat's Turkish website can be accessed at http://www.tuik.gov.tr. Its English website can be accessed at http://www.turkstat.gov.tr.
[53] The Official Statistics Portal can be accessed at http://www.officialstatistics.gov.tr.

Table 9. "Themes" of statistics on the TurkStat website		
Theme	No. of sub-themes	Examples of sub-themes or tables
National Accounts	6	GDP, Input-output tables
Foreign Trade	3	By country, Enterprise characteristics
Trade and Services	5	Retail sales, Broadcasting statistics
Population and Demography	7	Census, Vital statistics, Migration
Health and Social Protection	6	Social protection, Death
Transport and Communication	2	Telecommunication, Roads
Employment and Wages	3	Labour force, Time use
Construction and Housing	5	Building permits, Construction costs
Agriculture	6	Agricultural holdings, Output, Prices
Income Consumption Poverty	3	Income distribution, Living conditions
Science, Technology and Information Society	5	Research and development, Innovation, Information and communication technology
Economic Confidence	3	Consumer and sectoral confidence
Inflation and Price	6	Consumer prices, Producer prices
Industry	12	Industrial production, industrial labour
Environment and Energy	3	Sustainable development indicators
Education, Culture, Sport and Tourism	4	Media, Adult education, Formal and non-formal education
Justice and Election	4	Local elections, National elections

According to its strategic plan, TurkStat's mission is "to produce and disseminate statistics which are qualified, timely, reliable, objective and consistent with the international standards respond[ing] to the requirements and priorities of national and international users, and to provide co-ordination between the public institutions involved in the production process of official statistics," and its vision is "[to] establish a user focused and sustainable statistical system based on international standards" (TurkStat 2012b, 4). TurkStat's primary goal is the production of statistics based on international standards. Given Turkey's links with the EU and the adaptation process that is underway, the institute commits itself to complying "with the European Statistical System Quality Declaration Norms and European Statistics Code of Practice (CoP) in producing statistical products and services" (TurkStat 2012b, 7). TurkStat participates actively in the development of international indices and datasets. It took part in the pilot stage of the preparation of a framework for measuring sustainable development by a working group and task force set up jointly by the UN Economic Commission for Europe, Eurostat and the OECD. TurkStat's utilisation of Eurostat standards has helped not only to improve data quality but also comparability with data from other countries.

The budget of TurkStat was approximately US$90–95 million in 2012 and 2013. A modest rise is expected in future budgets (TurkStat 2012b). A functional division of expenditures for 2013 shows that about two-thirds of the total was allocated to the "production of statistics" (TurkStat 2012b, 65). From another perspective, 25 percent of the total was allocated to TurkStat's headquarters in Ankara, Turkey's capital, 63 percent to field offices and 12 percent to support units in Ankara (TurkStat 2014b). Given that the importance of regional inequalities is considerable in Turkey, even more information would be welcome in this regard. There is further scope to improve in spite of TurkStat's relatively wide regional presence. Some claim, however, that the cost of data collection and manipulation at an even more disaggregated level would be much higher than allowed in actual or planned budgets.

As of June 2011, TurkStat had a staff of 3,367, with more than two-thirds of staff members working in provincial field offices (TurkStat 2012b, 51). The institute has identified its strengths to be independence, reliability, observance of EU legislation and international standards, as well as expertise of its staff. Weaknesses are seen in a series of administrative problems. Opportunities include the increasing importance of statistics in general, increasing sophistication of information technologies as well as access to EU funds and other forms of international finance. The principal threats are lack of interest and ability to use statistics across Turkish society as well as physical and human resource difficulties associated with collecting data (TurkStat 2014b). TurkStat's internal regulations, directives and guidelines cover a wide variety of areas aimed at improving reliability.[54]

TurkStat's website is fairly user-friendly and available in both Turkish and English. It is logically constructed and published material is easily and rapidly downloaded. For much of the available information, except microdata, the simplest way to search for statistics and detailed metadata files is by theme. Problems sometimes arise, however, during mixing and matching of statistical data and some elementary data mining. A lot of prompt information is made public through TurkStat's press releases. In July 2014, for instance, the institute published 23 press releases in English on a diverse range of subjects. Relatively simple trends can be identified by following press releases over time. For example, TurkStat has announced social protection information via press releases since 2008.

Most data are downloadable from the TurkStat website, available as publications or can be requested from TurkStat in writing. TurkStat's operational rules provide limits as to the time within which all requests must be responded to and the longest delay allowed for the provision of data whenever they exist is 15 days. Going forward, a protocol must be established for accessing some of the microdata. Since access conditions to microdata vary depending on the nature and degree of confidentiality, this protocol should set the conditions under which data can be used. Some microdata files can be downloaded from the internet, others have to be requested and provided in compact disc format, while others that contain confidential business information may only be consulted at the offices of TurkStat. Sometimes there is a small charge for the provision of data requested and there are a few restrictions on which institutions and organisations can access microdata from TurkStat.[55]

Turkey's Official Statistics Programme is overseen by the Turkish Statistical Council, with membership including representatives of various governmental bodies, the Union of Chambers and Stock Exchanges, the Association of Researchers, and the Turkish Statistical Association. The council's task is to identify the country's official statistical requirements and act as a platform that can receive opinions from relevant institutes and organisations (TurkStat 2012b, 43). Increased participation by researchers who use official statistics in their work could improve the functioning of this important body.

Particularly Relevant TurkStat Surveys for Post-2015

The examination of data availability has been structured along two axes. First, several surveys conducted by TurkStat – particularly important for the indicators associated with the goal areas of poverty, employment and education – were reviewed. The findings indicate that TurkStat provides some ready-to-use statistical tables on, for example, income distribution based on regions, household type and income type. Much more detailed analysis is possible through access to microdata. Regarding the surveys, it is important to mention that migrants, whose numbers reached at least two million in 2014, are included in

[54] See, for instance, TurkStat (n.d.).
[55] For more information about agreements and fees related to information requests, see TurkStat (2011), http://www.turkstat.gov.tr/UstMenu.do?metod=bilgiTalebi (English portal) and http://www.tuik.gov.tr/UstMenu.do?metod=bilgiTalebi (Turkish portal).

calculations if they are part of sampled households. Attempts are being made to ensure that migrants are covered more systematically. Although the recent surge in migrant numbers due to the Syrian conflict is exceptional, the presence of unregistered migrants may bias statistical averages for various indicators.

The HBS and SILC are two nationally representative datasets that are potentially useful for monitoring several national targets and indicators for the post-2015 period, particularly poverty indicators. The HLFS is another potentially useful source.

TurkStat has conducted the annual HBS since 2002. Data on the consumption patterns and income levels of individuals and households in each socio-economic sector, population strata and region are gathered through the HBS and poverty analysis according to this information is done by TurkStat. The latest HBS data are from 2013 (see TurkStat 2014c). While the HBS has been the main source of data for key indicators since 2002, the SILC provides supplementary data that are better suited for dynamic analysis that can be used to refine the results arrived at according to the HBS.

Since 2006, the SILC has been used by TurkStat for tracking relative poverty and income distribution. It aims to generate two separate datasets and the survey results are published each year. One of the datasets comprises cross-sectional results for the relevant year, while the other comprises longitudinal (panel) results. The SILC has a panel component, which includes a rotational panel only covering four years and a short panel that is not statistically representative at the regional level. In other words, a researcher can track an individual for only four years. A longer panel would be preferable in attempts to understand the transition into poverty and the determinants of poverty. It may be better to renew the sample in a country such as Turkey, where fluidity owing to migration is considerable. Annual survey results related to cross-sectional data are announced to the public in press releases. Detailed cross tables, explanations and graphics relating to cross-sectional data are published subsequently in hard copy and compact disc formats. Raw datasets related to cross-sectional and panel data from the survey are available in compact disc format. The latest available microdata for the SILC are from 2011. Information for 2012 has been released by TurkStat and is available on its website, but 2012 microdata are not yet available. Using such microdata, it is possible to disaggregate population data according to thresholds (e.g., US$1, US$2.15 or any given poverty threshold) by various characteristics, such as gender, age, household size, and so on, in equivalised or non-equivalised terms. Data are unavailable for ethnic or religious minority groups.

In the SILC, Turkish Identification Numbers are required for people 15 years of age and older. In order to improve the quality of data, this information is provided to administrative bodies of relevant institutions for analysis. Identification numbers are sent to these institutions alongside, if available, information relating to wages or entrepreneurial income, retirement pensions and survivor's benefits, unemployment benefits, disability/old age/ghazi pensions, social benefits, income tax and paid social insurance premiums. The information is then compared with data obtained from the SILC. Missing or incorrect information is edited with the help of administrative bodies. In addition, survey results are compared with other related survey results (HBS, HLFS, census, etc.) and analysed.

Even when the survey results are not used by TurkStat in its summary statistics, the microdata of these surveys can be applied at various levels. For example, while the HBS has only urban/rural disaggregation up to 2013 (urban areas are defined as settlements with a population of 20,001 and above, while rural areas are settlements with a population of 20,000 and below), by using SILC microdata, it is possible to obtain information from statistical region 1 (there are 12 statistical regions, with Istanbul being a statistical region by itself). The sample size of the survey for this statistical region has been around 12,800

households, which indicates that microdata allow researchers to glean information that may improve policies at the local level.

Another survey that provides key microdata, particularly for employment-related indicators, is the HLFS, which has been conducted by TurkStat since 1988. Between 1989 and 1999, it was conducted twice per year (in April and October). The survey, which has been redesigned in consultation with Turkish academics and experts from the International Labour Organization, has undergone several improvements since 2000. Data were released quarterly between 2000 and 2004 and monthly data (in the form of three-month moving averages) have been available since 2005. The survey has conformed to International Labour Organization standards since its inception and to Eurostat standards since 2004. The HLFS has a short panel component that can potentially be used for dynamic analyses of the labour market, but efforts by academics to render this component useful have not borne fruit.

Like all TurkStat surveys, the HLFS suffers from the fact that, although it is mandatory, participation cannot be enforced in practice. There are fines for not participating but they are not a significant motivator, particularly for people with higher incomes – this generates a bias in the results. The non-response bias, which is observed in most countries, could be corrected if there were reliable administrative data. This is not the case in Turkey.

Since the HLFS targets the civilian (non-institutional) population, certain segments of the population, such as males engaged in compulsory military service and students residing in dorms, are not properly accounted for. According to experts familiar with the survey, non-response rates, which have traditionally been low, have recently increased. Although information on non-response rates can be obtained from TurkStat, it is not available in published documents. Data are available at various levels of disaggregation, including urban/rural (covering information until the change in rural/urban definition in 2013), male/female, age, education, and region (Level 2). There are breaks in the time series between 1999 and 2000 due to a change in sample frame and 2004 and 2005 due to changes in population base and projection methodology. Grouped data are accessible though the TurkStat website. While the HLFS is the principal source of data for several indicators relating to employment, it also provides supplementary information on education and wages. Thanks to efforts to unify the labour force modules of all household surveys, data from the HBS and SILC may also be used to supplement information obtained from the HLFS. The HLFS was subjected to another major revision in 2014.[56] Notably, the survey is presently conducted every week of the year instead of during a particular reference week of a month. The short panel component has yet to be put to use.

Data Availability for Post-2015

As observed in Table 10, 64 percent of global indicators examined in all countries participating in the Post-2015 Data Test initiative, 58 percent of indicators deemed desirable from Turkey's point of view and 62 percent of the total indicators included in this report are either readily available from official Turkish sources or can be derived without too much trouble through relatively simple data manipulations. The relatively low percentage of data available for national indicators is mainly due to lack of data for governance-related indicators. Indicators for which data can be extracted from microdata in a relatively straightforward manner (without making significant assumptions or calculations) have been designated as having data available even though securing those data may require additional work. Availability of data does not mean that data reveal all that is sought for in choosing an indicator. Some of the problems of this sort are mentioned in discussions on individual goal areas below.

[56] For details, see metadata reached via http://www.turkstat.gov.tr/PreTablo.do?alt_id=1007.

Table 10. Data availability across indicators by goal area									
Goal	Global			National			Total		
	Available	Total	Percent available	Available	Total	Percent available	Available	Total	Percent available
End poverty									
	4	5	80	4	8	50	8	13	62
Ensure quality education for all									
	4	5	80	7	13	54	11	15	61
Create jobs, sustainable livelihoods and inclusive growth for all									
	4	7	57	4	5	80	8	12	75
Ensure sustainable energy and develop infrastructure for all									
	4	8	50	3	5	60	7	13	54
Establish a sustainable, healthy and resilient environment for all									
	3	5	60	6	8	75	9	13	69
Establish open, accountable, inclusive and effective institutions, rule of law and a peaceful and inclusive society									
	6	9	66	1	7	14	7	16	44
Establish a global partnership for sustainable development									
	4	6	66	6	6	100	10	12	83
Total									
	29	**45**	**64**	**30**	**52**	**58**	**60**	**97**	**62**

The availability of data for monitoring the proposed SDGs is discussed in the following sub-sections. Annex 2 provides information in tabulated form on the availability of data for global and national indicators. The baseline years vary considerably among goal areas, as demonstrated in Table 11 with the earliest possible baseline year being 2000 and the latest 2007.

Key Sources of Data

In Turkey, the bulk of the data needed and evidently available for monitoring progress on the post-2015 framework will come from TurkStat. As the national statistical authority, TurkStat is the main collector and supplier of statistical information. There are two types of available data, tabulated official data and microdata. In accordance with the official statistical programme, TurkStat regularly collects and tabulates most basic data through surveys, though some official data are collected by ministries, agencies and directorates of the central government or local governments and then tabulated and made public by TurkStat. As outlined above in the sections on each goal area, in some cases tables prepared by TurkStat can be used, while in others microdata must be used. As mentioned, the central bank and some public companies, such as the Turkish Electricity Transmission Corporation, also provide statistical information. Certain public supervisory bodies (mostly linked to finance), such as the Capital Markets Board and Energy Market Regulatory Authority, could also be helpful going forward.

Administrative records comprise a key source of information. Sometimes they are made available through TurkStat, other times they are made available directly through the entity that produced them. The sources of data that have been used in this report are almost all linked to TurkStat. This was expected given the kind of information sought. Various surveys conducted by TurkStat provide a wealth of data relating to the social and economic situations of households or individuals, which pertain to most of the indicators covered under the goal areas on poverty, education and employment. Academic institutions that carry out periodic surveys may ask pertinent questions, but it is more common for the microdata from TurkStat to be used.

Table 11 summarises the key sources of data for the proposed global and national indicators as percentages of the total number of sources identified for this study. This is an illustrative table because certain indicators that appear in Annex 2 have been excluded here in order to simplify and avoid duplication. For example, indicators associated with education in Annex 2 consider boys and girls separately, but since the key source of data is the same for both sexes, that source has been counted only once. On the other hand, when there are multiple relevant sources, they have all been counted. For example, when the MONE's e-School database and a TurkStat survey are complementary, both have been recorded as relevant sources. The table also presents the proposed benchmark years for each goal area selected in this study. These years have been suggested by taking into account the continuity and consistency of relevant data. As mentioned, the proposed baseline years do not imply that all indicators have good data starting from that year.

Table 11. Key sources of data by goal area (% of total sources for the proposed indicators)

Goal	TurkStat Tabulated data	TurkStat Micro-data	Government ministries, agencies and directorates	Domestic non-gov't	International Non-governmental	Multilateral	Not yet available	Suggested baseline year[57]
End poverty								
Global	72			14	14			2006
National	50				12.5		37.5	
Ensure quality education for all								
Global	28.5		57		14.5			2007
National	50	25			25			
Create jobs, sustainable livelihoods and inclusive growth for all								
Global	87.5	12.5						2006
National	75			25				
Ensure sustainable energy and develop infrastructure for all								
Global	33.3			11.1	33.3	11.1	1.11	2000
National	40		60					
Establish a sustainable, healthy and resilient environment for all								
Global			57.1		14.3	14.3	14.3	2006
National	36.4		54.6					
Establish open, accountable, inclusive and effective institutions, rule of law and a peaceful and inclusive society								
Global	33.3		22.2	33.3			11.1	2005
National	37.5	12.5		37.5		12.5		
Establish a global partnership for sustainable development								
Global	11.1		66.7			11.1	11.1	2004
National			80			20		
Total								
Global	41.1	1.7	28.6	8.9	10.7	5.4	3.6	2007
National	36.7	6.1	24.5	14.3	6.1	4.1	8.2	

The table illustrates TurkStat's importance as a source of data for the post-2015 framework. For roughly 43 percent of all global indicators (various alternative sources were included but the best source is TurkStat) and 43 percent of national indicators, tabulated data and microdata from TurkStat would be sought. Most of these data can be accessed through the TurkStat website in tabulated form or require only a small degree of manipulation. Microdata are needed for a small set of global indicators. The

[57] This is a general suggestion. The year may not be applicable to all targets and indicators but it should apply to most if not all.

Turkish research team's proposed national indicators require somewhat more intensive use of microdata. Notably, TurkStat has conducted preparatory work for some proposed indicators for post-2015, but this work has not been included in this table. Other official sources would provide data for about 29 percent of the proposed global indicators and 25 percent of national indicators. Turkish non-governmental sources of data are relatively more important for national indicators while international sources are relatively more important for global indicators.

Baseline Data Availability for Turkey

For Turkey, the year 2006 seems to be a possible baseline, after which there are consist data for many indicators. For example, that year there was a change from using the HBS to the SILC for poverty indicators. For education, data coming from the MONE's e-School database are key, but this database was established in 2007. In the case of governance, the Social and Political Trends Survey conducted by Kadir Has University provides data beginning in 2010. Thus, the year 2010 could be selected as a baseline so that data are consistent across the board, but it should be noted that there is general data availability from 2007 onward. Some TurkStat surveys and special modules (e.g., on child labour) are undertaken only once or at certain intervals, so datasets will necessarily be disjointed.

Based on these observations, a sensible choice for the baseline year in Turkey's case is 2007. This is obviously a general suggestion, since data for particular indicators is only available for an earlier point in time or a more recent date. Given the predominance of relevant data from TurkStat and government ministries, agencies and directorates, baseline data availability is influenced to a large extent by their work programmes. This also means that any change in these work programmes potentially brings with it a change in data availability. Sometimes change may be positive, such as more frequent or detailed collection of data. Sometimes a change in methods or coverage may make data comparability difficult or impossible. In practice, many of the recent changes in Turkey have been prompted by the application of EU, or more specifically Eurostat, standards. Increased data conformity helps improve the quality of data in Turkey and its comparability with data from EU countries in particular and other countries in general. The same can be said about data on development assistance provided by Turkey. Notably, Turkey has gradually started to report on its development assistance according to OECD-Development Assistance Committee standards. Additional in-kind assistance or advice from Turkish experts could be valued and accounted for in the same manner as that by Development Assistance Committee members. Together, such efforts would ensure that data on Turkey's development assistance are comparable with those from other countries. It may be presumptuous, but the Post-2015 Data Test initiative may help make TurkStat and other data providers more aware of Turkey's abilities relative to those of other countries with regard to monitoring the post-2015 framework and help them consider arrangements that would allow Turkey to be more responsive to the eventual demands of the international community for data.

Quality of Data for Measuring Progress on Post-2015 in Turkey

Generally when official data exist, particularly if they are collected by TurkStat in conjunction with an EU or UN programme, they meet international standards at both the collection and reporting stages. In these cases, the definitions of relevant variables, which may be extremely detailed, are usually consistent. Although there may be some variations in the conduction of surveys – for example, in the questions asked – owing to social differences among countries, these variations do not invalidate survey results. Especially when a target is formulated in terms of an advance or change in a variable, what matters is consistency in data collection over time (yet, change may occur more or less easily depending on the

definition of the variable being observed). However, if the target is an absolute number, such as a number that should be reached by all countries, definitions matter much more.

In line with the data quality assessment framework, the quality of data in Turkey for the proposed global and national indicators was evaluated according to five criteria on the basis of a large number of considerations. The criteria were relevance, accuracy and reliability, timeliness and punctuality, accessibility and clarity, and coherence and comparability (see Annex 4 for full details about the framework). Table 12 presents the scores that these five criteria received for each goal area in the Turkish context. A word of caution is in order: these scores were assigned individually by the senior researcher for each goal area. Although efforts were made to achieve and maintain a good degree of consistency, individuals' grading inevitably involve some discrepancies, such as repetitious or generic observations. In any case, the Turkish research team is confident in its findings.

Table 12. Data quality assessment for indicators by goal area

Goal area	Relevance	Accuracy and reliability	Timeliness and punctuality	Accessibility and clarity	Coherence and comparability
End poverty	5	4	5	5	5
Ensure quality education for all	2	5[58]	3	2	2
Create jobs, sustainable livelihoods and inclusive growth for all	5	4	5	4	4
Ensure sustainable energy and develop infrastructure for all	4	4	3	4	4
Establish a sustainable, healthy and resilient environment for all	3	2	4	3	3
Establish open, accountable, inclusive and effective institutions, rule of law and a peaceful and inclusive society	2	4	4	2	4
Establish a global partnership for sustainable development	4	5	4	4	5
Overall average	3.57	4.00	4.00	3.42	3.85

As observed in Table 12, the most appreciated qualities of Turkish data across goal areas appear to be accuracy and reliability as well as timeliness and punctuality. In the case of reliability, some efforts have been put into in revising and adapting some survey questions to Turkish realities, particularly those questions that have come from Eurostat, which can improve the reliability of results over the long term. Regarding timeliness, the main problem is the existence of one-off studies and some gaps, such as in the case of forest cover, which is not calculated every year but could be fairly easily by using remote sensing.

Overall, researchers gave the worst score to accessibility and clarity. This is somewhat surprising given the easy access to official data through the TurkStat website. The problem seems to be access to administrative microdata, especially in the cases of proposed national indicators. This problem can be remedied fairly easily from a technical point of view. Not much is required apart from the willingness of ministries, agencies and directorates to change some recording nomenclature. There may be legal issues that prevent changes, however.

[58] Not totally relevant for Turkey because completion rates are computed automatically from universal children/student data without regard to individual students' situation.

Clarity can certainly be improved. Part of the problem appears to be that different definitions are being used by different data providers. Coordination and cooperation can help but many different definitions, which may not be easy to change, are used by the different parts of the national bureaucracy and data providers according to their particular functions or internal administrative structures. Regional disaggregation of available data is a case in point. Since a relatively new law has eliminated the previous urban/rural distinction (disaggregated data are only available until 2013), work needs to be undertaken to somehow re-establish these disaggregated data because they are very important for post-2015 monitoring and analysis. Moreover, some quality problems appear because of definitional issues in the proposed indicators, such as that on equal work. These problems emanate not from the data side but from the user side. Nevertheless, they hamper the clarity, coherence and comparability of the data. The sub-sections that follow outline data quality concerns for each goal area.

Problems with relevance stem from the paucity of information on perception-based issues and the difficulty of finding proxies. In this case, large investments in data collection are required – something that non-governmental sources can probably do more easily than TurkStat but validation by TurkStat may be needed or at least desirable. Relevance is also hampered by the lack of information (or the existence of only indirect information) on issues related to ethnicity. This is not something that can be remedied by anything that data providers can do – it is a political issue.

End Poverty

The relevance of available data was deemed to be very high. TurkStat, from which the bulk of the data come, follows Eurostat standards on data collection. The institute has an email address which is used by staff members to quickly respond to data users' questions. It also organises expert workshops, which are mainly attended by data users, in order to decide which questions should be asked in surveys. Accuracy and reliability of the data were also high. When there is an error, TurkStat warns users about which variables have problems, revises the data and then republishes them. Timeliness and punctuality were also very highly assessed. TurkStat aims to be timely and most of the time succeeds. Since data collection and reporting have a standardised procedure that follows Eurostat guidelines, there are effectively no problems with timeliness and punctuality. Accessibility and clarity of the data were found to be high since they are made available through the TurkStat website. Microdata can be made available for researchers and institutions, a policy that is clearly outlined on the website. Information about the data is also available in the website. Regarding coherence and comparability, there are effectively no relevant standardisation problems since the data conform to Eurostat standards.[59]

Ensure Quality Education for All

For education, data from the MONE are prevalent. In terms of relevance, data that can be used to calculate completion rates are available. However, data for calculating percentages of girls and boys who achieve a passing grade in national learning assessments at the primary school level are unavailable. User needs have been taken into account if the data users are affiliated with the MONE. Otherwise, user needs do not play any role in data collection and reporting. The Turkish research team understands that its needs are partially satisfied. Some of the issues that were found to be positive in terms of relevance were policy requirements and guidelines for data collection.

[59] References to Eurostat standards imply assumptions that it is good to apply Eurostat standards and international acceptability and comparability are high when Eurostat standards are applied.

Regarding accuracy and reliability, completion rates can be calculated by using universal children/student data, which are available through the e-School database and ADNKS. Thus, sampling is not a problem. However, the MONE does not publish any technical documentation that provides information on non-sampling errors in the statistics that it generates. There are no formal procedures to reduce systematic and random errors. Moreover, the MONE does not have specific procedures to revise data. Regarding timeliness and punctuality, the MONE regularly publishes formal education statistics annually in late March or early April. There is an official calendar that announces the release dates of major statistics and procedures in place to ensure timely and effective flow of information from data providers.

Beyond annual formal education statistics, data are not easily accessible – mostly they are not accessible at all. Microdata are very challenging to access. Such unavailability hampers the accessibility and clarity aspects of the data quality for education. There are no guidelines or standards for ensuring data clarity. The MONE does not generate metadata. Nevertheless, the use of information and communication technology to disseminate data (in addition to hard-copy publications) as well as procedures to request data that are not readily available to the public, presentation of statistics that facilitate proper interpretation and meaningful comparisons, and rules and protocols for accessing microdata were found to be positive. Regarding coherence and comparability, data since 2007 seem to be good in the sense that available data appear to be consistent and comparable internally. No information is available on cross-sectoral validity or compliance with international standards. The coherence aspect of this criterion is evaluated somewhat more highly than the comparability aspect. Notably, data users are not informed about deviations and there are no assessments of internal data quality and consistency.

Create Jobs, Sustainable Livelihoods and Inclusive Growth for All

Just as with the goal area on poverty, this goal area also largely depends on TurkStat data, so what was said about TurkStat above is valid here as well. Regarding relevance, there are sufficient data on the labour force participation rate, a key indicator. For other indicators, some data manipulation is needed. For example, mean nominal monthly earnings can be calculated by using HLFS data, specifically by dividing monthly income by hours of work per month. For some indicators, slightly different variables may be preferable. For “Youth not in education and not employed (aged 15–24),” it would be better to assess youth not in employment, education or training, which can be measured based on multiple data sources. With regard to accuracy and reliability, this goal area can refer to multiple data sources. In this respect, the HLFS is preferred over the SILC because it relies on a larger sample and includes a sliding reference week that allows accurate tracking of the labour market. Timeliness and punctuality are according to TurkStat standards. As in most cases, for example, the labour force participation rate is released with a three-month lag according to an announced schedule. Special studies are fairly infrequent, such as those on children employed available for the years 1994, 1999, 2006 and 2012. Accessibility and clarity are very good when TurkStat does the calculations but may be considered less than perfect when indicators need to be calculated from microdata. In terms of coherence and comparability, useful comparisons across countries and over time can be made by using the labour force participation rate. In some cases, there may be definitional problems with what constitutes employment, while the time period used for identifying the unemployed changes from one country to another, not to mention sometimes over time within a country. For example, in the case of the indicator “Time-related underemployment (thousands),” the exact wording of the survey question that is instrumental in collecting relevant data changed over time in Turkey. Definitional problems also reduce data quality. For example, in the case of the target “Ensure equal pay for equal work,” “equal work” is difficult to define and so comparisons across countries are a daunting task. Even defining “employment” may not be straightforward. These are not quality-related problems of Turkish data, but rather general concerns.

Ensure Sustainable Energy and Develop Infrastructure for All

The relevance of data under this goal area was deemed largely satisfactory for some criteria but unsatisfactory for others. Indicators on access to an all-season road, number of hours of electricity, improvement in energy intensity, and access to modern cooking solutions do not have relevant data. Some relevant data, for example on average bandwidth speed, are available from international sources. Apart from the indicators for which no data were found, accuracy and reliability do not seem to be a problem. With special and occasional reports providing a significant portion of the data under this goal area, timeliness and punctuality are unsatisfactory. Moreover, there are real-time data available that appear to adjust constantly. Accessibility and clarity do not seem to be a problem except in cases where payment is required for reports that may be the main source of information – such as those by Euromonitor International. The score for accessibility may be high given that some difficult-to-access sources were not included in the data quality assessment since an easier-to-access source exists. Coherence and comparability are a problem in cases where studies are conducted on a country or topical basis.

Establish a Sustainable, Healthy and Resilient Environment for All

Observations on the relevance of data under this goal area focus on data for three indicators, those on forest cover, protected areas and disaster deaths. The available data on forest cover are for specific years only, so their relevance is considered to be only fair. The metadata indicate that aerial and land-based methods are collectively used to annually measure forest cover (whether such methods have methodological problems be probed by experts), but the specific years for which data are available are the ones when a "forest census" was conducted. Annual forest cover data are not accessible, but data are available for 2009, 2010 and 2012 without any explanations about missing data and irregularities. The relevance of the data on protected areas is rather questionable, since the amount of protected area by itself does not provide sufficient information on how well areas are being protected. Hence, this indicator does appear to satisfy the user needs. Disaster-related data were found to be unsatisfactory, but there is a new database on disasters with more systematically collected information, being developed, hence these data might soon be improved. Available data are compiled on certainly relevant issues.

The General Directorate of Forestry, which compiles data on forests, has an established and strong network of regional directorates, so the data provided (in the form of administrative records) scores high on accuracy and reliability. Since protected areas are designated by the Turkish government, their amounts of area are established at their designation, hence an assessment of accuracy and reliability assessment would not apply to the relevant data. In terms of assessing how well these areas are being protected, this indicator is not considered to be requiring accurate and reliable data. The data on disaster deaths are questionable in terms of accuracy and reliability. For instance, in the official figure for the 1999 Izmit earthquake was about 17,000 deaths (Başbakanlık Kriz Yönetim Merkezi 2001), but there have been many allegations that the actual figure was much higher (Canli Haber 2014). Disaster-related data might be under-reported for political reasons.

The Ministry of Forestry and Water Affairs has published *Forestry Statistics* reports annually since 2007, which includes data on both forest cover and protected areas.[60] The reports are published 14–15 months from the reference period (e.g., the report on 2009 was published in March 2011). The metadata indicate that official data will be published within one year, but given that all the reports have so far been published with similar time lags, the data being released score fairly well in terms of timeliness and

[60] The reports can be accessed through the website of the General Directorate of Forestry at http://www.ogm.gov.tr.

punctuality. AFAD has not regularly disseminated figures on disaster deaths, but its new online database being developed already has data for 2014,[61] hence it can be expected that the data on disasters will be updated regularly.

Freely available online, the *Forestry Statistics* reports follow a standardised format in which the presentation of statistics is clear, there are explanations of the concepts, categories and data collection methods, and explanatory texts accompanying the data are included. Access to microdata is regulated, but seems possible. TurkStat has a directive on access to microdata – with the rules, rights and obligations of users clearly stated – that might apply to other public institutions as well. As mentioned, disaster-related data were recently made available through a new database, which is navigable online and allows users to access data and metadata and facilitates automatic tabulation in a variety of formats. Hence, associated data in both cases score high on accessibility and clarity.

With regard to coherence and comparability, the mid-range score reflects the clarity of definitions and difficulties with data consistency. For the indicator on forest cover, definitions are provided but it is not specified whether they are compatible with international standards. The centralised structure of the General Directorate of Forestry with its regional directorates appears to help ensure coherence in data collection. In its reports, there are some notes about changes in definitions or data collection. However, as mentioned, there is no explanation about the lack of annual data on forest cover. The metadata indicate that data will be provided annually and annual reports indeed exist, yet the data on forest cover are not annual. Hence, coherence and comparability are questionable. The data on protected areas are not internationally comparable, given that there are different types of protected area statuses (which have been created over years, hence their comparability over time may be dubious) and to what categories they correspond internationally is unclear, plus what each of them means in practice is often ambiguous. Only the Ramsar sites are internationally comparable (see Ramsar 2014). The aforementioned new database on disasters is an attempt to improve coherency in the data collected so far, hence the data might be combined according to a particular framework. Still, historical comparability will be questionable since the reliability of the historical data cannot be fully established.

Establish Open, Accountable, Inclusive and Effective Institutions, Rule of Law and a Peaceful and Inclusive Society

There are gaps under this goal area that significantly reduce the relevance of data in certain cases. For example, since minorities or other social groups are not identified in official statistics in Turkey, necessary data for indicators on inclusivity are unavailable. Given the absence of certain immigration laws – despite being an important transition country – that prevents taking account of immigrants, no statistics exist on conditions covered by some of the indicators. Regarding taxes, for example, data are incomplete owing to registration problems (the main problem for most of the registered data is that they cannot be transformed into statistical data). A lack of internal coherence among Turkish ministries, agencies and directorates causes additional problems. Some administrative data (e.g., on legal issues) are collected on the basis of an old regional division that is no longer used in statistics. User satisfaction is positively affected by the possibility of organising special consultations and needs-based arrangements. However, administrative data are not user-oriented and cannot be accessed for analytical purposes. Follow-up after the generation of data could be better.

Since indicators under this goal area mostly use registered data, accuracy and reliability are high. Sampling errors are out of question – TurkStat survey data are aligned with Eurostat standards. As

[61] The database can only be accessed through its Turkish website at https://www.afad.gov.tr/TR.

mentioned, the urban/rural distinction has been eliminated due to a relatively new law and disaggregated data are only available until 2013. As noted, accuracy and reliability may be a problem for data generated by Kadir Has University. Timeliness and punctuality are satisfactory. Generally, available data have been published with a one-year lag. In line with the Official Statistics Programme, TurkStat announces a schedule for data publication. Accessibility and clarity are a problem for registered data due to the structure of the database. Coherence and comparability suffer in the case of data registered by administrative units, because of non-standard definitions, particularly non-respect of international codes such as those on occupations and regions.

Establish a Global Partnership for Sustainable Development

The relevance of available data under this goal area is quite good. As mentioned, Turkey does not record "debt" by lending to countries but the Türk Eximbank provides credits. As an OECD member, Turkey does not officially consider its development assistance as "South-South cooperation" in statistics, but rather calls it simply "assistance." Therefore, data for related indicators cannot be assessed. Data are collected by TIKA according to clear guidelines and depend to some extent on the responses received from other organisations that provide development assistance. Cooperation among various sources of data is satisfactory. Procedures are periodically reviewed and revised to improve data collection. Central bank data are expected to be impeccable. The existence of laws is straightforward information but whether the content of the laws, let alone their application, actually satisfies their intention is debatable. User needs are largely met but many of the sub-components of the criteria suggested for assessing relevance in the data quality assessment framework are not quite relevant in this case.

As far as accuracy and reliability are concerned, data quality is high given that these are data registered by administrative units. Any revisions are due to the addition of new information that may have been previously unavailable for some reason, such as lateness in receiving it from an administrative source. Revisions are made in subsequent publications or online updates. The timeliness and punctuality of data are particularly good for the central bank, which has a predetermined and publicly announced schedule for data publication. Data from TIKA, however, are rather dated owing to the fact that there are various stages of data preparation, first in the various entities that have to provide information to TIKA and then within TIKA. Moreover, data are available through TIKA only after the relevant hard-copy report is published. Reports are normally published with a considerable lag after the data are first made available through the OECD-Development Assistance Committee website. Regarding accessibility and clarity, data accessibility is easy through the relevant websites and definitions follow international guidelines – TIKA follows OECD guidelines and the central bank follows EU guidelines (e.g., Statistical Classification of Economic Activities in the European Community, Rev.2). Microdata and metadata are unavailable, so it is necessary to request details about development assistance activities from Turkish institutions, but it is unclear how responsive they will be. Coherence and comparability are good, particularly since internationally accepted definitions have been adopted. As always, the merits of these definitions may be open to discussion.

Feasibility of Global Minimum Targets

This sub-section looks not at the availability data but whether the wording of certain targets makes operational and practical sense. Whether data are available has been examined above and can also be observed in Annex 2, where empty cells under the column titled "Source" indicate that data are unavailable. The feasibility of global minimum targets can be tested on the basis of two criteria. The first is whether the target is formulated in a way that allows the determination of a global minimum level. What

is probably more important is whether meaningful indicators can be found to measure the progress toward the target and to assess whether a global target has been reached. The second is whether it makes sense to seek reaching that minimum. In some cases where the target is not formulated as a global minimum, suggestions have been made to consider them as global minima. In some cases, the conditions for reaching the global minima depend on improvements and achievement in other targets. These have also been indicated.

Table 13. Feasibility of global minimum standards

Target	Comment
End extreme income poverty	This is a minimum target that is meaningful if it is interpreted to mean "nobody will receive an income that will be insufficient to provide a life out of extreme poverty." Some people, however, may choose not to seek an income and live in extreme poverty. Extreme poverty levels will have to be determined on a country-by-country basis, even a region-by-region basis for large countries. These levels are meaningful when measured in terms of monetary income. In relative terms, there will always be some people in poverty and a certain level may be defined as extreme poverty in relative terms. Even if "ending" extreme income poverty may not be feasible in practice, it is a politically necessary target.
Ensure all children have access to early childhood and quality primary and secondary education	This is a minimum target that is achievable, with different degrees of difficulty for different levels. It seems easiest to achieve for primary education. Difficulties with early childhood education arise from both organisational problems – early childhood education is a relatively new area – and financial resources. The monitoring of progress on the target is complicated by the inclusion of quality considerations. This is an extremely important variable but difficult to measure in practical and acceptable terms.
Achieve full and productive employment work for all, including women and young people	This minimum target should be interpreted to cover those who are actually seeking work. It is particularly important for youth. Full employment may be defined differently in various countries, so country definitions should apply. Moreover, the definition of productive employment has to be such that it allows measurement.
Ensure equal pay for equal work	This is a valid minimum target, notwithstanding the often insurmountable difficulties in assessing the "equality" of different activities. A meaningful and representative sampling would allow sufficient monitoring.
Ensure full access to developed infrastructure and communication technology	What is meant by "full access" in this minimum target is unclear. Full access to infrastructure, such as roads, it a meaningful and achievable minimum target. This interpretation implies the availability of actual infrastructure and the need for investments. Full access to rudimentary infrastructure may be less important than partial access to more developed and extensive infrastructure. This depends, of course, on whether needs are interpreted from a personal or national point of view. Full access to communication technology depends on improvements in a variety of factors covered under other targets, such as education and investments. Full access is unlikely in many countries, not because of insufficient levels of education and lack of

	infrastructure but rather there may not be the need for full access. Thus, this target could benefit from an indicator on increasing opportunities to undertake formal or private operations online.
Ensure access to energy and improve efficiency and sustainability of energy supply, including renewable energy	This is not a minimum target. The caveats about increasing various renewable energy sources that were mentioned in the text need to be taken into account.
Publish and use economic, social and environmental accounts in all governments and companies	This may be a minimum target but its usefulness depends on the use that is made of the publications. “Publication” may be a measurable minimum target but actual “use” is difficult, if not impossible, to measure.
Provide free and universal legal identity, such as birth registrations	This is a minimum target that is definitely meaningful. Its value, however, depends on the use of legal identities. If they are used as tools of discrimination, repression or unfair treatment in any way or to impose responsibilities that could be avoided by not being registered, then there may not be demand for registration. Therefore, this target goes hand in hand with those on good governance and safeguarding human rights.
Create an enabling environment for sustainable development	This is not a minimum target as stated, the indicators are separately taken into account at relevant parts.

Political Economy of the Data Revolution

Understanding the Drivers of Data Gaps and Improvements

The data situation in Turkey is largely satisfactory, particularly in the case of information collected by entities whose functions include data collection, TurkStat being the principal entity in this respect. Its association with the EU has been a positive factor in improving data quality and making data more internationally comparable, with adoption of Eurostat standards being a big plus. The institute holds high esteem among the research community and non-governmental organisations engaged in the monitoring of policy in the country. Data on economic issues that must be timely and accurate for the daily functioning of the country's economic system, which are generated by other entities such as the central bank, are also very good. As mentioned, however, certain kinds of data, particularly those that can be associated with ethnic identities, are lacking. Most other gaps are the result of shortcomings in data collection, treatment and tabulation by entities other than TurkStat. These include ministries, agencies and directorates whose functions do not explicitly include data collection.

Since a considerable amount of published information is based on data registered by administrative units, the independence and partiality of these entities is an important issue. Criticism of these entities is mostly concerned with incompetence, possibly owing to the unavailability of trained personnel, rather than intentional misdeed. Members of TurkStat's staff are highly qualified in statistics-related issues but personnel with such expertise are rarely found in other entities. There may be a concern on the part of implementing agencies, which also collect and disseminate data, to present themselves as successful, which may lead to lapses in information when robust statistical work cannot be done. It is unlikely, though, that such concern is systematic. The Turkish Statistical Council has various decisions concerning improvement in data registered by administrative units and their use. In its most recent decision from June 2014, the council emphasised the target of increasing statistics generated from registered data. Increasing the use of such data is also one of TurkStat's major concerns (TurkStat 2014a). It is estimated that TurkStat uses publicly registered data in approximately 37 percent of the information that it generates, whereas this figure could go up to 70 percent or higher. Data are not collected and tabulated in a manner that facilitates publicising raw data as official statistics. They are collected for a specific purpose internal to the administrative unit that collects them. Is has been claimed that even TurkStat finds it difficult to provide data in the form demanded by researchers because computer programming is outsourced and flexibility is not one of the institute's responsibilities.

There are very few independent organisations involved directly in data generation and the Official Statistics Programme. The Hacettepe University Institute of Population Statistics is the only independent institute that figures among the organisations that populate the Official Statistics Portal. The rest are entities of the central government, regulatory bodies and semi-official entities such as the Union of Chambers and Commodity Exchanges of Turkey. The importance of independent sources of data does not seem to be sufficiently appreciated. The establishment of an institute with an independent budget at a university is very cumbersome and requires legislative action. Increasing the number of independent organisations that generate data would provide considerable support to data generation in Turkey without creating additional financial burden for the central government. One option that would ensure data quality conforms to TurkStat standards could be to seek TurkStat approval or certification in the data generation process, such as at the sampling stage.

Data Availability–Transparency–Accountability Nexus

TurkStat is an institution that is directly attached to the Prime Ministry. It does not enjoy the kind of independence that the central bank does, but TurkStat is a credible institution that can be considered independent since from time to time it is criticised by both the government and opposition for making announcements that they do not like – this is a sign of independence and impartiality. What is typically observed, however, is a selective use of data and information by politicians for political ends. This has nothing to do with the work of TurkStat and is probably considered normal by many. Political influence may be gained not by manipulating the data, but by deciding what kind of data should be collected. This ability should be circumscribed, if it exists at all, but it should be mentioned here. There is an ethical pledge[62] that emphasizes transparency and accountability.

Problems originating within administrative units of the central government may be due to the reluctance to make data public or share them with TurkStat given concerns that poor results will become widely known. Although TurkStat does not say this, it is purported that administrative microdata are not shared with the institute. The Turkish Law on Statistics says that institutions are responsible for establishing and organising their national registration systems according to the standards specified by TurkStat, updating them and opening them for use for statistical purposes. TurkStat's endorsement is sought for any regulatory work in this area (TurkStat 2014a). Coordination between administrative units and TurkStat and following TurkStat's guidance would be help improve the consistency and reliability of data.

TurkStat's microdata are available to the public within the confines of confidentiality. Some legal constraints exist and punishment is mandated for those responsible for leaking confidential data. Sometimes, however, such constraints are contrary to the principles of openness, such as in the case of tax information. In general, the use of statistical data in governmental decision making is often rudimentary. The same can be said about the media, opinion leaders and public opinion as well. Thus, those who have the information are not hard-pressed to make it available because it is not widely demanded.

Expectations of Different Stakeholders from the Data Revolution

Given their specific functions, various stakeholders have different expectations from the data revolution. TurkStat would like this process to reconfirm its leading role and coordination function in data collection and dissemination. One of the main results expected from the data revolution is that the vast amount of the central government's administrative data will be able to be turned into usable statistical information that meets strict quality requirements including not only accuracy, reliability and timeliness but also clarity, coherence and comparability. TurkStat also expects that subjective indicators, such as life satisfaction and mental health, will be better covered both in the post-2015 framework and data collection work.

Members of civil society expect the data revolution to result in the collection and dissemination of official data on socially and politically sensitive subjects, or at least the validation of their own data by government entities. These subjects are specified in many of the indicators proposed for the goal area on governance and some for the goal areas on employment and environment. Furthermore, better accessibility to data collected by administrative bodies would be a desirable outcome. The expectations of academics are somewhat similar to those of members of civil society more generally – they would like to see some major gaps that hamper their research filled. Segments of the Turkish bureaucracy, particularly those participating in international meetings, would like to have access to complete datasets that are

[62] See http://www.tuik.gov.tr/jsp/duyuru/upload/KamuGorevlileriEtikSozlesmesi.pdf for more details.

required at those meetings. There are groups among the politicians and media, if not everybody, that are conscious of the importance of detailed, reliable information that goes beyond what is available today. They are conscious that such information may facilitate the refutation of unfounded claims or make it harder to put forward such claims. Finally, everyone with some awareness of advancements in data collection would like big data to be used – used responsibly – to generate information in a variety of areas. Reservations have been expressed about the possibility of the abuse of big data.

Conclusion

Turkey has had a fairly successful record with regard to the MDGs, particularly eradicating extreme poverty. Its principal shortcomings are in the areas of promoting gender equality and empowering women as well as ensuring environmental sustainability. While extreme poverty is not a pressing problem in the country, public consultations and government pronouncements on the post-2015 agenda indicate that inequalities, which permeate a range of social and economic aspects, have emerged as one of the most important concerns. As a result, Turkey seeks to make the post-2015 framework human-centred, just and equitable. So far as the development problematique of the country is concerned, avoiding (or getting out of) the middle-income trap appears to be a key issue. At the global level, Turkey shares the vision of an equitable, rights-based and sustainable process of global development, which the post-2015 process is expected to support.

To examine data availability and accessibility for likely targets and indicators in Turkey for the Post-2015 Data Test initiative, a team of seven experienced Turkish researchers was organised, each specialising in one of the areas selected for the exercise. Their findings and conclusions are the result of careful scrutiny of Turkish data sources with the view to match the selected indicators with available data in Turkey. The selected global indicators, which are being assessed against data from all countries participating in the initiative, were mostly relevant for Turkey but there were some that did not apply to Turkey's contemporary context. National indicators, which seemed either particularly important for Turkey or globally, were identified and then tested against available data in Turkey (data availability was not a determinant in the selection of national indicators). Apart from their own expertise, the Turkish team capitalised on good connections in TurkStat and other relevant milieu to generate their findings and conclusions. Overall, consultations were relatively easy, frank and fruitful.

Turkish officials involved with the post-2015 process, be they from the MOD, MONE or TurkStat, are very well prepared, deeply committed and extremely competent. This core, however, is rather restricted in terms of public consultations on plans and policies. The UN provided considerable support for the organisation of consultations with the public, including academia, civil society and the private sector, which yielded results that actually correspond with the central government's priorities to a considerable extent. Following the adoption of the post-2015 framework in September 2015, Turkish policy-makers should be ready to acknowledge the importance of its goals, targets and indicators and take them into account in the design and implementation of domestic policy. They should also be ready to accept the guiding role that this framework should have in international development assistance and governance. The MOD's 10th Development Plan (MOD 2013) and *Turkey's Sustainable Development Report: Claiming the Future* (MOD 2012) provide guidance for negotiations going forward.

The availability of data in Turkey for monitoring of the selected goals, targets and indicators seems fairly satisfactory but certain significant gaps exist. Information on minorities, ethnic groups and migrants is essentially unavailable. The lack of data constrains the assessment and evaluation of some crucial elements of progress on reducing inequalities, identified as one of the important concerns in Turkey. Information is also missing on some indicators that may be important in the global context, such as the percentage of adults with an account at a formal financial institution. Perception-based indicators are also rather poor.

TurkStat makes a large amount of microdata available to researchers. Thus, some indicators that cannot be easily tracked using published information can be tracked if sufficient resources are allocated to

assess microdata. Microdata that are gathered for administrative purposes by various government entities have rich potential for statistical use, but are generally unavailable to researchers. These microdata are also important for verifying information gathered through other means. There are, nevertheless, problems with some administrative data, such as those collected in the MONE's e-School database. The problem with TurkStat surveys, on the other hand, is low participation or response rates in spite of fines for non-participation.

Problems with participation rates aside, the quality of data made public by TurkStat is good. The data collected, tabulated and announced by the institute are particularly good when done according to Eurostat standards. Many of the definitions used by Turkey concur with those of Eurostat or international organisations such as the International Labour Organization, although sometimes there are problems with applicability. Some Eurostat standards and certain related questions used in surveys are not the most appropriate for Turkey. Information published by TurkStat is easily accessible and the institute's website is user-friendly. The large number of TurkStat webpages listed in this report's references section demonstrates the extent of data availability.

An extensive data quality assessment demonstrated the extent to which the quality of data is good. Considering all of the goal areas together, scores for "accuracy and reliability" as well as "timeliness and punctuality" were the highest. The score for "coherence and comparability" follows, benefiting from links with Eurostat. The score for "relevance" is hurt by problems with education data. The problem with the category "accessibility and clarity" is the need to use microdata quite frequently.

The feasibility of global minimum targets was examined to determine whether the selected targets are formulated in a way that allows the determination of a global minimum level and whether monitoring is possible. Most proposed targets, such as "Provide free and universal legal identity, such as birth registrations," are both meaningful and measurable. Sometimes, however, what is meant is unclear (e.g., ensuring "full access" to developed infrastructure). Moreover, it is important to ask whether it makes sense to strive for reaching certain global minimum targets. In some cases, progress on one indicator depends on progress on others. In some others, the minimum target, (e.g., publishing environmental accounts) can be achieved but achievement may not be meaningful for achieving the desired goal (e.g., the goal "Establish a sustainable, healthy and resilient environment for all" depends on how published environmental accounts are used).

TurkStat and some other entities that generate data, such as the central bank, are highly esteemed institutions. TurkStat, however, is not a formally independent institution and therefore may feel political pressures from time to time. These pressures are not generally thought to harm the reliability of the information coming from TurkStat. An important avenue for improving data availability is the expanded use of administrative records. This necessitates some upgrading in terms of the statistical procedures of administrative units that collect data. Further coordination with TurkStat and following TurkStat's guidance would be very important in terms of ensuring consistency and reliability. There are very few independent organisations involved in data generation. TurkStat could provide leadership in supporting such organisations, which could considerably improve data availability.

References

AFAD (Disaster and Emergency Management Presidency). 2012a. *2013 – 2017 Strategic Plan*. Ankara: AFAD.

———. 2012b. *National Earthquake Strategy and Action Plan 2012-2023*. Ankara: AFAD.

———. 2013. *Türkiye Afet Müdahale Planı (TAMP)*. Ankara: AFAD. https://www.afad.gov.tr/UserFiles/File/PLANLAR/Afet_Mud_Pl_ResmiG%2020122013.pdf.

Banerjee, Sudeshna Ghosh, Mikul Bhatia, Gabriela Elizondo Azuela, Ivan Jaques, Ashok Sarkar, Elisa Portale, Irina Bushueva, Nicolina Angelou, and Javier GustavoInon. 2013. *Global Tracking Framework*. Vol. 3.Sustainable Energy for All. Washington, DC: World Bank.

Başbakanlık Kriz Yönetim Merkezi (Prime Ministry Crisis Management Centre). 2001. *Depremler 1999 (Earthquakes 1999)*. Accessed May 4, 2015. http://www.teknolojikkazalar.org/get_file?id=4c120a6098230.

BDDK (Bankacılık Düzenleme ve Denetleme Kurumu). 2011. *Bankacılıkta Yapısal Gelişmeler*. Ankara: BDDK. https://www.bddk.org.tr/WebSitesi/turkce/Raporlar/Bankacilikta_Yapisal_Gelismeler/11085bygr_2011.pdf.

BIP (Biodiversity Indicators Partnership). 2014. "Coverage of Protected Areas." Accessed July 10, 2014. http://www.bipindicators.net/pacoverage.

Canli Haber. 2014. "How many people died in the 1999 earthquake?" Accessed May 4, 2015. http://www.canlihaber.com/17-agustos-1999-depreminde-kac-kisi-oldu-depremin-siddeti-ve-merkez-ussu-ne-27089h.htm

Demirguc-Kunt, Asli, and Leora Klapper, 2012. "Measuring Financial Inclusion: The Global Findex Database." Policy Research Working Paper 6025. Washington, DC: World Bank.

Dinçer, Mehmet Alper. 2013. "Education Policy Issues in Turkey." PhD diss., Columbia University.

FAO (Food and Agriculture Organization of the United Nations). 2012. "FRA 2015: Terms and Definitions." Forest Resources Assessment Working Paper 180, FAO, Rome.

General Directorate of Judicial Record and Statistics. 2013. *Judicial Statistics, 2012*. Ankara: Ministry of Justice.

Gürcihan-Yüncüler, Burcu, Gönül Şengül and Arzu Yavuz. 2013. *A Quest for Leading Indicators of the Turkish Unemployment Rate*. Working Paper No: 13/41. Ankara: Central Bank of the Republic of Turkey.

Gürsel, Seyfettin, Bülent Anıl, and Ayşenur Acar. 2013. "TÜRKİYE'DE YOKSULLUK TARTIŞMASI: Kim Haklı? Yoksulluk Arttı Mı, Azaldı Mı?" Bahçeşehir University Centre for Economic and Social Research press release, August 1. http://betam.bahcesehir.edu.tr/tr/2013/08/turkiyede-yoksulluk-tartismasi-kim-hakli-yoksulluk-artti-mi-azaldi-mi.

Gürsel, Seyfettin, Gökçe Uysal, and Melike Kökkızıl. 2014. *Two in Three Children Live in Severe Material Deprivation*. Research Brief 14/164. Istanbul: Bahçeşehir University Centre for Economic and Social Research.

Hacettepe University Institute of Population Studies. 2009. *Turkey Demographic and Health Survey 2008*. Ankara: Hacettepe University Institute of Population Studies.

Ho, Esther Sui-chu. 2013. *Student Learning Assessment*. Asia-Pacific Education System Review Series No. 5. Paris: United Nations Educational, Scientific and Cultural Organization.

IEA (International Energy Agency). 2014. *Oil Market Report*. November 14. Paris: IEA.

IEAG (Independent Expert Advisory Group on a Data Revolution for Sustainable Development). 2014. *A World That Counts: Mobilising the Data Revolution for Sustainable Development*. New York: Independent Expert Advisory Group Secretariat.

ILO (International Labour Organization). n.d. "Current Guidelines." Accessed July 10, 2014. http://www.ilo.org/global/statistics-and-databases/statistics-overview-and-topics/underemployment/current-guidelines/lang--en/index.htm.

———. 2014. "Definitions." Accessed July 10, 2014. http://laborsta.ilo.org/definition_E.html.

İşler, Emrullah. 2014. "Opening Speech by Deputy Prime Minister Emrullah İşler to the International Conference 'International Development Cooperation: Trends and Emerging Opportunities – Perspectives of the New Actors.'" June 19. http://www.idc-

istanbul2014.org/notes/minister-emrullah-isler-opening-speech.pdf.
IIRC (International Integrated Reporting Council). 2013. *The International <IR> Framework*. London: IIRC.
Martin, Michael O., Ina V.S. Mullis, Pierre Foy, and Gabrielle M. Stanco. 2012. *TIMSS 2011 International Results in Science*. Chestnut Hill: TIMSS & PIRLS International Study Center, Boston College.
MOD (Turkish Ministry of Development) 2012. *Turkey's Sustainable Development Report: Claiming the Future*. Ankara: MOD.
———. 2013. *Onuncu Kalkınma Planı (2015-2018)*. Ankara: Türkiye Cumhuriyeti Kalkınma Bakanlığı. http://www.kalkinma.gov.tr/Lists/Kalknma%20Planlar/Attachments/12/Onuncu%20Kalk%C4%B1nma%20Plan%C4%B1.pdf.
MONE (Turkish Ministry of National Education) 2009. *2010-2014 Stratejik Planı*. Ankara: Millî Eğitim Bakanlığı. http://sgb.meb.gov.tr/Str_yon_planlama_V2/MEBStratejikPlan.pdf.
———. 2013. *PISA 2012 Ulusal Ön Raporu*. Ankara: Millî Eğitim Bakanlığı. http://yegitek.meb.gov.tr/meb_iys_dosyalar/2013_12/13053601_pisa2012_ulusal_n_raporu.pdf.
———. 2014a. *2013 Faaliyet Raporu*. Ankara: Millî Eğitim Bakanlığı. http://sgb.meb.gov.tr/meb_iys_dosyalar/2014_04/30032306_meb_2013_idare_faaliyet_raporu.pdf.
———. 2014b. *National Education Statistics: Formal Education 2013/'14*. Ankara: MONE.
Mullis, Ina V.S., Michael O. Martin, Pierre Foy, and Alka Arora. 2012. *TIMSS 2011 International Results in Mathematics*. Chestnut Hill: TIMSS & PIRLS International Study Center, Boston College.
OECD (Organisation for Economic Co-operation and Development). 2009. *Forum on Tax Administration: Compliance Management of Large Business Task Group*. Guidance Note. Paris: OECD.
———. 2011. "Energy Intensity." In *OECD Factbook 2011-2012: Economic, Environmental and Social Statistics*. Paris: OECD.
———. 2012. *ODA Reporting of In-Donor Country Refugee Costs: Members' Methodologies for Calculating Costs*. Paris: OECD. http://www.oecd.org/dac/stats/RefugeeCostsMethodologicalNote.pdf.
———. 2014. *Education at a Glance 2014; Country Note: Turkey*. Paris: OECD. http://www.oecd.org/edu/Turkey-EAG2014-Country-Note.pdf.
OWG (Open Working Group on Sustainable Development Goals). 2014. *Open Working Group Proposal for Sustainable Development Goals*. New York: United Nations.
Özeti, Kantitatif Araştırma. 2014. "Türkiye Sosyal-Siyasal Eğilimler Araştırması." February 5. http://www.khas.edu.tr/uploads/pdf-doc-vb/news/05022014-1siyasal-egilimler.pdf.
Pasquier, Sara, and Aurelien Saussay. 2012. *Progress Implementing the IEA 25 Energy Efficiency Policy Recommendations: 2011 Evaluation*. Paris: Organisation for Economic Co-operation and Development and International Energy Agency.
Ramsar. 2014. "The Ramsar Sites." http://www.ramsar.org/sites-countries/the-ramsar-sites.
Republic of Turkey Ministry of Economy. 2012. "Import Regime: The Turkish Import Regime of 2012." http://economy.gov.tr/index.cfm?sayfa=722CFA6D-FF56-46D7-3AB02218DB9FDDA3.
Rodríguez-Pose, Andrés, and Vassilis Tselios. 2011. "Mapping the European Regional Educational Distribution." *European Urban and Regional Studies* 18 (4): 358–74.
SPO (State Planning Organization). 2005. *Millennium Development Goals Report: Turkey 2005*. Ankara: SPO and Office of the United Nations Resident Coordinator.
———. 2010. *Millennium Development Goals Report: Turkey 2010*. Ankara: SPO and Office of the United Nations Resident Coordinator.
TIKA (Turkish Cooperation and Coordination Agency). 2012. *TIKA 2012 Annual Report*. Ankara: TIKA.
———. 2013. *Turkish Development Assistance 2013*. Ankara: TIKA.
TRT (Türkiye Radyo Televizyon Kurumu). 2014. "Türkiye bu alanda dünyaya örnek." TRT Haber, May 9. http://www.trthaber.com/haber/saglik/turkiye-bu-alanda-dunyaya-ornek-126836.html.
TurkStat (Turkish Statistical Institute). n.d. *Principles and Procedures Related to Correction of Errors of the Statistical Data and Information*. Ankara: Türkiye İstatistik Kurumu. http://www.tuik.gov.tr/UstMenu/yonetmelikler/Yonerge_IstatistikselVeriBilgi.pdf.

———. 2008. “Statistics on Violence against Women.” Survey database. http://tuikapp.tuik.gov.tr/kadinasiddetdagitim/kadin.zul.
———. 2011. “Income and Living Conditions Survey Cross Sectional 2011 Micro Data Sets: Agreement.” http://www.tuik.gov.tr/MicroVeri/GYKA_2011/english/agreement/index.html.
———. 2012a. “Haber Bülteni: Sürdürülebilir Kalkınma Göstergeleri, 2000-2011.” News Release No.: 10910, September 28. http://www.tuik.gov.tr/PreHaberBultenleri.do?id=10910.
———. 2012b. *Strategic Plan 2012-2016*. Ankara: TurkStat.
———. 2012c. *Women in Statistics, 2011*. Ankara: TurkStat.
———. 2013a. “Adult Education Survey, 2012.” News Release No.: 15865, July 31. http://www.turkstat.gov.tr/PreHaberBultenleri.do?id=15865.
———. 2013b. “Income and Living Conditions Survey.” News Release No.: 13594, September 23. http://www.turkstat.gov.tr/PreHaberBultenleri.do?id=13594.
———. 2013c. “Sosyal Koruma İstatistikleri, 2008-2012.” News Release No.: 16201, December 31. http://www.tuik.gov.tr/PreHaberBultenleri.do?id=16201.
———. 2014a. *10. İstatistik Konseyi Toplantı Raporu*. Ankara: Türkiye İstatistik Kurumu. http://www.resmiistatistik.gov.tr/misc/istatistik_konseyi_10_toplanti%20(25)_pdf.
———. 2014b. *Faaliyet Raporu 2013 Mali Yılı*. Ankara: Türkiye İstatistik Kurumu. http://www.tuik.gov.tr/jsp/duyuru/upload/FR-2013.pdf.
———. 2014c. “Household Consumption Expenditures, 2013.” Press Release No.: 16202, September 2. http://www.turkstat.gov.tr/PreHaberBultenleri.do?id=16202.
———. 2014d. *İş Kazaları ve İşe Bağlı Sağlık Problemleri*. Ankara: Türkiye İstatistik Kurumu. http://www.tuik.gov.tr/jsp/duyuru/upload/yayinrapor/2013_ISKAZALARI_VE_SAGLIK_PROBLEMLERI_RAPORU.pdf.
———. 2014e. *İştatistiklerle Türkiye Turkey in Statistics.* Ankara: TurkStat.
———. 2014f. *National Greenhouse Gas Emissions Inventory Report 1990-2012*. Ankara: TurkStat.
———. 2014g. “Sürdürülebilir Kalkınma Göstergeleri, 2012-2013.” News Release No.: 16124, March 26. http://www.tuik.gov.tr/PreHaberBultenleri.do?id=16124.
UN (United Nations). 1993. *Declaration on the Elimination of Violence against Women*. A/RES/48/104. New York: UN.
United Nations Turkey. n.d. “Republic of Turkey Ministry of Foreign Affairs Message.” Accessed July 10, 2014. http://post2015turkey.org/en/stakeholders/stakeholder-voices/republic-of-turkey-ministry-of-foreign-affairs-message.
———. 2013. *Development Agenda of Turkey for Post-2015*. National Consultations Report. Ankara: United Nations Turkey.
UNDP (United Nations Development Programme). n.d.a. “Ensure Environmental Sustainability.” Accessed July 10, 2014. http://www.tr.undp.org/content/turkey/en/home/mdgoverview/overview/mdg7.
———. n.d.b. “Eradicate Extreme Hunger and Poverty Accessed July 10, 2014. http://www.tr.undp.org/content/turkey/en/home/mdgoverview/overview/mdg1.
———. n.d.c. “Promote Gender Equality and Empower Women.” Accessed July 10, 2014. http://www.tr.undp.org/content/turkey/en/home/mdgoverview/overview/mdg3.
UNESCO (United Nations Educational, Scientific and Cultural Organization). 2009. *Harnessing the Power and Potential of Adult Learning and Education for a Viable Future: Belém Framework for Action*. Paris: UNESCO.
———. 2012. *International Standard Classification of Education: ISCED 2011*. Montreal: UNESCO Institute for Statistics.
UNEVOC (International Centre for Technical and Vocational Education and Training). 2012. "What is TVET?" Accessed July 10, 2014.http://www.unevoc.unesco.org/go.php?q=What+is+TVET
UNICEF (United Nations Children’s Fund). 2014. "Statistics by Area: Child Nutrition." Accessed July 10, 2014. http://www.childinfo.org/malnutrition.html.
UNISDR (United Nations Office for Disaster Risk Reduction). 2007. “Terminology.” Accessed August 12, 2014. http://www.unisdr.org/we/inform/terminology.
UNODC (United Nations Office on Drugs and Crime).2014. *Global Study on Homicide 2013*. New York: United Nations.
UNStats (United Nations Statistics Division). 2014. *System of Environmental-Economic*

Accounting (SEEA)—Central Framework. New York: United Nations.

WHO (World Health Organization). 2006. *Fuel for Life: Household Energy and Health*. Geneva: WHO.

World Bank. 2005. *Connecting East Asia: A New Framework for Infrastructure*. Washington, DC: Asian Development Bank, World Bank, and Japan Bank for International Cooperation.

———. 2011b. *One Goal, Two Paths: Achieving Universal Access to Modern Energy in East Asia and the Pacific*. Washington, DC: World Bank.

———. 2014a. "Debt Forgiveness or Reduction (Current US$)." Accessed July 10, 2014. http://data.worldbank.org/indicator/DT.DFR.DPPG.CD.

———. 2014b. "Gross Fixed Capital Formation (% of GDP)." Accessed July 10, 2014. http://data.worldbank.org/indicator/NE.GDI.FTOT.ZS.

———. 2014c. "Net Official Development Assistance and Official Aid Received (Current US$). Accessed July 10, 2014. http://data.worldbank.org/indicator/DT.ODA.ALLD.CD

———.2014d. "Poverty Headcount Ratio at $1.25 a Day (PPP) (% of Population)." Accessed July 29, 2014. http://data.worldbank.org/indicator/SI.POV.DDAY.

———. 2014e. "Poverty Headcount Ratio at $2 a Day (PPP) (% of Population)." Accessed July 29, 2014. http://data.worldbank.org/indicator/SI.POV.2DAY.

World Commission on Environment and Development. 1987. *Our Common Future*. A/42/427. New York: United Nations.

Annex 1. Research Team

Research Team

The Turkish team of eight comprises six academics from five different universities, one of whom is also responsible for overall coordination, one senior researcher from a university-linked research centre and, in the case of energy and infrastructure, a retired engineer for a leading international automotive company operating in Turkey. All members of the team have used data extensively in their work and several of them have very close links with TurkStat as well as relevant government ministries, agencies and directorates, particularly those in the areas of development, education, employment, environment, foreign affairs and development assistance.

Table 1.1. Research team and responsibilities

Name	Affiliation	Responsibility
Fikret Adaman	Boğaziçi University	Environment
Bülent Anıl	Bahçeşehir University	Poverty
Mehmet Arda	Galatasaray University (retired)	Global partnership and overall coordination
M. Alper Dinçer	Education Research Initiative/ Sabancı University	Education
Haluk Levent	Kemerburgaz University	Governance
Haluk Özümerzifon	Engineer (retired)	Energy and infrastructure
Ata Özkaya	Galatasaray University	Data manipulation
Insan Tunalı	Koç University	Employment

Annex 2. Data Source Details by Goal Area

Table 2.1 End poverty: Source details Target	Indicator	Data source	Time series	Description / Notes
Global				
End extreme income poverty	Proportion of population below US$1.25 (PPP) per day	HBS, TurkStat	2002–05	Information on the consumption patterns and income levels of individuals and households for each socio-economic sector, population stratum and region are gathered through the HBS. TurkStat has conducted the survey annually since 2002. Other demographic disaggregation is possible via microdata. After 2006, TurkStat started to use the SILC.
Reduce poverty	Proportion of population below US$2 (PPP) per day–US$2.15 (PPP) per day	SILC, TurkStat	2003–12	The SILC has been conducted in compliance with EU standards and field application of the survey is carried out regularly every year. The aim of the survey is to supply data that are comparable with those of EU countries. For this reason, during the preparatory phase of the study, Eurostat standards were taken into account in addition to national conditions. Other disaggregation is possible via microdata. After 2006, TurkStat started to use the SILC.
	Proportion of population living below national poverty line – Absolute poverty	HBS, TurkStat	2002–09	Information on the consumption patterns and income levels of individuals and households for each socio-economic sector, population stratum and region are gathered through the HBS. TurkStat has conducted the survey annually since 2002. In this study, in determining the food basket constituting the base of food poverty, data from the 2003 HBS were used. The third and fourth percentiles according to food expenditures were taken as reference groups and 80 items having the largest share in the food consumption of households were determined as the food basket. The amount ensuring an individual would receive 2,100 calories per day was determined with these 80 items. The cost of this basket was deemed to be the food poverty line. The rate of food poverty was calculated as the consumption expenditure per equivalent individual and the ratio of the households below this food poverty line to the total population. Individuals have some needs in addition to food. In order to consider these needs, it is necessary to add the share of non-food goods and services to the food poverty line. To determine this poverty line, the yearly non-food expenditure shares of households whose total consumption was just above the food poverty line were considered. These shares are estimated annually by using HBS data. According to this methodology, the poverty line covering food and non-food goods and services was determined. As for the food and non-food poverty rate, consumption expenditures per equivalent individual and the ratio of the population constituted by households below the food and non-food poverty line to the total population were calculated.

Table 2.1 End poverty: Source details				
Target	**Indicator**	**Data source**	**Time series**	**Description / Notes**
	Proportion of population living below national poverty line – Relative poverty	SILC, TurkStat	2002–09	The SILC has been conducted in compliance with EU standards and field application of the survey is carried out regularly every year. The aim of the survey is to supply data that are comparable with those of EU countries. For this reason, during the preparatory phase of the study, Eurostat standards were taken into account in addition to national conditions. Equivalence scale: In this survey, OECD measures, which are 1 for the reference person of the household, 0.5 for household members aged 14 and over and 0.3 for household members less than age 14, are used. Poverty thresholds: In this survey, four different relative poverty lines are calculated using equivalised household disposable median income, specifically 40, 50, 60 and 70 % of median income. Statistical regions: Twelve statistical regions (territorial units) are determined according to the sizes of populations by regarding economic, social, cultural, geographical and other factors. Other disaggregation is possible via microdata.
	Share of employed persons living below the nationally-defined poverty line	HBS (2003–06) and SILC (2006–present), TurkStat	Since 2003	TurkStat does not provide such information, but relevant information can be found by using HBS and SILC microdata. TurkStat had announced poverty rates according to employment status and sector of household members until 2009 at the national level with urban/rural disaggregation. Information on the consumption patterns and income levels of individuals and households for each socio-economic sector, population stratum and region are gathered through the HBS. TurkStat has conducted the survey annually since 2002. The SILC has been conducted in compliance with EU standards and field application of the survey is carried out regularly every year. The aim of the survey is to supply data that are comparable with those of EU countries. For this reason, during the preparatory phase of the study, Eurostat standards were taken into account in addition to national conditions.
Reduce the proportion of people who suffer from hunger	Prevalence of child stunting in boys and girls under 5, %	Turkey Demographic and Health Survey 2008, Hacettepe University Institute of Population Studies	2008	The survey is a nationally representative sample survey designed to provide information on levels and trends on fertility, infant and child mortality, family planning and maternal and child health. Survey results are presented at the national level, with urban/rural disaggregation for each of the five regions in the country, as well as for the 12 statistical regions (Nomencla-ture of Territorial Units for Statistics 1) for some of the survey topics. See Hacettepe University Institute of Population Studies (2009).

Table 2.1 End poverty: Source details				
Target	**Indicator**	**Data source**	**Time series**	**Description / Notes**
		The State of World's Children reports (http://www.unicef.org/sowc), UN Children's Fund	Since 1996	Underweight, wasting and overweight children are also included.
National				
Reduce inequality and sustain income growth of the bottom 40%	Gini coefficient	HBS (2002–06) and SILC (2006–present), TurkStat	Since 2002	Beginning in 2001, TurkStat announces data annually. Between 2001 and 2005, TurkStat uses the HBS (only urban/rural disaggregation is available). After 2006, TurkStat started to use the SILC, which has data with urban/rural disaggregation and by region (Nomenclature of Territorial Units for Statistics 1).
Reduce inequality and sustain income growth of the bottom 40%	Palma ratio (incomes of top 10% to bottom 40%)	HBS (2002–06) and SILC (2006–present), TurkStat	Since 2002	Also possible is distribution of annual household disposable incomes by: 5%, deciles and quintiles ordered by household disposable income (Turkey, urban/rural disaggregation, by region [Nomenclature of Territorial Units for Statistics 1]); percentage groups (0–10%,0–25%, 25–50%,50–75%,75–100%,90–100%) and cumulative percentage groups ordered by household disposable income and the highest household disposable incomes by household type (Turkey); and age, sex, types of income and main jobs of members of households.
	Growth rate of income of the bottom 40%	HBS (2002–06) and SILC (2006–present), TurkStat	Since 2002	
	Ratio of income/consumption of top 20% to bottom 20%	HBS (2002–06) and SILC (2006–present), TurkStat	Since 2002	
Reduce poverty	Multidimensional Poverty			TurkStat is working on this indicator. In 2013, TurkStat organised a workshop with the participation of academics, ministry officials and non-governmental organisations.
	Severely materially deprived people (%) (percentage of total population)			Calculated using "Social Inclusion – Eurostat sustainable development indicator." TurkStat announces results by using the same questions asked in the EU-SILC instrument, but does not rely on the statistics since those questions are not working in Turkey to effectively identify severely materially deprived people. Therefore, TurkStat is working on a new question format.
	Persistent-at-risk-of-poverty rate			Calculated using "Social Inclusion – Eurostat sustainable development indicator." TurkStat announces results by using the same questions asked in the EU-SILC instrument, but does not rely on the statistics since those questions are not working in

Table 2.1 End poverty: Source details				
Target	**Indicator**	**Data source**	**Time series**	**Description / Notes**
	(%) (percentage of total population)			Turkey to effectively identify severely materially deprived people. Therefore, TurkStat is working on a new question format
	Calorie intake	Food and Agriculture Organization of the United Nations (http://www.fao.org)		

Table 2.2 Ensure quality education for all: Source details				
Target	Indicator	Data source	Time series	Description/ Notes
Global				
Ensure all children have access to early childhood and quality primary and secondary education	% of girls and boys receiving at least one year in pre-primary programmes – girls	e-School database, https://e-okul.meb.gov.tr/ MONE	2007–13	Access to the e-School database is restricted by MONE. This is a universal database of all students registered to schools under MONE's authority. e-School provides information on enrolments, graduates and educators of elementary-secondary public and private educational institutions. Information regarding the numerator and denominator necessary to calculate the indicator is available from the source. E-School database education statistics prior to 2007 had been generated based on MONE's administrative records and census-based population projections. e-School replaced this system in 2007 and it is disputed whether data before and after 2007 are comparable or not.
	% of girls and boys who complete primary school – girls	National Education Statistics Database (http://tuikapp.tuik.gov.tr/adnksdagitapp/adnks.zul?kod=2) and HLFS, TurkStat	2008–13 2004–13	The HLFS provides estimates of employment and unemployment in Turkey. The main objective of the survey is to divide the working-age population into three mutually exclusive classifications – employed, unemployed and not in the labour force – and to provide descriptive and explanatory data on each. Information regarding the numerator and denominator necessary to calculate the indicator is available from the source. Age in single years has been disseminated by TurkStat since 2004. The corresponding indicators can be calculated from microdata. Microdata are publicly available from TurkStat following a straightforward application procedure.
	% of girls and boys who achieve a passing grade in national learning assessments at the primary school level – girls	TIMSS e-School database, MONE (https://e-okul.meb.gov.tr)	1999, 2007, 2011 2007–13	Information regarding the numerator and denominator necessary to calculate the indicator is available from TIMSS. Access to the e-School database is restricted by MONE. This is a universal database of all students registered to schools under MONE's authority. e-School provides information on enrolments, graduates and educators of elementary-secondary public and private educational institutions. Information regarding the numerator and denominator necessary to calculate the indicator is available from the source. Turkey participated in TIMSS for eighth graders in 1999, 2007 and 2011 and also for fourth graders in 2011. Reports can be accessed at http://timssandpirls.bc.edu. The corresponding indicators can be found in Mullis et al. (2012) and Martin et al. (2012). e-School database education statistics prior to 2007 had been generated based on MONE's administrative records and census-based population projections. e-School replaced this system in 2007 and it is disputed whether data before and after 2007 are comparable or not. Calculation of the corresponding indicators is straightforward but

Table 2.2 Ensure quality education for all: Source details				
Target	Indicator	Data source	Time series	Description/ Notes
				not easy. Teacher grades are available in the e-School database and 2 over 5 is the passing grade.
	% of girls and boys who achieve a passing grade in national learning assessments at the primary school level – boys	e-School database, MONE (https://e-okul.meb.gov.tr)	2007–13	Information regarding the numerator and denominator necessary to calculate the indicator is available from TIMSS. Access to the e-School database is restricted by MONE. This is a universal database of all students registered to schools under MONE's authority. e-School provides information on enrolments, graduates and educators of elementary-secondary public and private educational institutions. Information regarding the numerator and denominator necessary to calculate the indicator is available from the source. Turkey participated in TIMSS for eighth graders in 1999, 2007 and 2011 and also for fourth graders in 2011. Reports can be accessed at http://timssandpirls.bc.edu. The corresponding indicators can be found in Mullis et al. (2012) and Martin et al. (2012). e-School database education statistics prior to 2007 had been generated based on MONE's administrative records and census-based population projections. e-School replaced this system in 2007 and it is disputed whether data before and after 2007 are comparable or not. Calculation of the corresponding indicators is straightforward but not easy. Teacher grades are available in the e-School database and 2 over 5 is the passing grade.
Increase the number of adults with skills, including technical and vocational skills	Proportion of individuals enrolled in a Technical and Vocational Education and Training (TVET) institution	National Education Statistics on Formal Education, MONE	2006–13	Information regarding the numerator and denominator necessary to calculate the indicator is available from TIMSS. Access to the e-School database is restricted by MONE. This is a universal database of all students registered to schools under MONE's authority. e-School provides information on enrolments, graduates and educators of elementary-secondary public and private educational institutions. Information regarding the numerator and denominator necessary to calculate the indicator is available from the source. Turkey participated in TIMSS for eighth graders in 1999, 2007 and 2011 and also for fourth graders in 2011. Reports can be accessed at http://timssandpirls.bc.edu. The corresponding indicators can be found in Mullis et al. (2012) and Martin et al. (2012). e-School database education statistics prior to 2007 had been generated based on MONE's administrative records and census-based population projections. e-School replaced this system in 2007 and it is disputed whether data before and after 2007 are comparable or not. Calculation of the corresponding indicators is straightforward but

Table 2.2 Ensure quality education for all: Source details				
Target	Indicator	Data source	Time series	Description/ Notes
				not easy. Teacher grades are available in the e-School database and 2 over 5 is the passing grade. The indicator can be directly calculated using available data from statistical reports. Relevant data are provided in National Education Statistics annual reports. The latest report, from which came the data used for this study, is MONE (2014b).
National				
Ensure all children have access to early childhood and quality primary and secondary education	% of high school graduates taking university entrance exam	Measurement, Selection and Placement Center (http://www.osym.gov.tr) MONE.		Both numerator and denominator are publicly available.
Ensure a safe, secure and effective learning environment in the classroom	Student-educator ratio	National Education Statistics on Formal Education, MONE	2007–13	Official statistical reports published by MONE.
Decrease inequality in access to education	Number of individuals with non-Turkish mother tongue with primary school diploma/Number of individuals with non-Turkish mother tongue	Turkey Demographic and Health Survey 1993, 1998, 2003 and 2008, Hacettepe University Institute of Population Studies (http://www.hips.hacettepe.edu.tr)	1993, 1998, 2003, 2008	This survey collects and disseminates nationally representative data on the Turkish population and health. Regionally representative but quality of data varies. Microdata are of particular use.
Decrease inequality in learning	% of girls and boys who achieve a passing grade in national learning assessments at the	TIMSS	1999, 2007, 2011	http://timssandpirls.bc.edu/. Information regarding the numerator and denominator necessary to calculate the indicator is available from TIMSS. Turkey participated in TIMSS for eighth graders in 1999, 2007 and 2011 and also for fourth graders in 2011. The corresponding indicators can be generated from TIMSS

Table 2.2 Ensure quality education for all: Source details				
Target	Indicator	Data source	Time series	Description/ Notes
	primary school level, by language spoken at home			microdata that can be accessed from its 2011 International Database at http://timssandpirls.bc.edu/timss2011/international-database.html.
Increase the number of adults participating in life-long learning	Proportion of adults enrolled in post career, technical or professional training programmes	Adult Education Survey, TurkStat	2007–12	The main goal of the Adult Education Survey, in which "adult" is defined as an individual aged 18 years or over, is to compile information on formal and non-formal education as well as informal learning activities to develop the professional or personal capacities of individuals for knowledge and skills in the context of life-long learning. The Adult Education Survey, which was first conducted in 2007 by interviewing all individuals aged 18 years or over in households face to face, was conducted in 2012 to obtain the data required at the national level and the comparable data needed at the international level. In addition to participation rates of individuals according to age group, sex, educational attainment level and labour status, many indicators such as participation related to work, participation during working hours and reasons for not participating in education have also been calculated. The data used in this study can be found in TurkStat (2013a). Age is available in groups. The timing of the next survey is unknown.
Increase the number of adults participating in life-long learning	Proportion of adults who complete tertiary education	HLFS, TurkStat	2004–13	The HLFS provides estimates of employment and unemployment in Turkey. The main objective of the survey is to divide the working-age population into three mutually exclusive classifications – employed, unemployed and not in the labour force – and to provide descriptive and explanatory data on each. Information regarding the numerator and denominator necessary to calculate the indicator is available from the source. Age in single years has been disseminated by TurkStat since 2004. The corresponding indicator is available in TurkStat's monthly labour force statistics publications on labour force status by educational attainment.
Ensure all children have access to early childhood and quality primary and secondary education	% of instruction-al time lost due to student and teacher absentee-ism	e-School database (https://e-okul.meb.gov.tr) and Ministry of National Education Informatics Systems database	2007–13	Access to the e-School database is restricted by MONE. This is a universal database of all students registered to schools under MONE's authority. e-School provides information on enrolments, graduates and educators of elementary-secondary public and private educational institutions. Information regarding the numerator and denominator necessary to calculate the indicator is available from the source. The Ministry of National Education Informatics Systems database is a platform in which data on almost all administrative aspects of education management are stored. Access to the database is also restricted by MONE. This is a universal database of all administrative records of teachers employed in schools under MONE's authority. The database includes data on teacher absenteeism while the e-School database includes data on student absenteeism. Thus, it is possible to calculate the indicator.

Table 2.2 Ensure quality education for all: Source details				
Target	Indicator	Data source	Time series	Description/ Notes
		(https://mebbis.meb.gov.tr), MONE		e-School database education statistics prior to 2007 had been generated based on MONE's administrative records and census-based population projections. e-School replaced this system in 2007 and it is disputed whether data before and after 2007 are comparable or not
Decrease inequality in access to education	Average years/ months of service of teachers, by school/ province	Ministry of National Education Informatics Systems database (https://mebbis.meb.gov.tr), MONE	2007–13	Access to the database is restricted by MONE. This is a universal database of all administrative records of teachers employed in schools under MONE's authority. The exact content of the database is only known by MONE.

Table 2.3 Create jobs, sustainable livelihoods and inclusive growth for all: Source details				
Target	Indicator	Data source	Time series	Description/ Notes
Global				
Achieve full and productive employment for all, including women and young people	Labour force participation rate	HLFS, TurkStat	Since 1989	Survey data collected by TurkStat This survey has breaks in the time series between 1999 and 2000 as well as 2004 and 2005. Grouped data are accessible from TurkStat.
		SILC, TurkStat	2006–12	Survey data collected by TurkStat The survey has four-year panel component.
	Time-related underemployment (thousands)	HLFS, TurkStat	Since 2009	Survey data collected by TurkStat This survey has breaks in the time series between 1999 and 2000 as well as 2004 and 2005. Grouped data are accessible from TurkStat. The indicator has to be calculated from microdata. Exact wording of survey questions has changed over time. HLFS microdata contain answers to questions on reasons for underemployment.
Ensure equal pay for equal work	Mean nominal monthly earnings of employees (local currency)	HLFS, TurkStat	2006, 2010	Survey data collected by TurkStat This survey has breaks in the time series between 1999 and 2000 as well as 2004 and 2005. Grouped data are accessible from TurkStat. The indicator has to be calculated from microdata. Grouped data are available from TurkStat
		SILC, TurkStat	2006, 2010	Survey data collected by TurkStat The survey has four-year panel component. The indicator has to be calculated from microdata.
	Gender pay gap	Structure of Earnings Survey, TurkStat	Since 2006	Survey data collected by TurkStat Conforms to Eurostat standards.
Support inclusive growth and reduce inequality	Gini coefficient	HBS and SILC, TurkStat	1994 and 2002–12	Survey data collected by TurkStat TurkStat calculates it by using equivalised household disposable income.
	Palma ratio	HBS and SILC, TurkStat	2007–12	Survey data collected by TurkStat TurkStat does not calculate it, but the ratio can be found by using microdata.
	Growth rate of income of the bottom 40%	HBS and SILC, TurkStat	2007–12	Survey data collected by TurkStat TurkStat reports quintile shares. The rate can be calculated by using a simple calculation.
	Gross fixed capital formation (% of GDP)	TurkStat	1998–13	Calculated by TurkStat Subject to revision quarterly from 1987 to 2007 and annually from 1998 to 2013

Table 2.3 Create jobs, sustainable livelihoods and inclusive growth for all: Source details				
Target	Indicator	Data source	Time series	Description/ Notes
National				
Achieve gender parity in employment	Employment rate for women as proportion of men	HLFS, TurkStat	Since 1989	Survey data collected by TurkStat This survey has breaks in the time series between 1999 and 2000 as well as 2004 and 2005. Grouped data are accessible from TurkStat.
Achieve full and productive employment work for all, including women and young people	Occupational injury rate (fatal and non-fatal)	Occupational Health and Safety Council (http://www.guvenlicalisma.org)		Needs to be further clarified with TurkStat.
Achieve full and productive employment work for all, including women and young people	Occupational injury rate (fatal and non-fatal)	Modular survey of work-related accidents and health problems, TurkStat	2007, 2013	Survey data
Eradicate child labour	% of children employed	HLFS (special modules; 1994, ages 6–14; 1999, 2006, 2012, ages 6–17), TurkStat	1994, 1999, 2006, 2012	Survey data collected by TurkStat This survey has breaks in the time series between 1999 and 2000 as well as 2004 and 2005. Grouped data are accessible from TurkStat.
Achieve educational or employment opportunities for young people; curb inactivity	Youth not in education and not employed (aged 15–24)	HLFS, TurkStat	Since 1989	

Table 2.4 Ensure sustainable energy and develop infrastructure for all: Source details				
Target	Indicator	Data source	Time series	Description/ Notes
Global				
Ensure full access to developed infrastructure and communication technology	Internet users (per 1,000 people)	TurkStat via Information and Communication Technologies Authority	1998–2013	The number of Internet users per 1,000 people seems not to be useful, since one Internet source can be used by many people.
		World Development Indicators (http://data.worldbank.org/data-catalog/world-development-indicators), World Bank	1993–2012	Comparison among many countries is possible when using a smaller sample size, with data per 100 people (not 1,000 people).
		Internet Live Stats (http://www.internetlivestats.com)	1993–2013	Comparisons among many countries are possible using this source, which uses a small sample size. Internet Live Stats is part of the Real Time Statistics Project.
	Average bandwidth speed (mega-bits/second)	TestMy.net (http://testmy.net/country/tr)	2014	Online information source for real-time speed tests.
		Internet World Stats (http://www.internetworldstats.com/europa2.htm#tr)	1993-2012	Online information source for real-time speed tests.
		BandwidthPlace (http://www.bandwidthplace.com)	2014	Online information source for real-time speed tests.
	% of the population with access to an all-season road	TurkStat	2001–13	No data on number of people.

Table 2.4 Ensure sustainable energy and develop infrastructure for all: Source details				
Target	Indicator	Data source	Time series	Description/ Notes
	% of adults with an account at a formal financial institution	Bankacılık Düzenleme ve Denetleme Kurumu (BDDK) (http://www.bddk.org.tr) Turkish Banking Sector Interactive Monthly Bulletin (http://ebulten.bddk.org.tr/ABMVC/en#)	2005–11 Since 2002	Annual reports e-bulletin *Structural Developments in Banking* reports, last issued in 2012, do not differentiate between real and legal personalities, with one person being able to have more than one account. Monthly bulletin gives up-to-date figures for total value of accounts by real and legal entities but not the numbers of accounts
Ensure access to energy and improve efficiency and sustainability of energy supply, including renewable energy	# of hours per day house-holds have access to electricity on average	No data available for Turkey.		A proxy indicator is # of hours of power outages from public grid.
	Rate of improve-ment in energy intensity	General Directorate of Renewable Energy (http://www.eie.gov.tr)	2000–11	Calculated as final consumption/GDP.
		International Energy Agency	2009, 2011	International comparative paper Data are available in Pasquier and Saussay (2012).
	Share of the population with access to modern cooking solutions (%)	World Health Organization	2000–03	One-off report Relatively old data are available in WHO (2006).
	Share of renewable energy	TurkStat	1970–2012	In terms of production.

Table 2.4 Ensure sustainable energy and develop infrastructure for all: Source details				
Target	Indicator	Data source	Time series	Description/ Notes
	to total energy consumption	TurkStat	2000–12	In terms of consumption.
		Turkish Electricity Transmission Corporation (http://www.teias.gov.tr)	2000–06	Waste, thermal, hydro, geothermal and wind statistics See the Electricity Generation and Transmission Statistics of Turkey.
National				
Ensure access to energy and improve efficiency and sustainability of energy supply, including renewable energy	# of hours of power outages from public grid	Turkish Electricity Transmission Corporation (http://www.teias.gov.tr) See http://www.teias.gov.tr/KAPASITEPROJEKSIYONU2012.pdf.		Türkiye Elektrik Enerjisi on Yıllık Üretim Kapasite Raporu (2012-2021) (Turkey Electrical Energy 10-year capacity report)
	Network losses	Turkish Electricity Transmission Corporation (http://www.teias.gov.tr)	1984–2012	See the Electricity Generation and Transmission Statistics of Turkey.
	Electricity investments	Turkish Electricity Transmission Corporation (http://www.teias.gov.tr)		See the Electricity Generation and Transmission Statistics of Turkey.
Ensure full access to developed infrastructure and	Average residential electricity tariff and average industrial tariff	TurkStat	2012–13	Special reporting on electricity and natural gas prices Within the context of the EU harmonisation process.

Table 2.4 Ensure sustainable energy and develop infrastructure for all: Source details				
Target	Indicator	Data source	Time series	Description/ Notes
communication technology	% of industrial waste reduced, reused and recycled (by sector)	TurkStat	1994–2012	Given the confidentiality of industrial waste produced by individual sectors, data are provided according to waste types only.

Table 2.5 Establish a sustainably, healthy and resilient environment for all: Source details				
Target	Indicator	Data source	Time series	Description/Notes
Global				
Build resilience and reduce deaths from natural hazards	Disaster deaths per 1,000 inhabitants	Available at AFAD (https://tuaatest.afad.gov.tr/definestats.jsp) or https://tabb.afad.gov.tr.	1945–2014	AFAD has data from 1970 to 2012, but they are not directly accessible, though they can be obtained upon request. AFAD is also developing a database, but it is not yet in use.
		International Disaster Database (http://www.emdat.be/database), Centre for Research on the Epidemiology of Disasters	1900–2014	International database providing data since 1903 (the year the first earthquake was reported). No sources are specified, hence reliability may be an issue.
Safeguard ecosystems and biodiversity	Net loss in forest area (% of land area)	General Directorate of Forestry (http://www.ogm.gov.tr)	1973, 1999, 2005	Forest definition: (a) Minimum land area considered not specified. (b) Forests with more than 10% canopy cover are called “normal forests” and the total figures include normal forests. Data which were irregularly published earlier are provided annually through the *Forestry Statistics* reports that the directorate has published regularly since 2007.
	Trends in coverage of protected areas	General Directorate of Nature Conservation and National Parks (http://www.milliparklar.gov.tr)	2002, 2012, 2013	(a) The directorate is developing a Protected Areas Information Management System. There is one study from 2012 that compiles data on the current status of protected areas, but it is unclear how the data in the new information system will be made available or how often they will be updated. (b) Conferring “protected area” status does not guarantee effective management or protection.
Publish and use economic, social and environmental accounts in all governments and companies	Share of large tax unit (LTU) taxpayers using integrated reporting	Sabancı University Corporate Governance Forum (http://cgft.sabanciuniv.edu)		No official data are available. Some companies voluntarily report the ecological impacts of their activities in the context of the Carbon Disclosure Project (http://cdpturkey.sabanciuniv.edu) carried out by the Sabancı University Corporate Governance Forum since 2010.

Table 2.5 Establish a sustainably, healthy and resilient environment for all: Source details				
Target	Indicator	Data source	Time series	Description/Notes
	Existence of government publishing according to the System of Environmental-Economic Accounting	Turkey is not currently reporting against this system.		See UNStats (2014) for more information.
National				
Achieve development within planetary boundaries	Trends in carbon intensity of agriculture, forestry and energy sectors	TurkStat	Since 2000	Annual data on greenhouse gas emissions from the agricultural and energy sectors are available. Separate data are not available for the forestry sector.
	Trends in water intensity	TurkStat as well as directly from General Directorate of State Hydraulic Works (http://dsi.gov.tr).	Since 2000	Annual data on water consumption in irrigation since 2000 are available through the General Directorate of State Hydraulic Works, but their reliability is questionable on the grounds that (i) illegal use of underground water is widespread and (ii) most irrigation uses furrow methods and is not priced on a volumetric basis. Data on water consumption in manufacturing sector is available for 2000, 2004, 2008, 2010 and 2012, but not for the energy or forestry sectors separately.
Safeguard ecosystems, species and genetic diversity	% of native plant and animal species endangered versus secure	Ministry of Forestry and Water Affairs		The Ministry of Forestry and Water Affairs has data on endangered flora and fauna. These data are not readily accessible, It was not possible to see from which year on the data are available or how often the database is being updated. Data may be requested. (b) The ministry is developing a biological diversity database (http://www.nuhungemisi.gov.tr), which is not yet fully operational and registration is required.
	% of harvested species, including fish, within safe biological limits	Ministry of Forestry and Water Affairs, Ministry of Agriculture and TurkStat	Since 1996	(a) Limited data on fish catch are available from the Ministry of Forestry and Water Affairs, Ministry of Agriculture and TurkStat in terms of harvest amounts, allowed periods of harvesting and compilation figures. (b) No regulations exist with regard to “safe biological limits” in terms of the level of maximum sustainable biological productivity.
	% of harvested species, including fish, within safe biological limits	Ministry of Agriculture (http://www.tarim.gov.tr)	Since 2002	(a) Limited data on fish catch are available from the Ministry of Forestry and Water Affairs, Ministry of Agriculture and TurkStat in terms of harvest amounts, allowed periods of harvesting and compilation figures. (b) No regulations exist with regard to “safe biological limits” in terms of the level of maximum sustainable biological productivity.

Table 2.5 Establish a sustainably, healthy and resilient environment for all: Source details				
Target	Indicator	Data source	Time series	Description/Notes
Build societies resilient to climate change and natural disasters	National disaster risk reduction and resilience plans adopted and budgets earmarked in national development plans	AFAD (https://www.afad.gov.tr)		AFAD has the National Earthquake Strategy and Action Plan 2012-2023, the 2013 – 2017 Strategic Plan for itself and the Disaster Response Plan of Turkey that specifies the roles and responsibilities of different institutions in case of a disaster. No budget is specified in development plans, but there are definitional issues when it comes to specifying how budgets otherwise support climate change and national disaster risk reduction and resilience (e.g., with early warning systems, the army's budget for disaster relief, research on disaster risks).
	Annual proportion of investment in disaster risk reduction in national budget reports			Apart from the budget for AFAD, national budget reports do not include specific investment in disaster risk reduction.
	% of area complying with by-laws on lands classified as high risk	Ministry of Environment and Urbanization (http://www.csb.gov.tr)		Data exist on earthquake risks and, to a lesser extent, flooding.
Secure sustainable energy and reduce pollution	% change in particulate concentration in urban air	Ministry of Environment and Urbanization (http://www.csb.gov.tr)	Since 2007	Air quality is being monitored by the Ministry of Environment and Urbanization (http://www.havaizleme.gov.tr). National-level data can be compiled, but are not readily accessible.
		TurkStat	2007–11	Data for the provincial level are available from TurkStat.
	Percentage of industrial waste reduce, reuse and recycled (by sector)	TurkStat	2000-12	Municipal waste 1994-2012 Total industry 2000-2012

Table 2.6 Establish open, accountable, inclusive and effective institutions, rule of law and a peaceful and inclusive society: Source details				
Target	Indicator	Data source	Time series	Description/Notes
Global				
Provide free and universal legal identity, such as birth registrations	Percentage of children under 5 who are registered with the civil authority	ADNKS (http://tuikapp.tuik.gov.tr/adnksdagitapp/adnks.zul)	2007–13	Administrative data. Since there are serious validation problems with the census data before the establishment of the ADNKS, the census data time series contains a clear discontinuity. Only ADNKS data should therefore be used.
	Proportion of adults with a basic legal identify document			Assumption is that all adults have an identity document. The presence of a significant number of unregistered migrants would affect the situation. Immigration laws are being developed.
Monitor and end discrimination and inequalities in public service delivery, the rule of law, access to justice and participation in political and economic life on the basis of social status	Average time between filing a case and receiving a verdict	General Directorate of Judicial Record and Statistics (http://www.adlisicil.adalet.gov.tr)	2002–12	Disaggregation possible upon request to the Ministry. See, for instance, http://www.adlisicil.adalet.gov.tr/istatistik_2012/39.pdf.
	Proportion of seats held by women and minorities in national or local level government.	National Assembly Deputy Profile (http://tuikapp.tuik.gov.tr/secimdagitimapp/secimadaykazanan.zul)	1935–2011	Disaggregated by profession and municipality level. Data on women but not minorities can be found. Data on minorities do not appear in official statistics, but some indication can be gleaned from statistics on languages that people know. See, for instance, http://www.adlisicil.adalet.gov.tr/istatistik_2012/39.pdf.
		Local Government and Deputy Profiles (http://tuikapp.tuik.gov.tr/secimdagitimapp/yereladaykazanan.zul)	2009	See, for instance, http://www.adlisicil.adalet.gov.tr/istatistik_2012/39.pdf.
		Association for the Support and Training of Women Candidates (http://www.ka-der.org.tr)	2009–14	See, for instance, http://www.adlisicil.adalet.gov.tr/istatistik_2012/39.pdf.

Table 2.6 Establish open, accountable, inclusive and effective institutions, rule of law and a peaceful and inclusive society: Source details				
Target	Indicator	Data source	Time series	Description/Notes
	% of adults with an account at a formal financial institution, disaggregated by sex	Bankacılık Düzenleme ve Denetleme Kurumu (BDDK) (http://www.bddk.org.tr) Turkish Banking Sector Interactive Monthly Bulletin (http://ebulten.bddk.org.tr/ABMVC/en#)	2005–11 Since 2002	Annual reports. e-bulletin. *Structural Developments in Banking* reports, last issued in 2012, do not differentiate between real and legal personalities, with one person being able to have more than one account. Monthly bulletin gives up-to-date figures for total value of accounts by real and legal entities but not the numbers of accounts.
Improve personal safety	Prevalence of violence against women, including domestic violence	Association for the Support and Training of Women Candidates (http://www.ka-der.org.tr)	2010–11	Administrative data.
		TurkStat	2008	Survey data. The 2008 Violence Against Women Survey was conducted by TurkStat upon request by the Ministry of Family and Social Policy. For results, see TurkStat (2008). Data only involve judicial cases. See TurkStat (2012c).
		Ministry of Justice	2006–12	Administrative data. Data only involve judicial cases. See General Directorate of Judicial Record and Statistics (2013). Data available upon request to the Ministry of Interior.
	Violent deaths per 100,000 people	Ministry of Interior or General Directorate of Turkish National Police	Since 1998	Administrative data. Data only involve judicial cases. See General Directorate of Judicial Record and Statistics (2013). Data available upon request to the Ministry of Interior.

Table 2.6 Establish open, accountable, inclusive and effective institutions, rule of law and a peaceful and inclusive society: Source details				
Target	Indicator	Data source	Time series	Description/Notes
Reduce bribery and corruption in all forms	Survey data regarding bribes or gifts for service from government official – "In the past year, how often (if ever) have you had to pay a bribe, give a gift, or do a favour to government officials in order to get a document or receive a service"			No official survey in Turkey.
Improve transparency in the revenue system	Share of eligible tax payers who submit their taxes	Turkish Revenue Administration	2001–14	Decomposition available upon request to the Ministry of Finance. See http://www.gib.gov.tr/fileadmin/user_upload/VI/20141.htm for tabulations for 2014.
National				
Monitor and end discrimination and inequalities in public service delivery, the rule of law, access to justice and participation in political and economic life on the basis of social status	Proportion of women in senior manager positions	HLFS, TurkStat	Since 2010	Survey data. Microdata-based decomposition.
Increase access to justice	Proportion of legal aid applications approved	Social Protection Statistics (http://www.tuik.gov.tr/PreTablo.do?alt_id=1040), TurkStat	Since 2000	Administrative data. Decomposition likely available upon request to TurkStat.
Increase public participation in political processes,	Proportion of eligible voters who vote in provincial	Election of Local Administrations Statistics(http://	Since 2002	Administrative data.

Table 2.6 Establish open, accountable, inclusive and effective institutions, rule of law and a peaceful and inclusive society: Source details				
Target	Indicator	Data source	Time series	Description/Notes
including elections at all levels of government	and territorial elections	www.turkstat.gov.tr/VeriBilgi.do?alt_id=1090), TurkStat		
Build trust in public institutions	Proportion of citizens who have confidence in the judicial system and the courts	Kadir Has Üniversitesi	Since 2010	Survey data For data, see Özeti (2014, 24).
Reduce bribery and corruption	Number of Turkish firms or individuals sanctioned under the World Bank's fraud and corruption policy	World Bank Listing of Ineligible Firms & Individuals, Work Bank	Current	May be too few to be a meaningful reflection of the country's governance. See http://web.worldbank.org/external/default/main?theSitePK=84266&contentMDK=64069844&menuPK=116730&pagePK=64148989&piPK=64148984.

Table 2.7 Establish a global partnership for sustainable development: Source details				
Target	Indicator	Data source	Time series	Description/Notes
Global				
Create an enabling environment for sustainable development	Low-income country debt forgiveness or reduction (% of GDP)			Indicator is not relevant for Turkey, which does not accord "debt" so there is no rescheduling (though there is occasional "credit rescheduling" by the Türk EximBank).
	Share of trade in goods and services from low-income countries under duty-free, quota-free market access	Foreign Trade Statistics(http://www.tuik.gov.tr/PreTablo.do?alt_id=1046), TurkStat	1996–2014	Trade data Requires the selection of products and countries for manipulation and current duty-free, quota-free regimes for industrial goods linked to the EU-Turkey Customs Union agreement.
		United Nations Conference on Trade and Development (http://unctadstat.unctad.org)	1995–2013	Merchandise trade matrix Requires the selection of products and countries for manipulation and current tariff rates under “International trade in goods and services.”
		Ministry of Economy (http://www.ekonomi.gov.tr)	2006–14	More information can be found at http://www.ekonomi.gov.tr/index.cfm?sayfa=mevzuat&icerik=3691146F-E265-7E3E-04059CF569CCD791
	Existence of laws for ensuring country by country reporting by multi-national corporations	General Directorate of Development of Legislation and Publication (http://www.mevzuat.gov.tr)	2014	Legislation.
	Existence of laws for ensuring disclosure of beneficial ownership	General Directorate of Development of Legislation and Publication (http://www.mevzuat.gov.tr)	2014	Legislation.
	Existence of laws for preventing money laundering	Financial Crimes Investigation	2014	Legislation. Explains and provides links to Turkish legislation.

		Board(http://www.masak.gov.tr)		
Increase financing to productive capacity in low- and middle-income countries	Share of aid to the productive sector	TIKA (http://www.tika.gov.tr)	2004–12	Data available in *Turkish Development Assistance Reports*. Requires some manipulation to find share in total. Here the productive sector includes agriculture, animal husbandry, forestry, fisheries, industry, mining, construction, tourism and trade.
	Proportion of foreign direct investment to the productive sector	Central Bank of Turkey (http://www.tcmb.gov.tr)	2000–13	Stock. (a) Not possible to separate along country and sector lines. (b) Same data also available from the Under-secretariat of Treasury (http://www.treasury.gov.tr).
	Share of South-South cooperation to the productive sector			Not relevant for Turkey, which provides "aid."
National				
Create an enabling environment for sustainable development	Eximbank credits rescheduled	TIKA (http://www.tika.gov.tr)	2004–13	Credits rescheduled Data available in *Turkish Development Assistance Reports*. Credits are rescheduled only on occasion.
Increase official flows to developing countries	% change in amount of official flows to LDCs	TIKA (http://www.tika.gov.tr)	2004–12	Official statistics Data available in *Turkish Development Assistance Reports*.
	% of GNI to ODA	TIKA (http://www.tika.gov.tr)	2004–12	Official statistics Data available in *Turkish Development Assistance Reports*.
Develop further an open, rule-based, non-discriminatory international trading system	Import and export restrictions by country groups	Ministry of Economy(http://www.ekonomi.gov.tr)	Current period	Legislation For details, see Republic of Turkey Ministry of Economy (2012). When a country or country group is not specified, all countries are affected.
	Total agricultural support estimated as % of GDP	OECD (http://stats.oecd.org)	1986–2014	OECD definitions Same source and definitions should be used for all countries. Data on producer and consumer support estimates can be found under the "Agriculture and Fisheries" theme.

Annex 3. Global Targets and Indicators

Table 3.1. Global Targets and Indicators – Definitions			
Goal	**Target**	**Indicator[63,64]**	**Comments and definitions**
End Poverty	***End extreme income poverty***	***Proportion of population below US$1.25 (PPP) per day***	Refers to the percentage of the population living on less than US$1.25 at 2005 prices (World Bank 2014d).
	Reduce poverty	Proportion of population below US$2 (PPP) per day	Refers to the percentage of the population living on less than US$2.00 at 2005 prices (World Bank 2014e).
		Proportion of population living below national poverty line	Refers to the percentage of the population living below the national poverty line.
		Share of employed persons living below the nationally-defined poverty line	The working poor or the number of employed persons living in households with incomes below the nationally-defined poverty line are based on real disposable income and refer to a nationally-defined real absolute poverty line, whenever possible. Data are presented in terms of the yearly annual average. Here, the income concept refers to the household disposable income. If a relative poverty line is used, data are expressed as the number of employed persons living in households with incomes below the nationally defined relative poverty line. The poverty line is defined as the threshold below which individuals in the population are considered poor and above which they are considered non-poor. The threshold is generally defined as the per-capita monetary requirements an individual needs to afford the purchase of a basic bundle of goods and services (ILO 2014).
	Reduce the proportion of people who suffer from hunger	Prevalence of child stunting in boys and girls under 5, %	Stunting: Proportion of under-fives falling below minus 2 standard deviations (moderate and severe) and minus 3 standard deviations (severe) from the median height-for-age of the reference population (UNICEF 2014).
Ensure quality education for all	***Ensure all children have access to early childhood and quality***	***% of girls and boys receiving at least one year in pre-primary programmes***	Refers to the proportion of children (girls and boys) who have at least one year of pre-primary programmes.

[63] Assumes disaggregation (sex, income, urban/rural, and minorities/sector if relevant).
[64] Global minimum standard targets indicated in ***bold and italics.***

Table 3.1. Global Targets and Indicators – Definitions			
Goal	**Target**	**Indicator[63,64]**	**Comments and definitions**
	primary and secondary education	***% of girls and boy who complete primary school***	Refers to proportion of girls and boys who complete primary school.
		% of girls and boys who complete secondary school	Refers to proportion of girls and boys who complete secondary school.
		% of girls and boys who achieve a passing grade in national learning assessments at the primary school level	Assessment of learning outcomes: Evaluation of an individual's achievement of learning objectives, using a variety of assessment methods (written, oral and practical tests/examinations, projects and portfolios) during or at the end of an education programme (UNESCO 2012). National [or sub-national] assessment: Large-scale assessment surveys designed to describe the achievement of students in a curriculum area and to provide an estimate of the achievement level in the education system as a whole at a particular age or grade level. This normally involves administration of tests either to a sample or population of students (Ho 2013).
	Increase the number of adults[65] with the skills, including technical and vocational skills	Proportion of individuals enrolled in a Technical and Vocational Education and Training (TVET) institution	Technical and Vocational Education and Training is concerned with the acquisition of knowledge and skills for the world of work. Various terms have been used to describe elements of the field that are now conceived as comprising Technical and Vocational Education and Training. These include: Apprenticeship Training, Vocational Education, Technical Education, Technical-Vocational Education, Occupational Education, Vocational Education and Training, Professional and Vocational Education, Career and Technical Education, Workforce Education, Workplace Education, etc. Several of these terms are commonly used in specific geographic areas (UNEVOC 2012).
Create jobs, sustainable	Achieve full and productive employment	Labour force participation rate	The labour force participation rate is the labour force as a percent of the working age population (ILO 2014).

[65] Adults refers to individuals aged 18 years or older.

Table 3.1. Global Targets and Indicators – Definitions			
Goal	**Target**	**Indicator[63,64]**	**Comments and definitions**
livelihoods and inclusive growth for all	work for all, including women and young people	Time-related underemployment (thousands)	Persons in time-related underemployment comprise all persons in employment, who satisfy the following three criteria during the reference period: a) are willing to work additional hours; b) are available to work additional hours i.e., are ready, within a specified subsequent period, to work additional hours, given opportunities for additional work; and c) worked less than a threshold relating to working time i.e., persons whose hours actually worked in all jobs during the reference period were below a threshold, to be chosen according to national circumstances. For details, refer to the Resolution concerning the measurement of underemployment and inadequate employment situations (ILO 2014).
	Ensure equal pay for equal work	***Mean nominal monthly earnings of employees (local currency)***	Data on earnings are presented, whenever possible, in nominal terms and on the basis of the mean of monthly earnings of all employees. The earnings of employees relate to the gross remuneration in cash and in kind paid to employees, as a rule at regular intervals, for time worked or work done together with remuneration for time not worked, such as annual vacation, other type of paid leave or holidays. Earnings exclude employers' contributions in respect of their employees paid to social security and pension schemes and also the benefits received by employees under these schemes. Earnings also exclude severance and termination pay. Statistics of earnings relate to the gross remuneration of employees, i.e. the total before any deductions are made by the employer. Data are disaggregated by economic activity according to the latest version of the International Standard Industrial Classification of All Economic Activities (ISIC) available for that year. Economic activity refers to the main activity of the establishment in which a person worked during the reference period and does not depend on the specific duties or functions of the person's job, but on the characteristics of the economic unit in which this person works. To be disaggregated as appropriate (by sector, sex, age, location)

Table 3.1. Global Targets and Indicators – Definitions			
Goal	**Target**	**Indicator[63,64]**	**Comments and definitions**
	Support inclusive growth and reduce inequality	Gini coefficient	The Gini coefficient is a number between zero and one that measures the relative degree of inequality in the distribution of income. The coefficient would register zero (minimum inequality) for a population in which each family (or unattached individual) received exactly the same income and it would register a coefficient of one (maximum inequality) if one family (or unattached individual) received all the income and the rest received none.
		Palma ratio	Refers to the ratio of the income share of the top 10% to the bottom 40%.
		Growth rate of income of the bottom 40%	Can be calculated on before and after-tax basis. Income quintiles are used to measure the growth rate of the bottom 40% for all family units. All the persons of the population are ranked from lowest to highest by the value of their adjusted family income. Then, the ranked population is divided into five groups of equal numbers of units, called quintiles. The lowest income quintile represents the 20% of the population whose income is lowest. By the same token, the highest quintile represents the 20% of the population whose income is highest.
		Gross fixed capital formation (% of GDP)	Gross fixed capital formation (formerly gross domestic fixed investment) includes land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings (World Bank 2014b).
Ensure sustainable energy and develop infrastructure for all	***Ensure full access to developed infrastructure and communication technology***	***Internet users (per 1,000 people)***	This indicator measures the number of people that uses the internet for every 1,000 people.
		Average bandwidth speed (Megabits/second)	Measurement of the ability of an electronic communications device or system (such as a computer network) to send and receive information, measured in megabits per second (mbit/s).
		% of the population with access to an all-season road	"With access" means that the distance from a village or household to an all-season road is no more than 2 km; otherwise, a walk of no more than 20 minutes or so is required to reach an all-season road. An "all-season road" is a road that is motorable by the prevailing means of rural

Table 3.1. Global Targets and Indicators – Definitions			
Goal	**Target**	**Indicator[63,64]**	**Comments and definitions**
			transport (often a pick-up or a truck which does not have four-wheel-drive) all year round. Predictable interruptions of short duration during inclement weather (e.g. heavy rainfall) are permitted, particularly on low volume roads (World Bank 2005).
		% of adults with an account at a formal financial institution	Denotes the percentage of population with an account (self or together with someone else) at a bank, credit union, another financial institution (e.g. cooperative, microfinance institution), or the post office (if applicable) (modified slightly from World Bank Global Index Glossary).
	Ensure access to energy and improve efficiency and sustainability of energy supply, including renewable energy	# of hours per day households have access to electricity on average	This indicator measures the number of hours for which electricity is available in a household within a given day. It is not directly applicable to Turkey's context and a proxy indicator has been included below to capture the number of person-days households do not have access to electricity.
		Rate of improvement in energy intensity	Energy required per unit (currency) of GDP, measured in primary energy terms and GDP. Primary energy refers to energy sources as found in their natural state (as opposed to derived or secondary energy, which is the result of the transformation of primary or secondary sources) (OECD 2011).
		Share of the population with access to modern cooking solutions (%)	Access to modern cooking solutions is defined as relying primarily on non-solid fuels for cooking. Non-solid fuels include: (i) liquid fuels (for example, kerosene, ethanol, or other biofuels); (ii) gaseous fuels (such as natural gas, liquefied petroleum gas [LPG], and biogas); and (iii) electricity. Solid fuels include: (i) traditional biomass (for example, wood, charcoal, agricultural residues, and dung); (ii) processed biomass (such as pellets, and briquettes); and (iii) other solid fuels (such as coal and lignite) (World Bank 2011b; Banerjee et al. 2013).
		Share of renewable energy to total energy consumption	Energy that is derived from natural processes (e.g. sunlight and wind) that are replenished at a higher rate than they are consumed. Solar, wind, geothermal, hydro, and biomass are common sources of renewable energy (IEA 2014).
Establish a sustainable, healthy and	Build resilience and reduce deaths from natural hazards	Disaster deaths per 1,000 inhabitants	Hazard: A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods

Table 3.1. Global Targets and Indicators – Definitions			
Goal	**Target**	**Indicator[63,64]**	**Comments and definitions**
resilient environment for all			and services, social and economic disruption, or environmental damage. Includes: Avalanche, Cold Wave, Cyclone, Drought, Earthquake, Epidemic and Pandemic; Flood, Heat Wave, Insect Infestation; Landslide; NBC – Nuclear, Biological, Chemical; Storm Surge; Tornado; Tsunami; Volcano; Wildfire (UNISDR 2007). Disaster: A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources (UNISDR 2007).
	Safeguard ecosystems and biodiversity	Net loss in forest area (% of land area)	Forest: Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds in situ. It does not include land that is predominantly under agricultural or urban land use (FAO 2012).
		Trends in coverage of protected areas.	The protected area coverage indicator measures the policy response to biodiversity loss. An increase in protected area coverage indicates increased efforts by governments and civil society to protect land and sea areas with a view to achieve the long-term conservation of biodiversity with associated ecosystem services and cultural values (BIP 2014). Note: The data provided shows how protected areas are managed based on IUCN category and includes marine areas.
	Publish and use economic, social and environmental accounts in all governments and companies	***Share of large tax unit (LTU) taxpayers using integrated reporting***	Integrated Reporting is a process founded on integrated thinking that results in a periodic integrated report by an organisation about value creation over time and related communications regarding aspects of value creation. An integrated report is a concise communication about how an organisation's strategy, governance, performance and prospects, in the context of its external environment, lead to the creation of value in the short, medium and long term (IIRC 2013). Large taxpayers are very different from other categories of taxpayers and present certain significant risks to effective tax administration. Major characteristics of large business segment include: concentration of revenues, complexity of the business and tax dealing, withhold agent

Table 3.1. Global Targets and Indicators – Definitions			
Goal	**Target**	**Indicator[63,64]**	**Comments and definitions**
			or intermediary role, uses of professional tax advisors and possession of in-house tax organisation. Businesses may be publicly listed corporations, multinational companies or private groups (OECD 2009).
		Existence of government publishing according to the System of Environmental-Economic Accounting	The System of Environmental-Economic Accounting (SEEA) contains the internationally agreed standard concepts, definitions, classifications, accounting rules and tables for producing internationally comparable statistics on the environment and its relationship with the economy. The SEEA framework follows a similar accounting structure as the System of National Accounts (SNA) and uses concepts, definitions and classifications consistent with the SNA in order to facilitate the integration of environmental and economic statistics (UNStats 2014).
Establish open, accountable, inclusive and effective institutions, rule of law and a peaceful and inclusive society	***Provide free and universal legal identity, such as birth registrations***	***Percentage of children under 5 who are registered with the civil authority***	Refers to the number of children under five registered with the civil authority as a percentage of the total population of children under five.
		Proportion of adults with a basic legal identify document	Refers to the number of adults (individuals aged 18 years or over) with a basic legal identity document as a percentage of the total adult population.
	Monitor and end discrimination and inequalities in public service delivery, the rule of law, access to justice and participation in political and economic life on the basis of social status	Average time between filing a case and receiving a verdict	Refers to the average number of days that elapse from the time of filing a case and receiving a verdict.
		Proportion of seats held by women and minorities in national or local level government	Includes federal, provincial, and municipal leaders.
		% of adults with an account at a formal financial institution, disaggregated by sex	Denotes the percentage of population with an account (self or together with someone else) at a bank, credit union, another financial institution (e.g. cooperative, microfinance institution), or the post office (if applicable) including individuals who have a debit card (Demirguc-Kunt and Klapper 2012). Note: This is the same indicator as used under energy and infrastructure, disaggregated by sex.

Table 3.1. Global Targets and Indicators – Definitions Goal	Target	Indicator[63,64]	Comments and definitions
	Improve personal safety	Prevalence of violence against women, including domestic violence	Violence against women is "any act of gender-based violence that results in, or is likely to result in, physical, sexual or mental harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life" (UN 1993). Would likely be based on self-reporting (survey data).
		Violent deaths per 100,000 people	Classification of violent death includes killings in war or conflicts, non-conflict deaths and self-inflicted deaths (suicides), while non-conflict deaths include intentional homicide, killings in self-defence, killings in legal interventions and non-intentional homicide (UNODC 2014).
	Reduce bribery and corruption in all forms	Survey data regarding bribes or gifts for service from government official – "In the past year, how often (if ever) have you had to pay a bribe, give a gift, or do a favour to government officials in order to get a document or receive a service"	Refers to the proportion of people who have paid a bribe in the past year at time of being surveyed.
	Improve transparency in the revenue system	Share of eligible tax payers who submit tax returns	Refers to the proportion of eligible taxpayers who submit their taxes for a given tax year as a percentage of eligible taxpayers.
Establish a Global Partnership for Sustainable Development	***Create an enabling environment for sustainable development***	Low-income country debt forgiveness or reduction (% of GDP)	Debt forgiveness or reduction shows the change in debt stock due to debt forgiveness. It is derived by subtracting debt forgiven and debt stock reduction from debt buyback (World Bank 2014a).
		Share of trade in goods and services from low-income countries under duty-free, quota-free market access	This indicator tracks the proportion of goods and services from low-income countries that enter Turkey under preferential market access.
		Existence of laws for ensuring country by country reporting by multi-national corporations,	Meant to provide an indication of countries' efforts to address tax evasion and prevent money laundering.

Table 3.1. Global Targets and Indicators – Definitions			
Goal	**Target**	**Indicator[63,64]**	**Comments and definitions**
		disclosure of beneficial ownership and preventing money laundering	
	Increase financing to productive capacity in low- and middle-income countries	Share of aid to the productive sector	Aid defined as ODA and other official flows and productive sector defined as infrastructure, agriculture, manufacturing
		Proportion of foreign direct investment to the productive sector	Productive sector defined as infrastructure, agriculture, manufacturing
		Share of South-South cooperation to the productive sector	Productive sector defined as infrastructure, agriculture, manufacturing

Annex 4. Data Quality Assessment Framework

Table 4.1.Data quality assessment framework

Criteria	Components (scale)	Sub-components (scale)
Relevance	Completeness *Main Question: How complete are the data?*	Policy requirements for data collection
		Guidelines for data collection
		Procedures to coordinate statistical information
		Procedures to perform regular programme reviews
		Advisory council to advise on statistical priorities
		Availability of meta-data
	User needs *Main Question: Do the data correspond with user needs?*	Agreements with user about the data content and priorities
		Procedures to track user needs and uses of the statistics
		Information about the survey objectives
		Legislative requirement to consult with the user on data collection
	User satisfaction *Main Question: Do the data satisfy user needs?*	Regular follow-ups with users to ensure user satisfaction
		Periodic consultations with users to obtain feedback
		Post-collection evaluations to compare data outcomes with user needs
Accuracy and reliability	Sampling and non-sampling errors *Main Question: What procedures are in place to reduce sampling and non-sampling errors?*	Measurement, evaluation and systematic documentation of sampling and non-sampling errors
		Mechanisms to ensure survey samples closely represent the population under study
		Quality assurance plan to prevent, monitor and evaluate non-sampling errors
		Compilation of user feedback to assess the relevance of the statistical study for user purposes
	Systematic and random errors *Main Question: What procedures are in place to reduce systematic and random errors?*	Systems to assess source data, intermediate results and statistical outputs
		Procedures to measure and reduce errors
		Regular assessment of data sources
		Systematic comparison of data and results with data and results from other existing sources to ensure validity
		Assessment report of statistical discrepancies in intermediate data
		Revisions analyzed to improve statistical process
	Revision measures *Main Question: What measures are in place to revise the data?*	Policies for documenting principles and procedures for data revision
		Transparent and standard procedures for revising data
		Periodic quality reporting on the accuracy of data collected
		Public access to revision policies
		Information that clearly identifies preliminary and revised data
		Information that shows timely correction of errors found in published statistics
Timeliness and punctuality	Timeliness *Main Question: How quickly are the data released for dissemination or further processing?*	Release policy distinguishing between statistical outputs and the corresponding release procedures and timeliness targets
		Compliance with timeliness targets like the International Monetary Fund data dissemination standards
		Official calendar to announce advance release dates of major statistics
		Attainable schedule for the production process
		Maximum time allowed to elapse between the end of the reference period and the availability of the data
		Procedures to ensure timely and effective flow of data from providers
		Procedures to consult with users about the periodicity of the statistics
	Punctuality *Main Question: Whether the data are delivered according to the official due date?*	Action or contingency plans to address delays in data release date
		Procedures to regularly monitor the punctuality of every release as per the release calendar
		Notifications provided for any divergences from the advanced release time and publication of new release dates
		Formal explanations provided in the event of a delay
Accessibility and clarity	Accessibility *Main Question: How easily are the data accessible?*	Data dissemination strategy and policy, including clear pricing policy for governing the dissemination
		Policy or guideline to ensure that the data are made available to all users (including any restrictions that may apply)
		Strategies to release data, metadata and microdata
		Availability of publication catalogues for users

Table 4.1.Data quality assessment framework		
Criteria	**Components (scale)**	**Sub-components (scale)**
		Application of information and communication technology to disseminate data (in addition to hard copy publications)
		Navigable website that allows users to access data and metadata and facilitates self-tabulation in a variety of formats
		Periodic consultation with users to ensure dissemination formats satisfy user needs
		Procedures to request data that are not readily available to the public
	Clarity *Main Question: How clearly are the data presented to all users?*	Guidelines describing the appropriate content and preferred formats and style of the agency's outputs
		Presentation of statistics that facilitate proper interpretation and meaningful comparisons
		Regular production of up-to-date methodological documents and quality reports
		Staff training and development programmes for writing about statistics
		User support or information services for handling questions related to the data
		Procedure to annotate differences between international standards, guidelines or good practices
		Statistics presented in a clear and understandable manner
		Explanatory texts accompany the data
		Meaningful comparisons included in the publication
	Metadata and microdata *Main Question: How accessible and readable are the metadata and microdata?*	Policies to provide documentation on concepts, scope, classifications, data sources, basis of recording, compilation methods, etc. with the release of statistical results
		Procedures to ensure metadata are documented according to standardised metadata systems
		Procedures to ensure metadata are updated regularly
		Availability of microdata
		Rules and protocols for accessing microdata
Coherence and comparability	Consistency *Main Question: How consistent are the data internally or cross-sectorally?*	Policy promoting cooperation and exchange of knowledge between individual statistical programmes/domains
		Specific guidelines for individual statistical programmes/domains to ensure outputs obtained from complementary sources are properly combined
		Process-specific procedures to ensure outputs are internally coherent
		Information provided to users on the effects of changes in methodologies on final estimates
	Comparability *Main Question: How comparable are the data over time?*	Extent to which statistics derived from different sources or different periodicities are comparable
		Clear explanation and reconciliation provided for any methodological changes or differences
		Analysis of the major related statistics before designing a new individual statistical programme/domain
		Comparison provided with other statistical sources that contain the same or similar information (including identification of divergences with explanations)
	Standardisation *Main Question: Are the data produced using common standards with respect to scope, definitions, classifications and units?*	Common standards for concepts, definitions, units and classifications to promote coherence, consistency and comparability of the statistics
		Periodic assessment of compliance with international and national standards for statistical production
		Explanation provided for any deviations from international and national standards to users
		Reference made to common repository of concepts, definitions and classifications when designing a new individual statistical programme/domain
		Quality reporting includes assessment of internal consistency and comparability over time

Published on 11 May 2015

Centre for Policy Dialogue (CPD)
House 40/C, Road 32, Dhanmondi R/A
Dhaka 1209, Bangladesh
Telephone: (+88 02) 8124770, 9141734, 9141703
Fax: (+88 02) 8130951
E-mail: info@cpd.org.bd
Web: http://cpd.org.bd/

The Norman Paterson School of International Affairs
5306 River Building
1125 Colonel By Drive
Ottawa, Ontario K1S 5B6 Canada
Telephone: 613-520-6655
Fax: 613-520-2889
E-mail: international.affairs@carleton.ca
Web: https://carleton.ca/npsia/

Southern Voice on Post-MDG International Development Goals
House 40/C, Road 32, Dhanmondi R/A
Dhaka 1209, Bangladesh
Telephone: (+88 02) 8124770, 9141734, 9141703
Fax: (+88 02) 8130951
E-mail: southernvoice2015@gmail.com
Web: http://southernvoice-postmdg.org