

# STRATEGY AND PPP OPTIONS FOR SUPPORTING ICT BACKBONE CONNECTIVITY IN SOMALIA

## FINAL REPORT (DECEMBER 2019)

### Introduction

1. The Public-Private Infrastructure Advisory Facility (PPIAF)-funded program “*Strategy and PPP options for supporting ICT backbone connectivity in Somalia*” (P154836) was conducted by the Digital Development Global Practice in two phases:
  - During the **first phase, which ran from March 2015 to March 2017**, the main focus was on support for the passage of the Communications Act and the development of public–private partnership (PPP) options for extending backbone connectivity. The PPIAF grant (bank-executed) was administered under TFOA0064. In total, some US\$333k was disbursed (99% disbursement). The first phase concluded with a virtual review, undertaken 6-12 June 2017, and the “sign-off” sheet provided by PPIAF management rated the outcome as “satisfactory”.
  - During the **second phase, which ran from July 2017 to September 2019**, the focus shifted to the implementation of the Communications Act (which was signed by the President on October 2, 2017) and the creation of the regulatory authority – the National Communications Authority (NCA) – for which the Director-General was appointed in January 2018 and Board Members in May 2018. Work also continued on network planning, though with more of a focus on regional initiatives. The second PPIAF grant was administered under TFOA5499. At the time of project closing (January 31, 2020), disbursement for the second phase stood at US\$336k (84% disbursement).
2. The two grants were **implemented alongside two phases of the ICT Sector Support Program in Somalia** (P152358), which was a recipient-executed (RE) grant from the Somalia Multi-Partner Fund (MPF), worth some US\$16m over two phases (from 2014 to June 2020). The two programs were implemented in parallel, with similar objectives and activities<sup>1</sup>.
3. The purpose of this report is to present an overall evaluation of the implementation of the two grants, to assemble the different studies completed and to provide some lessons learned for future work programs in FCV countries, like Somalia.

### Project Development Objective and workplan

4. The PDO for both phases was essentially the same, namely:

*to increase the penetration of affordable, high-performance ICTs to enable citizens of Somalia to emerge from poverty and conflict by using ICTs for fostering employment and entrepreneurship, for post-conflict reconstruction of telecoms infrastructure, and for wider use of digital technologies in other sectors, including education, agriculture and financial services.*

5. Under the first phase of the program, there were three components:
  - a) Developing a medium-term ICT infrastructure plan
  - b) Preparing a PPP options study
  - c) Providing capacity building and technical assistance to the Ministry of Posts, Telecoms and Technology (MPTT), and the future ICT regulator.
6. The second phase of the program followed a similar structure but with more of a focus on component 3 (regulatory support) and with a more detailed list of activities, including:

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<sup>1</sup> The overarching PDO for the ICT Sector Support Program in Somalia is to support the ICT Sector in Somalia by contributing to establishing an enabling environment and by encouraging efficiency and equity in access to connectivity.

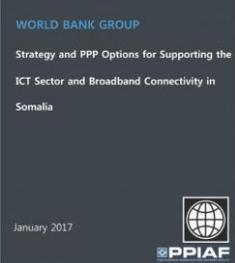
- Provide technical assistance to the Federal Government of Somalia to implement some of the actions described in the National Development Plan and align those with the sectoral Ministries' strategies especially MPTT and cross-cutting areas such as mobile money and Digital Identity.
  - Provide follow-up technical assistance and support some activities of ICT Sector Support in Somalia Phase 2, and the implementation of the actions laid-out in the comprehensive studies on PPP options and medium-term ICT Sector infrastructure strategy regarding deployment of national backbone and regional connectivity. This included a detailed network design and costing.
  - Provide training and technical assistance to the implementation of the regulatory framework (e.g. implementing a Regulatory Communications Commission) following the passage of the Communications Act, as a crucial step for further development of the ICT Sector and especially on infrastructure growth and plans for expansion as well as the need to ensure a clear role for the FGS and the Ministry and a fair contribution from the sector to the public treasury that will also help to expand access to ICTs (e.g. Internet) in Somalia.
  - Provide support for the return of the stewardship of the dot .SO ccTLD to the Federal Government of Somalia, including relevant training and support. At the time, this was managed out of Dubai.
  - Continue to offer training and capacity-building in the Ministry, Regulator and involving the private sector through national and international level training and investment seminars to foster consensus-building and attract investments.
7. The major new elements in the second phase of the work were therefore the initiation of work on Digital ID and the technical assistance in the management of the dot .SO top-level internet domain.

#### **Component 1: Developing a medium-term ICT infrastructure plan**

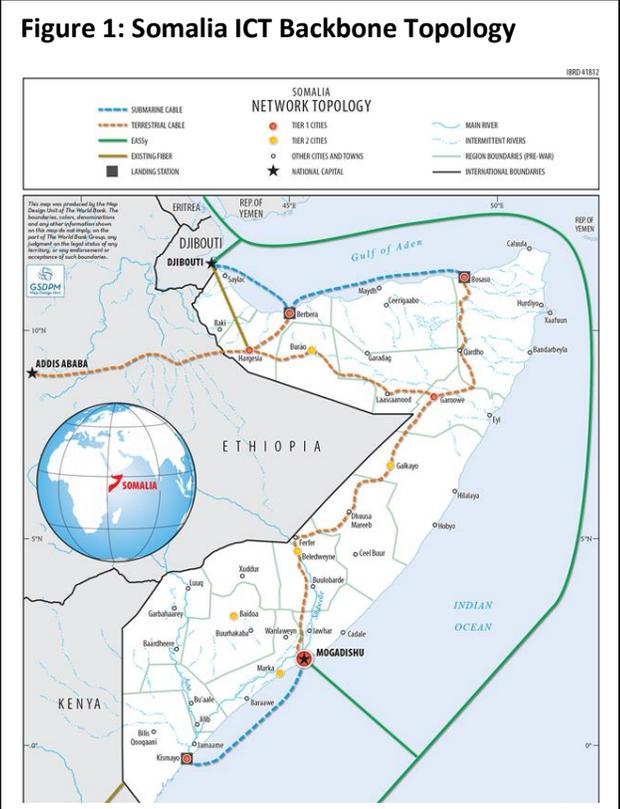
8. Somalia is a country still recovering from 25 years of internal civil war, between approximately 1990-2015. During this period, there was effectively no infrastructure development beyond the establishment of cellular antennas and satellite dishes. Specifically, there was no development of "linear infrastructure" such as fiber networks, and the country essentially has no telecommunications backbone.
9. This situation started to change with the arrival of two international fiber connections, around the same time in early 2015:
- A branch submarine cable from the East Africa Submarine System cable (EASSy), which arrived in Mogadishu in early 2015, bringing fiber to the country for the first time. This is managed by Dalkom;
  - A terrestrial cable running from Djibouti to Hargeisa in Somaliland, also in 2015, operated by SomCable.
10. Subsequently, there has been other development of fiber, including two metro fiber rings around Mogadishu. One of these is a Government Backbone offered by Dalkom, serving some 26 different ministries, and partially financed by the ICT Sector Support program. It is managed from a central node at the MPTT. The other is a more commercial network operated by Hormuud. There has also been some work started on a terrestrial cable from Garowe, Puntland, towards the coast at Bossasso, operated by Golis. The latter would be joined by a submarine cable from Oman (Gulf to Africa, G2A cable).

11. However, as can be seen in the infrastructure topology map (Figure 1), this still leaves the majority of the country unserved, with dotted lines showing cables as yet unbuilt. Instead, microwave serves to connect the main population centers, backed up by satellite.
12. The first deliverable (see Box) provided a **technical analysis and demand forecast for future network development.**

**Deliverable 1: Strategy and PPP options for supporting the ICT Sector in Somalia (Jan 2017)**



The first deliverable was a network planning and feasibility study conducted by the Consultant firm, Albany, with chapters forecasting bandwidth demand, looking at regulatory gaps and risks, and with a review of future options. The report also offered a potential PPP framework.



13. By the time of the second phase of the project, the focus had shifted to options for improving regional infrastructure. Work had started on a planned Horn of Africa initiative, currently under preparation by the WBG, the AfDB and the EU, and there was particular interest in the so-called “Berbera Corridor”, linking the port of Berbera with Hargeisa and eventually Addis Ababa. Plans were developed for a fiber optic cable to run over an electricity interconnector. There were also plans for at least two more undersea cables (in addition to EASSy and G2A). These were:
  - The DARE1 cable (Djibouti Africa Regional Express), that is proposed to serve Djibouti, Mogadishu, Mombasa plus Bossasso, with a possible DARE2 extension to other locations, such as Amara, Berbera and Dar-es-Salaam. Its principal promoter is Djibouti Telecom, though Somtel also has a small stake (covering the costs of the branching units into Bossasso and Mogadishu).
  - The PEACE cable (Pakistan East Africa Connecting Europe), this is proposed to serve Djibouti, Mogadishu, plus Bossasso, Hobyo and Kismayo, as well as other locations in Egypt, Europe (Marseille) and Asia (Pakistan). Its primary promoters are the Chinese vendor, Huawei, and PCCW (formerly Hong Kong Telecom).

14. In the second deliverable (see Box), a further study was developed to look at the **commercial viability of these different cables, as well as plans of other investors**, such as MTN (Africa-1) and Liquid Telecom. This analysis has fed into the new Horn of Africa initiative. In a ministerial communique, issued on October 18, 2019, following a high-level ministerial meeting held during the World Bank Annual Meetings, a program for a Digital Single Market was endorsed by Ministers of Finance for Djibouti, Eritrea, Ethiopia, Kenya, as well as Somalia. Component 1 of the Digital Single Market foresees funding support for a festoon cable along the coast, and a series of terrestrial cables. The overall cost of these infrastructure initiatives is estimated to be US\$0.9 bn, with a majority of the funding coming from the private sector, out of an overall Horn of Africa program estimated to be worth US\$15.89 bn.

**Deliverable 2: Broadband backbones in Somalia: Needs, resources, plans and options (April 2019)**



Backbone Final Report (11 Dec 2019).

The second deliverable was an evaluation of the actual and planned options for providing network backbones in Somalia, conducted by the Consultant firm, Kalba International, with local partner HIPS (the Heritage Institute for Policy Studies). Among the planned networks evaluated were DARE, PEACE and Africa-1.

15. Although the initial Horn of Africa initiative, in 2015-2017, under the leadership of IGAD, did not result in any fundable projects, this new Horn of Africa initiative, focused on the five countries of the “small Horn”, seems more likely to bear fruit. The philosophy this time around is that proposals need to originate from the countries themselves. To that end, regional consultations meetings were held in Addis Ababa in June and October 2019. A further ministerial meeting was held in Djibouti, February 3-4 2020, to discuss financing, and to plan a series of feasibility studies. The two studies funded by PPIAF have helped to shape the new network connectivity proposals and provide both feasibility studies and demand assessments to underwrite the next phase of work.

**Component 2: Preparing a PPP options study**

16. During the first phase of the study, the approach being followed by the team was that some form of PPP approach would be inevitable to fund the infrastructure needs of the country. **A study of PPP options** was commissioned, and this forms Deliverable 3 under the program (see Box). The results of the network modelling analysis as well as the PPP study were presented to stakeholders in a series of workshops held towards the end of Phase 1, notably:

- On 24-25 February 2016, at the Jazeera Hotel in Mogadishu;
- On 5-6 April 2016, at the Jazeera Hotel in Mogadishu;
- On 9-10 May 2016, in Hargeisa;
- On March 27-30, 2017, at the Crowne Plaza Hotel in Nairobi, as part of a broader Public Private Dialogue (with participation from IFC).

**Deliverable 3: Best practices and Benchmarking of PPP options (January 2017)**



The third deliverable was a companion piece to the network study, conducted by the Consultant firm, Albany together with local partner Somatech. It looked at best practice in the formation of

PPPs in Africa and considered what options might be available for Somalia.

17. This period (2016 to mid-2017) was characterized by a relatively poor relationship between the Government and the Operators. The Government was seeking to get Parliamentary approval for the draft Communications Act that would lead to the licensing of operators and the formal regulation of the sector, while the operators were seeking to resist greater oversight and to continue with the “voluntary” system of payments to the Treasury. As such, it was perhaps not the optimal timing to introduce ideas of a PPP arrangement as this would have been stymied by the lack of trust between the Government and the operators. Therefore, the PPP proposals were not taken forward in the second phase of the program. Nevertheless, the stakeholder meetings conducting during this period, with support from PPIAF, and in particular the Public Private Dialogue event in Nairobi in March 2017, led the way to an eventual breakthrough, with the adoption of the Communications Act by Parliament in August 2017 and its signature by the President on October 2, 2017.

### Component 3: Providing capacity-building and technical assistance to the MPTT and ICT Regulator

18. Right from the start of the program, support for the future regulator was an important part of the work program. The ECA was formally created on October 2, 2017, when the Act was signed into Law, and established in practice with the appointment of the Director-General, Abdi Sheikh Ahmed, in January 2018, followed in May 2018 by the appointment of eight of nine Board Members<sup>2</sup>. During the first phase of the program, most of the work focused on **stakeholder dialogue and on a communications campaign aimed at gaining widespread support for the adoption of the Law**. Some of the highlights of this work included:

- a) Regional dialogue, including a study tour to visit the Kenyan regulator (Communications Authority) in 2015, jointly with a delegation from South Sudan;
- b) A public policy dialogue (PPD) with stakeholders, conducted jointly with the IFC team, notably around a series of meetings in the week on 27-31, 2017 March in Nairobi;
- c) Following the PPD, an intensive series of Working Groups were held in Mogadishu, between April to July 2017, led by the MPTT (under the leadership of HE Abdi Ashur Hassan). This provided the breakthrough on the dialogue which allowed the Act to go forward in Parliament and the Upper House;
- d) The WBG assisted the process by sponsoring the meetings of the PPD and the Working Groups and recruiting an individual consultant, Kelly Cameron, who worked on drafts of the law, and compiling stakeholder comments and proposing drafting changes;
- e) Also under the first phase of the program, the WBG employed a consultant team to develop a communications campaign in favor of the passage of the law, including:
  - o An Op-Ed piece in favor of the Act, at: [https://www.hiiraan.com/news4/2016/july/106422/maxay\\_soomaaliya\\_xeerka\\_igarsiiinta\\_ugu\\_baahantahay.aspx](https://www.hiiraan.com/news4/2016/july/106422/maxay_soomaaliya_xeerka_igarsiiinta_ugu_baahantahay.aspx);
  - o Adverts for Somali National TV, at <https://youtu.be/HI9XX5v8xUs>; <https://youtu.be/vQDGcVPB1RE>; and <https://youtu.be/b9VQJgeNSxo>;
  - o An interview with the MPTT Minister which appeared on Radio Barkulan;
  - o A series of brief radio dramas, on consumer issues such as SIM card registration and mobile money fraud, also on Radio Barkulan;
  - o Preliminary development work for an MPTT website, which is now found at: <https://mptt.gov.so/>

19. The NCA was formally created on October 2, 2017, when the Act was signed into Law, and established in practice with the appointment of the Director-General, Abdi Sheikh Ahmed, in January 2018, followed in May 2018 by the appointment of eight of nine Board Members. Under the second phase of the program, which started just before the Act passed into Law, the main focus of work was on **support for implementation of the Law and the establishment of the Regulator**. The “deliverables” from this part of the work are mainly, therefore, in the form of the Law itself, and draft Regulatory Directives (available on the NCA website at: <http://www.nca.gov.so/>). As part of the technical assistance provided to the regulatory agency, a number of internal deliverables were provided to help in setting up the organization, and providing practical help on development of job descriptions, recruitment of experts, establishing a budget, etc. With support under the project, the NCA issued a [unified licensing framework](#) in February 2020, and invited all operators to apply for licenses. Those that fail to register by 1 April will thereafter be treated as new market entrants. Deliverable 4 (see Box) is a good example of this technical assistance.

#### Deliverable 4: Action Plan for establishing the National Communications Authority (August 2018)



NCA Action

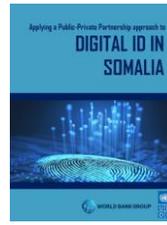
Plan-FINAL- Revised (s

The fourth deliverable was an action plan prepared for the NCA, touching on issues such as organizational development, setting license and spectrum fees, establishing a budget, human resource development and work processes. This fed into the full operationalization of the organization and was complemented by recruitment of international experts funded through P152358.

20. A further element of technical assistance covered under this program was on the development of **Digital ID**. In particular a report on applying a PPP approach to Digital ID (published jointly by WBG and UNDP) was partially financed under this program. The final report forms Deliverable 5 (see Box). Subsequently, the work on Digital ID has progressed and now forms a significant component of the SCALED-UP program (Somalia Capacity Advancement, Livelihoods and Entrepreneurship through Digital Uplift, P168115), which *inter alia* has the goal of enrolling some one million people with Digital ID.

21. A further element of technical assistance program was related to **Internet Governance**, and in particular the management of the .SO (Dot SO) country-code top level domain name (ccTLD). Through a series of historical accidents, at the time the WBG engaged with the Government in Somalia, the .so domain name was being managed from Sydney and was under the personal control of a former Minister. The Government wished to repatriate the control of the domain name so that it could be managed from Somalia. It also wanted to ensure that the sub-domain .gov.so was made available to all government officials and departments, eventually replacing the widespread use of generic webmail addresses.

#### Deliverable 5: A PPP approach to Digital ID in Somalia (April 2018)



The fifth deliverable, funded in part by this grant, looked at options for developing a PPP approach to Digital ID in Somalia. A particular focus was to examine the scope for engaging the private sector in Digital ID enrolment, for instance in the context of SIM card registration.

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<sup>2</sup> The choice of nine Board Members was intended to reflect the so-called 4.5 clan structure. However, the non-appointment of the ninth member, combined with tensions that followed the sacking by the Minister of one member for engaging in political activities, have meant that the Board has recently struggled to attain a quorum of members.

22. The project commissioned, initially, a feasibility study on regaining **Somalia's stewardship of the .so domain name**, which was completed on 12 April 2017.<sup>3</sup> It was estimated that the former Minister was earning revenues of around US\$250k per year from this illegal arrangement. The consultant also evaluated possible options for operationalization of the repatriation, and it was decided to work with Packet ClearingHouse (PCH.net), a not-for-profit organization which specializes in this field. Under the second phase of the project, PCH was engaged to help establish SONIC (Somalia National Information Center) as a unit within the NCA, to act as a registry for governance of .so. Deliverable 6 sets out the organizational structure of SONIC, which is now fully operational. As part of the technical assistance program, PCH also helped set up an Internet Exchange Point (IXP), hosted at the Cable Landing Station at Mogadishu International Airport, and provided technical assistance to SONIC to help it to connect a number of internet Service Providers (ISPs) to the IXP. It was established on 20 November 2018 and, according to the IXP Directory at <https://www.pch.net/ixp/dir>, it now has six participating companies connected. PCH also helped negotiate a three-year hosting agreement with CoCCA (Council of Country Code Administrators) which was funded through P152358.

**Deliverable 6: Establishing the Somalia Network Information Center (SONIC) as an internet registry for Somalia**



Somalia ccTLD -  
Registry Staff Resource

The sixth deliverable, funded through this grant, provided a roadmap for establishing SONIC as the sovereign internet registry for Somalia. This was achieved through a repatriation of the .so domain name, the establishment of an IXP, and negotiation of a host arrangement with CoCCA. The hardware and hosting were funded through P152358, while the TA was funded through P154836.

23. In the same way that stewardship of the .so domain name touches on issues of national sovereignty, a similarly sensitive subject is the management on the **numbering plan**, and in particular the control of the +252 international country code. Somaliland has applied to the International Telecommunication Union (ITU) for its own country code<sup>4</sup>. The WBG and ITU worked together to provide technical assistance to the MPTT and NCA on the stewardship of the numbering plan. ITU hired a consultant team while WBG covered the costs of transport and also hosted a workshop of stakeholders (private sector and government), in Nairobi on 8-9 November 2017 to discuss the development of a numbering plan for Somalia. Deliverable 7 from this grant was therefore a discussion paper on numbering regulation, which was revised following the stakeholder workshop. This led to the adoption by NCA of a numbering regulation, which can be found online at: <http://nca.gov.so/en/features/regulations/>.

**Deliverable 7: Numbering Regulation Discussion Paper (December 2017)**



The seventh deliverable, jointly funded through this grant and by ITU was a discussion paper on numbering regulation, covering issues such as number structure, geographical allocation, short codes etc.

24. A particular focus of component 3 was on **capacity-building and training, particularly for the newly-created regulator**. Training<sup>5</sup> has been provided in a number of ways:

- On the job training by placing national experts next to international experts. During the course of the project, international regulatory experts from Kenya, Tanzania, Uganda, the UK, the USA and the Somali diaspora worked alongside teams at the NCA.

<sup>3</sup> This is not submitted as a public deliverable because the report contains client confidential information.

<sup>4</sup> A code is reserved for Somaliland, but it is unlikely to be implemented unless or until Somaliland is recognized as a sovereign nation by the UN

<sup>5</sup> Training costs were generally shared between this Trust Fund (P154836) and the ICT Sector Support Program (P152358).

- Regulatory workshops specifically for the staff of the NCA, held notably in Nairobi, 15-17 January, 2017 (aimed at the future staff of the regulator), in Naivasha, 25-28 June 2017 (aimed at new Board Members) and in Mogadishu, in August 2019 (on the topic of universal licensing framework);
- Regional workshops and training, notably at an event hosted by the Communications Authority of Kenya, in Nairobi, in March 2019, and organized jointly by the US Telecom Training Institute (USTTI), ITU and WBG;
- Funded participation in major international events of interest to the MPTT and the NCA, notably the ITU Global Symposium for Regulators, in Geneva, July 2018, the ITU Plenipotentiary Conference, in Dubai, October-November 2018 and regional preparatory meetings for the World Radiocommunication Conference, held in Sharm-el-Sheikh, October – November 2019.

### **Lessons learned and next steps**

25. This grant has supported the Government of Somalia during a critical phase of its transition from a completely unregulated telecom market to one which is regulated with a light touch, and in which private sector companies contribute to the national treasury, through license fees, spectrum fees and spectrum. At the start of the grant, in 2014, telecoms companies made no formal contribution to the national budget. For the FY20 budget, it is forecast that the sector will contribute some US\$5.9m in sales tax and US\$12.6m in spectrum taxes, so almost some US\$18.5m in total, the largest of any sector of the economy. While there are a lot of factors that have contributed to this, and while many will try to claim credit, clearly this grant has had a substantial impact on the success of this transition to a well-regulated economy and the rule of law, in particular through the establishment of the NCA. The support work conducted by the project has led directly to regulatory directives on issues such as interconnection, spectrum, licensing, etc.
26. This PPIAF-funded grant was implemented alongside other recipient-executed (RE) programs, notably P152358. The bank-executed (BE) PPIAF funding thus gave the Bank team the latitude to guide the implementation of the larger RE program, with timely analytical work conducted by consultants feeding into the more operational work conducted under the RE grant. In general, this model of using a small BE grant to support a much larger RE grant worked well and allowed the task team additional freedom in planning and implementing a joint work program.
27. In addition to institution-building, the grant has contributed to the intangible concept of “nation building”. It is clear that the .so domain name and the +252 country code are part of the nation’s identity. By helping to secure the management of these national resources for the Government and the country, the project has helped reduce illegal activities (the .so code was generating profits for a private individual, while the +252 code was being used for premium rate services offering fraudulent services). Similarly, the analytical work carried out on digital ID has led to a new lending program with specific goals for enrolment of up to one million people.
28. The focus of the project on infrastructure, and the development of a national backbone, has provided lessons on network design and on demand forecasting that will feed directly in the Digital Single Market component of the Horn of Africa Initiative. While Somalia is only one of five countries taking part in the HOA, Somalia has been particularly active in developing proposals for this particular component. If less than US\$700k from PPIAF has been used to leverage up to US\$1.9bn in regional funding to benefit Somalia, this it has indeed been a success.

29. Irrespective of whether the Horn of Africa regional program goes ahead, there is still a huge demand for investment support for ICT related activities in Somalia. These include requirements for further infrastructure development, development of digital financial services, the development of digital platforms, both for government and the private sector, support for digital innovation and entrepreneurship and continued support for digital literacy and skills development. Somalia is a long-way from achieving the goals of the Digital Economy for Africa Initiative (DE4A), sometimes known as the digital moonshot, which include, inter alia, achieving universal broadband penetration by 2030. To help elaborate the different needs, it is proposed that a digital economy diagnostic assessment be conducted for Somalia with the collaboration of several different global practices including DD, FCI, GOV and EDU. With the anticipated achievement by Somalia of HIPC status (Highly-Indebted Poor Country), in 2020, which will open the doors for a normalization of relations with the international financial institutions, including the International Development Association (IDA), there may be new opportunities for a national lending program also under IDA-19. Also, it is likely that telecom-related triggers, such as the achievement of interconnection, will be included in a future Development Policy Financing operation.