Post-2015 Data Test
country level experiences

Measuring Sustainable Development for Post-2015 in Senegal

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Content

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Acronyms and Abbreviations

ADSL	asymmetric digital subscriber line
ANSD	Agence Nationale de la Statistique et de la Démographie
APIX	Agence Nationale pour la Promotion de l'Investissement et des Grands Travaux
ARTP	Agence de Régulation des Télécommunication et des Postes
ASER	Agence Sénégalaise d'Électrification Rurale
BCEAO	Banque Centrale des États d'Afrique de l'Ouest
BRICS	Brazil, Russia, India, China and South Africa
CAEL-UAEL	Cellule d'Appui aux Elus Locaux-Union des Associations d'Elus Locaux
CPD	Centre for Policy Dialogue
DAMCP	Direction des Aires Marines Communautaires Protégées
DCEF	Direction de la Coopération Économique et Financière
DEEC	Direction de l'Environnement et des Établissements Classés
DEFCCS	Direction des Eaux et Forêts, Chasse et Conservation des Sols
DPES	Document de Politique Économique et Social
DPS	Direction de la Prévision et de la Statistique
DSRP	Document de Stratégie de Réduction de la Pauvreté
EDS-Continue	Enquête Démographique et de Santé Continue
ECOWAS	Economic Community of West African States
EDS-MICS	Enquête Démographique et de Santé à Indicateurs Multiples au Sénégal
ENES	Enquête Nationale sur l'Emploi au Sénégal
ENSAE	École Nationale de la Statistique et de l'Analyse Économique
ENSAN	Enquête Nationale sur la Sécurité Alimentaire et la Nutrition
ESAM	Enquête Sénégalaise Auprès des Ménages
ESPS	Enquête de Suivi de la Pauvreté au Sénégal
EU	European Union
FDI	foreign direct investment
GDP	gross domestic product
HIV/AIDS	human immunodeficiency virus/acquired immune deficiency syndrome
ICT	information and communications technology
IPAR	Initiative Prospective Agricole et Rurale
km	kilometres
MDG	Millennium Development Goal
MEDD	Ministère de l'Environnement et du Développement Durable
MEFP	Ministère de l'Economie, des Finances et du Plan
MEN	Ministère de l'Éducation National
MISP	Ministère de l'Intérieur et de la Sécurité Publique
NGO	non-governmental organisation
NPSIA	Norman Paterson School of International Affairs
NSS	national statistical system
ODA	official development assistance
PPP	purchasing power parity
PSE	Plan Sénégal Emergent
SDG	Sustainable Development Goal
SECNSA	Secrétariat Executif du Conseil National de Sécurité Alimentaire
SENELEC	Société Nationale d'Electricité du Sénégal

SMEs	small and medium-sized enterprises
SNDES	Stratégie Nationale de Développement Économique et Social
UCSPE	Unité de Coordination et de Suivi de la Politique Économique
UNDP	United Nations Development Programme
WAEMU	West African Economic and Monetary Union

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Report Highlights

In September 2015, the international community finalised a new global sustainable development agenda to succeed the Millennium Development Goals (MDGs). Like the MDGs, the post-2015 agenda – composed of Sustainable Development Goals (SDGs) – includes targets and eventually indicators to catalyse sustainable development and monitor progress within a time horizon of 2030. This agenda is universal in nature, meaning that it applies to both developing and developed countries, but provides countries with space to identify and focus on national-level priorities. In this context, high-quality, timely, reliable, publicly available and accessible data will be essential for the implementation of the new agenda and monitoring of progress, as noted in calls for a "data revolution." Proponents of the data revolution have argued that better data will support evidence-based development policy making and efforts to strengthen transparency and accountability.

This report under the Post-2015 Data Test initiative aims to contribute to the discussions on post-2015 and the data revolution by analysing how the SDGs could be implemented and measured and providing evidence from Senegal. It focuses on how a universal agenda can be applied in a developing country by identifying key national priorities in relation to the SDGs, the current status as well as previous and ongoing efforts for selected goal areas, lessons learned from the MDGs, opportunities and challenges for SDG implementation, and the data required to monitor post-2015 progress in Senegal.

By mainstreaming the MDGs, the Senegalese government has achieved important progress with its economic policy and development strategy documents, specifically its Poverty Reduction Strategy Paper, Economic and Social Policy Paper, National Strategy for Economic and Social Development and Emerging Senegal Plan. Regarding major priorities such as poverty reduction, statistics on which are produced by Senegal's National Agency for Statistics and Demography (ANSD), the incidence of income poverty decreased from 67.9 percent in 1994 to 46.7 percent in 2011 and the country will likely not attain the MDG target of halving poverty by the end of 2015. Notably, encouraging progress has been made in terms of enrolment rates at primary schools, gender parity between girls and boys in primary education, the proportion of parliamentary seats held by women, the infant mortality rate, the prevalence of HIV/AIDS, and access to drinking water and sanitation.

Senegal has been engaged in the post-2015 process. Under the initiative of the United Nations Development Programme, Senegal was one of 50 countries selected to conduct national consultations on the post-2015 agenda in 2013. Stakeholders shared their visions for a post-2015 agenda that included eradicating poverty in all its forms and ensuring the protection of the environment and natural resources. Civil society organisations proposed a common position under the leadership of the Confédération des Organisations Non Gouvernementales d'Appui au Développment.

Stakeholders identified that Senegal's post-2015 priorities should include good quality education, a better health system, honest and responsible government, access to drinking water and sanitation, quality food at affordable prices, better employment opportunities, protection against crime and violence, and action on climate change. The Ministry of Environment and Sustainable Development held regional consultations in 2015 on the 17 candidate SDGs. Seven candidate SDGs were identified as high prioritiy. In order of importance, these include SDG 6 on water and sanitation, SDG 15 on terrestrial ecosystems, SDG 1 on poverty, SDG 2 on hunger, food security and nutrition, SDG 13 on climate change, SDG 7 on energy and SDG 4 on quality education. Five others – SDG 8 on economic growth, SDG 3 on health and well-being, SDG 12 on sustainable onsumption and production patterns, SDG 17 on global partnership for sustainable development and SDG 16 on peaceful and inclusive societies – were considered as of priority

Key Findings

In Senegal, the relevance of the SDG areas examined under the Post-2015 Data Test was confirmed during consultations conducted at various levels since 2013.

The top SDGs identified as of high priority for Senegal in regional consultations include, in order of importance: SDG 6 on water and sanitation, SDG 15 on terrestrial ecosystems, SDG 1 on poverty, SDG 2 on hunger, food security and nutrition, SDG 13 on climate change, SDG 7 on energy and SDG 4 on quality education.

Data availability is relatively good in Senegal. Institutional reforms completed 10 years ago within the national statistical system led to significant improvements in statistical capacity and, in turn, the availability of data.

The most prevalent data gaps pertain to the goal areas on environment, governance, employment and global partnership for sustainable development.

The availability of data is good for the selected global indicators, with 91 percent having readily available data.

Data availability is excellent for the goal areas of poverty and education. There is poorer data availability for global indicators related to governance and environment.

(listed in order of importance). These priorities will be valuable inputs for the implementation of the post-2015 agenda in Senegal at the national and regional levels. All the key national priorities are part of the the Emerging Senegal Plan, which is the Senegal flagship economic and social policy that has a time horizon of 2035. Evidently, a good basis exists for establishing Senegal's SDG roadmap.

Key Findings

The Senegal case study found that the SDG areas selected by the Post-2015 Data Test – poverty, education, employment and inclusive growth, energy and infrastructure, environment and disaster resilience, governance and global partnerships for sustainable development - are indeed relevant in the Senegalese context. Measuring and monitoring progress will require the availability of good quality and timely official data, including disaggregated data. The study investigated data-related issues for each SDG area, specifically the availability of data for the monitoring of the selected goals, targets and indicators, the quality of data and the political economy dimensions of the data revolution, including those related to funding.

Measuring Progress on Post-2015

Data availability in Senegal is considered to be relatively good. Institutional reforms completed 10 years ago within the national statistical system (NSS) led to improvements in statistical capacity and data availability and quality.

Data for most indicators selected for this study are available. The data-mapping exercise demonstrated that Senegal has data available for 91 percent of the 45 global indicators examined across the seven selected goal areas. In other words, data are available for these indicators from official data sources or can be easily derived through relatively simple data manipulations.

The most prevalent data gaps pertain to the goal areas on environment, governance, employment and global partnership for sustainable development, with some differences according to whether monitoring relates to indicators proposed at the global level or selected at the national level.

Data availability is excellent for the goal areas on poverty and education because all their global indicators can be measured and monitored with existing survey and administrative data.

The goal areas on environment and governance will require additional work. Few indicators are readily available and a number of indicators are unavailable or require additional calculations.

Regarding selected national indicators, roughly 64 percent of indicators having data readily available from official sources. The data situations are poor for the goal areas on employment and global partnership.

Regarding data for the goal area on employment, the unavailability of data for selected national indicators has been mainly due to the lack of a survey specifically dedicated to employment. Senegal is working on the regular production of good quality data on employment, with the ANSD launching the first National Survey on Employment in Senegal in July 2015, which can be used to derive data for key labour market indicators for monitoring post-2015 progress. Furthermore, data availability with 2010 as the baseline year is not a problem for Senegal according to the data-mapping exercise. However, low-quality data are available in some cases, which is why the use of a data quality assessment framework is necessary.

The results of the data quality assessment for indicators by goal area show that "accuracy and reliability" is the most problematic assessment criterion with the weakest scores across the proposed goal areas, followed by "timeliness and punctuality." The weakness of these two criteria, particularly "timeliness and punctuality," can be explained by the ANSD's significant dependence on donor funding, since delays between the approval of funding and resource allocation have significant impacts on planned statistical activities. The ANSD also relies on domestic resources, hence national budget cuts can threaten the production of timely and reliable data. Evidently, there is room for improvement in data quality. "Coherence and comparability" and "accessibility and clarity" received better scores overall.

Key Findings

Data availability is good for national indicators, with 64 percent having readily available data. However, data availability is poor for the SDGs related to employment and global partnership.

In terms of data quality, "accuracy and reliability" and "timeliness and punctuality" are the most problematic issues.

Low data quality is impacted by national budget cuts that threaten the sustainability of funding allocated to the ANSD and the delays that can occur between the approval of donor funding and resource allocation for statistical activities.

The goal area on education has the highest data quality, followed by poverty, energy and infrastructure, and employment.

Lower data quality is associated with the candidate SDGs on governance, environment and global partnership. This is explained by the large variety of data sources required for monitoring their targets and indicators.

For the goal area on education, "accuracy and reliability" is a challenge. This is because education indicators are largely informed by data from administrative sources, with survey data being used to a much lesser extent. The administrative mechanisms for data collection are confronted by various constraints such as the weakness of available human resources in terms of quality and quantity. Another constraint compromising accuracy and reliability relates to the quality differences between data from administrative sources, namely those of the Ministry of National Education, and data from ANSD surveys.

As for the goal areas on poverty, employment, and energy and infrastructure, overall data quality is impacted by challenges in terms of "timeliness and punctuality" and "accuracy and reliability." The majority of indicators under these three goal areas are informed by survey data, the production of which often

Key Findings

Despite improved data availability overall, there is insufficient disaggregation of data at the local and sectoral levels.

Data are particularly incomplete in the area of civil registration, which is a major constraint for measuring post-2015 progress.

To address gaps in disaggregated sectoral data, the ANSD should play a key coordination role in streamlining ministries and centralising the management of qualified human resources.

For gaps in disaggregated local data, the ANSD should promote human, financial and technical capacity building at relevant regional offices.

Adminsitrative and survey data are not being harnessed to their full potential due to insufficient anonymisation of microdata.

Anonymisation would enable better use of survey data as well as greater and more cost-effective use of administrative data to verify findings, strengthen capacities and boost incentives in ministries. The availability and quality of data would be improved.

relies on donor funding. Delays in resource allocations or a lack of financial resources for the regular conducting surveys have negative impacts on the production of timely and reliable data.

Data for the goal area on environment are of low quality. This can be explained by the variety of data sources required to inform the targets and indicators, weak collaboration among entities producing environmental data and some divergences between sources of data. Difficulties persist in gaining access to reliable environmental data that are relevant, timely, disaggregated, coherent and comparable. As for the remaining goal areas, namely global partnership and governance, inaccurate and unreliable data undermine overall data quality, which can be explained by the variety of data sources required to inform targets and indicators. There is room for improvement across all goal areas in terms of accuracy and reliability.

Prevalent data gaps pertain to the level of disaggregation. Data are disaggregated by sex, age and sub-national levels such as region and department, but they are less disaggregated at other levels. Disaggregated data are not sufficiently available despite decentralisation efforts in Senegal, including through the use of ANSD's Regional Offices of Statistics and Demography. The main reason for this is few available resources in these regional offices, leading to difficulties in regularly producing reliable statistics for monitoring relevant indicators. For the full implementation of Decentralisation Act III – the third decentralisation policy reform package in Senegal – it is necessary to have disaggregated data for reliable planning, control and evaluation processes for policies at the local level. The human, financial and technical capacities of regional offices must be strengthened in order to collect, analyse and publish good quality disaggregated data at the local level under the supervision of the ANSD.

At the sectoral level, apart from education and health, significant data gaps exist for sectors such as culture, environment, justice, employment, governance, housing and living areas, sport and youth. Data are particularly incomplete in the area of civil registration, which is a major constraint for measuring post-2015 progress. Consequently, the availability of disaggregated data at local and sectoral levels will be valuable for the elaboration, implementation, monitoring and evaluation of inclusive evidence-based policies.

A solution to this problem could be to post in every ministry a statistician in charge of the production of quality data, in addition to ensuring the coordination of sectoral statistical operations in collaboration with the ANSD. In other words, Senegal's post-2015 data strategy should ensure that ministries have qualified

human resources with in-depth knowledge of statistical tools, while the ANSD plays a key coordination role in streamlining ministries and centralising the management of human resources.

Another challenge is related to the use of administrative and survey data, which should be improved to enable better monitoring. Some survey data are not being harnessed to their full potential due to the insufficient anonymisation of microdata. Anonymisation is essential for compiling and manipulating raw data to create processed data. It is consistent with confidentiality requirements that guarantee surveyed persons cannot be easily identified once their data are publicly available. Anonymisation would enable better use of survey data as well as greater and more cost-effective use of administrative data to verify findings, strengthen capacities and boost incentives in ministries. Consequently, the availability and quality of data would be improved.

Political Economy Dimensions

With respect to political economy dimensions, institutional reforms that were completed 10 years ago led to significant improvements in the NSS. In terms of human resources, the number of staff members at the ANSD more than doubled from 111 in 2003 at the Directorate of Forecasting and Statistics at the Ministry of Economy, Finance and Planning to 234 in 2010 at the ANSD, which replaced the directorate. Moreover, the National School for Statistics and Economic Analysis was created in 2008 and linked to the ANSD in order to provide students with good statistical skills through in-depth training. These students could be recruited by the ANSD, ministries or other entities of the NSS to satisfy statistical needs.

Key Findings

Institutional reforms completed have improved NSS capacities and provided more power and resources to the ANSD.

Despite these reforms, ensuring sufficient human and financial resources has remained a challenge.

Insufficient human resources are often intertwined with financial constraints. The ANSD relies heavility on the national budget and external funding, in addition to its own resources generated through the sale of statistical outputs or supply of services.

Consequently, data are not always open and accessible by all stakeholders as they should be being a public good.

Notwithstanding these efforts, the analysis of political economy dimensions indicates that insufficient human and financial resources constrain the NSS. Senior statisticians are likely to resign from the NSS if they find jobs at international organisations, which tend to offer more competitive salaries with more interesting career opportunities. Ministries in particular face a lack of senior statisticians. Insufficient human resources are often intertwined with financial constraints.

While the ANSD relies heavily on the national budget and external funding, it can generate its own financial revenue through the sale of statistical outputs or supply of services. Consequently, data are not always open and accessible by various stakeholders as they should be being a public good, despite efforts to improve data accessibility through the ANSD website.

Key Findings

Technology has played a key role in the improvement of the availability and quality of collected and analysed data, their storage and dissemination.

The use of technology has shortened the delays between the completion of data collection and availability of preliminary results.

The use of mobile technology has improved civil registration data in some rural areas.

Though technology plays a key role in the availability of data for rural areas, the lack of reliable energy and infrastructure remains a challenge.

The existence and use of open data sources are enabled by modern technology. For instance, SIG-Stat is a visualisation tool on the ANSD website for cartographic and socioeconomic data.

The ANSD recently launched a survey on data users' satisfaction.

Initiatives should be developed to promote data literacy by strengthening citizens' capacities to use and understand data. Data literacy is key to empowering citizens to demand more transparency and accountability.

Regarding domestic resources, key informant interviews with ANSD directors revealed that of the 13.5 billion CFA francs (corresponding to about 27 million USD[1]) required for the last general census in 2013, 90 percent was provided by the Senegalese government through the national budget. National budget cuts will likely affect the funding available to the ANSD and other NSS entities.

With respect to external funding, the ANSD and other data producers are also reliant on donor assistance, which can be either financial or technical, to conduct their statistical activities. External funding differs from one donor to another. For instance, the United States Agency for International Development offers technical assistance to the ANSD for conducting the Demographic and Health Survey-Multiple Indicator Cluster Survey, whereas the Organisation for Economic Co-operation and Development and the French government's Cooperation and Cultural Action Service focus more on the distribution and acquisition of statistical tools. Another example demonstrating the importance of external fundingis the bilateral cooperation between Senegal and Brazil, which lent 20,200 personal digital assistants to the ANSD for conducting the last census. According to a study on assistance from technical and financial partners, to the amount provided for statistical activities is estimated to be 3.8 billion CFA francs (US$7.8 million) for the 2009–11 period. The World Bank, United States Agency for International Development, United Nations Children's Foundation, World Health Organization and United Nations Population Fund are the most dynamic technical and financial partners in terms of the funding of statistical activities.

On the one hand, external funding from donors can be good in as much as it helps the ANSD to overcome its finanicial constraints on statistical production. On the other hand, the reliance on external funding may have implications for the relevance of collected data. External funding is often devoted to the generation of statistics that can be used by donors to monitor progress on the indicators that are most relevant to them. The reliance of the NSS on external funding sometimes compels the ANSD to focus mainly on donors' priorities to the detriment of initially planned statistical activities. According to a national report on governance in Senegal, official data producers generally do not have their own budgets and the significant reliance on external financing causes delays in the conducting of some key statistical activities. Insufficient

[1] This was obtained by considering the following change rate: 1 USD=500 CFA francs.

funding allocated for statistical activities is considered to be one of the principal constraints that limit the development of statistics in Senegal.

It is important to note the key role of technology in political economy dimensions. Technology has played a significant role in the improvement of the availability and quality of collected and analysed data, their storage and dissemination. Tablet computers, smartphones and personal digital assistants are increasingly considered to be key assets for the collection of survey data. The delays in publishing the preliminary results of surveys and censuses have been shortened with the use of technology, as shown by the general census of 2013 for which preliminary results were available just three months after the completion of data collection. A pilot project was conducted using mobile technology to collect data on birth registrations through collaboration between the non-governmental organisation Aide et Action International, French multinational telecommunications company Orange, Finnish mobile phone producer Nokia and Senegalese rural communities. The results demonstrate how the use of technology can play a key role in strengthening the availability of data on birth registrations and reliability of the civil registration system. Notably, the use of technology in rural areas remains a challenge, owing to the lack of reliable energy and infrastructure, which increases the probability of data losses in these areas. Combining the use of modern technology with traditional methods of data collection would increase coverage in rural areas.

Furthermore, modern technology allows the ANSD to publish statistical reports online, making them easily accessible at lower costs to stakeholders. Modern technology also enables the existence and use of open data sources, which are free of charge. In Senegal, various portals are dedicated to open data. For instance, the Geographic Statistics Information System (better known as SIG-Stat) is a free visualisation tool on the ANSD website for national cartographic and socio-economic data. With the aim of satisfying data users' statistical needs and improving communication, the ANSD launched a survey on users' satisfaction in July 2015. Initiatives should be developed to promote data literacy by strengthening citizens' capacities to use and understand data and statistics as information, since data literacy is key to empowering citizens to demand more transparency and accountability of decision makers.

Key Recommendations

A number of key recommendations emerged from the study in order to address the challenges of monitoring progress on the post-2015 agenda in Senegal:

- Post qualified statisticians in government ministries to ensure better availability, accessibility and reliability of data produced by ministries.
- Encourage the production of disaggregated data, given the inclusive nature of the post-2015 agenda ("leave no one behind") and key role of disaggregated data for evidence-based policy-making at various levels.
- Strengthen the human, financial and technical capacities of Regional Offices of Statistics and Demography, since the impacts on the availability of local data are expected to be positive.
- Centralise the management of human resources for the NSS at the ANSD to improve the availability, accessibility and quality of data.
- Work with the National School for Statistics and Economic Analysis to strengthen statistical training, with the support of the government and international partners.
- Promote dialogue between the ANSD and unofficial data producers to identify ways that unofficial data can be validated and used to measure progress on the post-2015 agenda.

- Limit the ANSD's dependence on external funding and encourage the mobilisation of domestic resources and innovative mechanisms for sustainable financing to monitor the post-2015 agenda.
- Support the establishment of a Statistical Development Fund, an ANSD initiative that aims to ensure greater stability and predictability of funding for data collection and statistical production and enable the ANSD to be more empowered, resourced, independent and able to address financial challenges.
- Strengthen citizens' capacities to use and understand data in order to empower them to demand more transparency and accountability of policy-makers. Better communication between data producers and users to promote demand-driven data, which can be facilitated by the use of information and communications technology, is also required.

Introduction

Implementation of the Millennium Development Goals (MDGs) contributed to significant progress on data collection and analysis. Despite genuine steps forward, large gaps remain in terms of access to and use of data and information. Too many people are still not effectively accounted for in data collection processes and in several instances, data are non-existent, of poor quality or outdated. As the world moves forward on establishing a set of Sustainable Development Goals (SDGs) to succeed the MDGs in 2015, there is increasing recognition that more, better and disaggregated data are needed to monitor progress on the post-2015 development agenda to ensure that no one is left behind (see Box **1** 1). Following the call of the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda for a "data revolution" to support the post-2015 agenda (see HLP 2013), several initiatives have flourished, examining ways to make available more, better and disaggregated data to track development progress, improve decision making and enable citizens to hold their governments to account.

Box 1. The post-2015 development agenda and data revolution

One of the main results of the 2012 United Nations (UN) Conference on Sustainable Development, widely known as Rio+20, was the agreement concluded by member states to establish a set of SDGs (see www.uncsd2012.org for more information on the conference's outcomes). As the 2015 target date for reaching the MDGs approaches, debates and discussions have been defining the priorities of the post-2015 agenda, the successor framework to the MDGs. Like the MDGs, the framework will involve a set of goals, targets and indicators, with a new target date of 2030. Unlike the MDG framework that essentially covers only developing countries, the new development agenda will be universal, applicable to developing as well as developed countries. In addition to global targets and indicators, countries will have the latitude to define their own targets and indicators to suit their national needs and priorities.

Various reports (see HLP [2013], SDSN [2013] and UNSG [2013]) proposed that the SDGs should "leave no one behind." Consequently, there is a need to have disaggregated data that are of high quality, timely and accessible in order to monitor inequalities and ensure that indeed no one is being left behind. That is why the High-Level Panel called for a data revolution, a new international initiative to improve the quality of available statistics and information and support the monitoring and evaluation of the post-2015 agenda. The High-Level Panel argued that better data and statistics will help governments make evidence-based decisions, plus data are key to transparency, which is the cornerstone of accountability. In August 2014, the UN Secretary-General appointed an Independent Expert Advisory Group on the Data Revolution for Sustainable Development to generate recommendations on measures that need to be taken to close data gaps and strengthen national statistical capacities. In its November 2014 report, the group called for the establishment of global principles and standards on data, the creation of mechanisms to share technology and innovations, new resources for capacity development and leadership to coordinate and mobilise efforts (IEAG 2014).

It is in this context that the Centre for Policy Dialogue (CPD) and Norman Paterson School of International Affairs (NPSIA), in association with Southern Voice on Post-MDG International Development Goals,

launched the Post-2015 Data Test initiative. This initiative aims to apply a select set of post-2015 goals, targets and indicators to a group of low-, middle- and high-income countries to examine opportunities and challenges that may arise from the implementation of a universal, country-relevant post-2015 agenda, including its measurement components. The initiative includes seven countries, namely Bangladesh, Canada, Peru, Senegal, Sierra Leone, Tanzania and Turkey. The Initiative Prospective Agricole et Rurale (IPAR), a think tank based in the Senegalese capital of Dakar and a member of the Southern Voice network, conducted research in Senegal and produced the Senegal case study for the Post-2015 Data Test.

This report unpacks Senegal's national-level priorities under the post-2015 agenda and includes an assessment of the adequacy of data available for measuring post-2015 progress. In consultation with national stakeholders, IPAR identified opportunities and challenges with regard to improving the quality, accessibility and transparency of data in Senegal. The report's findings are based on several research activities including an inception workshop, face-to-face interviews, targeted focus group discussions with a diverse set of stakeholders endowed with specific competencies in goal areas examined under the Post-2015 Data Test initiative and a validation workshop. The report provides a synthesis of the wide-ranging, rich interactions with stakeholders among which Senegal's National Agency for Statistics and Demography (Agence Nationale de la Statistique et de la Démographie or ANSD) played a major role.

The remainder of this introduction provides a brief overview of Senegal's experience with the MDGs and involvement in the post-2015 process, which is followed by an overview of the research process. The report then presents the country's priorities for post-2015 with a focus on relevant targets and indicators. For each goal area, the report outlines the current status, previous and ongoing efforts, national priorities, the data situation, and opportunities and challenges. Following this, the report examines the availability of good quality data for measuring post-2015 progress, with sources of data, data availability, data adequacy and areas where improvements are needed being the core issues. The political economy dimensions of the data revolution are then presented with the aim of shedding light on the main drivers of data gaps and improvements. The report also highlights issues related to data transparency and accountability and their links to funding sources and certain actors. A conclusion summarises the main findings and proposes recommendations.

Senegal and the MDGs

Senegal is one of the African countries that committed to tracking progress on the MDGs since they were adopted about 15 years ago. It is important to highlight the strengths and weaknesses of the MDGs in the country because the derived lessons can inform and enrich the post-2015 process there. To track Senegal's progress on the MDGs, reports were published in 2001, 2003, 2008, 2010 and 2012 under the coordination of the Ministry of Economy, Finance and Planning (Ministère de l'Economie, des Finances et du Plan or MEFP) with support from the World Bank and UN agencies. Senegal attempted to mainstream the MDGs into its national development policies such as its Poverty Reduction Strategy Paper (Document de Stratégie de Réduction de la Pauvreté or DSRP), Economic and Social Policy Paper (Document de Politique Économique et Social or DPES) and National Strategy for Economic and Social Development (Stratégie Nationale de Développement Économique et Social or SNDES). These policies were operationalised with the aim to attain the MDGs. For example, the Senegalese government has focused on social protection of the most vulnerable segements of the population to reduce inequalities and in rural areas, the emphasis of policy has been on poverty reduction and food security (EMAP 2013). At the launch of the national consultation process on the post-2015 agenda, the Senegalese minister of economy, finance and planning underscored the considerable progress made in terms of poverty reduction, education, health, equity, gender equality and environmental sustainability. Also at the launch,

the coordinator of the UN system in Senegal mentioned the significant progress made in education, gender equality, HIV/AIDS and access to drinking water in urban areas.

Despite efforts to mainstream the MDGs into national development policies, the attainment of the MDGs has been constrained by a number of weaknesses in their formulation, implementation and monitoring. Among these weaknesses, the lack of ownership by populations due to the top-down approach of the MDGs has greatly impeded progress in Senegal. This has been reinforced by the misalignment between the MDGs and national development policies as well as the lack of prioritisation of the MDGs, which has affected their efficiency and sustainability.

The MDG implementation process in Senegal involved two stages. Between 2003 and 2008, the Directorate of Planning coordinated the National MDG Steering Committee that was established in 2003. This committee was composed of competent experts from ministries, civil society and other stakeholders. It supported the MDGs needs assessment at the national level, the formulation of strategic plans for attaining the MDGs and their articulation and coherence with the DSRP I (2003–05) – the first Poverty Reduction Strategy Paper. In 2008, coordination was transferred from the committee to the Economic Policy Coordination and Monitoring Unit (Unité de Coordination et de Suivi de la Politique Économique or UCSPE) of the MEFP. This second stage has improved the articulation between the MDGs and DSRP II (2006–10), with the UCSPE being responsible for coordinating the management of operations plans at both the sectoral and regional levels (see UCSPE 2010).

Senegalese Engagement on Post-2015

The Senegalese government and Senegalese civil society organisations have been engaging in the post-2015 process. Under the initiative of the United Nations Development Programme (UNDP), Senegal was one of the 50 countries selected to hold national consultations with various stakeholders about the world they want after 2015. At the national level, the work was carried out by the MEFP, while the Confédération des Organisations Non Gouvernementales d'Appui au Développment provided leadership on the civil society side in defining a common position for civil society organisations on the post-2015 agenda. National and regional consultations were held through focus group discussions in five regions, targeted surveys, thematic consultations and an electronic vote. In the focus group discussions, the participation of youth, women, disabled people, people with HIV/AIDS and religious leaders was invited.

Various stakeholders identified post-2015 priorities for Senegal, including: (i) good quality education, (ii) a better health system, (iii) honest and responsible government, (iv) access to drinking water and sanitation, (v) quality food at affordable prices, (vi) better employment opportunities, (vii) protection against crime and violence and (viii) action on climate change. Stakeholders also noted that the post-2015 agenda should have the eradication of poverty in all its forms and the protection of the environment and natural resources as general objectives, bringing together the social, economic and environmental pillars of sustainable development. This means including obligations to improve human development, promote strong, sustainable and inclusive growth, manage natural resources in a sustainable way, and promote good governance, peace and security. The agenda should take into account the values of equality, solidarity, tolerance, respect for the environment, transparency and responsibility sharing.

In June 2015, the Ministry of Environment and Sustainable Development (Ministère de l'Environnement et du Développement Durable or MEDD) launched a broad process of regional consultations throughout Senegal to provide stakeholders with opportunities to participate in the elaboration of specific post-2015 priorities for Senegal. The 14 Senegalese territorial regions were grouped into five poles, namely the south pole with the regions of Ziguinchor, Kolda and Sedhiou, the east pole with Tambacounda,

Kédougou and Matam, the centre pole with Kaolack, Kaffrine, Fatick and Diourbel, the north pole with Saint-Louis and Louga and the west pole with Dakar and Thies. Focus group discussions were organised with various stakeholders to analyse and hierarchise the 17 then candidate SDGs (see OWG 2014) with national priorities and the specific needs of each region in mind. The discussions involved classifying each candidate SDG as either high priority, priority, necessary or desirable. The results emerging from these regional consultations show that seven candidate SDGs were considered of high priority. In order of importance, these include SDG 6 on water and sanitation, SDG 15 on terrestrial ecosystems, SDG 1 on poverty, SDG 2 on hunger, food security and nutrition, SDG 13 on climate change, SDG 7 on energy and SDG 4 on quality education. Five others were considered of priority. In order of importance, these include SDG 8 on economic growth, SDG 3 on health and well-being, SDG 12 on sustainable onsumption and production patterns, SDG 17 on global partnership for sustainable development and SDG 16 on peaceful and inclusive societies. This hierarchisation will be very useful during the implementation of the finalised SDGs in Senegal.

Notably, the Senegalese government elaborated a list of medium- and long-term development priorities in 2013. Through a participatory process, it developed the SNDES for the 2013–17 period, which included the Emerging Senegal Plan (Plan Sénégal Emergent or PSE) that outlines key priorities and actions based on a 2035 time horizon. According to the PSE, which specifically pertains to social and economic policy, Senegal's major priority is the fight against extreme poverty. To succeed in this fight, the government outlined a number of priority programmes that target job creation and value addition by 2023. By 2018, the plan centres on three strategic areas: (i) structural transformation of the economy and economic growth, (ii) human resources, social security and sustainable development and (iii) governance, institutions, peace and security. The operationalisation of the SNDES requires reforms to accelerate the processes of structural transformation and economic development.

Research Process

Research Team

As mentioned, the Senegal case study was conducted by IPAR. The think tank was born from the efforts of individuals who sought to create an environment for research, forecasting, reflection and dialogue with various stakeholders. The research team who conducted the Senegal case study comprises people with different expertise and the information collected was organised into this report by Dr. Maam Suwadu Sakho-Jimbira, who was responsible for overall coordination in addition to research. IPAR's mission and main activities as well as research team members are introduced in Annex 1.

Research Activities

This sub-section outlines the key research activities undertaken by the Senegal research team. A literature review was conducted to assess the situation in Senegal with regard to the achievement of the MDGs, national priorities in relation to the SDGs, data gaps that seriously limit measuring progress, and the difficulties that Senegal is facing with the MDGs. This literature review was complemented by a data quality assessment based on international standards. Throughout the research process, the research team closely collaborated with experts at the ANSD. Dr. Sakho-Jimbira was in contact with the ANSD several times to request additional information and clarifications on survey instruments, particularly on available data for measuring potential indicators for various candidate goals and targets. The ANSD was highly responsive to requests and provided the best sources for data. This information allowed the research team to complete the data mapping process and validated the data quality assessment.

Afterwards, IPAR organised an inception workshop at the Terrou Bi hotel in Dakar in March 2014.[2] The workshop gathered distinguished specialists including representatives from the Senegalese government, academia, civil society, international organisations and UN agencies. Workshop participants provided feedback on national priorities in relation to candidate goals, examined data availability and accessibility at the national level, and identified key people to participate in focus group discussions and interviews throughout the research process. IPAR then organised six focus group discussions in April and May for the following candidate goal areas: education, poverty, employment and inclusive growth, environmental sustainability and disaster resilience, energy and infrastructure, governance and human rights. The objective was to discuss national priorities, data problems and the relevance of candidate targets and indicators at the national level.

Four key informant interviews were conducted in May, one of which was with the pedagogical coordinator of the National School for Statistics and Economic Analysis (École Nationale de la Statistique et de l'Analyse Économique or ENSAE). The other three interviews were with ANSD experts, namely the general director, statistical information management director, and director of planning, harmonisation, statistical coordination and international cooperation. The interviews focused on key issues related to data accessibility and availability and the political economy of the data revolution at the national level. Seven additional interviews were conducted in June at the UCSPE and Directorate of Economic and Financial Cooperation (Direction de la Coopération Économique et Financière or DCEF) under the MEFP, Investment Promotion and Major Projects Agency (Agence Nationale pour la Promotion de

[2] See IPAR (2014) for the workshop report.

l'Investissement et des Grands Travaux or APIX), the World Bank, UNDP, European Union (EU) and African Development Bank. The main objective was to examine the candidate SDG on global partnership for sustainable development, specifically to understand Senegal's situation in relation to this goal area.

Finally, IPAR organised a validation workshop in October 2014 to present a draft of the final report to various stakeholders. As part of the peer-review process, a draft was also reviewed by an international expert on the post-2015 process and data revolution. Despite efforts to conduct the Senegal case study according to rigorous methodology, some limitations exist. Even though a variety of stakeholders were engaged during focus group discussions and interviews, the majority of them are based in Dakar. With additional time and resources in the future, it would be useful to conduct additional consultations in cities other than Dakar and rural areas to gain a broader range of perspectives from stakeholders who are relevant to the implementation of the post-2015 agenda.

Challenges and Lessons Learned from the Research Process

One of the lessons learned from the research process is the need to ensure the availability of data at both the local and sectoral levels. Data availability is not a major problem for some social sectors such as health and education, but serious problems were noted for other sectors including culture, environment, justice, employment, housing and living areas, sport and youth. For the candidate goal area on environment, difficulties were faced in finding data and statistics for the identified targets and indicators. Furthermore, finding disaggregated data at the local level, despite decentralisation efforts on the part of the Senegalese governement, was very challenging. This type of data should be available to ensure reliable policy planning, monitoring and evaluation at the local level.

Another lesson learned from the research process is the key role of technology in data availability and quality as well as the dissemination of results from surveys and censuses. For example, the first results from the last census conducted in December 2013 were available three months later with data being available at different levels of disaggregation – national, regional, departmental,[3] age and sex. Despite the key role played by technology, technology-enabled methods of data collection should be combined with traditional methods in order to increase coverage in rural areas and avoid data losses during their transfer to servers.

[3] In Senegal, departments correspond to administrative subdivisions within regions.

Post-2015 Priorities for Senegal

Overview

A full description of the research methodology is laid out in the *Methodology and Implementation Guide* prepared for the Post-2015 Data Test (see Bhattacharya, Higgins and Kindornay 2014). The initiative involves the identification of national-level targets and indicators for selectset of SDG areas.[4] Reflecting a mix of MDG-like goal areas and new issues that are likely to be covered by the post-2015 agenda, 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 initiative by CPD, NPSIA and Southern Voice, researchers examined between five and six targets and from eight to 12 indicators for each candidate goal. Some targets and indicators were pre-selected by CPD, NPSIA and Southern Voice 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, one target reflecting a potential global minimum standard for each goal area was included. 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 during focus group discussions and key informant interviews. 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 synergies between goals.

Selecting National Targets and Indicators

The selection of national targets and indicators was done based on criteria defined in the *Methodology and Implementation Guide*. One key criterion is that they should reflect the particular development challenges that a country is facing as well as the national priorities identified in national development plans and post-2015 consultations at the country level. National targets and indicators should also meet certain technical criteria. The guide states that the relevant criteria for target selection include the extent to which the target is specific, clear in scope and connected to the goal, likely to have a strong impact on sustainable development, understandable and communicable, ambitious but realistic, measurable, consistent with international law, valuable in contributing to the realisation of other targets/goal areas, and has the potential to focus on equity and equality. In coherence with the SDGs, which have a 2030 time horizon, all targets selected for this study also have 2030 as their deadline. As for indicators, structural, process and outcome-based indicators were selected. The guide underscores that indicators should be

[4] See Bhattacharya, Higgins and Kindornay (2014) for further details on how candidate goals were selected and the key priority areas included under each goal. Note that the areas for examination were selected prior to the establishment of the OWG proposal and the finalised set of goals. The initiatve captures a elements of a dozen of the 17 SDGs that were agreed to in September 2015.

clearly linked to the targets, provide a robust measure of progress that supports policy-making and establish an existing methology that allows for meaningful trend analysis and disaggregation.

In some instances, targets and indicators were selected not only based on national priorities and technical aspects, but also because they are of global concern. This is the case for the indicators “Proportion of migrant remittances to local development” and “Proportion of ODA [official development assistance] for the production of statistical data” under the goal area “Establish a global partnership for sustainable development.” Given the significant contributions of migrant remittances in terms of the role they play as a safety net for people in migrants’ countries of origin – supporting housing, education, health and private consumption – and their potential impact on sustainable development, it is important to take them into account. The proportion of ODA dedicated to the production of statistical data reflects the production of statistics becoming increasingly relevant in the Senegalese context, where “results-based management” (“gestion axée sur les résultats”) is being promoted, as well as a key aspect of the international discussions regarding post-2015 and the data revolution.

Presentation of Candidate SDGs

The following sections will summarise the key national priorities identified during this study. For each candidate SDG, the report presents an assessment of the current status, previous and ongoing efforts and national priorities. In addition, data related to monitoring progress on each goal area are discussed and a table summarising the global and national targets and indicators is presented. More detailed tables of global and national targets and indicators for each goal area, including explanatory notes, corresponding definitions and relevant data sources, are found in Annex 3. Targets and Indicators Examined for Senegal. Each section ends with a discussion about opportunities and challenges that can facilitate or constrain the achievement of the candidate SDG.

Feedback on Global Targets and Indicators and Potential Goal Areas for Senegal

Engagement with various stakeholders during focus group discussions and key informant interviews indicated that some global targets and indicators as formulated are not relevant in Senegal’s context. For instance, the indicators “Proportion of population below US$1.25 (PPP [purchasing power parity]) per day” and “Proportion of population below US$2 (PPP) per day” are not relevant since the poverty line in Senegal is calculated as a minimum acceptable standard of living including food and non-food components. Notably, household income is not taken into account as an indicator of well-being as consumption expenditure per adult equivalent is preferred. Moreover, the indicator “Existence of national and sub-national government publishing according to the System of Environmental-Economic Accounting” appears difficult to monitor due to problems related to missing data and lack of prioiritisation given the allocation of resources.

As for the selection of goal areas, certain stakeholders who participated in the inception workshop raised a question about the inclusion of a specific goal on health in the Senegal case study. While a goal on health is relevant in Senegal’s context and will most likely be included in the finalised post-2015 agenda, the Senegal research team did not include one since all research teams involved in the Post-2015 Data Test agreed to only examine the seven goals areas outlined above in order to allow comparisons across country case studies. As mentioned, the relevance of the seven goal areas selected for this study was confirmed during regional consultations conducted by the MEDD in 2015.

End Poverty

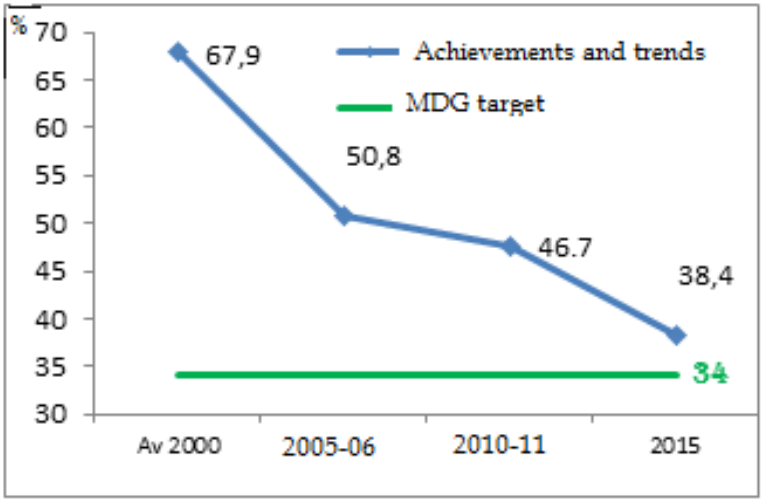
Current Status

Since its implementation of DSRP I, which takes into account the multidimensional character of poverty including the lack of income and access to basic needs, Senegal has seen significant gains in its fight against poverty. Many strategies for poverty reduction, such as DSRP I and II, adopt an approach that combines policies on wealth creation and the supply of basic social services. This approach, however, has not been sufficient enough to reduce poverty and attain the targets for MDG 1 on eradicating extreme poverty and hunger. MDG 1 includes three targets and nine indicators. The first target is reducing by half, between 1990 and 2015, the proportion of the population whose income is less than US$1.25 per day. Indicators based on national poverty lines are also used where such poverty lines exist. In Senegal, the poverty line, which takes into account the prices of food and non-food components, is calculated for Dakar, other cities and rural areas. To attain the first target for MDG 1 by the end of 2015, Senegal needs to reduce the incidence of poverty to 34 percent. In 1994, 67.9 percent of the population lived in poverty. In 2001 and 2006, respectively, 55.2 percent and 50.8 percent of the population lived in poverty. In 2011, this figure reached 46.7 percent. If historical trends continue, the incidence of poverty will be 38.4 percent in 2015.

Figure 1 shows trends in poverty reduction over the 2000–15 period. Progress was weak from 2006 to 2011 compared to the 2001–05 period. Poverty reduction weakened at the national level beginning in 2006 due to weak macroeconomic performance since late 2006, the reduction of assistance by development partners from 2004 and the consequences of the 2007–08 global financial crisis, which negatively affected migrants' remittances to their families in their countries of origin. Remittances, which are often spent as household consumption expenditure, play an important role in poverty reduction, particularly in rural areas. Regarding macroeconomic performance, Senegal experienced higher economic growth during 1995–2005, with an average of 5 percent per year (corresponding to 2–2.2 percent above the population growth rate), compared to an annual average of 3.3 percent during the 2005–11 period. The high growth during this decade was responsible for the fast pace of poverty reduction. Furthermore, according to a study (World Bank *n.d*) on poverty, disparity and sex in Senegal, the 2001–05 period was characterized by a higher growth of consumption even if it is unequal, while the increase in consumption during the 2006-11 period was more evenly distributed in social groups Poverty reduction was significant during this period because the average quintile experienced a significant increase overall – growth slightly benefited the poorest.

The downward trend in the proportion of the population living in poverty, which went from about 68 percent in the early 1990s to approximately 47 percent in 2011, even if encouraging, places Senegal in the category of countries with a weak probability of attaining the targets under MDG 1. Moreover, a comparison of poverty indicators in different areas using the Senegalese Household Survey (Enquête Sénégalaise Auprès des Ménages or ESAM) and Senegal Poverty Monitoring Survey (Enquête de Suivi de la Pauvreté au Sénégal or ESPS) (see Table 1) shows that poverty is more widespread in rural areas than urban centres, with poverty appearing to have been reduced by half in Dakar from 1995 to 2011. Two-thirds of the poor are now living in rural areas, making poverty increasingly a rural phenomenon. Poverty reduction since 2006 has been marginal in rural areas and Dakar, non-existent in urban areas and not statistically significant in all areas (World Bank n.d).

Figure 1. Evolution of the incidence of income poverty, 2000–15



Source: ANSD (2014b), authors' estimations.

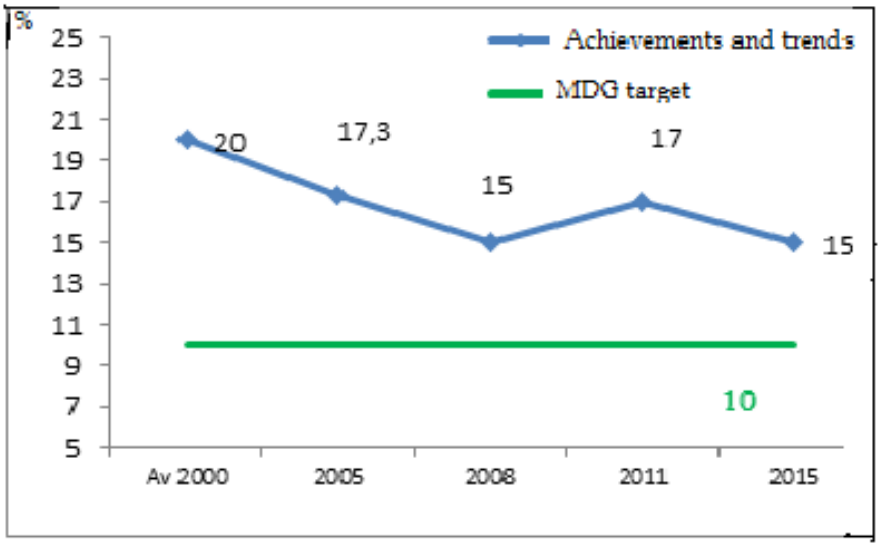
Table 1. Evolution of poverty and inequalities, 1995–2011

Poverty indicators	Dakar	Other urban centres	Rural	National
ESAM I (1994–95)				
Poverty incidence or headcount	56.4	70.7	71.0	67.9
ESAM II (2001–02)				
Poverty incidence or headcount	38.0	45.0	65.1	55.2
Confidence interval (95%)	33.8–42.2	39.3–50.7	62.1–68.0	52.9–57.5
Poverty gap	10.2	13.4	21.2	17.2
Poverty severity	3.8	5.5	9.1	7.3
ESPS I (2005–06)				
Poverty incidence or headcount	28.1	41.3	58.8	48.3
Confidence interval (95%)	23.5–32.6	38.0–44.6	55.6–62.0	46.1–50.6
Poverty gap	6.8	11.6	20.2	15.4
Poverty severity	2.4	4.8	9.5	6.9
ESPS II (2010–11)				
Poverty incidence or headcount	26.1	41.2	57.1	46.7
Confidence interval (95%)	20.1–32.1	36.9–45.5	53.5–60.1	44.1–49.3
Poverty gap	5.8	13.1	18.6	14.5
Poverty severity	2.1	5.9	8.7	6.6

Source: ANSD surveys

With respect to eradicating hunger, MDG 1 includes the target of reducing by half the number of underweight children. In Senegal, attaining the target necessitates a decrease from 20 percent to 10 percent. From 1992 to 2010, the incidence of underweight children decreased from 20 percent to 17 percent (see figure 2). The slow downward trend suggests that Senegal will not attain the target in 2015. Since 2008, this trend has been exacerbated by frequent food crises, which have compromised progress despite the implementation of different programmes to improve nutrition indicators.

Figure 2. Evolution of the incidence of underweight children, 2000–15



Source: ANSD (2014b), authors' estimations.

Poverty and nutrition indicators have improved alongside an increase in spending on the implementation of specific programmes and strategies to attain the targets under MDG 1. In the area of nutrition, the Integrated Management of Childhood Illness (Prise en Charge Intégrée des Maladies de l'Enfant[5]) and Integrated Activities Package for Nutrition (Paquet d'Activités Intégrées pour la Nutrition[6]), which were supported by Senegal's Nutrition Reinforcement Programme (Programme de Renforcement Nutrition) from 2004 to 11, played an important role in realising progress to date. The Senegalese government has also put in place a nutrition policy directive and a policy on infants' and children's feeding. An MDG progress report covering the 2000–12 period highlights a number of other initiatives, especially in rural areas, including: (i) the Agricultural Modernisation and Intensification Project, (ii) National Agricultural Investment Programme, (iii) Agricultural Sector Assistance Project, (iv) Agricultural Development Project in Matam - Phase II, (v) special programme for the re-establishment of hydro-agricultural facilities in support of the National Programme of Self-Sufficiency in Rice Production, (vi) Senegal Agricultural Markets Development Programme, (vii) Seed Reconstitution Programme and (viii) West Africa Agricultural Productivity Programme (MEF and UNDP 2013).

[5] Under the World Health Organization and UN Children's Foundation, the strategy aims to reduce the morbidity and mortality of children in developing countries. It is based on an integrated approach that addresses the health of children globally with the inclusion of a family and community component. The approach covers the curative, preventive and promotional aspects and allows for the rationalisation of health-related costs. The strategy is based on three main components: improving the skills of health workers, improving the health system and improving family and community practices (Ndiaye 2010).

[6] The package was adopted as a national strategy for nutrition intervention under the leadership of the National Service for Food and Nutrition (Service National de l'Alimentation et de la Nutrition). It includes: (i) the promotion of exclusive breastfeeding of children aged up to six months, (ii) the promotion of appropriate complementary feeding of children aged from six months onward, (iii) the prevention of vitamin A deficiency, (iv) the fight against iron deficiency, (v) monitoring of the growth and nutritional status of children aged up to 36 months, (vi) the care of sick children during and after illness and (vii) the promotion of the consumption of iodised salt. The various components of the package are delivered through health centres but also at the community level with the involvement of community relay agents (Ndiaye 2010).

National Priorities

Poverty was identified as one of the key post-2015 priorities during the national consultations conducted in Senegal in 2013. The regional consultations conducted by the MEDD in 2015 confirmed the importance of eradicating poverty. Stakeholders who participated in these regional consultations ranked the goal on poverty third among the seven proposed SDGs identified as of high priority at the time.

According to the PSE, Senegal's major priority is the fight against extreme poverty. To succeed in this fight, the government has outlined a number of priority programmes that target job creation and value addition by 2023. The PSE centres on three strategic areas with a 2018 time horizon: (i) structural transformation of the economy and economic growth, (ii) human resources, social security and sustainable development and (iii) governance, institutions, peace and security. The operationalisation of the plan requires reforms to accelerate the processes of structural transformation and development. From the perspective of funding, efforts on MDG 1 – specifically the poverty reduction component – have received the largest disbursements in terms of both ODA and domestic resources allocated by the government for achieving the MDGs. In 2011, 162.5 billion CFA francs (corresponding to 325 million USD[7]), representing 37.1 percent of domestic resources allocated for achieving the MDGs, were allocated for poverty reduction (DCEF 2014b). The amount allocated more than doubled from the previous year, with domestic resources allocated for MDG 1 being 72 billion CFA francs (equivalent to 144 million USD), corresponding to 31.1 percent, in 2010 (DCEF 2012).

Feedback on Global Targets and Indicators

Regarding the global indicators examined for poverty, the proposed indicator "Proportion of the population living below US$1.25 (PPP) per day" for the target "End extreme income poverty" is not relevant for Senegal. This is also the case for the proposed indicator "Proportion of the population living below US$2 (PPP) per day" for the target "Reduce poverty." The irrelevance of these two indicators is due to the fact that the poverty line in Senegal is calculated as a minimum acceptable standard of living including food and non-food components. Household income is not taken into account as an indicator of well-being since consumption expenditure per adult equivalent is preferred. In this case, a household is considered to be poor if its consumption is below the poverty threshold. Using the thresholds stated in the proposed global indicators, the incidence of income poverty in Senegal appears to be significantly high given the weight of rural households.

Given that the fight against poverty is a national priority in Senegal, some national-level indicators have been proposed in addition to the global indicators that all countries examined under the Post-2015 Data Test initiative. Table 2 presents the different global and naitonal targets and indicators examined in the Senegal case study.

[7] This was obtained by considering the following change rate: 1 USD=500 CFA francs

Table 2. End poverty: Targets and indicators Target	Indicator
Global	
End extreme income poverty	Proportion of population below US$1.25 (PPP) per day
Reduce poverty	Proportion of population below US$2 (PPP) per day
	Proportion of population living below national poverty line
	Share of employed persons living below the nationally-defined poverty line
Reduce the proportion of people who suffer from hunger	Prevalence of child stunting in boys and girls under 5, %
National	
End extreme income poverty	Total number of vulnerable persons (households) supported by cash transfer programmes
	Extreme poverty rate (% of the population living below the food poverty line)
Reduce poverty	Proportion of population living below national income poverty line
	Growth rate of real GDP per employed person
	Underemployment rate
	Unemployment rate
Reduce the proportion of people who suffer from hunger	Prevalence of underweight children under 5
	% of households that do not have the three main meals per day (because of a lack of means)
	Prevalence of food insecurity
Cross-cutting: Create jobs, sustainable livelihoods and inclusive growth for all	
Reduce poverty	Underemployment rate
	Unemployment rate

Data on Poverty

Data for measuring progress on the goal area “End poverty” are available in Senegal thanks to the surveys conducted by the ANSD. The key national sources identified through the data-mapping exercise to inform the proposed global and national indicators are the ESAM, ESPS and Demographic and Health Survey - Multiple Indicator Cluster Survey (Enquête Démographique et de Santé à Indicateurs Multiples au Sénégal or EDS-MICS). In addition to these sources, the National Survey on Food Security and Nutrition (Enquête Nationale sur la Sécurité Alimentaire et la Nutrition or ENSAN), which is conducted by the Executive Secretariat of the National Council for Food Security (Secrétariat Exécutif du Conseil National à la Sécurité Alimentaire or SECNSA) and collects data for monitoring indicators related to food insecurity and nutrition, could be useful for the proposed national indicator “Prevalence of food insecurity.” The best sources are the ESPS and EDS-MICS, with the former informing global and national poverty-related indicators and the latter being useful for indicators related to child stunting. The quality of data collected by the ESPS and EDS-MICS is good and data for some indicators are available online through the ANSD website. Notably, an online database is available for the EDS-MICS. Compared to the ESAM, the ESPS allows disaggregation by sex and sub-national levels. Geographical disaggregation is only possible at the regional level with the ESAM, while it is possible until the departmental level with the ESPS.

Regarding poverty indicators in Senegal, the ANSD measures poverty based on the estimation of total household consumption divided by the number of household members, specifically consumption expenditure per adult equivalent, given that levels of consumption differ for adults and children. From this estimation, consumption per capita is established. A poverty threshold is then calculated, corresponding to

a minimum acceptable standard of living including food and non-food components. The food poverty threshold corresponds to the minimum level of calorie intake that is needed for a person to ensure his or her subsistence. A person is considered to be poor when his or her calorie intake is below the poverty threshold. In Senegal, the minimum calorie intake level is 2,400 calories per person per day, so those who are unable to reach that level are considered to be in a situation of extreme poverty or food poverty. To calculate the poverty threshold, a non-food component is also taken into account by analysing the consumption of non-food items by households whose food consumption is about 5 percent of the value of the food basket providing 2,400 calories per person per day.

One of the key challenges for poverty-related data is methodological changes, which reduced the possibilities of data comparison between ESAM I (1994–95) and II (2001–02) and ESPS I (2005–06) and II (2010–11) even though geographical coverage improved. Weak comparability between these surveys is partly due to the fact that they were conducted during different periods of the year. For example, livelihoods and poverty levels in rural areas are linked to people's heavy reliance on crop production. ESPS I was conducted just after the harvest – from December 2005 to March 2006 – and thus probably underestimated the levels of poverty. Other key challenges are the delay between the end of data collection and the publication of preliminary results as well as the frequency of data collection. Despite the good quality of data collected by the ESPS for informing poverty indicators, the data release period is an issue of concern because the delay is too long and collection frequency is irregular. Consequently, data for some indicators are not published and only accessible by request. In addition, data analysis in the ESPS is not in-depth despite all the possibilities offered by the detailed collected data.

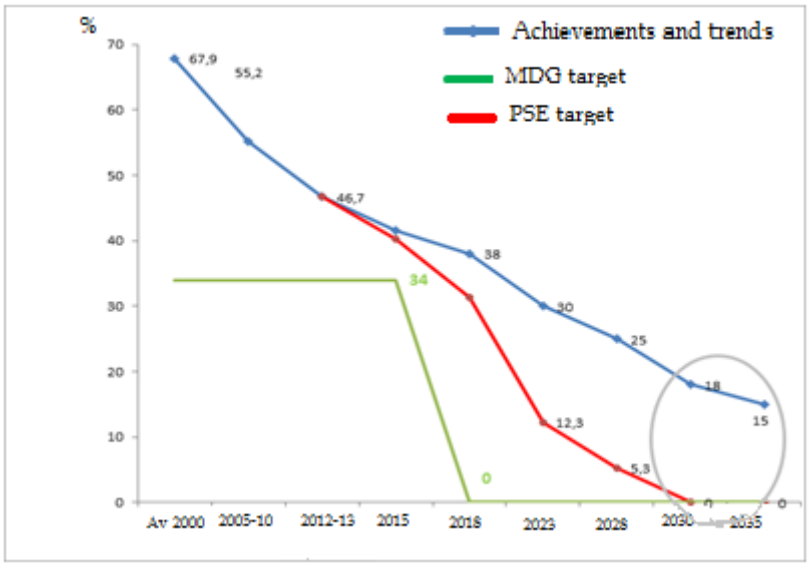
Overall, data to monitor post-2015 poverty indicators in Senegal can be considered good because data are available for almost all the selected indicators. Some restrictions exist for certain data users, but most data are accessible by researchers and students. The ESPS is the best data source, with data at various levels of disaggregation – by sex and geographical coverage from regional to departmental levels – being available. The comparability of poverty data collected by different surveys is problematic, but the ANSD is considering ways to improve this aspect.

Opportunities and Challenges for Ending Poverty

In light of very encouraging results in the implementation of the Senegalese government's economic policies, particularly in the context of the fight against poverty, the trends in income poverty indicators suggest that Senegal could achieve MDG 1 in 2015. With regard to the post-2015 period, the PSE represents a real opportunity to eradicate poverty by 2030. Formulated around three strategic areas, the plan aims to increase the annual economic growth rate to over 7 percent in a sustainable, fair way. A consensus exists among relevant actors on the potential of the plan to bring about structural transformation of the economy, which would help achieve one of the major goals of the post-2015 agenda – ending poverty.

Supposing that 2010 is the baseline year and 2030 is the target year in the finalised post-2015 agenda, the effective implementation of the PSE should allow Senegal to eradicate poverty – reach the "zero poor" target – by 2027 (see Figure 3). This forecast assumes an annual medium-term real gross domestic product (GDP) growth rate of 7 percent, an annual population growth rate of 2.5 percent and an elasticity of 0.9 percent between the incidence of poverty, growth rate of real GDP and population growth rate. Without effective implementation of the PSE, Senegal would likely experience a poverty trap even beyond 2040.

Figure 3. Evolution of the incidence of income poverty, 2000–35



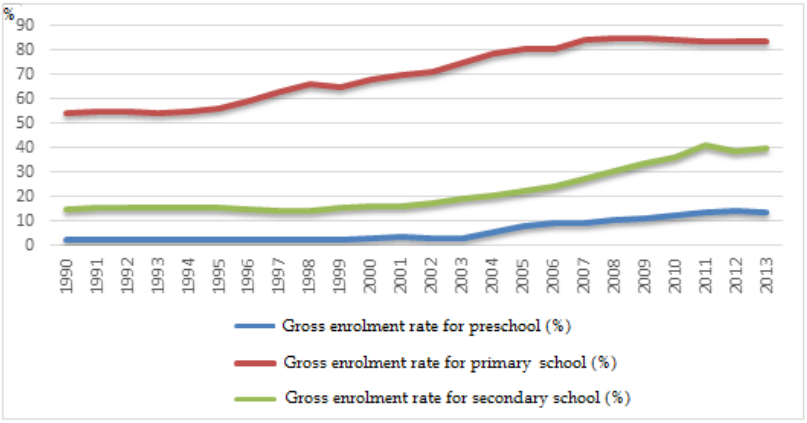
Additional opportunities for reducing poverty are related to, among others things, the development potential of agriculture, availability of arable land, commitments of technical and financial partners, and migrant remittances likely to be used for consumption and investment (EMAP 2013). In terms of challenges, the availability, regularity and accessibility of reliable data on poverty and people's living conditions can in certain cases be obstacles to measuring and reorienting economic and social policies in Senegal. Strengthening the technical and financial capacities of the national statistical system (NSS) should be a priority in order to guarantee good governance and effective implementation of the PSE.

Ensure Quality Education for All

Current Status

Senegal's main priorities with respect to education are ensuring universal primary education and eliminating disparities. The country's education system recently underwent a number of changes, particularly with the establishment of the Decadal Programme for Education and Training (Programme Décennal de l'Éducation et de la Formation) for the 2001–10 period. The programme had several objectives including increasing enrolment in primary schools to 100 percent by 2010 and eliminating disparities between sexes and regions. It aligned with MDG 2 on achieving universal primary education. Senegal has not reached all the targets under MDG 2, but trends in gross enrolment rates for different levels of education from 1990 to 2013 show improvement (see Figure 4). The gross enrolment rate for primary education increased from 54.4 percent to 83.67 percent, while significant progress was made in secondary education with the gross enrolment rate more than doubling from 15.1 percent to about 40 percent over the period.

Figure 4: Evolution of gross enrolment rates, 1990–2013

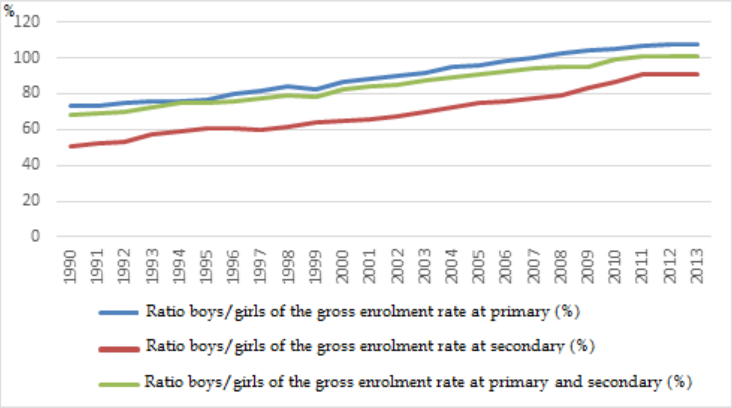


Sources: Authors estimates, from WDI data and data from ANSD surveys (namely ESAM & ESPS).

Moreover, disparities between boys and girls were eliminated at the primary level. The boys/girls ratio reached 100 percent in 2005 and increased to 107 percent[8] in 2013 (see figure 5). Despite the improvement in the gross enrolment rate, disparities have persisted at the regional level, with the regions of Dakar and the south[9] having rates of 100 percent and Diourbel and Kaffrine, for example, having the weakest rates of 60 percent (MEF and UNDP 2013). Consequently, special measures should be taken for the benefit of these regions to improve enrolment rates and increase the probability of reaching education targets. Notably, the net schooling rate in primary education increased from 54.6 percent in 2005 to 59.6 percent in 2011, but with regional disparities again persisting (MEF and UNDP 2013).

[8] This can be due to the fact that we have more girls than boys and if trends continue the disparities against boys will increase. The acceleration of girls' enrollment is the result of various awareness campaigns and incentives for the education of girls (DPRE 2012).
[9] Southern regions considered here are Ziguinchor, Sédhiou and Kolda.

Figure 5. Evolution of the parity index, 1990–2013



Sources: Authors estimates, from WDI data and data from ANSD surveys (namely ESAM & ESPS).

Statistics from the Ministry of National Education (Ministère de l'Éducation National or MEN) demonstrate improvements in completion rates as well. The number of students who completed primary education increased from 38.5 percent in 2000 to 65.9 percent in 2013. Nevertheless, approximately one-third of school-age children do not complete primary education. An analysis of retention rates in 2012, which declined in comparison to 2011, shows that a child beginning the first year of primary education has about a 60 percent chance of reaching the fifth and highest level of the primary cycle. They have a 40 percent chance of reaching the fourth level of the junior schools and a 30 percent chance of reaching the upper-lower sixth level. Similar to gross enrolment rates, completion rates reveal differences according to sex and region with the highest rates seen in the regions of Dakar and the south. Senegal is one of the 15 countries that have made improvements from 25 percent to 50 percent in terms of gender parity in primary education (UNECA, UA, AfDB and UNDP 2013).

Overall, Senegal has made important progress in the area of education, but it will not reach the target on universal primary education under MDG 2 in 2015. This is largely due to the lack of organisation in the education system regarding religious Quranic education in addition to dropouts and repetition (MEF and UNDP 2013). Simulations from the Directorate of Education Planning and Reform (Direction de la Planification et de la Réforme de l'Éducation or DPRE) show that universal education and 100 percent completion rates could be reached as early as 2020.[10]

Previous and Ongoing Efforts and National Priorities

Education was one of the post-2015 priorities identified by various stakeholders during the national consultations on the post-2015 agenda conducted in Senegal in 2013. This was confirmed by regional consultations conducted by the MEDD in 2015. During these regional consultations, stakeholders ranked the goal on education among the seven proposed SDGs of high priority. Education is thus considered to be one of the major national priorities.

Public expenditure on education can be considered an indicator of the Senegalese government's efforts to achieve MDG 2. The government is the main finance provider for the education sector, which saw

[10] These data come from DPRE databases.

increasing budgetary endowments over the last decade. The education budget increased significantly from 105 billion CFA francs (210 million USD) to 432 billion CFA francs (864 million USD) over the 2000–11 period, representing an average annual growth rate of 12.5 percent (République du Sénégal2014b). The Senegalese government covered approximately 64 percent of education sector expenses in 2011, while donors' contributions covered about 10 percent (World Bank 2013). Rather than an exception, this arrangement was the trend over the last decade. In addition, the education budget in total public expenditure (excluding debt interest payments) averaged 21 percent from 2000 to 2011 (République du Sénégal2014b). It is important to mention that the government allocated more resources than donors to MDG 2, according to the Consolidated Investment Budget that summarises investments in different sectors.

The government's education budget is dominated by the functioning budget that represents approximately 85 percent of the total education budget. The share of investment expenditure in the total education budget improved from 8 percent in 2005 to 15 percent in 2011 (World Bank 2013). Under the Triennial Public Investment Programme for the 2015–17 period, the education sector received 20.1 percent of investments devoted to the quaternary sector, representing approximately 237 billion CFA francs (equivalent to 474 millions USD) (DCEF 2014a). Another way to measure efforts in the education sector is to assess trends in expenditure on education for a given age group. From 2005 to 2011, the government allocated 55,497–91,893 CFA francs (equivalent to about 111-183, 8 USD) per capita for children aged seven to 19 years (World Bank 2013).
Senegal is a leader in West Africa in terms of public education, as it spends twice as much as the average public education expenditure of sub-Saharan African countries relative to GDP. Total public education expenditure in terms of domestic resources as a percentage of GDP increased from 5.2 percent to 6.3 percent between 2008 and 2011, while the overall African average was 4.6 percent (World Bank 2013).

Error! Reference source not found.demonstrates the importance that the Senegalese government attaches to education measured by public education expenditure relative to that of other West African countries, specifically those of the West African Economic and Monetary Union (WAEMU).

Table 3. Level of public expenditure on education in select West African countries

Country	GDP per capita (in CFA francs)	Domestic resources (except donations) as % of GDP	Public education expenditure as % of domestic resources	Public education expenditure as % of current public expenditure excluding debt	Year
Benin	304	17.2	20.7	25.2	2006
Burkina Faso	229	12.3	23.2	24.5	2006
Ivory Coast	471	19.5	21.4	26.5	2007
Guinea-Bissau	102	16.0	18.1	11.6	2007
Mali	294	15.5	21.0	28.7	2008
Niger	170	18.2	18.6	28.7	2008
Senegal	534	19.9	21.9	35.1	2011
Togo	181	16.9	23.5	23.7	2007
Average of WAEMU countries	286	16.9	21.1	25.5	

Source: Authors' estimates for Senegal; Rapport d'etat sur le système d'Educatif national (RESEN) for Mali (world Bank 2009).

Furthermore, the adoption of some best pratices can be considered efforts by the government to support the education sector. For example, the success of girls' education initiatives has been facilitated by a number of actions such as the establishment of French-Arabic schools near religious spaces, installation of pump wells to make it easier for girls to fetch water, construction of separated latrines and creation of a network of female teachers to raise awareness of girls' education (MEF and UNDP 2013). Notably, the Programme to Improve the Quality, Equity and Transparency of the Education and Training Sector (Programme d'Amélioration de la Qualité, de l'Équitéet de la Transparence du secteur de l'Éducation et de la Formation) for the 2013–25 period aims to improve the quality of teaching and learning, reduce disparities through more equitable access to education and promote inclusive and transparent governance. The programme elaborates on national priorities in the domain of education and training with a particular focus on 10 years of compulsory education, satisfying various learning needs by offering diversified approaches to education, orienting education opportunities to meet socio-economic needs, improving the quality of learning, empowering grassroots actors, ensuring shared benefits from information and communications technology (ICT) and promoting efficient and inclusive governance of the education system (see République du Sénégal2013).

The government is taking a number of actions on these priorities. For example, to orient education opportunities to meet socio-economic needs in both the national and global economies, is promoting the teaching of science and technology. It envisions increasing the percentage of students registered in science and technology streams at post-primary schools from 35 percent in 2012 to 50 percent in 2017 (Diouf 2014). With respect to higher education, one priority is improving access to education by making use of private institutions and reorienting training facilities towards the needs of the economy. The government sees partnerships with private enterprises as key to ensuring that technical and professional training corresponds to their needs.

Feedback on Global Targets and Indicators

The global targets and indicators proposed for the goal area on education are relevant in Senegal's context. They are mainly concerned with completion rates for primary and secondary education, the existence of pre-primary programmes and professional and technical training, which reflect Senegalese national priorities for the education sector. For example, to promote early childhood education and increase equitable access, the Senegalese government aims to increase the enrolment rate at the pre-primary level up to 50 percent through alternative models of diversification. In the domain of professional and technical training, the government wants to increase the number of students enrolled in higher education who also receive professional training up to 50 percent. Regarding the indicator on technical and vocational education and training, disaggregation by age – specifically youth and adults – would be useful in the Senegalese context.

Notably, an indicator on governance in the education sector is missing from the proposed set of global indicators. Given its importance to the performance of the sector, a global indicator on education sector governance should be included in the post-2015 agenda for Senegal. While the proposed global targets and indicators are relevant, more specific national targets and indicators should be determined in order to take into account the specificity of national priorities and local contexts. For instance, the share of education expenditure in total public expenditure is a relevant national indicator for Senegal. Table 4 outlines the global and national targets and indicators identified for the Senegal case study.

Table 4. Ensure quality education for all: Targets and indicators Target	Indicator
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
	% of girls and boys who complete primary school
	% 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
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
National	
Ensure all children have access to early childhood and quality primary and secondary education	Gross enrolment rate
	Gross enrolment rate per quintile of poverty
	Gross enrolment rate of disabled children
	Net enrolment rate
	The share of education expenditure in total public expenditure

Data on Education

Overall, Senegal is in a good position to monitor post-2015 progress on education.The best data sources are the ESPS and administrative data obtained from the MEN and Ministry of Vocational Training, Learning and Crafts (Ministère de la Formation Professionnelle, de l'Apprentissage et de l'Artisanat). The ESPS is a good source of data for education indicators at both global and national levels. Administrative data from the MEN are relevant for informing education indicators at the pre-primary, primary and secondary levels. Disaggregation is possible by sex, age and place of residence, as well as by ethnic group in some cases. Given these data sources, data on education to monitor post-2015 progress can be considered largely available and accessible.

A key challenge is that some inconsistencies exist when comparing data on enrolment rates collected by surveys and those obtained from administrative sources. The discrepancies in data on enrolment rates appear to be due to the different calculations in surveys such as the ESPS, which is conducted by the ANSD, and administrative sources under the responsibility of the MEN. The differences are important at all levels and statistically significant, particularly at the primary level where there seems to be an underestimation of the school-age population. ESPS II provides an estimation of students at the primary level that is very close to administrative data – 1,763,000 against 1,726,000 – which means that the sample used for the survey was well defined. There is, however, a difference in the estimation of the school-age population – 2,240,000 according to the survey compared to 1,869,000 according to administrative data, corresponding to a difference of 20 percent. This difference is probably due to the population projection system that was used, which is based on the general census of 2002. It is recognised among experts that the census underestimates the total population and perhaps the population growth rate, which causes a difference between the estimated population and real population over time. ESPS I included a 9 percent difference between the estimations of school-age population, which corresponds to 20 percent in 2011 with ESPS II. In fact ESPS II does not suffer from these problems because it is based on responses received in 2011. A significant amount of work is needed to conciliate the data produced by surveys and those obtained from administrative sources in order to ensure the reliability and relevance of data for monitoring post-2015 progress on education.

Opportunities and Challenges for Ensuring Quality Education for All

As in the case of the goal area on poverty, the PSE should help ensure quality education for all in Senegal during the post-2015 period. The plan includes 257.3 billion CFA francs (corresponding to 514.6 million USD) to finance programmes and projects in the domain of education and training. The government plans to build Sine Saloum University, create a network of Higher Institutes for Vocational Training (Instituts Supérieur d'Enseignement Professionnel), improve basic education and textbooks and encourage girls' schooling. Other opportunities for ensuring quality education for all include: (i) the political will to improve school report card results, (ii) the existence of strong multi-stakeholder partnerships, (iii) the existence of mechanisms for consultation and dialogue that bring together stakeholders in education (parent associations, academic authorities, etc.), (iv) decentralisation and decentralised cooperation and (v) the strong promotion of girls' education through various programmes (EMAP 2013).

Despite expanded efforts and plans in the education sector, challenges persist and in some cases are being exacerbated due to poor governance and ineffectiveness. Ineffectiveness here refers to low education completion rates, high dropout rates and low net enrolment rates (PSE 2014b). Some challenges limit the efficiency of the education system including delays in contruction programmes (no new classrooms were built in 2008 and 2009), insufficient teachers' qualifications (46 percent of teachers were considered qualified in 2009) and instructional hours, and the deficiency of textbooks for students (MEF 2010). Regarding the teaching of literacy, the main challenges are the weak inclusion of local government in the implementation of literacy programmes and inadequacy of training. Civil registrations – particularly in areas that have experienced many years of conflict, such as Casamance in the southern part of Senegal – and the inclusion of disabled people are other key challenges for ensuring education for all. At a 2013 conference on the results of social and economic research, the director of educational reform and planning, under the Ministry of National Education, summed up persisting challenges in the education sector (Diouf 2014).

- The exclusion of many children and young people from the education system, particularly those in underprivileged areas or from groups reluctant to participate in formal education.
- Disparities at different levels (sex, region, socio-economic group).
- Weakness of students' learning, especially in mathematics and reading.
- Teachers' insufficient training and qualifications.
- The predominance of literary streams to the detriment of scientific and technical streams in the education system.
- The poor quality of school environments, which are often characterised by the use of temporary shelters as classrooms as well as the lack of ancillary works and pedagogical equipment.
- Inefficiencies in the use of resources.
- Chronic instability in the education system due to cyclical teachers' and students' strikes.
- Citizens' lack of consideration of schools as integral parts of communities.

These challenges negatively influence the education sector and must be addressed to ensure quality education for all.

Create Jobs, Sustainable Livelihoods and Inclusive Growth for All

Current Status

In Senegal, employment is one of the Senegalese government's and households' major priorities. Although the country has achieved good results from a socio-economic point of view and the government has made decent jobs for all a priority, persisting disparities present obstacles to the promotion of long-term employment and inclusive growth. The New National Employment Policy for the 2011–15 period outlines a number of key challenges, including high rates of unemployment and underemployment (particularly among young people and women), weak harmony and coordination between employment policies and growth, investment and development policies, a disconnect between the needs of the labour market and training, and a lack of information on job opportunities owing to ineffective communication by the labour market.

Senegal has not seen significant improvements in the domain of employment, particularly in the formal sector, in recent years, with data suggesting that backsliding has occurred. The last general census, formally the General Census on Population, Housing, Agriculture and Livestock (Recensement Général de la Population, de l'Habitat, de l'Agriculture et de l'Elevage), conducted in 2013 by the ANSD shows that the overall unemployment rate in Senegal was 25.7 percent, with the working-age population being 58.2 percent of the total population. The majority of the unemployed – 92.9 percent – were seeking employment for the first time, whereas the unemployed who have had a job represent only 7.1 percent (ANSD, 2014c). Disaggregated unemployment rates varied according to region, age and sex.

According to the census, the unemployment rate was 17.7 percent in urban areas (12 percent for men and 28.1 percent for women) and estimated at 33.4 percent in rural areas (23.6 percent for men and 53 percent for women). At the regional level, the region of Matam had the highest unemployment rate at 54.2 percent, whereas the lowest unemployment rate, 14.9 percent, was recorded for the region of Dakar. Overall, women were found to experience more unemployment with a rate of 40.4 percent, compared to men whose unemployment rate was only 18 percent. Unemployment among young people aged 15–24 years was higher than the national average, although it decreased between 2006 and 2011 from 14.8 percent to 12.7 percent (MEF and UNDP 2013). In 2007, 60 percent of the unemployed were under 35 years old according to a World Bank report on employment in Senegal in 2007 (cited in an ILO 2012). The high number of unemployed young people was confirmed by the census of 2013.

According to the PSE, underemployment is also a major issue since only one person in five has a full-time job. In 2011, the underemployment rate was 32 percent for the working-age population. It was higher for women at 37 percent, but lower for young people at 28 percent. Furthermore, there are inequalities in terms of job opportunities because most of them are in the informal sector, which is characterised by low wages, low productivity and poor working conditions. The formal sector provides approximately only 10 percent of jobs. Inequalities also exist between the rich and the poor. An analysis of data from ESPS II shows that the top 20 percent of income earners represented 37.5 percent of total consumer expenditure in 2011 compared to 40 percent in 2005, while the bottom 20 percent of income earners represented only 6.6 percent in 2011 compared to 8.2 percent in 2005. Evidently, there was a slight decline in inequalities between the richest and poorest income earners. There are also inequalities between male and female workers in terms of wages. Despite the passing of legislation in 2008 (law 2008-01) that provided the

same treatment in terms of taxes and benefits to men and women, the monthly average wage of men is 56.3% greater than that of women (ILO 2013). In fact, men earned a monthly average wage of 290,740 CFA francs (corresponding to 581.48 USD) in 2013, while women on average earned only 127,130 CFA francs (corresponding to 254.26 USD) per month (ILO 2013). A comparison of median monthly wages, with men at 125,000 CFA francs (about 250 USD) earning almost double than women at 53,250 CFA francs (about 106.5 USD), confirms these inequalities. Income inequalities can be partly attributed to the fact that men are on average more educated than women (around 68 percent of men have completed higher education) and partly to discrimination in the labour market (BIT 2013). Moreover, women are more likely than men to be able to leave the labour market to raise their children, which also impacts the wage gap between sexes.

Previous and Ongoing Efforts and National Priorities

Important efforts have been undertaken by the government to address employment challenges. Young people's employment has been the principal target of national employment policies over the last two decades. The government has introduced various entities for the creation and promotion of jobs for young people, including the National Fund for Employment Actions, National Fund for Youth Promotion, National Agency for Youth Employment, National Civic Service, National Agency for the Return to Agriculture, and National Office for Suburban Youth Employment. The government has also made efforts to establish the National Observatory of Employment and Professional Qualifications. In addition, with the introduction of the New National Employment Policy in 2010, a High Council for Employment and Training was established, the convention, similar to a memorandum of understanding, between the governement and employers was renegotiated, and labour market information was improved through different initiatives such as the Operational Directory of Professions and Jobs (Répertoire Opérationnel des Métiers et Emplois). One of the national priorities identified during national consultations in 2013 that should be included in the post-2015 agenda by the Senegalese government is the promotion of a competitive economy that creates decent jobs. This priority was confirmed during the regional consultations in 2015 in which stakeholders considered the proposed goal on economic growth as of priority.

Notably, the New National Employment Policy intends to create jobs through major investments in the labour market, increasing young people's competencies and improving management of the labour market by introducing the Labour Market Information System (Système d'Information sur le Marché de l'Emploi). The policy aims to create 150,000 full-time jobs per year, given 202,000 people annually entering the labour force. From 2013 to 2017, the policy expects to create 500,000 jobs in the formal private, formal public and informal sectors by modernising traditional enterprises.

Under the PSE, young people's employment is also one of the key targets of state intervention, with about 36.9 percent of households judging it to be a top priority (République du Sénégal 2014c). The PSE identifies industries with high potential for job creation and inclusive growth, which include the development of agriculture, livestock, fishing, aquaculture and food processing; the development of the social housing and an ecosystem of construction, telecommunications and public works. During the inception workshop and focus group discussions for the Sengal case study, participants agreed that youth employment is a critical issue in the country. Thus, national indicators such as the insertion rate of new graduates (from universities and professional training) and the mismatch between training and youth employment have been proposed to capture progress on young people's employment. Table 4 provides an overview of the global and national targets and indicators selected for Senegal.

Table 4. Create jobs, sustainable livelihoods and inclusive growth for all: Targets and indicators Target	Indicator
Global	
Achieve full and productive employment for all, including women and young people	Labour force participation rate
	Time-related underemployment (thousands)
Ensure equal pay for equal work	Mean nominal monthly earnings of employees (local currency)
Support inclusive growth and reduce inequality	Gini coefficient
	Palma ratio
	Growth rate of income of the bottom 40%
	Gross fixed capital formation (% of GDP)
National	
Achieve full and productive employment for all, including women and young people	Insertion rate of new graduates (from universities and professional training)
	Ratio of new jobs to people trained, as a result of professional training by year
	Indicator measuring the mismatch between training and youth employment
Support inclusive growth and reduce inequality	Indicator measuring the geographical mobility of individuals (for seasonal activities)

Data on Employment

In Senegal, data on employment are considered not good because a survey dedicated to employment did not exist until very recently. However, the ESPS surveys and general census are decent data sources – they have online databases – that can inform the selected global and national indicators on employment, even though they are not specifically devoted to the issue. The ESPS, which is the main source for informing indicators on poverty, is also a relevant source for obtaining good data on income inequalities. The level of disaggregation – by sex, age, place of residence – is also good. For example, for the global indicator "Gross fixed capital formation (% of GDP)," data are available from national accounts and macroeconomic aggregates published by the ANSD. On the other hand, for the global indicator "Growth rate of income of the bottom 40%," even if relevant data exist, additional work is needed for its calculation.

Given different data sources, data on employment are disparate and their collection is irregular. Regular data release is a challenging issue for monitoring post-2015 progress on employment. Even if data for informing employment indicators exist, they are most of the time not online and only available by request. With regard to the comparability of employment data accessible from different sources, data from the ESPS and general census of 2013 are largely not comparable. It would therefore be useful to conduct regular national surveys on employment specifically for monitoring post-2015 progress.

In July 2015, the ANSD launched the first National Survey on Employment in Senegal (Enquête Nationale sur l'Emploi au Sénégal or ENES). According to the general director of the ANSD, this survey will collect data for a set of indicators on employment, which will improve the data situation and help decision makers to make informed decisions based on good data. The main objective of this survey is to implement a framework for measuring and monitoring employment in Senegal. Various other objectives exist for the

ENES, including measuring unemployment and underemployment, identifying industries with high potential for job creation, defining the profiles of job seekers, measuring the demand for jobs (particularly among young people) and assessing the duration of jobs (especially first jobs). The methodology for conducting this survey involves the collection of employment data on an annual basis for the first year, then every six months during the second year and every three months during the following years.

Opportunities and Challenges for Creating Jobs, Sustainable Livelihoods and Inclusive Growth for All

As noted above, the PSE presents a major opportunity to create up to 150,000 decent, productive and well-paying jobs each year through public investment in the labour market and the improvement of labour market information. In terms of challenges, supporting the creation and expansion of private enterprises is one of the principal ones. Private small and medium-sized enterprises (SMEs) are responsible for 42 percent of annual job creation in the modern sector (République du Sénégal 2014c). These enterprises face various constraints related to the limited access to finance, the dysfunctions of administrative, institutional and juridical environment, inadequate infrastructure, and inconsistent tax rates and regulations. Other challenges are workers' insufficient qualifications and the predominance of the informal sector. According to the PSE, 82 percent of workers have no formal qualifications, the formal sector accounts for only 10 percent of jobs and the majority of job opportunities are in the informal sector, as mentioned. Given low productivity and wages in the informal sector, the creation of decent full-time jobs is critical.

During the national consultations on the post-2015 agenda, stakeholders noted that key challenges include the absence of integrated policies, especially between the business environment, training, employment and social welfare, the lack of qualified young people to satisfy the needs of the private sector, the development of value chains for the expansion of the food-processing industry, the persisting problems of unemployment and underemployment, and the predominance of the informal sector (EMAP 2013). Moreover, the high youth unemployment rate and increasing urbanisation can be considered challenges for the creation of full-time jobs and general well-being. The production model crisis, which has resulted from the decline in and reconstitution of the agricultural industry, and context-specific constraints on employers make job creation difficult (MEF and UNDP 2013).

Effective job creation requires knowledge of the reference situation or baseline in order to define and estimate relevant needs. Generation of this knowledge depends on regular data collection and data accessibility to monitor and evaluate indicators that are pertinent to job creation. At present, available data on employment are disparate, difficult to access and not always reliable, which limits the use of data to evaluate professional qualifications and assess labour market trends. The recently launched ENES will help address the challenges related to inadequate employment data in Senegal and subsequently monitor progress on the post-2015 agenda.

Ensure Energy and Develop Infrastructure for All

Current Situation: Energy

The energy sector in Senegal is characterised by strong dependence on imported oil products and traditional energy sources, particularly biomass. Dependence on imported hydrocarbons has been aggravated by the current state of energy production facilities. Thermal energy represents 90 percent of energy production in the country, which means that production costs are high (République du Sénégal2014b). Hydroelectricity from the Manantali Dam aside, electricty production mainly depends on thermal energy that is primarily obtained from imported hydrocarbons. Oil imports greatly affect the national economy due to their volume and strong price fluctuations in the international market. From 2000 to 2009, imported oil products increased by 30 percent in volume and 118 percent in value (République du Sénégal2010). Prices increased by roughly 50 percent between 2005 and 2008 (Sow 2012). As a consequence, an unprecedented rise in the prices of oil products led to a serious crisis in the energy supply system, as illustrated by shortages in the distribution of fuels, butane gas and electricity (Dia et al. 2010).

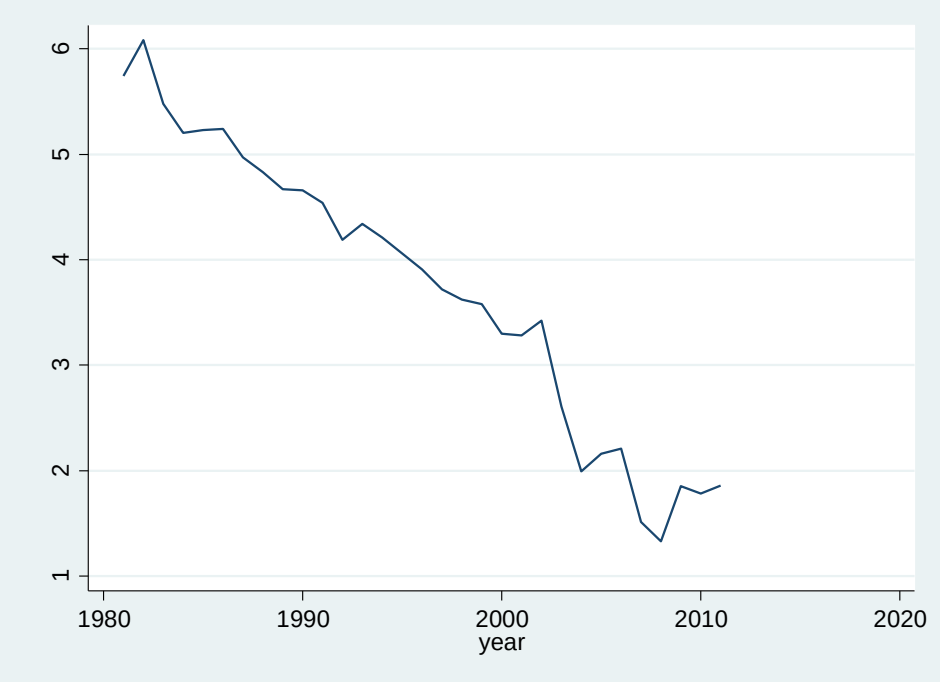
The country's difficulties in producing and distributing electricity were aggravated in 2010 and 2011, which resulted in weak access to energy services for the population. The electrification rate remains weak and major disparities exist between regions. Specifically, the access rate to electricity is 54 percent at the national level, 90 percent in urban areas and 24 percent in rural areas (République du Sénégal2014a). Overall, only 51 percent of households have access to a reliable electricity source. In addition, the number of days it took to get an electricity subscription was 113 in 2014, which places Senegal in 125th position when ranked among countries. Moreover, the National Electricity Company of Senegal (Société Nationale d'Electricité du Sénégal or SENELEC) has been facing a difficult financial situation, which particularly problematic from 2009 to 2012, when a high production cost of 170 CFA (about 0.34 USD) francs/kilowatt-hour was paired with a sale price of 118 CFA (about 0.236 USD) francs/kilowatt-hour (République du Sénégal2014a). Senegal's electricity prices are among the highest in the world despite public subsidies, which were estimated at 105 billion CFA francs (210 million USD) in 2012 (République du Sénégal 2014c). For example, the price of medium-voltage electricity is about 92.5 CFA francs (about 0.185 USD) /kilowatt-hour, which is two and a half times as costly as the price in Tunisia.

High electricity prices coupled with supply problems deeply impact the competitiveness of private enterprises, which slows down economic growth. Some enterprises find solutions to avoid being dependent on the electricity supplied by the SENELEC, which limits negative impacts on their production and distribution processes. Approximately 55.4 percent of enterprises possess their own generators, which is higher than the average of 43.1 percent in sub-Saharan Africa (Torres, Briceño-Garmendia and Carolina Dominguez 2011). As for the overall costs of the crisis, they were estimated to be 1 percent of economic growth in 2011 and could reach 2 percent of annual growth in the medium-term if measures are not taken to reverse trends (Galibaka and Kangoye 2014).

In 2010, the International Monetary Fund suggested that weaknesses in the electricity supply were the principal obstacle to the acceleration of economic growth in Senegal. The Senegalese government therefore initiated an important investment programme in electricity production and supply infrastructure financed by its principal development partners. The programme includes the ambitious objective of

providing the Senegalese population and private enterprises with stable electricity at a low cost. Through investments in renewable energy sources and biofuels, the programme aims to achieve universal access to modern household fuels and an independence rate in commercial energy, not including biomass, of at least 15 percent before 2025. At present, renewable energy sources represent roughly 2 percent of the total energy supply. As a share of total energy, renewable energy has declined over the past few decades (see Figure 6).

Figure 6. Evolution of the share of renewable energy in the total energy supply



Source: WDI 2013.

Moreover, an analysis of electricity supply and demand indicates that there is a deficit in energy accounts (see Table 5). From 2007 to 2010, the deficit resulting from serious disruptions in the supply of electricity was 135 megawatts (Sow 2012). The inadequacy of the electricity supply and poor quality of services are major obstacles to attracting private investment. Using a scale of 1 to 7, the index of the quality of electricity supply is 2.3 for Senegal, with the country ranking 134th out of 144 countries in 2012–13 (Schwab 2013). From 2005 to 2009, production capacity increased from 365 to 510 megawatts, whereas demand kept growing at an annual pace of 25 to 30 megawatts. The gap between supply and demand has been accentuated due to losses principally emanating from problems at the supply and transmission levels, with limited capacities and a dilapidated network being major problems. In 2009, losses at the supply and transmission levels represented 19.5 percent of electricity production, while energy shortages caused by power cuts increased by 334 percent in 2009–10 (Galibaka and Kangoye 2014).

Table 5. Electricity supply and demand, 2013

Production	Imports	Residual supply	Demand	Gap between supply and demand
1864,65	234,00	2089,65	2230	-131

Source: WDI 2013.

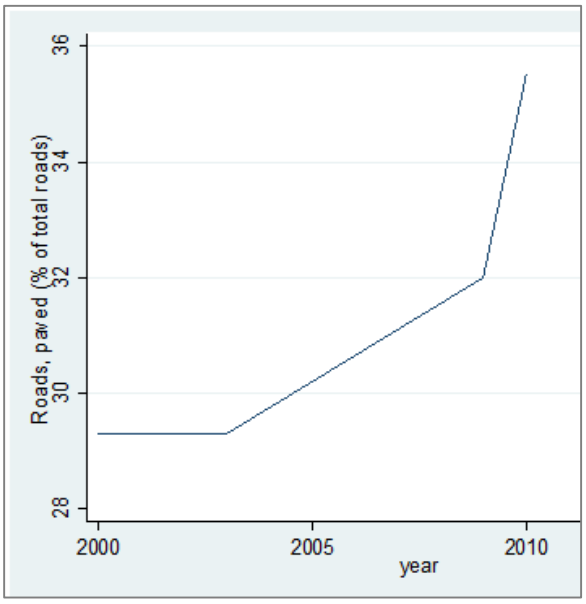
Current Situation: Infrastructure

Infrastructure plays an important role in wealth creation and significantly contributes to a country's overall economic performance. Modern infrastructure is essential for human development and facilitating access to education and health services, particularly for the poorest segements of populations living in rural areas. In Senegal, it is important to make a distinction between transport infrastructure – roads, railways, ports and airports – and telecommunications infrastructure.

As far as roads are concerned, Senegal has a road network that is considered to be long at 14,959 kilometres (km). Approximately 32 percent of roads are paved and 68 percent are unpaved. Road density is 7.4 km per 100 km^2, which is higher than the African average of 4.2 km per 100 km^2 (Galibaka and Kangoye 2014). Senegal's road network is relatively good compared to those in countries with the same level of government revenue, particularly other sub-Saharan African countries. Unlike most African countries, Senegal does not have an index on the quality of roads but it appears that less than 20 percent of the road network is of excellent quality (Torres, Briceño-Garmendia and Carolina Dominguez 2011). According to the World Bank's Logistics Performance Index, which looks at commercial logistics in Africa including indicators on road availability and quality, Senegal is faring better than its regional counterparts, scoring 2.86 compared to the regional average of 2.46 (World Bank 2015).

The share of paved roads in the road network increased from 33.6 percent in 2007 to 35.5 percent in 2011 (see Figure 7.). From 2005 to 2009, the road network was lengthened by 500 km and rural roads were lengthened by 600 km (République du Sénégal2014a). The extension of the road network was possible thanks to the implementation of the Transport Sector Adjustment Programme followed by successive phases of the Transport Sector Project and the Transport and Urban Mobility Support Programme. In addition, an Autonomous Agency for Road Works and Autonomous Road Maintenance Fund were created to contribute to the development of road infrastructure and completion of major projects. Road infrastructure contributed to 4 percent of annual GDP growth and 9 percent of added value in the tertiary sector on average over the 2000–11 period (République du Sénégal2014a).

Figure 7. Percentage of paved roads, 2000–15



Source: WDI 2013.

Transport infrastructure is limited by certain constraints including uneven regional distribution of the road network, run-down vehicles, and a lack of resources for periodic maintenance and rehabilitation of roads and transportation services to satisfy demand, particularly in urban areas. There are disparities between regions, especially with regard to access to infrastructure in the domains of water, sanitation, energy and transportation. The sustained rate of urbanisation – six out of 10 people will live in urban areas in 2015 according to World Bank estimates – constitutes a constraint on balancing infrastructure offered in urban and rural areas (Torres, Briceño-Garmendia and Carolina Dominguez 2011). In rural areas, the absence or poor quality of road infrastructure increases the isolation of certain villages and limits rural populations' access to markets to sell their products. Second-hand vehicles that are more than 10 years old constitute 75 percent of vehicles on roads, whereas new vehicles under 4.5 years constitute the minority at 25 percent, hence there are many run-down vehicles (Galibaka and Kangoye 2014). Moreover, about 40 percent of paved roads and 63 percent of unpaved roads were in poor condition in 2009, negatively impacting the country's connectivity.

In terms of railways, Senegal has 1,110 km of railways – 958 km of principal lines and 152 km of secondary lines. Transrail and the Petit Train de Banlieue provide rail transportation in the country. Until 2003, Senegal and Mali used the railway line linking their respective capitals Dakar and Bamako, which was one of the key transport corridors in West Africa. Management was entrusted to the Senegalese National Railway Company on the Senegalese side (644 km of the railway line) and the Malian Railway Company on the Malian side (584 km of the line) (World Bank 2007). Transrail, a foreign private company, was granted a 25-year railway concession of Dakar–Bamako line in 2003. The Petit Train de Banlieue is a passenger train that provides regular transportation of passengers between Dakar and Rufisque via Thiaroye. The transportation of people and goods on the Dakar–Bamako line has decreased in recent years, with passenger traffic decreasing by 36 percent and the traffic in goods decreasing by 10.8 percent between 2010 and 2011 (ANSD 2013). Similarly to road infrastructure, railway infrastructure is constrained by the deterioration of railways and rolling stocks, which is aggravated by lack of investment.

With regard to ports, activities in Senegal are concentrated in Dakar at the Port of Dakar. The Port Authority of Dakar sees profits from the management of sea transport, specifically from taxes, concessions and other tariffs, and is considered one of the best ports in the West African region. In addition to the Port of Dakar, which is the first deep-water port for ships from the North, Senegal has three secondary ports in the regions of Saint-Louis, Kaolack and Ziguinchor as well as a river transportation network on the Senegal, Saloum and Casamance Rivers. An analysis of data from the World Bank and African Development Bank shows that port infrastructure has improved over time. Improvements include reductions in export and import times, which decreased from 20 to 11 days and 26 to 14 days, respectively, between 2007 and 2011. These durations, which are comparable to those of Organisation for Economic Co-operation and Development countries, are approximately three times shorter than those in other sub-Saharan African countries. Notably, traffic increased over 300 percent in 10 years, going from 87,000 twenty-foot equivalent units in 1995 to 363,000 units in 2006 (Torres, Briceño-Garmendia and Carolina Dominguez 2011).

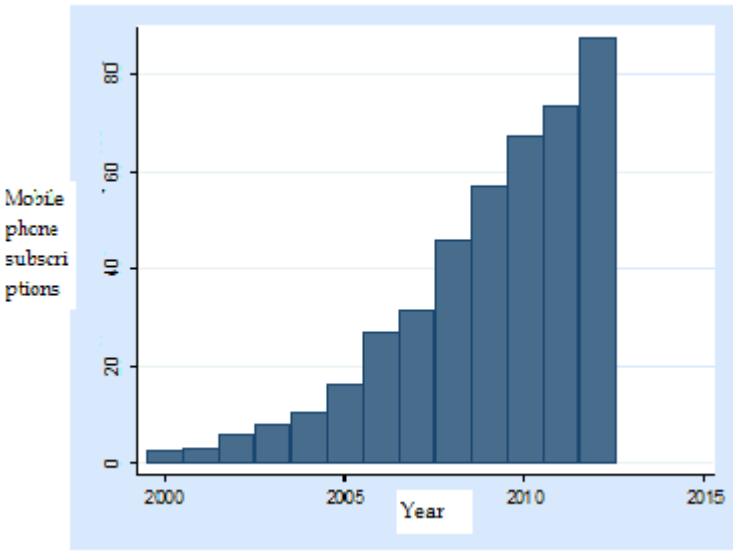
For airports, Senegal has an air network comprising Léopold Sédar Senghor International Airport in Dakar, four medium-sized airports in Saint-Louis, Ziguinchor, Cap Skirring and Tambacounda, and 12 regional aerodromes considered to be secondary to the airports. Blaise Diagne International Airport located in Diass is currently under construction and will be added to these airports. The development of airport infrastructure should contribute to strengthening the position of Senegal, which is only behind Nigeria, as an air hub in West Africa. Senegal's air transport sector is characterised by quick growth, as growth of more than 50 percent between 2001 and 2007, going from 1.67 million to 2.6 million seats being filled annually, was recorded (Torres, Briceño-Garmendia and Carolina Dominguez 2011). The

Senegalese market is relatively less dynamic overall, however, since air transportation is dominated by the international market, which represents up to 85 percent of total seats filled.

Finally, telecommunication infrastructure plays an important role in development through its contribution to GDP in Senegal. In 2010, telecommunications represented 10.8 percent of GDP and 1.1 percent of employment. Telecommunications' share of GDP has increased to 15 percent since 2010 (Telecom Advisory Services, LLC 2014). In comparison to other countries with similar income levels, Senegal has seen good results in terms of development of the country's ICT. In terms of ICT, development and employment, Senegal ranks 107th out of 144 countries (Schwab 2013). Senegal's telecommunications market is dominated by three companies, namely Sonatel (a subsidiary of Orange), Tigo (a subsidiary of Millicom International Cellular) and Expresso (a subsidiary of Sudatel). In terms of governance, the Regulary Authority for Telecommunications and Post (Agence de Régulation des Télécommunication et des Postes or ARTP) is an independent administrative authority in charge of making sure that the principles of safe and fair competition are respected, ensuring that the principle of balanced interconnection between companies is also observed and supervising the prices fixed by powerful companies.

Given active participation of the private sector and the existence of a regulatory framework, ICT has rapidly developed over the last decade. Regarding mobile phone use, statistics from the ARTP indicate that the number of mobile phone subscriptions increased from 1.12 million to 9.35 million and the penetration rate increased from 10.6 percent to 76.8 percent between 2004 and 2011. The development of the mobile phone market was helped by an effective pre-payment system. Figure 8 shows the strong growth of mobile subscriptions since 2000.

Figure 8. Evolution of mobile phone subscriptions, 2000–12



The number of internet users has also considerably increased since the early 2000s, going from 883,548 in 2007 to 2,234,322 in 2011. This increase can be explained by the introduction and attraction of a 3G network in Senegal in 2009, which facilitated access to the internet through mobile phones, and falling price of asymmetric digital subscriber line (better known as ADSL) broadband internet access . Compared to most other African countries, Senegal is ahead in terms of the number of internet users per 100 persons and available internet bandwidth (Torres, Briceño-Garmendia and Carolina Dominguez 2011).

Despite successes in expanding infrastructure in Senegal, there is considerable room for improvement across different types of infrastructure. From a global perspective, Senegal is not keeping up with other countries in this domain, going from the 100th position in 2007 to 104th in 2010 then 113th in 2013 (Schwab 2013). Surveys of private enterprises in the country indicate that infrastructure problems account for 58 percent of productivity losses (Torres, Briceño-Garmendia and Carolina Dominguez 2011).

Previous and Ongoing Efforts and National Priorities

The development of infrastructure in the domains of energy, transport and telecommunications is all the more important because Senegal's economic competitiveness and growth depend on it. Significant progress has been made in access to electricity and modern telecommunications systems. Investments in infrastructure, particularly roads, railways, ports and airports, have been important for the country.

Energy

Energy is one of the seven SDGs considered to be of high priority according to stakeholders that took part in the regional consultations conducted by the MEDD in 2015. A review of Senegal's energy sector and the Senegalese government's efforts in the domain demonstrates that energy is a key national priority.

National priorities within the energy domain have been articulated through various policies, the Policy Letters for Energy Sector Development (Lettre de Politique de Développement du Secteur de l'Energie) in 1997, 2003, 2008 and the 2012–17 period as well as the Takkal Plan formulated in 2011 to solve the energy crisis. Energy priorities also appear in the DPES adopted in 2010, which calls for the establishment of a more sustainable energy sector that guarantees universal access to modern, reliable energy services at affordable prices by 2017. Aspects of the policy letter for the 2012–17 period were incorporated into the PSE. In accordance with these policies, the government has made ongoing efforts to prioritise the diversification of energy sources, specifically promoting renewable energy (solar, wind, hydro, biomass) in addition to using fossil fuels (oil, gas, other hydrocarbons). Senegal has good renewable resources, but other than large-scale hydropower, they are weakly used (Mawhood and Gross 2014). The creation of the National Agency for Renewable Energy (Agence Nationale pour les Énergies Renouvelables) should be mentioned as one of the governement's efforts to promote alternative energy sources. The government's aim is to ensure that renewable energy represents 20 percent of the national energy mix in 2017 – a major increase from their current share of 0.6 percent.

The government has made progress by ensuring wider access to electricity through the consolidation of energy regulations and encouragement of private investment in the electricity sector. The majority of reforms in the electricity sector were undertaken in 1998 with the aim to ensure the provision of electricity at low cost and increase access for populations, particularly in rural areas. In the PSE, priorities include reducing household electricity bills by half and ending power cuts and the losses that result from them before 2017. The government aims to improve the competitiveness of the electricity sector, which should reduce prices and as such, contribute to a significant reduction in subsidies to the sector. Furthermore, under the Triennial Public Investment Programme for 2015–17, 304.7 billion CFA francs (equivalent to 609.4 million USD) were allocated to the development of energy infrastructure and services, representing 74.2 percent of planned investment within the energy sector. These efforts should support economic development and reduce social and regional inequalities.
As mentioned, the electricity sector depends heavily on thermal generation based largely on imported oil. The SENELEC has been heavily dependent on subsidies for many years and struggles to pay its suppliers. This is one of the reasons behind the frequent, long power cuts that the Senegalese population

has suffered for a long time. Following partial privatisation in 1999, the SENELEC was renationalised in 2000 and important reforms were undertaken, such as the removal of certain regulations and rural electrification from the SENELEC's portfolio. Two new institutions were then created, namely the Electricity Sector Regulatory Commission (Commission de Régulation du Secteur de l'Électricité) and Senegalese Rural Electrification Agency (Agence Sénégalaise d'Électrification Rurale or ASER). The ASER was in charge of implementing the Senegalese Action Plan for Rural Electrification (Plan d'Action Sénégalais d'Electrification Rurale). In addition, given the large disparity between urban and rural areas in terms of electrification rates, one priority is to quickly improve access to energy for rural areas, electricity in particular, reaching a rural electrification rate of 60 percent by 2017.

Infrastructure

The development of transport and telecommunications infrastructure has been possible due to the government's efforts. It presently devotes about 470 billion CFA francs (equivalent to 940 million USD) per year, equivalent to US$1 billion, to infrastructure, representing 11 percent of GDP. The government has adopted a five-year programme worth 2 trillion CFA francs (corresponding to 4 billion USD) for the sole purpose of improving road infrastructure. Furthermore, under the government's Triennial Public Investment Programme, a significant allocation of approximately 1.2 trillion CFA francs (equivalent to 2.4 billion USD) was made for infrastructure, representing 38.7 percent of the programme's total budget. The programme focuses largely on road infrastructure with efforts targeting the construction and restoration of the road network to facilitate mobility. In this context, the 32 km toll motorway project from Dakar to Diamniadio was implemented through a public-private partnership to solve isolation and mobility problems. Private sector involvement in infrastructure has allowed for the diversification of funding resources available for road maintenance and restoration. In addition, measures have been taken to improve institutional and regulatory aspects of transportation such as transparency, procedures and regulation. In 2012, Senegal had the fewest customs checks in the WAEMU area, with 1.6 controls for every 100 km (Galibaka and Kangoye 2014).

With respect to air travel, the completion of the Blaise Diagne International Airport should reduce trip durations between Dakar and Diamniadio and improve the cost situation for freight, which constitutes an obstacle to boosting the competitiveness of private enterprises. The government aims to begin the airport's services in 2015 and restore regional airports before 2018. With respect to telecommunications, prices have been reduced, leading to increased access to the internet and an increased penetration rate, as mentioned. According to the International Telecommunication Union, Senegal had the lowest monthly price to access the internet in the WAEMU area in 2011 at 18,000 CFA francs (about 36 USD), compared to countries such as Benin and Mali (25,000 CFA francs, corresponding to 50 USD), Côte d'Ivoire (29,750 CFA francs, corresponding to 59.5 USD) and Togo (34,685 CFA francs corresponding to 69.37 USD) (Galibaka and Kangoye 2014). To develop telecommunications infrastructure, some measures have been taken to establish connections via optical fibres and increase access to high-speed internet by reducing prices. Efforts are being made to shift from radios and televisions to digital technologies as soon as possible. Table 6 provides an overview of the global and national targets and indicators on energy and infrastructure examined for Senegal.

Table 6. Ensure sustainable energy and develop infrastructure for all: Targets and indicators	
Target	**Indicator**
Global	
Ensure full access to developed infrastructure and communication technology	Internet users (per 1,000 people)
	Average bandwidth speed (megabits/second)
	% of the population with access to an all-season road
	% of adults with an account at a formal financial institution
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
	Rate of improvement in energy intensity
	Share of the population with access to modern cooking solutions (%)
	Share of renewable energy to total energy consumption
National	
Ensure full access to developed infrastructure and communication technology	# of mobile phone subscribers (per 1,000 people)
	# of home phone subscribers (per 1,000 people)
	#of mobile payment users (per 1,000 people)
	% of paved roads in the road network
	Electrification rate
Ensure access to energy and improve efficiency and sustainability of energy supply, including renewable energy	Proportion of the population having access to modern solutions for lighting

Data on Energy and Infrastructure

For the goal area on energy and infrastructure, data for informing indicators can be found in multiple databases, the majority of which are administrative data sources. Relevant data for energy indicators can be obtained through the National Energy Information System (Système National d'Informations Énergétique), whereas data for infrastructure indicators can be derived from multiple sources such as the Works and Road Management Agency (Agence des Travaux et de Gestion des Routes du Sénégal), the ARTP and Sonatel. Data for energy indicators are more available and easily accessible than those for infrastructure indicators. It is particularly difficult to find data for the global indicator "% of the population with access to an all-season road."

To measure progress on telecommunications infrastructure, a national indicator on the percentage of people who use mobile payment options has been suggested. This indicator is relevant for Senegal given an increase in the use of mobile phones for financial transactions, such as paying bills and remitting money. Data for informing this indicator can be obtained from the main telecommunications companies, such as Orange, Tigo and Expresso, as well as banks and private enterprises. As for the global indicator "Internet users (per 1,000 people)," data can be obtained through surveys conducted by the ANSD, such as the National Survey on Information and Communications Technologies in Senegal (Enquête Nationale sur les Technologies de l'Information et de la Communication au Sénégal), or produced from the ARTP's administrative data. These data can be disaggregated by age, sex, place of residence (Dakar, other urban centres, rural areas), education level, professional categories and internet access at and outside the home. Moreover, the ARTP's reports covering the 2000–12 period provide additional information, specifically disaggregation by type of internet access (ADSL, real-time communications or 3G) and type of users (residential, professional). The ARTP is also a source for the global indicator "Average bandwith speed (megabits/second)."

For the global target “Ensure full access to energy and improve efficiency and sustainability of energy supply, including renewable energy,” data are available through Senegal’s Energy Information System (Système d’Information Energétique du Sénégal), a database that brings together a wide range of data and information on energy, for indicators such as “# of hours per day households have access to electricity on average,” “Rate of improvement in energy intensity” and “Share of renewable energy to total energy consumption.” Data for informing these indicators are available from 2000 to 2012. Decision makers use the Energy Information System to develop and monitor national energy policies.

To monitor the supply and quality of infrastructure, the national indicator “% of paved roads in the road network” has been suggested. The Works and Road Management Agency provides data for monitoring this indicator. In addition to having data on the percentage of paved roads, it would be useful to have data on the maintenance of these roads. The main limitation in data on energy and infrastructure is the need to use multiple datasets to inform indicators, which is time-consuming and reduces data reliability. Therefore, for this goal area, the data strategy should be to ensure that data are harmonised and data sources are regularly updated, particularly for informing infrastructure indicators.

Opportunities and Challenges for Ensuring Sustainable Energy and Developing Infrastructure for All

Energy

An important opportunity for Senegal with respect to sustainable energy is that the country has significant potential to develop various renewable energy sources. Senegal has potential in wind energy, particularly on its largest coastline where the average wind speed is between 4 and 6 m/s. The potential in photovoltaic solar energy is immense with a production capacity of 6 kilowatt-hours per metre squared per day (Diouf 2014). Hydroelectricity is another opportunity to ensure sustainable energy, especially with the Senegal River and the tributaries of the Gambia River, which give the country an estimated production capacity of 1,400 mega-watts (IRENA 2012). The development of renewable energy sources such as wind and solar is one of the stated priorities in the PSE. Such development will improve the energy mix and consequently the production costs of electricity should be substantially reduced. Production costs are expected to fall from 180 CFA francs (equivalent to 0.36 USD) /kilowatt-hour in 2012 to 60–80 CFA francs (equivalent to 0.12-0.16 USD) /kilowatt-hour in 2017.

Another opportunity to ensure sustainable energy is taking advantage of the production capacity of bioenergy. Biomass potential is estimated at: (i) 250,000 tonnes of sugarcane bagasse representing 106,000 tonnes of oil equivalent of which 60 percent are recovered (or “valorised," to use the French term), (ii) 217,000 tonnes of rice straw representing 62,800 tonnes of oil equivalent, which have been barely exploited and (iii) 197,500 tonnes of nutshell, representing about 79,500 tonnes of oil equivalent and barely valorised at a quarter of potential (Sow 2012). Nevertheless, challenges exist. First, the competitiveness of the energy sector needs to be improved, which will require financial and operational reorganisation of the SENELEC. Second, there is a need to reduce the strong pressures on forest resources to guarantee sustainability. Finally, the institutional environment and management of the energy sector also need to be improved.

Infrastructure

The focus on infrastructure in successive government policies represents a clear opportunity to develop infrastructure for all. The PSE envisions expanding the network of roads and rural paths as well as creating a transport network that connects various modes of transportation (land [road and rail], air, water). The government plans to build more than 1,170 km of paved roads and at least 4,000 km of rural paths by 2017. On the same time horizon, it plans to restore and expand inland ports. The government also plans to restore 573 km of railways and 12 regional aerodromes. In addition to these efforts, the renewal and modernisation of urban and inter-urban transport represents an important opportunity. With respect to telecommunications, the government has an opportunity to exploit the good integration and absorption capacity of ICT in Senegal. Compared to other WAEMU countries, Senegal has had good results in terms of its new technologies absorption capacity (Galibaka and Kangoye 2014).

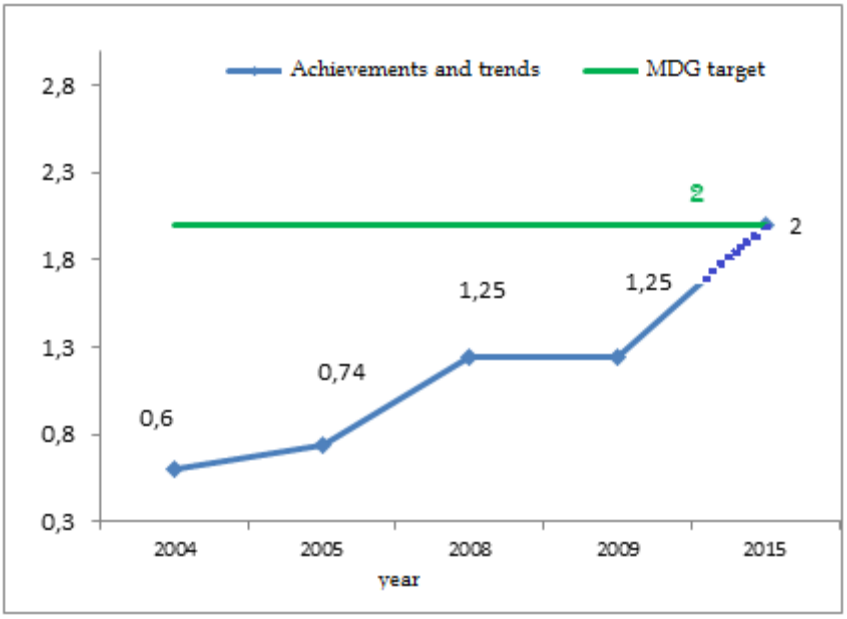
In terms of challenges, Clemencia Torres, Cecilia M. Briceño-Garmendia and Carolina Dominguez (2011) point to the need to: (i) maximise the maintenance of the road network, (ii) increase private sector contributions, which serve as an alternate funding source, (iii) address the deterioration of railways and rolling stocks and (iv) facilitate the expansion of the internet market and strengthening of private sector participation in this domain. To overcome these infrastructural challenges, Senegal will need to cope with expenses estimated at 2,420.3 billion CFA francs (about 4,840.6 million USD) over the 2013–17 period (République du Sénégal 2014a).

Establish a Sustainable, Healthy and Resilient Environment for All

Current Situation

When Senegal signed the Millennium Declaration in 2000, its environmental context was characterised by degraded forest resources (the clearing rate was 45,000 hectares per year), the accelerated loss of arable lands, soil erosion in side basins, a reduction in soil retention capacities and deterioration of the living environment, which hindered access to drinking water, sanitation and social housing. Consequently, with regard to MDG 7 on ensuring environmental sustainability, priorities have been focused on the protection of forests and the environment, access to drinking water and sanitation and the promotion of social housing. Senegal has attained the first target under MDG 7 on integrating sustainable development principles into national policies and reversing the loss of environmental resources. In 2006, the Senegalese government introduced a strategy for sustainable development and sectoral environmental policies, which have led to improvements on indicators related to environmental protection. With regard to fighting desertification and protecting fauna and flora, the reforestation/deforestation ratio improved from 0.6 in 2004 to 1.25 in 2008 and then 1.16 in 2013 (see Figure 9). The ratio, for which the associated target is fixed at 2 in 2015, has seen an improvement given the results achieved in terms of forest management in order to ensure that charcoal production is entirely within forest management areas.

Figure 9. Evolution of the reforestation/deforestation ratio



Source: CSPLP/ MEF 2009.

The indicator on forest area dimensions (the surface area of listed forests) has stagnated at 31.7 percent since 2006, with no change registered by 2011. Senegal has nearly reached the international norm of protecting 12 percent of national territory – the proportion of protected areas rose from 8 percent in 2000 to 11 percent in 2005. On wetlands management, efforts have been made to remove invasive aquatic plants from the Senegal River basin, with 84 hectares being cleaned in 2011. Moreover, efforts against

bushfires have involved maintaining 5,144 km of existing firewalls (the target is 5,500 km) and creating 3,279 km of new firewalls (the target being 3,300 km) (MEF and UNDP 2013). In addition, ex-ante evaluations of environmental impacts were made mandatory in some cases outlined in the Environment and Natural Resources Sector Policy Letter for the 2009–15 period.

Senegal has also seen significant progress on the MDG 7 target on improving access to drinking water. Indeed, for targets of 96% and 83%, respectively in urban area and rural area, assessments done under the PEPAM (Programme d'Eau Potable et d'Assainissement du Millénaire) project have showed improvements as shown in Figure 10 and Figure 11. The population having access to drinking water in rural areas has increased from 72.4% at the end of 2007 to 84.1 in 2013 (PEPAM, 2008; PEPAM, 2014); while in urban areas the rate has increased from 93% in 2006 to 98.7% in 2013 (MEF and UNDP, 2013; PEPAM, 2014). This progress is the result of investments in companies responsible for water treatment and supply (Société Nationale des Eaux du Sénégal and Sénégalaise des Eaux). Still, the level of access to sanitation infrastructure is weak in both urban and rural areas.

Figure 10. Proportion of the population with access to an improved water source (drinking water) in urban areas

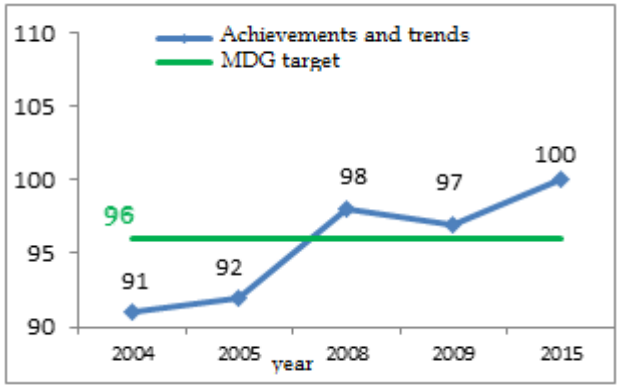
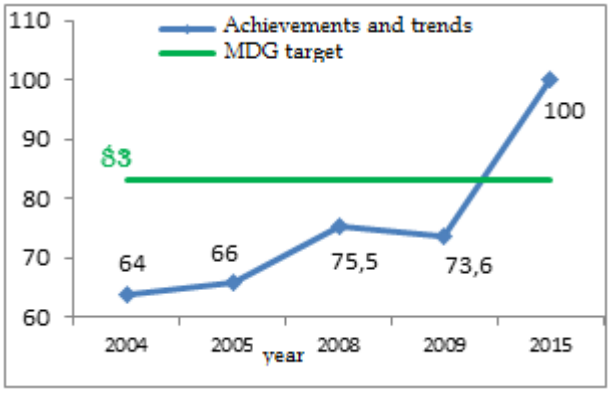


Figure 11. Proportion of the population with access to an improved water source (drinking water) in rural areas



Source: PEPAM reports[11]

Regional disparities exist in access to drinking water, as regions in the west and centre of Senegal – specifically the regions of Dakar, Thiès, Kaolack, Fatick, Diourbel and Kaffrine – have the highest supply rates, whereas the southern part of the country – particularly the regions of Sédhiou, Kolda and Kédougou – has seen the weakest performances (MEF and UNDP 2013). It is likely that the target will be reached in rural areas by the end of 2015 if the government finishes strong in its implementation of the Millennium Drinking Water and Sanitation Programme (Programme Eau Potable et Assainissement du Millénaire) for the 2005–15 period. Regarding access to sanitation, the access rate increased from 62 percent to 63.3 percent in urban areas and from 26.2 percent to 34.3 percent in rural areas between 2006 and 2011 (PEPAM 2012). This means that Senegal will not reach the target on sanitation by the end of 2015.

Senegal has also seen progress on improving the lives of people living in slums, which is also a target under MDG 7. In 2009, an assessment showed progress since 2006–07, with 61,792 people having been taken from spontaneous housing and rehoused. However, the results are still relatively low, as only 26

[11] We have used different PEPAM reports (2008, 2009, 2010, 2012 and 2014) for obtaining data on the proportion of the population with access to an improved water source in urban and rural areas. Details are available in the references.

percent of the annual target for the number of new serviced, available plots and 38 percent of the annual target for the number of persons relocated to decent housing have been achieved. If the government's initiatives – a house for each family, slumless Senegalese towns, fighting against floods and a rainwater management project have been mentioned – are to significantly improve upon these results, it should be noted that other factors actively contribute to the deterioration of the living environment such as insecurity inherent in poorly planned urbanisation.

Previous and Ongoing Efforts and National Priorities

In the domain of environmental sustainability, national priorities have been articulated in the Environment and Natural Resources Sector Policy Letter and assessments of the implementation of various yearly work plans. One of the priorities is improving basic knowledge of the environment and natural resources. The aim is to ensure environmental governance based on a participatory and sustainable approach. The government has intensified efforts to address environmental degradation and exploitation of natural resources in accordance with relevant international conventions. To succeed its strategy for sustainable development introduced in 2006, the government adopted a national strategy for sustainable development in July 2015 during the First National Conference on Sustainable Development hosted by the MEDD. In line with international commitments, the government aims to drastically reduce the deterioration of forest and animal resources while contributing to the satisfaction of the population's needs in terms of natural resources and quality of life. Other priorities include boosting the technical and institutional capacities of actors, such as local and grassroots community organisations and the private sector, to contribute to the implementation of actions to protect the environment and natural resources, as well as the promotion of green jobs.

For water and sanitation, the Sectoral Policy Letter for Urban and Rural Water and Sanitation for the 2005–15 period constitutes the basic instrument for the implementation of the Millennium Drinking Water and Sanitation Programme. Efforts have been made to improve access to drinking water with policies on facilitating social connections in urban areas and encouraging the adaptation of water services to clients' demands and different programmes in rural areas for improving access and water quality.

As for disaster resilience,[12] national priorities were defined in various policy documents from the DSRP to the PSE. To guarantee an environment resilient to disasters, the DSRP II includes disaster prevention and disaster risk management as major elements. Acknowledging that disasters limit development and disaster risk management is essential to accelerate growth and poverty reduction, DSRP II promoted the systematic integration of such risk management into sectoral plans and programmes and it was included as a key element of the National Strategy for Social Protection (Stratégie Nationale pour la Protection Sociale). The DSRP II proposed the elaboration of a national programme for disaster prevention, major risks reduction and management to promote coordinated implementation. Disaster risk management was incorporated into the PSE and expressed in terms of general objectives and strategic axes. One strategic axis is the prevention and reduction of disaster risks, which should result in the establishment of an early warning system, reviews of emergency responses to disasters followed by simulation exercises, improvement of the security of the transport of hazardous materials and promotion of the culture of prevention and management of disaster risks. Another axis is the improvement of the management of natural disasters, which includes the establishment of an assistance and insurance mechanism, implementation of a plan on drought risks, creation of an emergency intervention fund and strengthening stakeholders' capacities.

[12] See Annex 2 for a list of recent disasters in Senegal.

Regarding funding for the MDGs in Senegal, efforts related to MDG 7 have benefited from the second most amount of funding after MDG 1 in terms of both ODA and domestic resources. In 2011, ODA worth 114 billion CFA francs (equivalent to 228 million USD) was allocated to efforts related to MDG 7, while the Senegalese government's disbursements have almost reached 123 billion CFA francs (about 246 million USD), corresponding to 28.1 percent of the total amount of expenditures in capital. Efforts on MDG 7 were about 22 percent and 24 percent of total ODA in 2010 and 2011, respectively; while the efforts done from domestic ressources for MDG 7 were approximately 52 percent of the total amount devoted to the MDGs in 2010, but this share significantly decreased to 28 percent in 2011 (DCEF 2012, 2014b). More recently, under the Triennial Public Investment Programme, efforts on MDGs 1 and 7 will benefit from the largest shares of the total funding dedicated to the programme – 65.4 percent and 16.8 percent, respectively (DCEF 2014a).

The national priorities outlined above have been used as a basis to define and choose national targets and indicators for the Senegal case study, in addition to the proposed global targets and indicators. A number of selected national indicators take into account difficulties for environmental statistics related to data availability, accessibility and transparency – these difficulties must be overcome for the benchmarks to be feasible and to inform and monitor the indicators. Table 8 provides an overview of the global and national targets and indicators on the environment and disaster resilience examined for Senegal.

Table 8. Establish a sustainable, healthy and resilient environment for all: Targets and indicators

Target	Indicator
Global	
Build resilience and reduce deaths from natural hazards	Disaster deaths per 1,000 inhabitants
Safeguard ecosystems and biodiversity	Net loss in forest area (% of land area)
	Trends in coverage of protected areas
Publish and use economic, social and environmental accounts in all governments and companies	Share of large tax unit taxpayers using integrated reporting[13]
	Existence of national and sub-national government publishing according to the System of Environmental-Economic Accounting[14]
National	
Build resilience and reduce vulnerability to natural hazards	Deaths due to disasters, except floods, per 1,000 inhabitants
Fight against deforestation and land degradation	# of hectares of degraded and restored (or in the process of being restored) land
	# of classified forests with a management plan being implemented
	# of kilometres of open and maintained firewall
	# of protected areas with a management plan being implemented

[13] 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 an in-house tax organisation. Businesses may be publicly listed corporations, multinational companies or private groups (OECD 2009).

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

Conserve biodiversity and ensure the management of wetlands	# of marine protected areas with a management plan being implemented
Fight against pollution, nuisances and the adverse effects of climate change	Quantity of carbon dioxide avoided by carbon projects (tonnes)
	# of kilometres of protected coastlines and shores
	# of inspections on regulatory compliance by classified establishments and greenhouse gas emissions from vehicles
Strengthen the resilience of the population to disasters	% of classified establishments with a tested internal operations plan
	Proportion of local collectivities (collectivités locales) with a specific intervention plan
	# of policy initiatives and instruments for improving resilience

Data on the Environment and Disaster Resilience

The proposed SDG "Establish a sustainable, healthy and resilient environment for all" is one of the more problematic goal areas in terms of data availability and accessibility. A major problem is the difficulty of accessing environmental data, despite the amount of funding devoted to efforts on MDG 7. Moreover, there is little disaggregation of environmental data, which constitutes a handicap in the formulation of strategies and decision making.

Environmental data problems affect global indicators more than national indicators. However, resorting to "proxy" data is a possibility, particularly for indicators related to economic value assessments of forest ecosystem services (proxy data could include timber and non-timber forest products) and other environmental services (proxy data could include the value of water, biodiversity conservation, soil conservation). Furthermore, for those environmental data that are accessible, they are often characterised by divergence, with data from the MEDD's directorates often differing from those collected by universities and research centres. Contradictions have even been noted in the environmental data produced by different entities under the same ministry, such as the Ecological Monitoring Centre (Centre de Suivi Ecologique) and Directorate for Water, Forests, Hunting and Soil Conservation (Direction des Eaux et Forêts, Chasse et Conservation des Sols or DEFCCS), which are both under the MEDD.

The indicators related to the target on safeguarding ecosystems and biodiversity, particularly the net loss in forest area and trends in coverage of protected areas, appear to be relevant and should be easy to monitor, since data exist but can be sometimes difficult to access. Notably, sometimes the indicators do not inform on the myriad efforts of the Senegalese government, local governments, civil society organisations and other actors to safeguard ecosystems and biodiversity. This target could be monitored by using the administrative data of the DEFCCS. This directorate provides data on total forest cover by region, which are available online, and from these data it should be possible to calculate the associated indicator. Considering the global indicator "Trends in coverage of protected areas," administrative data are available from the Directorate of National Parks (Direction des Parcs Nationaux), which is also under the MEDD. This directorate's main mandate is the implementation of national policies related to biodiversity conservation and ensuring that Senegal conforms to its international environmental commitments. Disaggregated data for this indicator are available by type of protected areas.

As formulated, the target and indicators related to the publication and use of economic, social and environmental accounts in all governments and companies are not easy to understand. The indicator "Existence of national and sub-national government publishing according to the System of Environmental-Economic Accounting" seems difficult to monitor given missing data in the domain of environmental

accounting. For example, it is difficult (or maybe impossible) to get precise data on unprotected areas, ecosystem dynamics and the environment's contribution in national accounting. Proper monitoring of this indicator necessitates conducting regular surveys, which requires time and financial means. The ANSD's considerable efforts seem insufficient. Recently, the MEDD, with the technical support of the ANSD and financial support of the Netherlands, began assessing the contribution of the environment to Senegal's GDP. This contribution is based on the calculation of the added value of goods and services provided by the country's forests. Even if this calculation, which is only based on forests, does not reflect the full contribution of the environment to GDP, it contributes to addressing the lack of available and accessible data on environmental accounting in Senegal. The proposed global indicator "Share of large tax unit taxpayers using integrated reporting" also seems difficult to monitor.

In terms of data on disaster resilience, the problems with data availability and accessibility are less severe. For the indicator "Disaster deaths per 1,000 inhabitants" under the global target "Build resilience and reduce deaths from natural hazards," the National Fire Brigade of Senegal (Brigade Nationale des Sapeurs Pompiers du Sénégal) and Civil Protection Directorate (Direction de la Protection Civile), two entities under the Ministry of the Interior and Public Security of Senegal (Ministère de l'Intérieur et de la Sécurité Publique or MISP), collect a lot of information on different types of disasters. They can be considered data sources for informing this indicator, but sometimes disaggregation can be limited. Given that Senegal is frequently affected by disasters such as flooding, it would be useful to collect more detailed and regular data on disaster resilience in order to monitor post-2015 progress.

Turning to the proposed national targets and indicators on the environment and disaster resilience, data come from a variety of sources. For the target "Fight against deforestation and land degradation," the three associated indicators can be informed using data provided by the DEFCCS and National Agency of the Great Green Wall (Agence Nationale de la Grande Muraille Verte), which are under the MEDD. For the indicator on degraded land, data are available from the Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement Rural). As for the target "Conserve biodiversity and ensure the management of wetlands," the associated indicators on protected areas can be informed by data from the Directorate of National Parks and Directorate of Protected Marine Areas (Direction des Aires Marines Communautaires Protégées or DAMCP). Regarding the target "Fight against pollution, nuisances and the adverse effects of climate change," the main data source for informing associated indicators on the quantity of carbon dioxide avoided by carbon projects and number of inspections on regulatory compliance by classified establishments and greenhouse gas emissions from vehicles is the Directorate of Environment and Classified Establishments (Direction de l'Environnement et des Établissements Classés or DEEC) of the MEDD. Regarding the target "Strengthen the resilience of the population to disasters," the associated indicators can be measured using data provided by the Civil Protection Directorate and DEEC.

The main data strategy for monitoring post-2015 progress on the environment and disaster resilience should be to improve the coordination and centralisation of environmental data production. All entities involved in the production of environmental data could collect, produce and analyse data according to harmonised methodologies.

Opportunities and Challenges for Establishing a Sustainable, Healthy and Resilient Environment for All

Key opportunities for Senegal are the commitment of technical and financial partners to environmental protection, mobilisation of local communities and grassroots organisations on environmental issues, development of ecotourism, decentralised cooperation and promotion of agro-ecology (EMAP 2013).

Implementation of the PSE, Hyogo Action Framework (HAF)[15] and Economic Community of West African States (ECOWAS)[16] framework should lead to vulnerability reduction and improved disaster resilience before 2030. Still, more significant accompanying measures could be taken. For instance, the Senegalese government could consider revising the disaster risk management approach, granting of a certain percentage of the annual budget to disaster risk management, establishing and emergency fund that can be mobilised through streamlined procedures, upgrading the Civil Protection Directorate to a national agency for civil protection as recommended by ECOWAS, revising the response mechanism to disasters, boosting local governments' involvement and stricter enforcement of laws in the domains of urbanisation, land occupation, establishment of listed companies and transportation of dangerous products.
The main challenges in both urban and rural areas, which constrain guaranteeing a sustainable, healthy and resilient environment for all, are multiple. In the area of water and sanitation, an important challenge is the lack of sanitation infrastructure for solid and liquid wastes, which exposes the population to household, industrial and rain waste water, consequently causing the proliferation of epidemics (malaria, cholera, typhoid, etc.). Illegal dumping of household and industrial waste (instead of collecting, sorting, transporting, recycling, treating and recovering) also presents a major problem. In addition, "*cantinisation*" (the breaking up into tiny allotments) of the urban area and irregular deposits of rubble constitute threats to the population's living conditions and health. Chemicals and substances that deplete the ozone layer also constitute a problem, which is aggravated by weak management and control of their importation as well as the absence of a regulation framework. With regard to pollution and nuisances, the main shortcomings are the low level of standards implementation and their respect, limited consideration of air quality in the transport and industrial sectors and difficulties in identifying irregularly classified establishments.

Moreover, challenges associated with coastal erosion include high costs and lack of technical expertise formajor projects related to coastal consolidation as well as the deterioration of particular ecosystems such as mangrove areas, which no longer play their regulatory role. Soil erosion, which affects 65 percent of total cultivable land, should also be mentioned (see République du Sénégal2003). It is caused by factors such as wind, water, salinity, acidity and inappropriate cultural practices and results in decreased soil fertility and increased pressure on forests during humans' search for cultivable land. Deforestation, which decreased from 45,000 hectares for the decade 1990–2000 to 43,000 hectares for the decade 2000–10, is also one of the main challenges (FAO 2010). It is mainly caused by droughts and the continuous destruction of forests due to various factors, such as clearings, bushfires, illegal logging and over pasturage. Furthermore, the invasion of water bodies by invasive aquatic plants should be considered a challenge because it contributes to the destruction of aquatic fauna and disturbance of the ecological balance and socio-economic characteristics of the sites involved. In addition, there is strong pressure on wetlands, which constitutes a threat to aquatic resources and avifauna.

In the domain of disaster resilience, the government has been focusing on strengthening and broadening social protection instruments such as social security systems and disaster prevention initiatives. The main challenges in the domain are enormous. Floods are authorities' main concern given the scale of damage that they cause. In 2009, according to a study by the World Bank, about 360,000 persons were victims of floods and the scale of damage was estimated at about 50 billion CFA francs (corresponding to 100

[15] The Hyogo Framework for Action (2005-2015) is a global blueprint for building resilience and reducing loss in face of natural hazards. This ten year plan was adopted by 168 governments during the World Conference on Disaster Reduction, which was held in January 2005 in Kobe, Hyogo, Japan.
[16] The Economic Community of West African States (ECOWAS) is a region group of fifteen countries, which was founded in 1975 via the Treaty of Lagos. ECOWAS' mandate is to promote economic integration across the region.

million USD) in the region of Dakar. Furthermore, coastal erosion is causing the destruction of houses and other infrastructure, population movements and the cease of certain socio-economic activities. In a study done in 2000, the Ecological Monitoring Centre estimated that about 730,000 people on the Cape Verde Peninsula and 847,000 on the Saloum islands were threatened with eviction from their homes due to coastal erosion. Droughts and desertification should be considered challenges as well. Other challenges include industrial and technological risks, which can lead to accidents such as fires, explosions, gas leaks and the dispersal of toxic substances and radiation, and infrastructure risks concerning public buildings, high-rise buildings, buildings threatening collapse and precarious settlements. The lack of consolidated and regular data in the domain makes disaster prevention more difficult.

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

Current Situation

Renowned for its political stability, Senegal benefits from a pluralist democratic system. The presidential election in 2000 was the first peaceful transition of power from one political party to another since independence from France in 1960, with Abdoulaye Wade's liberal administration staying in office until 2012. This political change ended 40 years of socialism under the presidencies of Léopold Sédar Senghor (1960–80) and his handpicked successor Abdou Diouf (1981–2000). President Macky Sall, who also came to power peacefully and is considered to be a liberal, has been in office since 2012.

Public and private media and civil society organisations are key democratic actors. The creation of the National Council for Audiovisual Regulation (Conseil National de Régulation de l'Audiovisuel), in 2005, whose members are appointed by the president, hold control and punishment powers that have aroused fears about limited freedom of the press. According to Freedom House (2014), the civil liberties rating – 1 represents the most free and 7 represents the least free – improved from 3 to 2 due to improvements in the media environment and for freedom of assembly since President Sall took office. DSRP I and II consider good governance and decentralised and participatory development together as one of their four priority axes. Launched in 2003, the National Programme for Good Governance (Programme National de Bonne Gouvernance) has the objectives of improving the quality of public services, promoting economic, local and judicial governance, improving the quality of parliamentary work and developing ICT.

In the domain of justice, the Justice Sector Programme (Programme Sectoriel Justice) for the 2004–13 period identified serious faults such as magistrates' weak level of independence, the quantitative and qualitative lack of human resources, material indigence and certain law representatives' laxity. Despite recent reforms of the National Programme for Good Governance, persisting shortcomings include the complexity and cumbersomeness of some procedures, which limit efficiency. Despite the formal independence of the judiciary, inadequate pay and lack of tenure expose judges to external influences and prevent the courts from providing proper checks on the other branches of government. Moreover, geographical, bureaucratic, educational and financial hurdles hinder public access to courts.

Local governance and development by way of decentralisation are much appreciated. Freed from supervision, the 441 local governments are empowered to find solutions to local problems. However, local governments lack the financial, human and material means to achieve their objectives. The creation of the Local Government Equipment Fund and Decentralisation Allocation Fund were not accompanied by financial transfers that are required for an effective transfer of competencies.

Furthermore, Senegal has made progress towards universal birth registration, with the share of children under five years old who are registered at birth increasing from 55 percent in 2005 to 75 percent according to the EDS-MICS of 2010–11 (ANSD and ICF International 2012). In addition, EDS-MICS statistics show that civil registrations differ according to region and socio-economic category. There are less children under five registered with the civil authority in rural areas (50 percent) compared to urban areas (78 percent). Moreover, the proportion of registered children increases from 50 percent in poor households to 78 percent in rich households.

As for individual rights, rape, female genital cutting and domestic abuse persist in Senegal, with reports of violence against women generally on the rise. Women are unable to obtain credit as easily as men and early marriage remains an issue. Despite the existence of a legal framework that purports to ensure human rights to all citizens, women are more likely to be discriminated against than men. Women who marry foreigners forgo Senegalese citizenship for their children.

Corruption is a serious problem in Senegal, particularly with respect to public administration. According to Transparency International's *Global Corruption Barometer 2013*, 57 percent of people reported having paid a bribe for services and the most corrupt institutions – on a scale from 1 (lowest) to 5 (highest) – are political parties (4.1), the police (4.1), the judiciary (4.0), public officials and civil servants (3.7), the parliament (3.6), the health system (3.5) and the education system and media (3.4) (Hardoon and Heinrich 2013). The weakness of material resources made available to the police is one of the main causes of corruption within this institution. Regarding the judiciary, facilitating payments in addition to regulated legal fees are commonly required, forcing individuals to continually pay money, including bribes, to end deadlocks and solve their problems (AfriMAP and OSIWA 2008). Senegal has made progress recently, however, with an increase of two points in its score on the Corruption Perceptions Index between 2013 and 2014. Following its score of 41 out of 100 in 2013, Senegal obtained a score of 43 in 2014 and improved from 77th to 69th position globally (Transparency International 2015).

Previous and Ongoing Efforts and National Priorities

In the PSE, the government articulated a number of priorities with respect to improving governance. Regarding public administration, the government adopted a rationalisation process to improve efficiency and the quality of public service delivery. Despite multiple strategic and organisational audits in the last decade, public administration is still characterised by institutional instability, such as recurrent changes in ministerial posts. Such instability has negative consequences for the economy. In the domain of local governance, institutional, organisational and financial constraints persist. The operationalisation of town and rural planning has been facing enormous difficulties, particularly with regard to local governments' insufficient management capacities, the absence of rural land registries, the lack of territorialisation of public policies, weak collaboration between local development actors and the multiplicity of dialogue and harmonisation frameworks. Further reforms are necessary in public administration to adapt operations with the goal being quality public service provision. Local powers and community-based management need to be strengthened through full implementation of Decentralisation Act III – the third decentralisation policy reform package in Senegal – to correct regional disparities and encourage development. The government has made efforts to involve key stakeholders in the elaboration and implementation of development policies and is committed to working with civil society organisations and the private sector to consolidate the role of citizen participation in promoting economic and social development.

Efforts on reducing corruption include those of the National Anti-Corruption Office (Office National Anti-Corruption), National Cell for the Treatment of Financial Information (Cellule Nationale de Traitement des Informations Financières) and Court for the Repression of Illicit Enrichment (Court de Répression de l'Enrichissement Illicite). Upon his election in 2012, President Sall began a public works audit to investigate corruption under the administration of former president Wade and efforts have been made to reduce corruption and improve governance by using the National Anti-Corruption Office and Court for the Repression of Illicit Enrichment to monitor current officials and pursue corruption charges against members of the previous government.

As for efforts on women's rights, a gender parity law was elaborated in 2010 and first implemented during the July 2012 parliamentary elections. As a result of this law, which requires political parties to ensure that

at least half of their candidates in national and local elections are women, women hold 65 seats in the 150-seat Parliament of Senegal. However, there is no parity in the selection of parliamentary vice presidents and committee chairs. Regarding civil registration, the government made efforts to strengthen national coordination by establishing the National Civil Status Centre (Centre National de l'État Civil) in 2004. Given the importance of the issue of civil registration, an inter-ministerial council on civil registration was convened in May 2011 involving various stakeholders including Senegal's prime minister. Achievements in civil registration are related to capacity building, advocacy, automatisation of the management of civil registration, data collection and efforts towards universal birth registration.

For the proposed goal "Establish open, accountable, inclusive and effective institutions, rule of law and a peaceful and inclusive society," the selected global and national targets and indicators are outlined in Table 99.

Table 9. Establish open, accountable, inclusive and effective institutions, rule of law and a peaceful and inclusive society: Targets and indicators

Target	Indicator
Global	
Provide free and universal legal identity, such as birth registrations	Percentage of children under 5 who are registered with the civil authority
	Proportion of adults with a basic legal identity document
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
	% of adults with an account at a formal financial institution, disaggregated by sex
Improve personal safety	Prevalence of violence against women, including domestic violence
	Violent death 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"
Improve transparency in the revenue system	Share of eligible taxpayers who submit their taxes
National	
Provide free and universal legal identity, such as birth registrations	% of children in school within a conflict zone without civil registration
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	% of adults with access to informal financial services
Improve personal safety	# of deaths caused by road accidents per year
	# of deaths caused by work accidents per year

Data on Governance

Data related to governance in Senegal are the most problematic across goal areas. They are scattered and difficult to access most of the time. This is a major challenge for the Senegalese government and local governments, particularly in terms of the quality of statistical production, planning abilities and policy assessment.

For some indicators, such as “Proportion of adults with a basic legal identity document,” administrative data from the MISP are available though not accessible. For indicators related to justice, such as those on the average time between filing a case and receiving a verdict and survey data regarding bribes or gifts for service from a government official, it is very difficult to find available and accessible data for monitoring post-2015 progress. The unavailability of data in the area of justice was emphasised during the inception workshop for the Senegal case study. Significant efforts will be needed to ensure regular and reliable production of data on justice. Furthermore, official data are difficult to find for the indicator “Prevalence of violence against women, including domestic violence,” but relevant unofficial data from non-governmental organisations (NGOs) working on gender- and women-related topics could be available. As for the indicator “Share of eligible taxpayers who submit their taxes,” data should be available from the General Directorate of Taxes and Government Property (Direction Générale des Impôts et Domaines) under the MEFP, but they are not accessible. As for the selected national indicators, potential sources of data can be improved with additional work according to adequate methodologies.

The availability of disaggregated data in the areas of justice, transparency, corruption and governance is also a major issue that should be taken into account in the data strategy for monitoring post-2015 progress. Notably, the NSS provides incomplete data in the area of civil registration. For example, the causes of mortality are weakly reported and the archiving of information faces huge difficulties (AHO 2015). Even if unofficial data can be provided by NGOs and national human rights organisations for monitoring post-2015 progress, the data strategy should include sufficient funding for improving the reliability of civil registration statistics.

Opportunities and Challenges for Establishing Open, Accountable, Inclusive and Effective Institutions, Rule of Law and a Peaceful and Inclusive Society

An opportunity for Senegal is the government’s commitment to the process of decentralisation, which aims to improve social and regional equity by eliminating disparities between regions and strengthening local powers. Decentralisation also facilitates the emergence of viable local governments with appropriate organisational frameworks and funding mechanisms.

ICT can be considered an opportunity for improving the civil registration system. The NGO Aide et Action initiated a pilot project on birth registration via mobile phones in the Kolda region. This NGO, which predominantly focuses on facilitating access to education, has identified the relative lack of birth certificates as a barrier to education, and has been working to improve registration efficiency by raising awareness among village chiefs. The pilot project’s strategy hinges on mobile phones, which are relatively inexpensive, easy to use and accessible and can be geographically tracked. Key stakeholders such as village and district heads, the civil authority and judges who validate information have been directly involved in the project. Help has been enlisted to ensure the security of information and facilitate monitoring by the civil authority. Initial results are encouraging – within a two-month period, 133 births were all declared and registered, leading to a birth registration rate of 100 percent (GSMA Mobile Identity Team 2013). Moreover, the platform of cooperation on civil registration, which the Senegalese

government initiated under a French framework, led to new dynamics including the sharing of experiences and capacity building of relevant institutions and staff (CNEC and ANSD 2012). Furthermore, family safety scholarships can be seen as an opportunity that will support beneficiary families in the registration of their children with the civil authority.

In terms of challenges regarding civil registration, juridical, institutional, organisational, human, material and financial constraints limit the civil registration system. Specifically, one of the main challenges is the need for a data transmission scheme to benefit more from collected information (CNEC and ANSD 2012). Unreliable civil registration statistics represent a serious challenge for ensuring an inclusive society, since the government will not be able to determine spending priorities and plan the provision of services without accurate data.

Moreover, in the context of defining national priorities, the government understands that development is not possible without guaranteeing stability, peace and security. One of the challenges that Senegal faces is growing extremist groups that threaten the territorial integrity of West African counties, particularly in light of institutional instability at the sub-regional level. The government is focusing on peace and security at the national and regional levels in order maintain stable and strong institutions.

Establish a Global Partnership for Sustainable Development

Current Situation

The global partnership for development has been essential in terms of facilitating efforts to achieve the MDGs, particularly in developing countries such as Senegal. Targets associated with MDG 8 on global partnership for development are generally related to ODA, debt, market access facilitated by the trading and financial system, and access to new technologies, especially ICT.

Regarding ODA, Senegal is one of the top 15 sub-Saharan African countries that benefit from larger amounts, making it a key source of funding. Indeed, each Senegalese receives about US$54 in foreign aid per year, more than the US$10 received by each Burkinabe and US$20 received by each Beninese (World Bank 2012). According to the PSE, Senegal receives net ODA equivalent to 7.5 percent of GNI, which is almost two times higher than the average received by middle-income developing countries. The actual amount disbursed was about 541 billion CFA francs (1 million USD) in 2011, corresponding to an increase in ODA of 62 billion CFA francs (124 million USD) in absolute terms and 13 percent in relative terms over the previous year (DCEF 2014b). This ODA, largely made up of contributions by the World Bank and EU of 219.5 billion CFA francs (439 million USD), corresponding to approximately 40.6 percent of total ODA in 2011, was mainly devoted to the quaternary sector. The high share of ODA devoted to this sector demonstrates the importance allotted to social services such as health and nutrition as well as education and training, which absorbed nearly 61 percent of total ODA (UNECA, UA, AfDB and UNDP 2014).

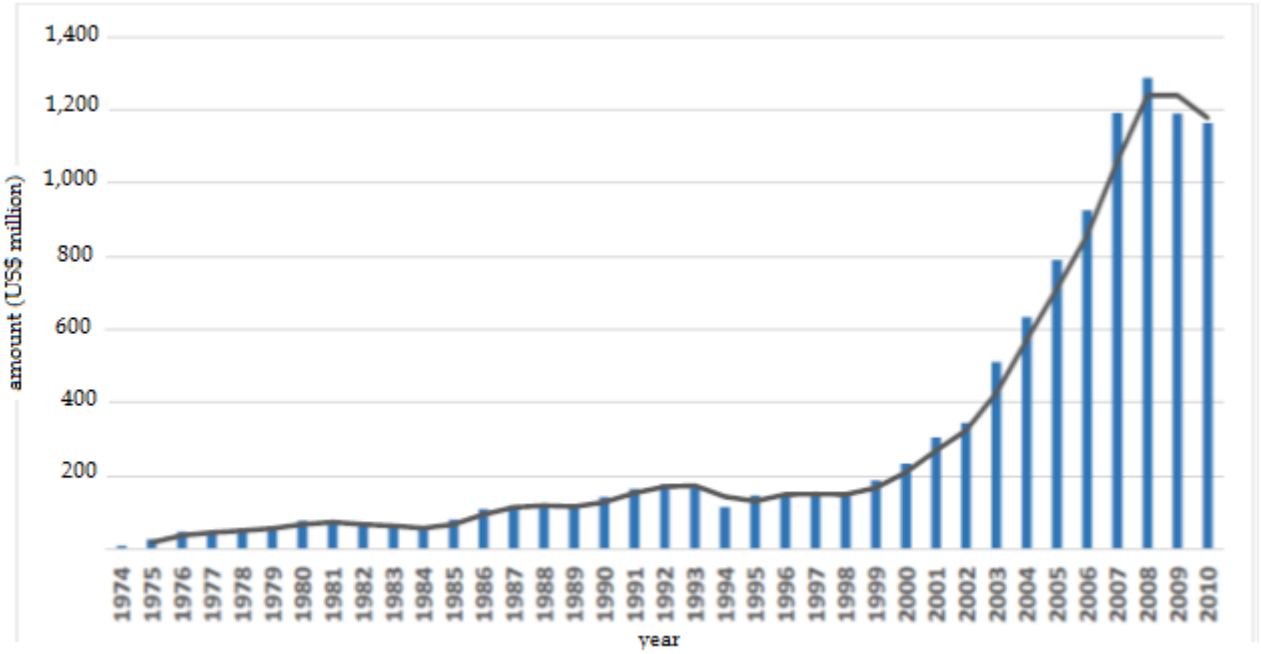
As for dedicated funding for Senegal's efforts on MDG 8, the share of total ODA increased from 0.26 percent in 2010 to 8.4 percent in 2011, which could be explained by the fact that the UNDP was the only donor that funded efforts on MDG 8 in 2010, whereas various donors – the Ministry of Foreign Affairs of the Netherlands, Canadian International Development Agency, Asian Development Bank's Asian Development Fund and World Bank's International Development Association – helped fund efforts through their ODA to Senegal the following year. Although Senegal is a major recipient of foreign aid in terms of proportion to population compared to other countries in sub-Saharan Africa, the share of ODA in government revenue was lower in Senegal at nearly 21 percent in 2010 compared to countries such as Burkina Faso, Mali and Tanzania where shares varied between 35 percent and 45 percent (World Bank 2012). Despite the importance of aid flows, allocated amounts declined in 2007, 2008 and 2009 due to the global financial crisis, which particularly affected the countries of the euro area. According to forecasts, aid flows to Africa will continue to decline in the medium term, with a decrease of US$36.3 billion expected in 2016 (UN 2013).

Regarding developed countries' ODA disbursements, the target for which is set at 0.7 percent of gross national income, the only countries that have met or exceeded the target are Denmark, Luxembourg, the Netherlands, Norway and Sweden. ODA declined from 0.32 percent of donor countries' GNI in 2010 to 0.31 percent in 2011 then 0.29 percent in 2012. In 2013, only five countries (Denmark, Luxemburg, Netherlands, Norway and Sweden) have achieved the target of allocating 0.7 percent of their GNI to ODA; while for the majority of the states of the Organisation for Economic Co-operation, their total ODA to developing countries is still far behond this 0.7 percent target of GNI (UNECA, UA, AfDB and UNDP 2014).

Furthermore, comparison of the evolution of ODA with other funding sources shows that migrant remittances have become important for Senegal's economy. A recent study by the African Development Bank considering both official and informal remittance transfers estimated that Senegal received 823 billion CFA francs (about 1.646 million USD) in 2005, representing 19 percent of GDP and 218 percent of ODA (AfDB 2007). Alongside the Gambia, Lesotho and Liberia, Senegal is one of the leading African countries where remittances contribute significantly to GDP. The contribution of remittances to Senegal's GDP increased over the 2000s from 6 percent in 2001 to 9 percent in 2009 (Cissé 2011). Estimated remittances of 897 billion CFA francs (corresponding to 1.794 million USD) accounted for 12 percent of GDP in 2013 and an increase to 978 billion CFA francs (representing 1.956 million USD) was expected in 2014 according to the 2014 report on African economic outlook (AfDB, OECD Development Centre and UNDP 2014). Despite the large volume of remittances, their impact on development could have been more visible if they had been invested in the country's productive sector rather than invested in real estate and used for consumer expenditure.

In addition, official remittances were estimated at US$123.5 per capita in 2013 (AfDB, OECD Development Centre and UNDP 2014). Looking at the evolution of migrant remittances since 1974 (see Figure 12) shows that they experienced the highest growth from 1999 to 2010, with a volume that quadrupled from US$305 million to about US$1.3 billion between 2001 and 2008 (Randazzo and Piracha 2014). However, there has been a decline in transfers received from abroad since 2008, which is mainly due to and the global financial crisis. Notably, the remittances received by Senegal are mainly from migrants working in EU countries, with Italy, Spain and France accounting for more than three-quarters of remittances.

Figure 12. Evolution of migrant remittances, 1974–2010



Source: World Bank estimates based on the balance of payments of the International Monetary Fund, statistical yearbook 2008, updated from the published data of the World Bank "Migration and Remittances Factbook 2011", 2nd edition (World Bank 2011b)

Foreign direct investment (FDI) is also an important source of external financing for the country. In terms of FDI, Senegal is one of the most attractive countries in the WAEMU – alongside Côte d'Ivoire, Niger and Mali – with a share of 14.3 percent of net FDI received by the WAEMU between 2006 and 2011 (BCEAO 2013). In fact, according to this BCEAO report of 2013, during the last decade, Senegal experienced an irregular pattern of evolution of FDI inflows between 2000 and 2005, after which it improved. FDI increased by 186 million euros on average between 2006 and 2010, or 2.1 percent of GDP, while the corresponding share was only 0.8 percent of GDP over the 2000–05 period. The total amount of FDI was estimated at 163 billion CFA francs (corresponding to 326 million USD), or 2 percent of GDP, in 2013 and was expected to remain at this level in 2014. The improvement in the second half of the last decade was particularly due to investments in telecommunications, mining and finance, but also modernisation efforts to improve the financial situations in key sectors. In addition to ICT-enabled services, agriculture, agribusiness and the food industry are among the main areas in Senegal receiving FDI, according to data from APIX. The country's open economy makes it attractive to foreign investors, because the FDI towards Senegal has increased from 0.9 percent of GDP in 2002 (AfDB and OECD 2006) to 2 percent of GDP in 2012 (AfDB, OECD, UNDP and UNECA 2013).

Despite various initiatives, debt will not be dealt with comprehensively in Senegal by the end of 2015 (MEF and UNDP 2013). The country continues its efforts to make its debt sustainable in the long term. Senegal has benefited from debt relief in the context of the implementation of successful debt reduction initiatives, including the multi-donor Heavily Indebted Poor Countries Initiative in 2004 and the associated Multilateral Debt Relief Initiative in 2006. With these two initiatives, Senegal received debt relief from the International Monetary Fund, World Bank and African Development Bank of US$3.7 billion. The International Monetary Fund and World Bank provided debt relief of 859 billion CFA francs (corresponding to 1.718 million USD) and 854.9 billion CFA francs (equivalent to 1.709 million USD), respectively, while the African Development Bank followed with relief of 172 billion CFA francs (about 344 million USD). Analysis of various economic outlook reports in Africa indicates that the stock of domestic debt has increased significantly – it was estimated at 14.3 percent of GDP in 2013, up from 6.9 percent in 2010 and 4.5 percent in 2007 (AfDB and OECD Development Centre, 2009; AfDB et al. 2011; AfDB, OECD Development Centre and UNDP 2014). Meanwhile, the external debt stock was estimated at 34 percent of GDP in 2013, up from 27.5 percent in 2010 and projected to reach 35 percent in 2014 (AfDB et al. 2011; AfDB, OECD Development Centre and UNDP, 2014). In addition, the service of public external debt in 2014 accounted for 7.8 percent of budget revenue and 5.7 percent of the export of goods and services, which are well within the respective limits of 22 percent and 25 percent identified as necessary for the public debt sustainability (AfDB, OECD and UNDP 2015).

Regarding foreign trade, exports experienced a 2.3 percent decline in 2013 following an increase of 10.1 percent in 2012 on the previous year. This overall decline was due to decreases in non-monetary gold shipments by 20.7 percent, phosphoric acid by 41.8 percent, hydraulic cement by 26.9 percent and crustaceans and molluscs by 29.7 percent. The decrease in hydraulic cement exports was mainly due to the recent instability in Mali, which nevertheless remains Senegal's main customer for this product, importing 74.8 percent of the total. The decrease in non-monetary gold shipments is attributable to the fall in world prices in 2013 and decrease in exports to Switzerland. Senegal's exports mainly go to other African countries, with the share increasing from 42.6 percent to 46 percent between 2012 and 2013. With the African Union launching negotiations on the creation of the continental free trade zone, Senegal could take more advantage of intra-African trade. Free trade should help relax many of the constraints on intra-African trade by removing any remaining trade barriers between countries and facilitating customs clearance procedures as well as transit and port handling. While exports to Europe and Asia declined between 2012 and 2013, exports to the United States almost tripled during the same period with an increase of 150.7 percent. As for overall imports, they experienced a slight decline of 0.4 percent. Europe

remains Senegal's largest supplier (46.7 percent of imports on average), followed by Asia (22.9 percent) and Africa (19.3 percent). Trade between Senegal and other countries, particularly those in Africa, are facilitated by agreements on regional economic integration areas (ANSD 2013).

Previous and Ongoing Efforts and National Priorities

In recent years, Senegal has suffered from a lack of attractiveness to investors, ranking 178th out of 189 countries according to the report *Doing Business 2014* (World Bank and IFC 2013). To make the business environment more attractive and improve conditions for investment, the government has undertaken a number of initiatives and established various incentives. Among the initiatives are the upgrade of companies' strategies, a private sector promotion strategy, the Cotonou Agreement of 2000 between the EU and the African, Caribbean and Pacific Group of States, integration frameworks, within the WAEMU and ECOWAS, and the reforms undertaken by the government upon th recommendation of the Presidential Investment Council (Conseil Présidentiel de l'Investissement). In 2012, the government adopted a three-year Reform Programme for Improvement of the Business Environment and Competitiveness (Programme de Réformes pour l'Amélioration de l'Environnement des Affaires et de la Compétitivité) to boost the country's attractiveness and competitiveness. The first phase of the programme from December 2012 to May 2014 involved administrative reforms related to investment and trade and the consolidation of the main laws governing the legal and tax business. Ongoing reforms should help improve the business environment, which would have significant positive impacts on FDI.

During the regional consultations carried out by the MEDD in 2015, stakeholders identified the proposed goal on global partnership for sustainable development as one of the five selected as of priority. Table 10 provides an overview of the global and national targets and indicators examined under this goal area.

Table 10. Establish a global partnership for sustainable development: Targets and indicators

Target	Indicator
Global	
Create an enabling environment for sustainable development	Low-income country debt forgiveness or reduction (% of GDP)
	Share of trade in goods and services from low-income countries under duty-free, quota-free market access
	Existence of laws for ensuring country-by-country reporting by multinational corporations, disclosure of beneficial ownership and the prevention of money laundering
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
National	
Increase financing to capacity for statistical production in low- and middle-income countries	Proportion of ODA for the production of statistical data
Promote better use of migrant remittances for improving local development	Proportion of migrant remittances to local development

Strengthen reform implementation	Number of reforms that have been implemented in the areas of energy and the business environment

Data on Global Partnership for Sustainable Development

For the proposed goal “Establish a global partnership for sustainable development,” administrative data sources can inform the majority of the associated global targets and indicators. Under the target “Create an enabling environment for sustainable development,” it is very difficult to find data related to the existence of laws for ensuring country-by-country reporting by multinational corporations, disclosure of beneficial ownership and the prevention of money laundering, but the National Cell for the Treatment of Financial Information and Official Journal[17] are potential sources of data. Regarding the indicator “Low-income country debt forgiveness or reduction (% of GDP),” GDP data are provided by the ANSD, while data on debt forgiveness and reduction, which are disaggregated by type of donor, can be obtained from the Direction of Public Debt (Direction de la Dette Publique) of the MEFP. In addition, the Central Bank of West African States (Banque Centrale des États d’Afrique de l’Ouest or BCEAO) produces statistics on debt forgiveness for low-income countries. Regarding “Share of trade in goods and services from low-income countries under duty-free, quota-free market access,” the ANSD has data on trade in goods and services from 1996 to 2013 and calculation of the indicator is possible once the low-income countries that have duty-free, quota-free market access to Senegal are identified. The Ministry of Trade, Informal Sector, Consumption, Promotion of Local Products and SMEs (Ministère du Commerce, du Secteur Informel, de la Consommation, de la Promotion des Produits Locaux et des PME) and the MEFP is also a potential data source. Regarding “Increase financing to productive capacity in low- and middle-income countries,” the DCEF has data on the amount of aid, but disaggregation is only possible by primary, secondary, tertiary and quaternary sectors. As for “Proportion of foreign direct investment to the productive sector,” the BCEAO and APIX have data that can be disaggregated by region, primary, secondary and tertiary sectors, nature of investment (creation or extension) and country. Overall, data can be considered fair since they are available and accessible for only three of the six proposed global indicators. For the other three, either data do not exist or they exist but are not easily accessible due to administrative barriers.

At the national level, the targets that have been proposed include “Increase financing to capacity for statistical production in low- and middle-income countries,” with the associated indicator being “Proportion of ODA for the production of statistical data.” This indicator is relevant because Senegal benefited from institutional reforms of its NSS 10 years ago and the country could help others with statistical development. The indicator can be informed by administrative data from the DCEF. Furthermore, given Senegal’s considerable remittances, a target related to their use for improving local development is relevant. The associated indicator could be “Proportion of migrant remittances to local development,” data for which can likely be accessed through the MEFP and local collectivities. Overall, even if data for informing the proposed national targets and indicators are available, most of them cannot be disaggregated. Additional efforts are evidently needed to improve data on global partnership for sustainable development for monitoring post-2015 progress.

Opportunities and Challenges for Establishing a Global Partnership for Sustainable Development

[17] The "Journal Officiel" is an official publication from the Government that aims to disseminate the official juridical documents such as laws, decrees, etc. The website of the “Journal Officiel” of Senegal is the following: http://www.jo.gouv.sn/

Senegal's membership in continental, regional and sub-regional arrangements as well as international organisations is an opportunity to foster partnerships with other countries and facilitate access to foreign markets. As is evident in the PSE, Senegal's trade policy strategy is to capitalise on opportunities offered by the United States' African Growth and Opportunity Act of 2000, the EU-ECOWAS Economic Partnership Agreement of 2014 and regional economic organisations. The African Growth and Opportunity Act is an opportunity to strengthen Senegal's trade with the United States through preferential access to its market. Strengthening Senegal's trade with the Americas, including the United States, should be a long-term priority, with exports almost tripling between 2012 and 2013 (ANSD 2013). At the sub-regional level, access to foreign markets is influenced by economic integration within the WAEMU and ECOWAS, both of which have common external tariffs. Senegal is the second largest economy in the Francophone West Africa (Ambassade de France Au Senegal 2014) and exports from Senegal to WAEMU countries increased from 23.5 percent in 2012 to 27 percent in 2013 (AfDB, OECD Development Centre and UNDP 2014). The EU-ECOWAS) Economic Partnership Agreement can be seen as an opportunity to strengthen partnerships for development. Under the agreement, EU countries fully open their markets to African countries, which, in turn, must gradually open their markets to 75 percent of imports from the EU over a period of 20 years.

Moreover, the Aid for Trade initiative can also be seen as an opportunity to strengthen partnerships for development. Led by the World Trade Organization, Aid for Trade promotes trade facilitation measures and enables developing countries, particularly least developed countries, to cope with constraints affecting trade policy, regulations and infrastructure (UNECA 2014). The initiative has had positive impacts in Senegal. An Aid for Trade project to strengthen the competitiveness and sustainability of agriculture in Senegal contributed to the creation of 85 companies and export growth of nearly 80 percent between 2005 and 2009 (UNECA, UA, AfDB and UNDP 2013). According to Yurendra Basnett (2012), Aid for Trade is positive in that it reinforces the trade capacities of developing countries to address growing demand, but it should be much more targeted to remain effective.

The possibility of developing trade with the BRICS countries[18] is another opportunity for global partnerships for development. Senegal should strengthen its trade with the BRICS and take greater advantage of their economic growth. South-South cooperation may enable Senegal to develop innovative strategies for cooperation. Senegal has considerably increased trade with India over the last two decades. Between 1996 and 2010, trade in goods between the two countries almost tripled from US$117 million to US$333 million. Notably, 80 percent of Senegalese exports to India constitute phosphoric acid produced by the chemical company Industries Chimiques du Senegal (also known as ICS), in which 85 percent of shares are held by the Indian consortium Iffco, making it the largest Indian investment in the country (Cairó-i-Céspedes and Colom-Jaén 2014). Senegal is also developing partnerships for development with Brazil. Brazil established a credit facility of US$85 million to finance exports to Senegal, mainly agricultural equipment (Thiam 2012). Furthermore, China is a strategic partner for Senegal in foreign trade and investment. For example, Chinese companies Huawei and ZTE contributed to the modernisation of the Senegalese government's ICT infrastructure with funding from the Export-Import Bank of China (Colom-Jaén 2013). In addition, China has contributed to the development of infrastructure in Senegal in the areas of health (a children's hospital in Diamniadio), transport (the Ila Touba highway) and culture (the Grand National Theatre in Dakar). The Senegalese government recently appealed to international bond markets to ensure external financing and diversify its investor base. It issued bonds denominated in foreign currencies (Eurobonds) amounting to US$500 million in July 2014.

[18] The BRICS countries are Brazil, Russia, India, China and South Africa.

In terms of challenges in Senegal, a number of constraints can make the business environment complex and limit FDI. The difficulties often cited by investors are related to access to land, the unfavourable tax system, the lack of infrastructure and energy as well as the weakness of trade exchanges (Environnement des Affaires 2014). It must be recognised that improving competitiveness and export diversification involves improving the country's trade with its development partners. Although the EU-ECOWAS Economic Partnership Agreement can be seen as an opportunity, it can also be a constraint on the promotion of local products. The abolition of customs duties and influx of European products into African markets could cause Africans to substitute local products for imports, leading to considerable financial losses for the producers of local products (UNECA et al. 2014).

Measuring Progress on Post-2015 in Senegal

Overview of the NSS

Organisation

Statistical data play an important role in the formulation of development policies, their effective implementation, monitoring and assessment. Good data should be the basis of all decision making, especially in a context characterised by the promotion of good governance and result-based management. The production of statistical data should respect international data quality standards, particularly the International Monetary Fund's Enhanced General Data Dissemination System and Special Data Dissemination Standard. The production of good data in Senegal required reform of the NSS. Legal reform in 2012 modified the legislation on statistical activities of 2004. The law defines the NSS as all public and semi-public entities and services that produce and disseminate statistical data. The NSS is made up of the National Statistical Council (Conseil National de la Statistique), the ANSD and various ministries and directorates. The ANSD is in charge of ensuring the technical coordination of public statistical data production for users in the public and private sectors. The NSS is mandated to produce reliable statistics and balance supply and demand to satisfy users' needs.

Official Producers of Data

According to the National Strategy for the Development of Statistics (Stratégie Nationale de Développement de la Statistique) for the 2008–13 period (see République du Sénégal2007), an official data producer is any public or semi-public organisation or service whose main function is producing official statistics, regardless of level in the administrative hierarchy. The NSS has more than one hundred structures producing official statistics. The strategy differentiates producers based on whether they offer economic and financial statistics, rural development, energy, water and environment statistics or demographic and social statistics.

In the domain of economic and financial statistics, the ANSD, through its Directorate of Economic Statistics and National Accounts (Direction des Statistiques Économiques et de la Comptabilité Nationale), produces data on national accounts. The MEFP is mainly in charge of the production of public financial statistics, based on standard data collected by financial authorities such as BCEAO, in close collaboration with the Directorate of Forecasting and Economic Studies (Direction de la Prévision et des Études Économiques). Additional data on monetary statistics and the balance of payments are produced by the BCEAO.

Rural development, energy, water and environment statistics are mainly produced by the Directorate of Analysis and Forecasting of Agricultural Statistics (Direction de l'Analyse, de la Prévision et des Statistiques Agricoles), Horticulture Directorate (Direction de l'Horticulture) and Food Security Commission (Commissariat à la Sécurité Alimentaire) under the Ministry of Agriculture and Rural Equipment. For livestock, the principal data producers are the technical divisions and cells for analysis, planning and follow-up assessment of the Livestock Directorate (Direction de l'Élevage). Water statistics are mainly produced by the Directorate of Water Resources Management and Planning (Direction de la Gestion et de la Planification des Ressources en Eau). Regarding fishing, the principal data producers are the Directorate of Sea Fishing (Direction des Pêches Maritimes) and Oceanographical Research Centre of Dakar-Thiaroye (Centre de Recherches Océanographiques de Dakar-Thiaroye), with the

Fisheries Protection and Monitoring Directorate (Direction de la Protection et de Surveillance des Pêches) providing additional data.

As far as data producers in the domain of the environment are concerned, the principal data producers are the DEFCCS, Directorate of National Parks and DEEC. For demographic and social statistics, the principal producers are the Demographic and Social Statistics Directorate (Direction des Statistiques Démographiques et Sociales) of the ANSD, Social Security Fund (Caisse de Sécurité Sociale), National Civil Status Centre, Labour Market Information System , the National Health Education and Information Service (Service National d'Education et Information pour la Santé), Directorate of Education Planning and Reform and National Fire Brigade of Senegal. Notably, the UNESCO Institute for Statistics has helped Senegal in the production of statistics data in the area of education for seven years. The principal producers of data on employment are the ANSD, Directorate of Employment (Direction de l'Emploi), Social Security Fund and Senegal Pension Insurance Institution (Institution de Prévoyance Retraites du Sénégal).

Unofficial Data Producers

Unofficial data producers also exist, including private enterprises, research institutes, consultancies and NGOs. Interviews conducted with ANSD officials demonstrated the need for a better communication strategy between the ANSD and unofficial data producers, particularly NGOs that produce important statistics including key regional statistics. A better communication strategy might help NGOs produce official data from unofficial data according to methodologies validated by the ANSD.

Data Users

According to the National Strategy for the Development of Statistics, data users include public administrations, international and regional organisations, private enterprises, NGOs, the media, the research community and the general public (République du Sénégal2007). In public administrations, political decision makers use data for better policy planning at the national and local levels and to fulfil transparency requirements. In a context where results-based management is promoted, political decision makers need data to better define objectives based on targets and measurable indicators. International and regional organisations as well as private enterprises also use data for better decision making. As far as the research community is concerned, teachers and students in universities are interested in complete microdata that can be used in scientific articles, doctoral dissertations and so on. Researchers at research institutes and think tanks use statistical data to inform decision makers about evidence-based policies.

NGOs (and civil society organisations in general) are data users that rely on statistics to better target, monitor and assess their interventions in priority sectors such as health and education and perform advocacy actions. The media are data users that help disseminate official data by facilitating their access to the majority of the population. Difficulties in accessing metadata and insufficient anonymisation of microdata produced by the NSS are major problems for data users. A survey conducted by the ANSD indicated that 54.3 percent of data users found that it is not easy to gain access to metadata (République du Sénégal2007).

In July 2015, the ANSD launched a user satisfaction survey. The survey's main objective is to assess whether the supply of official statistics responds to users' demands. It also aims to identify the strengths and weaknesses of official statistics as well as the sectors that need the most support and improvement. The ANSD will assess data users' level of satisfaction regarding its work in order to produce statistics

based on their needs. Specifically, this survey will enable the ANSD to assess official statistics' use for policy making, evidence-based decision making, discussions and debates, determine the degree of access to official statistics and metadata, and assess the extent to which official statistics satisfy users' most urgent needs.

Data Availability for Post-2015

For the selected global targets and indicators, the data-mapping exercise showed that data availability is good overall for most goal areas, since 91 percent of the selected global indicators have available data from official data sources or can be derived through relatively simple data manipulations. The goal areas on governance and environment are the exceptions have 67 percent and 80 percent respectively, with largest data gaps. All 4 global indicators characterised by a lack of available data are in the areas of governance (three) and the environment (one). One of the potential reasons behind data for the goal areas on governance and environment being less readily available is that the collection of these data partly involves non-traditional methods, such as participatory assessments, qualitative data collection and technology-related data collection such as geo-data collection and satellite imaging.

The key findings on data availability for global indicators require two important caveats. Though the research team was able to identify data, it should be noted that of the 41 indicators for which data is available, only 28 are calculated. Thirteen global indicators would require additional calculations. In addition, as highlighted in the section on data quality below, though data exists, the frequency of data collection and quality of data is often inadequate.

For the selected national targets and indicators, 64 percent of the indicators have readily available data or could be easily calculated from ministries' available administrative data or ANSD survey data. The goal areas on employment and global partnership for sustainable development require the most attention. Of the 16 national indicators characterised by a lack of available data, seven of them fall under these two goal areas. The unavailability of data for employment-related indicators could be solved with the launch of the ENES. As for the availability of baseline data for measuring post-2015 progress in Senegal, data are generally available for the reference year of 2010 chosen for this study. However, it would be useful to analyse the overall availability of data by goal area because time series could differ.

Regarding poverty, data to measure indicators can be obtained through the ESAM, ESPS, EDS-MICS and ENSAN. ESAM and ESPS data are available for 1995, 2002, 2005 and 2010, whereas EDS-MICS data are annually produced and available from 2010 to 2013. For education, administrative and survey data are available for 2010 for all the selected indicators, while time series data are available from 2003 to 2013 through the MEN and from 2000 to 2011 or 2006 to 2011 through the ANSD. As far as employment is concerned, data are also available for the reference year 2010 with through the ANSD, mainly from the ESPS. For energy and infrastructure, data to measure the indicators are available for 2010 through various administrative sources and surveys. Administrative data are available for 2000–06, 2001–12 and 2004–12, whereas survey data from the ANSD are available for 2005–06 and 2010–11. As for the environment, the single indicator that can be measured using administrative data from the Directorate of National Parks only has available data for 2011. On governance, the majority of data are available for 2010. The periods of administrative data availability are 2004–12, 2009–14 and 2012–17 and those of survey data availability are 2010–11 and 2012–13. With respect to global partnership for sustainable development, data to measure the indicators are also available for 2010, with administrative data being available for 1994–12, 2000–12 and 2010–11 and survey data being available from 1980 to 2012.

Table 1 provides an overview of the general availability of data for measuring post-2015 progress against the selected global and national targets and indicators.

Table 11. Data availability across indicators by goal area

Goal area	Global available	Total	Percent available	National available	Total	Percent available	Total available	Total	Percent available
End poverty	5	5	100	7	9	78	12	14	86
Ensure quality education for all	5	5	100	4	5	80	9	10	90
Create jobs, sustainable livelihoods and inclusive growth for all	7	7	100	0	4	0	7	11	64
Ensure sustainable energy and develop infrastructure for all	8	8	100	5	7	71	13	15	87
Establish a sustainable, healthy and resilient environment for all	4	5	80	9	12	75	13	17	76
Establish open, accountable, inclusive and effective institutions, rule of law and a peaceful and inclusive society	6	9	67	3	4	75	9	13	69
Establish a global partnership for sustainable development	6	6	100	0	3	0	6	9	67
Total	41	45	91	28	44	64	69	89	78

Key Sources of Data

Error! Reference source not found. summarises the key potential sources of data identified across goal areas for both global and national targets and indicators as well as the types of data and periods of availability. Annex 3. Targets and Indicators Examined for Senegal compiles tables with detailed explanations of data sources and notes relevant for monitoring. The key sources that emerged from the data-mapping exercise provide data from administrative sources and/or surveys. For the goals areas on poverty and employment, the ESPS, ESAM, EDS-MICS and ENSAN are the key national sources of data for measuring both global and national indicators. The recently launched ENES will be relevant for the goal area on employment in the post-2015 period. The International Labour Organization is an international data source for informing employment-related indicators.

For education, data are obtained either from administrative sources, with statistics produced by the MEN and Ministry of Vocational Training, Learning and Crafts, or ANSD surveys such as the ESPS. International data sources for measuring education indicators include the World Bank's World Development Indicators and the United Nations Educational, Scientific and Cultural Organization. As for the goals areas on energy and infrastructure and environment, the Energy Information System can be used to measure energy-related indicators. Relevant international data sources include the World Development Indicators, International Telecommunication Union and International Energy Agency. With respect to governance, for which relevant data are mostly lacking, some data can be obtained from various administrative sources – the MISP, Parliament of Senegal, Economic, Social and Environmental Council (Conseil Économique, Social et Environnemental) and CAEL-UAEL (Cellule d'Appui aux Elus Locaux-Union des Associations d'Elus Locaux) – and surveys carried out by the ANSD. As for global partnership, data provided by the APIX, directorates of the MEFP such as the DCEF and Public Debt Directorate and ANSD datasets on national accounts are the most relevant.

Table 12. National data sources for the selected global indicators			
Goal	**Type of data**	**Sources of data**	**Period of data availability**
End poverty			
	Surveys	ANSD (ESPS, ESAM and EDS-MICS), SECNSA (ENSAN)	1992–93, 1994–95, 2001–02, 2005–06, 2010–11, 2012–13
Ensure quality education for all			
	Administrative sources and surveys	MEN, Ministry of Vocational Training, Learning and Crafts (administrative sources) ANSD (ESPS and SES [*Situation Economique et Sociale du Sénégal*] which is the Assessment of the Economic and Social Situation in Senegal, an annual publication from ANSD)	2003–13, 2000–11, 2000–08
Create jobs, sustainable livelihoods and inclusive growth for all			
	Surveys	ANSD (ESPS)	1980–2012, 2005–06, 2010–11
Ensure sustainable energy and develop infrastructure for all			
	Administrative sources and surveys	BCEAO, Energy Information System, Sonatel (administrative sources) ANSD (ESPS)	2000–06, 2001–12, 2004–12, 2005–06, 2010–11
Establish a sustainable, healthy and resilient environment for all			
	Administrative sources	Ecological Monitoring Centre, National Fire Brigade of Senegal, DPC or Directorate of Civil Protection, DEEC, DEFCCS, DAMCP, Directorate of National Parks, National Agency of the Great Green Wall, MEDD, MISP	2011
Establish open, accountable, inclusive and effective institutions, rule of law and a peaceful and inclusive society			
	Administrative sources and surveys	Parliament of Senegal, BCEAO, BNSP or *Brigade Nationale des Sapeurs Pompiers*, Economic, Social and Environmental Council, CAEL-UAEL, DAF or *Direction de l'Automatisation des Fichiers* under the Ministry of Interior, General Directorate of Taxes and Government Property (administrative sources) ANSD (EDS-MICS and EDS-Continue)	2004–12, 2009–14, 2010–11, 2012–13, 2012–17
Establish a global partnership for sustainable development			
	Administrative sources and surveys	APIX, BCEAO, National Cell for the Treatment of Financial Information, DCEF, Public Debt Directorate, Directorate of Forecasting and Economic Studies, Ministry of Trade, Informal Sector, Consumption, Promotion of Local Products and SMEs, MEFP ANSD (datasets on national accounts)	1980–2012, 1994–2012, 2000–12, 2010, 2011

Administrative data and survey data can be considered complementary when measuring the selected indicators. Administrative data are produced by entities whose management activities involve the holding of individual files or registers, with microdata on entities and individuals being key elements. Data from administrative sources are advantageous when it comes to ensuring the regularity of statistics and availability of data at low cost. However, one of the drawbacks is the coverage of data – data may not be representative of the entire population and are not always comparable over time and space. Other disadvantages are the possibility of bias in the transmission chain of basic data and statistical conclusion validity, which can sometimes be problematic. On the other hand, survey data are collected by entities that specialise in statistics and aim to produce information that can be qualified as generally accepted. Survey data reflect social facts shaped by contexts and are more likely to satisfy data users' demands. They are more accessible and manipulable compared to administrative data. Moreover, their advantage is that they are often based on solid theoretical considerations and harmonised methodologies applied in many countries. Survey data have the disadvantage of depending on periodicities, which depend on funding availability, but then again their collection is often expensive and time-consuming.

Key Considerations for Measuring Post-2015 Progress in Senegal

One of the main data strategies going forward is the collection of disaggregated data, which are not sufficiently available at the sectoral and local levels despite the process of decentralisation in Senegal. Improvements have been achieved by the ANSD over the last two decades given reinforcement of financial, human, technical and institutional capacities and autonomy to publish data on a regular basis. In accordance with the National Strategy for the Development of Statistics, economic statistics were significantly improved through the quarterly publication of national accounts, the annualisation of the EDS-MICS and the introduction of the monthly index of industrial production (ANSD 2014b). Despite these efforts, weak sectoral and geographical decentralisation of statistical activities remains a major problem that causes the insufficient availability of data at sectoral and local levels.

At the sectoral level, apart from the healh and education sectors, significant data gaps exist for sectors such as culture, environment, justice, employment, housing and living areas, sport and youth. The administration of criminal justice in Senegal suffers from the lack of reliable data and a system for collecting and analysing justice statistics, particularly those on criminal justice (AfriMAP and OSIWA 2008). Furthermore, there is insufficient ownership in several sectors and improved statistical coverage is needed in sectors such as employment, gender, decentralisation and migration (ANSD 2014b). The lack of data can mainly be explained by financial and technical capacities that are too weak to produce reliable sectoral data with a methodology validated by the ANSD. A solution to this problem could be to post in every ministry a statistician in charge of the production of quality data, in addition to ensuring the coordination of sectoral statistical operations in collaboration with the ANSD.

At the local level, despite the existence of the ANSD's Regional Offices of Statistics and Demography, it is important to mention the lack of disaggregated data. With the implementation of the National Strategy for the Development of Statistics, it was envisioned that highly detailed statistics would be available, taking into account gender issues and decentralisation processes in order to improve the quality of statistical products. However, some data, such as those related to patrimony, households' ordinary expenses and their members' incomes, are generally not disaggregated by sex, even if most surveys on households include a systematic detailing of data by sex (République du Sénégal2007). One of the reasons for this is the weakness of human and material resources available for regional services. Without additional funding, the Regional Offices of Statistics and Demography will likely continue to have

difficulties producing data for indicators on a regular basis and ensuring reliable statistics. From the perspective of implementing Decentralisation Act III, it is necessary to have disaggregated data to ensure effective policy planning, monitoring and evaluation at the local level. Therefore, it is necessary to reinforce the technical and financial capacities of Regional Offices of Statistics and Demography in order to collect, analyse and publish, under the supervision of the ANSD, detailed data disaggregated by region and sex. The existence of such data should facilitate the formulation and implementation of inclusive, evidence-based policies and enable both monitoring and evaluation.

Given the importance of disaggregated data for governance, transparency and evidence-based decision making, considerable efforts should be made to develop a comprehensive data strategy regarding this issue. Another point that should be taken into account in the data strategy for post-2015 is the need to ensure qualified human resources within ministries, with good knowledge of statistical tools, guaranteeing that these ministries follow the same standards as the ANSD. The ANSD should play a key coordination role in streamlining ministries and centralising the management of human resources.

Quality of Data for Measuring Post-2015 Progress in Senegal

The data quality assessment framework used by research teams under the Post-2015 Data Test is available in Annex 4 (see also Bhattacharya, Higgins and Kindornay 2014). The framework was compiled using number of quality assurance frameworks, including the Generic National Quality Assurance Framework Template (Expert Group on NQAF 2012), the European Statistics Code of Practice (ESSC 2011), the International Monetary Fund's Data Quality Assessment Framework (IMF 2006) and the Code of Good Practice in Statistics for Latin America and the Caribbean (Working Group on Capacity Building 2011). Statistics Canada's Quality Assurance Framework (Statistics Canada 2002) was also consulted. The five main criteria for examining data quality include: (i) relevance, (ii) accuracy and reliability, (iii) timeliness and punctuality, (iv) accessibility and clarity and (v) coherence and comparability.

Research teams examined the quality of available data for global targets and indicators under each goal area against the five main criteria. Essentially, a basket of survey instruments was examined and an overall score for each goal area was provided. The scores presented below represent the totals for each criterion on a scale from 1 to 5. A score of 5 indicates that data for the goal area meet all criteria sub-components, 3 indicates that the data meet more than half of the criteria sub-components, while 1 means that no data meet the criteria. A score of 4 denotes a situation where the majority of sub-components are met. And a score of 2 represents instances when less than half of the sub-components are met.

Results of the Data Quality Assessment

The results of the data quality assessment show that accuracy and reliability as well as timeliness and punctuality are the two assessment criteria with the weakest scores for the majority of proposed goal areas (see Table 13). The weakness of these two criteria, particularly timeliness and punctuality, can be explained by the strong dependence of official data producers, principally the ANSD, on donor funding to conduct different statistical activities. The criteria accessibility and clarity as well as coherence and comparability have the highest scores when considering all of the goal areas together.

Table 13. Results of the data quality assessment Goal area	Relevance	Accuracy and reliability	Timeliness and punctuality	Accessibility and clarity	Coherence and comparability
End Poverty	3	2	2	3	4
Ensure quality Education for all	3	2	3	4	4
Create jobs, sustainable livelihoods and inclusive growth for all	3	2	2	4	4
Ensure Sustainable Energy and Develop Infrastructure for all	3	2	2	3	3
Establish a sustainable, healthy and resilient environment for all	2	2	2	3	2
Establish open, accountable, inclusive and effective institutions, rule of law and a peaceful and inclusive society	3	2	3	3	3
Establish a Global Partnership for Sustainable Development	4	2	3	3	3

When applying the data quality assessment framework to education data, it seems that data quality is compromised by the criterion on accuracy and reliability, which could be explained by, on the one hand, the nature of basic information being produced and, on the other hand, data collection methods and treatment, since the majority of data for measuring the indicators on education come from administrative sources. Administrative data collection methods, particularly for data on education, are confronted by diverse constraints that are likely to compromise data accuracy and reliability. Constraints in the domain of education include the weakness of available human resources (specifically their competencies in statistics), poor mobility of senior statisticians who specialise in education data, weak data collection in different school units, data management problems and weak collaboration between sectoral data producers and the ANSD regarding the coordination of statistical activities (concept definitions, methodological harmonisation, questionnaires, etc.). A comparison between administrative data produced by the MEN and ANSD survey data, specifically from ESPS II, demonstrates that there are differences in statistics that help measure and monitor some education indicators.

For poverty, employment and energy and infrastructure, the results of the data quality assessment show that timeliness and punctuality as well as accuracy and reliability have the weakest scores out of the five assessment criteria. Data for the associated indicators are from household surveys, mainly ESAM I and II, ESPS I and II and the EDS-MICS. These are national surveys and the ANSD generally depends on technical and financial partners' funding in order to conduct them. Any delay in the disbursement of this funding or lack of financial resources for any reason could result in planned statistical activities not being done within established time limits. Data accuracy and reliability can also be limited by difficulties in comparing statistics produced from different surveys and for different periods as well as inadequacies in data analysis. The reliability of data on employment, mainly obtained from the ESPS, is particularly problematic. Among the causes of these weaknesses are the absence of consensus on methodologies, a result of weak coordination in data production, and the lack of human resources, specifically statisticians and analysts (AFRISTAT 2011).

The goal area on environment has the weakest scores for the majority of the assessment criteria. Out of the five criteria, only assessibility and clarity met more than half of the sub-components. During the data-

mapping exercise, there were some difficulties in gaining access to reliable environmental data, which are relevant for the proposed indicators and regularly disseminated. One of the major problems with environmental data is related to divergence in data sources, which constrains the formulation of strategies and decision making. Data from directorates of the MEDD often differ from those produced by universities and research institutes. For instance, data produced by Forestry Services, such as DEFCCS, and universities diverge for the global indicators “Net loss in forest area (% of land area)” and “Trends in coverage of protected areas.” Sometimes there are contradictions in environmental data produced by entities under the same ministry, which can be explained by weak coordination and centralisation of environmental data production. For example, the Ecological Monitoring Centre and DEFCCS, which are both under the same ministry, each collect, treat and analyse their own data according to their respective objectives, without methodological harmonisation. Moreover, it is difficult to find environmental data series that cover a long period of time.

For the goal areas on governance and global partnership for sustainable development, the criterion with the weakest score is accuracy and reliability. Regarding governance, available data from ministries are difficult to access and generally unreliable. According to a national report on governance in Senegal, the unavailability of reliable statistics constitutes a major constraint that must be addressed by improving the data collection methods of the Senegalese government and local governments (DREAT 2013).

Political Economy of the Data Revolution

Understanding the Drivers of Data Gaps and Improvements

Human, Logistical and Material Resources

Senegal's NSS considers human resources to be essential for conducting statistical activities such as data collection. For this reason, special attention should be given to human resources in Senegal's post-2015 data strategy. There are important challenges related to the quality and quantity of human resources. Sectoral data producers within ministries face a lack of senior statisticians. Moreover, there is the challenge of retaining human resources, particularly senior statisticians who are likely to leave the NSS for international organisations that offer competitive salaries and more interesting career paths.

Notably, the ENSAE has been credited with significant improvements in statisticians' capacities. The ENSAE, which is connected with the ANSD, was created to offer initial and continuous statistical training, strengthen capacities and satisfy the need for staff members with statistical training. An analysis of the activity reports of the Directorate of Forecasting and Statistics (Direction de la Prévision et de la Statistique or DPS) of the MEFP and the ANSD indicates that improvements were made in terms of recruitment between 2000 and 2010. The number of staff members more than doubled, which can be partly explained by the creation of the ANSD in 2006. Table 14 shows the evolution of staff recruited by the DPS up to 2005 and the ANSD from 2006.

Table 74. Evolution of staff at the DPS and ANSD

Year	2000	2003	2004	2005	2009	2010
Staff members	106	111	125	138	232	234

Source: Activity reports from DPS for the years 2000, 2003, 2004, 2005 and activity reports from ANSD for the years 2009, 2010 and 2011

Moreover, the analysis of the activity reports of the DPS and ANSD indicates that official data producers have been characterised by inadequate and deteriorating material and logistical resources. Still, important improvements in terms of infrastructure and equipment have been noted over the years. In 2005, for example, the material capacities of the ANSD's Regional Offices of Statistics and Demography were strengthened thanks to the support of the MEFP in accordance with DSRP I (DPS 2006). Regions such as Kaffrine, Kédougou, Sédhiou and Kolda saw their material capacities strengthened through the acquisition of equipment including computers, generators and office furniture (ANSD 2013). In 2013, construction of the building in which the ANSD and ENSAE are both now located was finished and staff members were able to move in. The reinforcement of human, material and logistical capacities facilitates the ANSD's collection, treatment, analysis and dissemination of statistics.

Role of Technology

Technology has played a key role in the improvement of data quality, electronic data storage and the availability of results. The use of ICT considerably reduces costs and the time devoted to different statistical activities, while facilitating the electronic dissemination of results. Despite fulfilling periodicity conditions, the publication of results in physical formats, such as reports, is expensive and involves

printing lags. Tablet computers, smartphones and personal digital assistants were used to collect data for the EDS-MICS, ESPS II and the general census of 2013, which led to historic improvements in data quality.

Notably, the ANSD has chosen to publish more statistics online to make them promptly available and accessible at low cost to all stakeholders. The general census of 2013 demonstrates the importance of technology in terms of the availability of results. The census was conducted in December 2013 with the help of personal digital assistants and the first results were available three months later, with data available at different levels of disaggregation – country, region, department, age and sex. Compared to the census of 2002 for which technology was not used, five years were necessary for the first results to become available. The EDS-Continue – the successor to the EDS-MICS – provides another example, with results being available three months after the annual survey was conducted in 2012–13. In collaboration with the World Bank, the ANSD plans to conduct innovative household surveys by using new mobile technologies for collecting data and a call centre. Data will be collected on socio-economic topics, namely food security, social cohesion, water, sanitation and hygiene, education, electricity, employment, governance, financial inclusion and migration during a two-year period (ANSD 2014a).

The use of technology has also played a key role in strengthening the availability of data on birth registrations and reliability of the civil registration system. Given the inefficiency of the paper-based system, various stakeholders collaborated to implement a pilot project on birth registrations using mobile technology. The NGO Aide et Action International trained village chiefs, Finnish mobile phone producer Nokia provided 30 free mobile phones and French multinational telecommunications company Orange provided free data packages. These mobile phones, which had special java software, were distributed to 30 village chiefs, who were responsible for recording information on births in their villages and transferring it to a registration office. This office, which also had a mobile phone, checked the information before registering it both physically on paper and electronically in a database. The office then sent back registration numbers to the chiefs, who were responsible for passing them on to the parents, who were then able to obtain birth certificates after paying a fee. The pilot project in 30 villages covered around 50,000 people and 100 percent of births – approximately 300 children – were registered during a two-month period (GSMA Mobile Identity Team 2013). Given the success of this pilot project, the Senegalese government is keen to see it expanded into a country-wide initiative.

While technology holds enormous potential to improve statistical operations, constraints exist in terms of infrastructure and energy. In rural areas, the lack of infrastructure and weak access to the internet and energy increase the probability of data losses during transfer to servers. One option is to combine technology with traditional methods of data collection, particularly in rural areas, to reduce the risk of data losses. In urban areas, tablet computers can be used to collect data with minimal risks, with geo-coding enabling the ANSD to easily recover information from surveyed people. In its 2012 activity report, the ANSD drew attention to challenges related to computer technology and insisted on the necessity of developing adapted application programmes for all statistical operations (ANSD 2013a). Under the framework of the National Strategy for the Development of Statistics, the systematic use of ICT can reinforce the role of technology by bringing data producers closer to government entities in charge of computer assistance and archival storage and promoting electronic filing.

Data Availability–Transparency–Accountability Nexus

Funders of Data Collection

Data collection and statistical production often requires securing long-term financial means. In Senegal, the government allocates significant financial resources to the NSS. The most important share of funding allocated to the National Strategy for the Development of Statistics for the 2008–13 and 2014–19 periods has come from domestic resources taken from the government's budget, but also other resources generated by the ANSD. For example, out of total total funding of approximately 97 billion CFA francs (about 194 million USD) for the ANSD, about 90.7 percent might have come from the government's own financial resources (ANSD 2014b). Moreover, interviews with ANSD officials indicated that for the general census of 2013, which cost 13.5 billion CFA francs (equivalent to 27 million USD), about 90 percent of the cost was covered by the government. Between 2008 and 2011, the government allocated 133.4 billion CFA francs (about 266.8 million USD) to the entire NSS, which represents about 33 billion CFA francs (corresponding to 66 million USD) per year for statistical activities.

As a public good, data should be open and accessible without cost to different stakeholders, including citizens, the private sector and international organisations. The ANSD's 2012 activity report clearly mentions that statistics are considered to be a public good (ANSD 2013a). Consequently, the ANSD adopted a policy to produce mainly free publications. To improve accessibility, the ANSD's website is accessible to all users. The ANSD requires fees for some services and statistical products, which enable it to address some financial constraints. The ANSD has generated significant revenue from its services over time. Sales increased by 11 percent between 2011 and 2012, going from around 8.6 million (corresponding to 17,200 USD) to more than 9.7 million CFA francs (about 19,400 USD). There are limits to what the ANSD sells – only the printed versions of publications, access to some databases and cards/districts plans for the general census are sold. Notably, some stakeholders engaged during the research process for the Senegal case study argued that fees should be associated with access to data, since data cannot be free of charge because their production requires funding that cannot be provided by the ANSD alone. While data are a public good, they argued, other public goods such as health and education are not provided free of charge for everyone all of the time – the population must pay to access any number of services even if they are offered at low cost.

Development partners are important sources of external funding and their financial and technical assistance to the NSS supports statistical operations. Assistance can differ from partner to another. For instance, the United States Agency for International Development offers a technical assistance to the ANSD for the organisation of the EDS-MICS, whereas the Organisation for Economic Co-operation and Development and the French government's Cooperation and Cultural Action Service (Service de Coopération et d'Action Culturelle) focus their assistance on the distribution and acquisition of statistical tools. Bilateral cooperation also plays a key role in statistical operations. For example, Brazil lent the ANSD 20,200 personal digital assistants for conducting the general census of 2013. A study on technical and financial partners' assistance to statistical activities mentions that their assistance is estimated at US$7.8 million, representing 3.8 billion CFA francs for the 2009–11 period. The most dynamic technical and financial partners in the domain of funding statistical activities are the World Bank, United States Agency for International Development, United Nations Children's Foundation, World Health Organization and United Nations Population Fund.

Official data producers generally do not have their own budgets and strong dependence on external funding can cause delays in some statistical activities, regardless of priorities (DREAT 2013). One of the

implications of external funding is related to the relevance of collected data and its alignment with the ANSD's concerns, which should reflect national priorities. Donors fund statistical activities to inform the indicators that are meaningful to them, which may not correspond to national priorities in terms of data. Furthermore, some statistical activities that were initially planned may not be conducted at the appropriate time due to the mobilisation of available human resources for statistical operations considered to be of priority by donors. Data producers often work together to organise statistical activities for which funding from technical and financial partners' is ensured.

Despite the scale of funding mobilised by the government and development partners for the development of statistics, achievements have been below expectations. According to the ANSD's 2012 activity report, insufficient funding allocated for statistical activities is considered one of the principal constraints that limit the development of statistics in Senegal. This can be explained by different reasons, but the main reason is inadequacy of available financial resources. A 2011 study reviewing public spending on statistics revealed the negative impact of budget cuts on statistical activities. As a consequence, funding is more directed towards sectors such as health, education and training, agriculture and livestock, water and sanitation, the environment and natural resources. Moreover, interviews with ANSD directors revealed the weakness of financial resources devoted to certain sectoral data producers due to these trends in funding. A notable recommendation in the National Strategy for the Development of Statistics is the establishment of a Statistical Development Fund to guarantee adequate, long-term funding of statistical activities.

Another example that demonstrates the insufficiency of financial resources for producing statistics and its impact on the measurement and regular monitoring of key indicators is the assessment of the contribution of the environment in GDP. This assessment, which is conducted by the MEDD with the technical support of the ANSD and financial support of the Netherlands, is based on the value added of goods and services related to forests. The choice of limiting the assessment only to forests in the short term is mainly due to the amount and duration of funding that is allocated by the Netherlands for carrying out this assessment. The MEDD plans to search for additional financial resources in order to include all the relevant aspects that should be taken into account in a complete calculation of the contribution of the environment to GDP.

Initiatives on Disseminating Statistics and Open Data

In Senegal, there are initiatives on disseminating statistics and open data based on online portals with free access for all users. The online portal for the NSS offers various data and statistics on different themes from all ministries. One initiative of the ANSD to disseminate statistics and promote research is the Senegal National Archive of Survey Data (Archivage National des Données du Sénégal), a microdata and metadata platform informed by 64 surveys and censuses. Another initiative is the Geographic Statistics Information System (better known as SIG-Stat), which is a free visualisation tool on the ANSD website for national cartographic and socio-economic data. The ANSD also collaborates with the companies Sonatel and Orange on an experimental programme called Data for Development, or D4D, to use, disseminate and valorise big data.

Moreover, the Senegal National Geomatics Plan (Plan National de Géomatique du Sénégal) envisions the creation of a tool called Géorépertoire to better inform the public and private sectors and citizens about the availability of geographical data in Senegal and their access clauses and conditions. An interactive portal will be set up to improve the visibility of geolocalised data on Senegalese regions and relevant sectors (Geoflash 2014). Notably, the ANSD participates in the African Development Bank's Open Data for Africa platform, an initiative that aims to promote decision making based on reliable information, good governance and administrative responsibility and help monitor progress on the MDGs

at the national and regional levels (Géoflash 2014). The platform is based on an open data portal that provides users with access to different indicators for certain periods, which can be visualised in the forms of graphs and charts.

A survey on users' satisfaction launched by the ANSD in July 2015 could help the ANSD satisfy data users' statistical needs and improve communication. Initiatives should be developed to promote data literacy by strengthening citizens' capacities to use and understand data and statistics as information. Strengthening data literacy will empower citizens to demand more transparency and accountability of decision makers.

Conclusion

By mainstreaming the MDGs, the Senegalese government has achieved important progress with its economic policy and development strategy documents, specifically the DSRP, DPES, SNDES and PSE. In terms of poverty reduction, the incidence of income poverty decreased from 67.9 percent in 1994 to 46.7 percent in 2011 and the country will likely not attain the MDG target of halving poverty by the end of 2015. Notably, encouraging progress has been made in terms of enrolment rates at primary schools, gender parity between girls and boys in primary education, the proportion of parliamentary seats held by women, the infant mortality rate, the prevalence of HIV/AIDS, and access to drinking water and sanitation. Still, challenges remain and will likely jeopardise the achievement of the MDGs by their target date.

To stimulate debate and define an inclusive post-2015 agenda, national consultation processes were conducted in several countries, including Senegal in 2013. Each process involved various stakeholders, including government officials, civil society representatives and members of the private sector, and identified national post-2015 priorities. In Senegal, stakeholders identified that post-2015 priorities should be good quality education, a better health system, honest and responsible government, access to drinking water and sanitation, good food at affordable prices, better employment opportunities, protection against crime and violence, and action on climate change. Stakeholders also identified four overarching orientations that should form the basis of the post-2015 agenda in the country, namely strengthening the social basis of human development, promoting a competitive economy that creates decent jobs, determining the role of governance for sustainable development, and establishing sustainable peace and security. Regional consultations were carried out by the MEDD in 2015 to identify which proposed SDGs are relevant to Senegal. Among the 17 candidate SDGs, seven were identified as of high priority and an additional five were considered as of priority.

The Senegal case study under the Post-2015 Data Test demonstrated that the SDGs are indeed relevant for Senegal, but an ambitious goal on health would be consistent with post-2015 priorities identified during the aforementioned national consultations. Various opportunities exist for implementing the finalised post-2015 agenda in Senegal. A key opportunity is related to the PSE, which is the flagship economic and social policy for the medium and long term. With effective implementation of the PSE, Senegal should eradicate extreme poverty by 2030. Also, Senegal should benefit from its membership in sub-regional organisations such as ECOWAS and WAEMU. The country should strengthen its relationships with the BRICS countries to promote new development partnerships in anticipation of the reduced importance of traditional modes of financing for development such as ODA.

In terms of challenges, the availability, accessibility and reliability of data produced by the NSS are major limitations that could significantly constrain the monitoring of post-2015 progress. Although considerable efforts have been made to reform the NSS, the lack of disaggregated data and reliable sectoral data will limit the measurement, monitoring and evaluation of post-2015 targets and indicators. The results of the data-mapping exercise show that data are particularly scarce for the proposed SDGs on environment, governance, employment and global partnership for sustainable development. Of the selected global indicators under the goal areas on environment and governance, only 20 percent and 44 percent, respectively, can be measured using national data sources. As for the national indicators proposed for employment and global partnership, data sources are not available to inform them. However, for other goal areas such as education and poverty, data are available for almost all targets and indicators. More specifically, 80 percent of national indicators selected for education and 78 percent of indicators for

poverty have available data sources, while all selected global indicators can be measured with existing data sources.

For some indicators identified in this study, the ANSD has relevant data but additional work is needed to calculate indicators, specifically easy data manipulations. In the case of indicators for which official data produced by the ANSD and other data producers do not exist, unofficial data produced by NGOs may exist. Problems related to the lack of disaggregated data and reliable sectoral data are intrinsically linked to the financing of statistical activities and quality of the NSS's human resources. The NSS's dependence on external funding sometimes compels the ANSD to focus mainly on donors' priorities to the detriment of initially planned statistical activities. Regarding data users, citizens do not always have the capacities to use and understand data in order to demand more transparency and accountability of policy-makers.

Key Recommendations

A number of key recommendations emerged from the study in order to address the challenges of monitoring progress on the post-2015 agenda in Senegal:

- Post qualified statisticians in government ministries to ensure better availability, accessibility and reliability of data produced by ministries.
- Encourage the production of disaggregated data, given the inclusive nature of the post-2015 agenda ("leave no one behind") and key role of disaggregated data for evidence-based policy-making at various levels.
- Strengthen the human, financial and technical capacities of Regional Offices of Statistics and Demography, since the impacts on the availability of local data are expected to be positive.
- Centralise the management of human resources for the NSS at the ANSD to improve the availability, accessibility and quality of data.
- Work with the ENSAE to strengthen statistical training, with the support of the government and international partners.
- Promote dialogue between the ANSD and unofficial data producers to identify ways that unofficial data can be validated and used to measure progress on the post-2015 agenda.
- Limit the ANSD's dependence on external funding and encourage the mobilisation of domestic resources and innovative mechanisms for sustainable financing to monitor the post-2015 agenda.
- Support the establishment of a Statistical Development Fund, an ANSD initiative that aims to ensure greater stability and predictability of funding for data collection and statistical production and enable the ANSD to be more empowered, resourced, independent and able to address financial challenges.
- Strengthen citizens' capacities to use and understand data in order to empower them to demand more transparency and accountability of policy-makers. Better communication between data producers and users to promote demand-driven data, which can be facilitated by the use of ICT, is also required.

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Annex 1. Research Team

As mentioned, IPAR conducted the Senegal case study for the Post-2015 Data Test initiative. IPAR's mission is to contribute to social and economic development in Senegal and the sub-region by promoting exchange and debate based on rigorous strategic research and recommendations for inclusive policies. In addition to Senegal, IPAR conducts research projects in other countries of the sub-region such as Burkina Faso, Mali and Niger. IPAR's main activities include conducting pertinent, high-quality research to create and animate exchanges and debates as well train relevant actors and reinforce their capacities, to create and animate exchanges and debates spheres. Its current research themes are: (i) demography, employment and migration, (ii) agricultural performance, (iii) land ownership and natural resource management and (iv) public policies. IPAR has been engaging more on emerging issues, such as the green economy and post-2015 agenda, which is why it is participating in the Post-2015 Data Test. The Senegal research team will contribute to a number of publications under the initiative and conduct dissemination and sensitisation activities in Senegal. The research team members are introduced below.

Maam Suwadu Sakho-Jimbira: Researcher, Project Coordinator at IPAR

Dr. Maam Suwadu Sakho-Jimbira is a doctor in economics. She graduated from Montpellier I University in France and is a specialist in agricultural economy and development. She holds a master's degree in economics from Gaston Berger University in Saint-Louis, Senegal with a specialisation in the management of agricultural enterprises. She was a teaching assistant in economics at both universities. She gained research experience in –Senegal, Burkina Faso and Cameroon by working for national and international research organisations such as the Senegalese Institute for Agricultural Research (Institut Sénégalais de Recherches Agricoles) and Center for International Forestry Research. At IPAR, Dr. Sakho-Jimbira works on the post-2015 agenda and coordinates the Senegal case study under the Post-2015 Data Test initiative. She also works on projects examining rural households' adaptation strategies, the economic resilience of semi-arid areas to climate change and variability, and the adaptation strategies of cereal systems in the context of climate change and variability.

Ibrahima Hathie: Researcher, IPAR Research Director

Dr. Ibrahima Hathie is an agricultural economist. He received his PhD from Connecticut University, Storrs in the United States. He is currently the IPAR Research Director and his research activities include the examination of agricultural performance, climate change, youth employment, rural household adaptation strategies and the post-2015 agenda. Dr. Hathie is coordinating two regional projects, one on youth employment and migration in West Africa and another on climate change impacts on agriculture. Before joining IPAR, Dr. Hathie was in charge of the US Agency for International Development's rice branch under the PCE (Projet Croissance Economique) programme from 2009 to 2011. From 1992 to 2009, he taught at the École Nationale d'Économie Appliquée in Senegal, where he was the pedagogical and internship director from 2004 to 2007. He is the author of numerous publications and an active member of the Southern Voice network, African Agricultural Economists' Association and the African Trainers' Network on the Analysis of Agricultural Policies. Dr. Hathie has served as a consultant for institutions such as Canada's International Development Research Center, the World Bank and the African Capacity Building Foundation.

Aminata Niang: Researcher, in Charge of the Valorisation of Research Results at IPAR

Dr. Aminata Niang is a socio-anthropologist who received her PhD from Arizona University, where she was a teaching assistant from 2008 to 2012. She has nearly 10 years of experience working on different research themes including development programmes and policy evaluation, gender issues, the impact of extractive industries, and climate change in West Africa. At IPAR, she is involved in research projects on youth employment and migration in West Africa, the Post-2015 Data Test and land management and mining issues.

Idrissa Wade: Teacher and Researcher at the University of Thiès, Associate Researcher at IPAR

Dr. Idrissa Wade is an agriculture economist. He earned his PhD at Montpellier I University in France. He is presently a professor and researcher at the École Nationale Supérieure d'Agriculture at the University of Thiès and an associate researcher at IPAR. His research is mainly focused on the development of agricultural values chain, youth employment and migration in West Africa, the efficiency of agricultural policies, and the vulnerability and resilience of rural households. He is an expert on market information systems, a topic on which he wrote his PhD dissertation.

Madické Niang: Researcher, Data Analyst in Charge of IPAR Monitoring and Evaluation

Mr. Madické Niang is a statistician and specialist in economic studies. He has four master's degrees in economics, statistics, econometrics and marketing. He has worked at IPAR since 2006 on different projects for which he coordinates the collection and analysis of statistical data. He is currently involved in IPAR projects on youth employment and migration in West Africa, rural households' adaptation strategies and the Post-2015 Data Test.

Annex 2. Major Disasters in Senegal, 1992–2012

Disasters	Deaths and damages
Explosion of an ammonia tank at SONACOS, the official groundnut processing and marketing company, in 1992	Thirty deaths and more than 100 wounded
Market fires	More than 20 cases with more than US$10 billion in losses
Unseasonable rain in January 2002	More than US$31 billion in losses
Floods in 2005, 2008, 2009 and 2012	Between 50,000 and 400,000 stricken people
Locust invasions in 1998 and 2004	Damages to thousands of hectares of land
Drownings	More than 100 cases per year
Transports accidents such as the Joola ferry sinking in 2002, plane crashes, etc.	Over 1,800 deaths

Annex 3. Targets and Indicators Examined for Senegal

Table 3.1 End poverty: Targets and indicators Target	Indicator	Definition/Note
Global		
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 2014c). For the poverty line of US$1.25 (PPP), household income is not taken into account as an indicator of well-being. Rather, consumption expenditure per adult equivalent is used as a well-being indicator. This indicator is compared to the poverty treshold to determine whether a household is poor. This indicator can be measured using data from ESAM II (2001–02) and ESPS I (2005–06) and II (2010–11), with disaggregation possible by age, sex and place of residence. The ESPS is a national survey with a large sample, whose objective is to track the evolution of poverty and the population's living conditions.
Reduce poverty	Proportion of population below US$2 (PPP) per day	Refers to the percentage of the population living on less than US$2 at 2005 prices (World Bank 2014d). For the poverty line of US$2 (PPP), household income is not taken into account as an indicator of well-being. Instead, consumption expenditure per adult equivalent is used as a well-being indicator. This indicator is compared to the poverty treshold to determine whether a household is poor. This indicator can be measured using data from ESAM II (2001–02) and ESPS I (2005–06) and II (2010–11), with disaggregation possible by age, sex and place of residence.
	Proportion of population living below national poverty line	Refers to the percentage of the population living below the national poverty line. This indicator can be measured using data from ESAM II (2001–02) and ESPS I (2005–06) and II (2010–11), with disaggregation possible by age, sex and place of residence.
	Share of employed persons living below the nationally-defined poverty line	Refers to the ratio of the number of employed people living within poor households to the total working-age population. This indicator can be measured using data from ESAM II (2001–02) and ESPS I (2005–06) and II (2010–11), with disaggregation possible by age, sex and place of residence.
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).

National		
End extreme income poverty	Total number of vulnerable persons (households) supported by cash transfer programmes	This is a relevant indicator, which is taken into account by the PSE, for monitoring extreme poverty and the inclusion of vulnerable people during the process of wealth creation. For example, 50,000 households in 2013 benefited from family safety scholarships, a cash transfer programme. This indicator has the advantage of being disaggregated by region and sex. Data for measuring this indicator could be available from the General Delegation for Social Welfare and National Solidarity (Délégation Générale à la Protection Sociale et à la Solidarité Nationale).
	Extreme poverty rate (% of the population living below the food poverty line)	This indicator can be calculated by using data from household surveys (budget-consumption, ESAM, ESPS), since most of the time it is not published in official statistics. It shows the level of extreme poverty on the basis of an absolute threshold. The indicator has the advantage of being disaggregated by region and sex.
Reduce poverty	Proportion of population living below national income poverty line	This indicator can be calculated by using data from household surveys (budget-consumption, ESAM, ESPS). These data, required to calculate this indicator, are published in official statistics. The indicator has the advantage of being disaggregated by region and sex.
	Growth rate of real GDP per employed person	
	Underemployment rate	Refers to the percentage of people in time-related underemployment, comprising all people in employment whose hours of work are insufficient compared to an alternative employment situation in which a person is willing and available to engage. People in time-related underemployment satisfy the following criteria during the reference period: (i) are willing to work additional hours (i.e., wanted another job or jobs in addition to their current job or jobs to increase their total hours of work, wanted to replace any of their current jobs with another job or jobs with increased hours of work, wanted to increase hours of work in any of their current jobs or a combination of the above), (ii) 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 (iii) worked less than a threshold relating to working time (i.e., people whose hours actually worked in all jobs during the reference period were below a threshold, to be chosen according to national circumstances) (ILO 2014).
	Unemployment rate	Unemployment rate, as defined by the International Labour Organization, is the proportion of unemployed people within the labour force. To be an unemployed person, three conditions must be met: (i) being without employment (i.e., having not worked for at least one hour during the reference week), (ii) being available to take up employment within two weeks and (iii) having actively looked for a job in the previous month or having found one starting within the next three months. This indicator is calculated in all household surveys (budget-consumption, ESAM, ESPS) and published in official statistics. It has the advantage of being disaggregated by region and sex.

Reduce the proportion of people who suffer from hunger	Prevalence of underweight children under 5	Refers to the percentage of children under five years of age whose weight-for-age is less than minus 2 standard deviations from the median of the international standards published by the World Health Organization. The indicator is calculated in the EDS-MICS and Enquête Démographique et de Santé Continue (EDS-Continue) and published in official statistics.
	% of households that do not have the three main meals per day (because of a lack of means)	This indicator can be calculated by using data from household surveys (budget-consumption, ESAM, ESPS). These data, required to calculate this indicator, are published in official statistics. The indicator has the advantage of being disaggregated by region and sex. It is important to mention "because of a lack of means" because some households may choose not to take the three main meals per day for other reasons.
	Prevalence of food insecurity	This indicator can be measured by using data from the ENSAN, a survey that was carried out in June 2013. The overall prevalence of food insecurity is the combination of moderate and severe food insecurity (WFP 2014). Moderate food insecurity concerns households with deficient food consumption or that cannot satisfy minimum food needs without having other adaptation strategies. Severe food insecurity concerns households with very deficient food consumption or that experience significant losses of livelihoods, leading to significant declines in food consumption. One of the advantages of this indicator is that it is disaggregated by region, department, quintile of wealth/poverty, education level of the household head and households' livelihoods. In Senegal, 16 percent of households experience food insecurity, among which 2 percent experience severe food insecurity and 14 percent experience moderate food insecurity in 2013 (WFP 2014).
Cross-cutting: Create jobs, sustainable livelihoods and inclusive growth for all		
	Underemployment rate	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. The indicator can be measured using data from ESPS I (2005–06) and II (2010–11). The ESPS database is more useful for the analysis of standards of living than the labour market. The database is disaggregated by sex, age group and place of residence.
	Unemployment rate	We consider the unemployment rate as defined by International Labour Organization is the proportion of unemployed persons within the labour force. To be an unemployed person, according to ILO definition, three conditions should be simultaneously met: (i) Being without employment, i.e. having not worked for at least one hour during the reference week, (ii) Being available to take up employment within two weeks, (iii) Having actively looked for a job in the previous month or having found one starting within the next three months. This indicator is calculated in all household surveys (budget-consumption, ESAM, ESPS) and it is published in official statistics. It has the advantage to be disaggregated by region and sex.

Table 3.2 Ensure quality education for all: Targets and indicators		
Target	**Indicator**	**Definition/Note**
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	These programmes welcome children from three to six years of age to participate in Early Childhood Integrated Development Centres (Centres de Développement Intégré de la Petite Enfance), which include kindergartens and community nurseries, children's huts (cases des touts petits) and community spaces (cases communautaires), as part of a holistic approach that integrates educational, nutritional and health activities. Education during early childhood aims to ensure structure in the process of emergence of a child's personality, promote potential and prepare for later school learning (World Bank 2013). Data for informing this indicator are available from administrative sources, such as the *National Report on the State of Education* produced on an annual basis by the MEN for the 2003–13 period, ESPS II (2010–11) and the Assessment of the Economic and Social Situation in Senegal (SES ou Situation Economique et Sociale du Sénégal in french). The ANSD produces the Assessment of the Economic and Social Situation of Senegal annually by drawing from surveys and administrative data sources. Data for measuring this indicator are disaggregated by age, sex and rural/urban areas.
	% of girls and boys who complete primary school	Refers to the proportion of girls and boys who complete primary school, which is part of 10-year compulsory education in Senegal and provides primary education to children from seven to 12 years of age. Primary school involves six classes divided into three steps: (i) an introductory course and first grade, (ii) first- and second-year basic courses and (iii) first- and second-year mean courses. The end of primary education is marked by the certificate of completion of elementary education. The transition to secondary school is based on the results of the national entry competition held during the sixth grade (World Bank 2013). Data for informing this indicator are available from the *National Report on the State of Education*, and Assessment of the Economic and Social Situation in Senegal (SES). Data for measuring this indicator are disaggregated by age, sex and rural/urban areas.
	% of girls and boys who complete secondary school	Refers to the proportion of girls and boys who complete secondary school, which is divided into two components: (i) general secondary education, which consists of scientific and literary studies and aims to enable students to pursue advanced studies or vocational training, and (ii) technical secondary education, which consists of studies such as management and mechanics and is only completed by a small proportion of students from general secondary education. The baccalaureate marks the end of secondary school (World Bank 2013). Data for informing this indicator are available from administrative sources such as the Annuaire statistique nationale, which is produced on an annual basis by the MEN for the 2003–12 period. Data for measuring this indicator are disaggregated by age, sex and rural/urban areas.

	% 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). Data for informing this indicator are available from the *National Report on the State of Education* and Assessment of the Economic and Social Situation in Senegal (SES). Data for measuring this indicator are disaggregated by age, sex, rural/urban areas, religion and ethnic group.
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	Technical and vocational education and training is concerned with the acquisition of knowledge and skills for the world of work. Students are first-time job seekers or professionals looking to gain new qualifications. Lessons are taught in institutions that issue professional aptitude certificates or higher technical certificates (World Bank 2013). Data on the number of individuals enrolled in a technical and vocational education and training institution are available from the Directorate of Planning and Human Resources (Direction de la Planification et des Ressources Humaines) of the Ministry of Technical Education and Vocational Training (Ministère de l'Enseignement Technique et de la Formation Professionnelle). Data are disaggregated by sex, rural/urban areas, type of structure (*centre de formation* ou *lycée technique*) and sector of activity.
National		
Ensure all children have access to early childhood and quality primary and secondary education	Gross enrolment rate	The gross enrolment rate corresponds to the most commonly used indicator to measure the intensity of scolarisation; it gives the capacity of the education system to host school age children, by dividing the total number of the enrolled school population (public and private) to the school-age population (DPRE 2012). Data for informing this indicator are available from administrative sources, such as the *National Report on the State of Education* produced on an annual basis by the MEN for the 2003–13 period, ESPS I (2005-06) and ESPS II (2010–11) and the Assessment of the Economic and Social Situation in Senegal (SES ou Situation Economique et Sociale du Sénégal in french). The ANSD produces the Assessment of the Economic and Social Situation of Senegal annually by drawing from surveys and administrative data sources. Data for measuring this indicator are disaggregated by sex, geographical areas (regions and urban/rural), education level (primary/secondary).
	Gross enrolment rate per quintile of poverty	This indicator refers to the gross enrolment rate by considering the level of poverty. It is important to consider this indicator, given the significant correlation between level of education and poverty. It would be useful to explain why the enrolment rate appears to be increasing with the standard of living.

		Data for calculating this indicator are available with surveys such as ESPS I and ESPS II and also administrative sources such as SES and the *National Report on the State of Education.*
	Gross enrolment rate of disabled children	It is important to take this indicator into account for the promotion of inclusive education. This indicator is relevant given that the Post-2015 development agenda argued that no one should be left behind. However, data for calculating this indicator could be difficult to find with the existing surveys. Administrative sources could be used to find data for this indicator, particularly those from the DPRE –Directorate for Planning and Reform of Education- under the Ministry of National Education. In 2012, inclusive education has benefited from the construction of 5062 classrooms in order to accomodate the disabled persons (DPRE 2012).
	Net enrolment rate	It refers to the number of children of official primary (secondary) school age who are enrolled in primary (secondary) education as a percentage of the total children of the official school age population. Data for informing this indicator are available with ANSD surveys such as ESAM II and ESPS I/ ESPS II. These data are disaggregated by sex and rural/urban areas.
	The share of education expenditure in total public expenditure	This indicator is relevant because it gives the importance of education at a macroenonomic level, through the public expenditures that the Government allocates to the Education sector. As a priority sector for the Government, Education (including professional training) has benefited from 33% of current expenditures, and about 25% of the total amount of public expenditures (World Bank 2013). Data for calculating this indicator could be found in the statistics of the DGF - Directorate General of Finance- of the Ministry of Economy, Finance and Planning.

Table 3.3 Create jobs, sustainable livelihoods and inclusive growth for all: Targets and indicators		
Target	**Indicator**	**Definition/Note**
Global		
Achieve full and productive employment for all, including women and young people	Labour force participation rate	The labour force participation rate is the labour force as a percentage of the working-age population (ILO 2014). The indicator can be measured using data from ESPS I (2005–06) and II (2010–11). The ESPS database is more useful for the analysis of standards of living than the labour market. The database is disaggregated by sex, age group and place of residence.
	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). The indicator can be measured using data from ESPS I (2005–06) and II (2010–11). The ESPS database is more useful for the analysis of standards of living than the labour market. The database is disaggregated by sex, age group and place of residence.
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 for calculating this indicator can be found in ESPS II (2010–11).
Support inclusive growth and reduce inequality	Palma ratio	Refers to the ratio of the income share of the top 10 percent to the bottom 40 percent. The ANSD does not calculate this indicator, but relevant data for doing so can be found in ESPS II (2010–11).
	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. A Gini coefficient has no simple interpretation, but comparisons over time or between populations are very straightforward – the higher the coefficient, the higher the inequality of the distribution of income, and vice versa. A Gini coefficient based on the annual incomes of workers can be calculated using data found in ESPS II (2010–11).
	Growth rate of income of the bottom 40%	This indicator needs to be calculated based on available microdata from ESPS I (2005–06) and II (2010–11).
	Gross fixed capital formation (% of GDP)	Gross fixed capital formation (formerly gross domestic fixed investment) includes land improvements (fences, ditches, drains, etc.), plant, machinery, and equipment purchases and the construction of roads, railways, and other infrastructure including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings (World Bank 2014b). For measuring this indicator, data are available from national accounts and macroeconomic aggregates published by the ANSD. Data are published on an annual basis and available for the 1980–2012 period.
National		
Achieve full and productive employment for all, including women and young people	Insertion rate of new graduates (from universities and professional training)	This indicator aims to capture the degree of openness of the labour market to young graduates. It indicates the capacity of the economy to use the available competencies gained through the national education system.
	Ratio of new jobs to people trained, as a result of professional training by year	This indicator provides an idea of access to employment for young people, particularly in the formal private sector. A low ratio may indicate that the economy relies more on internship positions than hired positions.
	Indicator measuring the mismatch between training and youth employment	This indicator measures the gap between available competencies gained through the education system and those needed in various economic sectors. This indicator can help inform economic policy to guide technical and professional training.
Support inclusive growth and reduce inequality	Indicator measuring the geographical mobility of individuals (for seasonal activities)	Geographical mobility is one of the characteristics of rural and informal employment in countries such as Senegal. For example, rural workers in the agricultural sector migrate to urban areas at the end of the rainy season to engage in activities such as small trade and mechanics. This indicator will enable better understanding of seasonal activities and their relationship with key employment indicators in Senegal.

Table 3.4 Ensure sustainable energy and develop infrastructure for all: Targets and indicators		
Target	**Indicator**	**Definition/Note**
Global		
Ensure full access to developed infrastructure and communication technology	Internet users (per 1,000 people)	This indicator measures the number of people that use the internet for every 1,000 people. Data for measuring and monitoring this indicator can be found in surveys such as the National Survey on Information and Communications Technologies in Senegal, which is conducted by the ANSD on the demand of the ARTP. This survey collects data on ordinary households and household members aged 12 years and older. This survey excludes the homeless, people living in makeshift shelters (such as mosques and markets), collective households and people living in specialised institutions such as barracks, hospitals and prisons. Data can be disaggregated by age, sex, place of residence (Dakar, other urban centres, rural areas), education level, socio-professional categories, internet access at home and internet access outside the home. Moreover, the indicator can also be measured with administrative data produced by the ARTP, which are available through its annual report available from 2000 to 2012, with disaggregation possible by types of access (ADSL, real-time communications or 3G) and users (residential or professional).
	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). Data produced by the ARTP, which are available through its annual report, can be used to measure this indicator. However, these data are not disaggregated.
	% 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 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 the 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).This indicator can be informed by data produced by the BCEAO's National Agency for Senegal, which are available from 2004 to 2012 and disaggregated by type of institution (bank, microfinance institution, etc.) but not sex.
Ensure access to energy and improve efficiency and sustainability of energy supply,	# of hours per day households have access to electricity on average	The Energy Information System is a good source of data for informing this indicator. Data are available from 2000 to 2012 but not disaggregated.
	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

including renewable energy		sources) (OECD 2011). The Energy Information System is a good source of data for informing this indicator. Data are available from 2001 to 2012 but not disaggregated.
	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 (e.g., kerosene, ethanol or other biofuels), (ii) gaseous fuels (such as natural gas, liquefied petroleum gas and biogas) and (iii) electricity. Solid fuels include: (i) traditional biomass (e.g., wood, charcoal, agricultural residues and dung), (ii) processed biomass (pellets, briquettes) and (iii) other solid fuels (coal, lignite) (World Bank 2011b; Banerjee et al. 2013). Data for informing this indicator are available from the ESPS II.
	Share of renewable energy to total energy consumption	Renewable energy is derived from natural processes 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). The Energy Information System is a good source of data for informing this indicator. Data are available from 2000 to 2012 but not disaggregated.
National		
Ensure full access to developed infrastructure and communication technology	# of mobile phone subscribers (per 1,000 people)	This indicator is relevant given the increasing number of subscribers to mobile phone in Senegal during the last decade. Data for informing this indicator could be found at ARTP – Agence de Régulation des Télécommunications et Postes- or by using databases from the main telecommunication companies in Senegal, namely Orange, Tigo and Expresso.
	# of home phone subscribers (per 1,000 people)	This indicator measures the number of people who subscribe to fixed home phones for every 1,000 people. Data for informing this indicator can be found at Orange, a telecommunications company.
	# of mobile payment users (per 1,000 people)	This indicator measures the number of people who use mobile payment options for every 1,000 people. This indicator can be measured by using the databases of Orange, Tigo and Expresso, which are the main telecommunications companies in Senegal.
	% of paved roads in the road network	This indicator can be informed by data from the Works and Road Management Agency.
	Electrification rate	This indicator is important given that access to electricity is not ensured for all the Senegalese population, particularly those in rural areas. The Plan Sénégal Emergent (PSE) aims to ensure the rapid development of electricity access, with an objective of 60% of rural electrification rate in 2017 (République du Sénégal 2014). This indicator could be measured by using data from the Energy Information System.
Ensure access to energy and improve efficiency and sustainability of energy supply, including renewable energy	% of the population with access to modern solutions for lighting	This indicator is important, given the rising promotion of modern solutions for having access to energy, such solutions from renewable energy.

Table 3.5 Establish a sustainable, healthy and resilient environment for all: Targets and indicators		
Target	Indicator	Definition/Note
Global		
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 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). For informing this indicator, administrative data can be obtained from the National Fire Brigade of Senegal and Civil Protection Directorate, both under the MISP. The data of the Civil Protection Directorate are only available for certain types of disasters.
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 metres 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). This indicator can be measured and monitored with data from the DEFCCS of the MEDD. This directorate provides data on total forest cover by region, which are available online. It should be possible to calculate this indicator using these data.
	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 show how protected areas are managed based on International Union for Conservation of Nature categories and include marine areas. This indicator can be measured with administrative data available from the Directorate of National Parks of the MEDD. The unit of the indicator is hectares and disaggregation is possible by type of protected area. Relevant data can be obtained from a report (République du Sénégaln.d)[19]

[19] PoWPA (Programme of Work on Protected Areas) Action Plans are submitted to the Convention on Biological Diversity, which focuses on the conservation of biological diversity, the sustainable use of the components of biological diversty, and the fair and equitable sharing of the benfits arising out of the utilization of genetic resources.

		produced by the directorate of national parks. The frequency of the publication of this report is not specified.
Publish and use economic, social and environmental accounts in all governments and companies	Share of large tax unit 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 taxpayers include: concentration of revenues, complexity of the business and tax dealing, 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).
	Existence of national and sub-national government publishing according to the System of Environmental-Economic Accounting	The System of Environmental-Economic Accounting 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 system follows a similar accounting structure as the System of National Accounts and uses concepts, definitions and classifications consistent with it in order to facilitate the integration of environmental and economic statistics (UNStats 2014).
National		
Build resilience and reduce vulnerability to natural hazards	Deaths due to disasters, except floods, per 1,000 inhabitants	For informing this indicator, administrative data can be obtained from the National Fire Brigade of Senegal and Civil Protection Directorate, both under the MISP. The data of the Civil Protection Directorate are only available for certain types of disasters.
Fight against deforestation and land degradation	# of hectares of degraded and restored (or in the process of being restored) land	Different data sources can help measure this indicator, particularly administrative data sources. Relevant data are available from the Ecological Monitoring Centre and DEFCCS, which are both under the MEDD. The Senegalese Institute for Agricultural Research (Institut Sénégalais de Recherches Agricoles) and National Institute of Pedology (Institut National de Pédologie), which are under the Ministry of Agriculture and Rural Equipment, also have data available. Disaggregation of this indicator is possible by region.
	# of classified forests with a management plan being implemented	Data for informing this indicator can be provided by the DEFCCS. As with data for the global indicator "Net loss in forest area (% of land area)" data should be available by region and therefore could be disaggregated.

	# of kilometres of open and maintained firewall	Data for informing this indicator can be provided by the DEFCCS. Data should be available by region and therefore could be disaggregated. The National Agency of the Great Green Wall is another relevant data source.
Conserve biodiversity and ensure the management of wetlands	# of protected areas with a management plan being implemented	This indicator can be measured with administrative data available from the Directorate of National Parks. The unit of the indicator is hectares and disaggregation is possible by type of protected area. The DAMCP of the MEDD is another source of data for informing this indicator.
	# of marine protected areas with a management plan being implemented	Data for informing this indicator are available from the DAMCP. Data are disaggregated by region where community protected marine areas exist. The DAMCP's annual report, which is available online, could be a key source of data.
Fight against pollution, nuisances and the adverse effects of climate change	Quantity of carbon dioxide avoided by carbon projects (tonnes)	Data produced by the DEEC can be used to measure and monitor this indicator.
	# of kilometres of protected coastlines and shores	Data produced by the DEEC can be used to measure and monitor this indicator.
	# of inspections on regulatory compliance by classified establishments and greenhouse gas emissions from vehicles	Data produced by the DEEC can be used to measure and monitor this indicator.
Strengthen the resilience of the population to disasters	% of classified establishments with a tested internal operations plan	Data produced by the DEEC can be used to measure and monitor this indicator. The Civil Protection Directorate is another relevant source of data.
	Proportion of local collectivities with a specific intervention plan	Data produced by the DEEC can be used to measure and monitor this indicator. The Civil Protection Directorate is another relevant source of data.
	Number of policy initiatives and instruments for improving resilience	Data produced by directorates of ministries in any way related to agriculture, livestock and the environment could be used to inform this indicator. Additional work is needed to identify directorates whose work is directly related to disaster resilience.

Table 3.6 Establish open, accountable, inclusive and effective institutions, rule of law and a peaceful and inclusive society: Targets and indicators		
Target	**Indicator**	**Definition/Note**
Global		
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 years of age who registered with the civil authority as a percentage of the total population of children under five. The EDS-MICS and EDS-Continue are data sources that can be used to inform this indicator. The EDS-MICS follows the EDS I of 1986, EDS II of 1992–93, EDS III of 1997 and EDS IV of 2005. Before 2010–11, only the EDS was conducted. In 2010–11, the MICS began being jointly conducted with the EDS. The EDS-MICS gathers information required to update basic population and health indicators. This information is key for the development, monitoring and evaluation of programmes on economic and social development in general and health in particular. The survey has been conducted annually since 2010. Disaggregation is possible by place of residence, age, sex and level of education of the mother.
	Proportion of adults with a basic legal identity document	Refers to the number of adults (individuals over 18 years of age) with a basic legal identity document as a percentage of the total adult population. The MISP is a potential data source, but there are barriers to accessing its data for informing this indicator.
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. In Senegal, the Ministry of Justice (Ministère de la Justice) should have data to inform this indicator, but available and accessible data could not be found.
	Proportion of seats held by women and minorities in national or local level government	Administrative data sources exist to measure this indicator, namely the Parliament of Senegal, CAEL-UAEL and Economic, Social and Environmental Council. The CAEL-UAEL inform this indicator through a 2012 synthesis report on the gender profiles of local collectivities in Senegal. The objective was to profile local government councils by way of gender disaggregation in order to have data, especially on locally elected women that can be used for decision making.
	% of adults with an account at a formal financial institution, disaggregated by sex	Denotes the percentage of the 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). This indicator can be informed by data produced by the BCEAO's National Agency for Senegal. These data are available from 2004 to 2012 and are disaggregated by type of institution (bank, microfinance institution, etc.) but not sex.

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). Data would likely be based on self-reporting in a survey. Official data to inform this indicator, either from ANSD surveys or administrative sources, could not be found, but unofficial data from NGOs, particularly those working on gender-related issues, could help measure and monitor this indicator.
	Violent death 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). It is possible to measure this indicator by using administrative data produced by the National Fire Brigade of Senegal, but available data only cover violent deaths due to suicide.
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”	Refers to the proportion of people who have paid a bribe in the past year at time of being surveyed. This indicator is one of the most difficult to measure and monitor due to the lack of available data. The creation of the National Anti-Corruption Office in Senegal could help improve the availability and accessibility of data on corruption, specifically regarding bribes or gifts payed to a governmental official in order to get a document or receive a service.
Improve transparency in the revenue system	Share of eligible taxpayers who submit their taxes	Refers to the proportion of eligible taxpayers who submit their taxes for a given tax year as a percentage of eligible taxpayers. The General Directorate of Taxes and Government Property under the MEFP is a potential source of data for measuring this indicator. However, despite various requests, accessing its data proved to be difficult.
National		
Provide free and universal legal identity, such as birth registrations	% of children in school within a conflict zone without civil registration	This indicator is relevant in the case of Senegal, particularly for regions such as Casamance, which experienced conflict between 1982 and 2014. Consequently, many children were at school but without civil registration – they cannot pass exams without this document.
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	% of adults with access to informal financial services	It could be possible to inform this indicator with unofficial data from decentralised financial service providers and active women’s groups. Informal financial services include, for instance, tontines, which are investment plans for raising capital.

the basis of social status		
Improve personal safety	# of deaths caused by road accidents per year	According to the Gendarmerie (Gendarmerie Nationale Sénégalaise), there was a decrease of 33 percent in the number of accidents, 23 percent in the number of deaths and 27 percent in the number of injured people between 2013 and 2014 (Seneweb 2014). These decreases were mainly due to regularly organised awareness campaigns.
	# of deaths caused by work accidents per year	"For 2013, the number of deaths is evaluated to 367 on a total number of 3,666 injured persons", according to the keynote speech of the Ministry of *Infrastructures, des transports terrestres et du Désenclavement*. This keynote speech were done during the celebration of the international day dedicated to dead and injured workers on their place of work, organized by the Senegal's Intersyndicate Group in Security, Health and Environment at Work (Intersyndicale Sécurité, Santé et Environnement au Travail or ISSET) at Dakar in 2014. This is a potential data source for measuring this indicator, in addition to the *Caisse Nationale de Sécurité Sociale*.

Table 3.7 Establish a global partnership for sustainable development: Targets and indicators

Target	Indicator	Definition/Note
Global		
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). Various sources were identified to have available data for informing this indicator, namely the ANSD, BCEAO, as well as Public Debt Directorate and Directorate of Forecasting and Economic Studies of the MEFP. The Public Debt Directorate has data that can be disaggregated by type of donor.
	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 developed countries under preferential market access. Available data from the ANSD, Ministry of Trade, Informal Sector, Consumption, Promotion of Local Products and SMEs and MEFP could be used to partly (because they only have some data) measure and monitor this indicator.
	Existence of laws for ensuring country-by-country reporting by multinational corporations, disclosure of beneficial ownership and the prevention of money laundering	Meant to provide an indication of countries' efforts to address tax evasion and prevent money laundering.

Increase financing to productive capacity in low- and middle-income countries	Share of aid to the productive sector	Aid is defined as ODA and other official flows. Productive sector is defined as infrastructure, agriculture and manufacturing. Data sources that can inform this indicator are the DCEF and ANSD. The DCEF has data on the share of aid dedicated to sectors, with disaggregation possible by primary, secondary, tertiary and quaternary sectors. The ANSD has available data only on aid.
	Proportion of foreign direct investment to the productive sector	Productive sector is defined as infrastructure, agriculture and manufacturing. The identified sources of data to inform this indicator are the BCEAO and APIX. Data on FDI that is disaggregated by sector are available from 2005 onwards through the BCEAO. It is also possible to measure this indicator with APIX data, which can be disaggregated by region, nature of investment and primary, secondary, tertiary and quaternary sectors.
	Share of South-South cooperation to the productive sector	Productive sector is defined as infrastructure, agriculture and manufacturing. The DCEF is a potential source of data for this indicator. However, relevant data are not accessible.
National		
Increase financing to capacity for statistical production in low- and middle-income countries	Proportion of ODA for the production of statistical data	This indicator is relevant given the amount of ODA received by Senegal and importance of statistical data production. The DCEF is a potential source of data to inform this indicator.
Promote better use of migrant remittances for improving local development	Proportion of migrant remittances to local development	This indicator is relevant given the scale of migrant remittances and their contribution to local development. At the local level, local government should have available data regarding the contribution of remittances to infrastructure (health, education, agricultural, etc.). These data could help inform this indicator.
Strengthen reform implementation	Number of reforms that have been implemented in the areas of energy and the business environment	The Ministry of Energy (Ministère d'Énergie) and APIX are two sources that potentially have available data for informing this indicator. Additional work is needed to confirm the availability and accessibility of data.

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 metadata
	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 check for their 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 analysed 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

Table 4.1. Data Quality Assessment Framework		
Criteria	**Components (scale)**	**Sub-components (scale)**
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
		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

Table 4.1. Data Quality Assessment Framework		
Criteria	**Components (scale)**	**Sub-components (scale)**
		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 comparably 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

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