



# Project Information Document (PID)

Concept Stage | Date Prepared/Updated: 27-Feb-2023 | Report No: PIDC34946

**BASIC INFORMATION****A. Basic Project Data**

Country Chad	Project ID P180000	Parent Project ID (if any)	Project Name Chad Digital Transformation Project (P180000)
Region WESTERN AND CENTRAL AFRICA	Estimated Appraisal Date Nov 06, 2023	Estimated Board Date Dec 19, 2023	Practice Area (Lead) Digital Development
Financing Instrument Investment Project Financing	Borrower(s) Republic of Chad	Implementing Agency Ministry of Telecommunications and Digital Economy	

**Proposed Development Objective(s)**

To expand access to affordable and climate-resilient broadband connectivity and improve government capacity to deliver public services digitally.

**PROJECT FINANCING DATA (US\$, Millions)****SUMMARY**

<b>Total Project Cost</b>	120.00
<b>Total Financing</b>	120.00
<b>of which IBRD/IDA</b>	120.00
<b>Financing Gap</b>	0.00

**DETAILS****World Bank Group Financing**

International Development Association (IDA)	120.00
IDA Grant	120.00

Environmental and Social Risk Classification

Concept Review Decision



Substantial

Track II-The review did authorize the preparation to continue

## B. Introduction and Context

### Country Context

1. **Chad, a large, landlocked country spanning north-central Africa, is among the world's poorest, least developed, and most fragile countries.** The Chadian economy is largely reliant on agriculture, livestock, and extractive industries. Agriculture and livestock employ 75 percent of the population - most of them engaged in subsistence activities. The oil sector dominates Chadian economy accounting for around 30 percent of Gross Domestic Product (GDP) and 70 percent of state revenue in 2017. High energy and transport costs prevent the emergence of a robust industrial sector in the country. The country's per capita GDP (US\$685.70 in 2021) is less than half the average of Sub-Saharan African (SSA) countries (US\$1,625.20 in 2021). Poverty, which has gradually declined since 2003, increased in 2020 due to COVID-19 and has since remained high, with over 40 percent of Chad's rapidly growing population living in poverty, predominantly in rural areas. Chad ranks near the bottom of the UN's Human Development Index (187th out of 189 in 2021). Gross National Income (GNI) per capita in 2020 was US\$1,500 (178th rank in terms of purchasing power parity out of 191 countries).<sup>1</sup> Diversification of the economy and strengthened infrastructure was recognized in Chad's latest National Development Plan (*Plan National de Développement 2017-2021*) as key to improving socio-economic outcomes. Access to affordable information and communication technologies (ICTs) has been identified in Chad's 2030 Vision (*Vision 2030: Le Tchad que nous voulons*) as "an undeniable lever for development" which would "contribute significantly to the country's emergence."
2. **Since early 2020, Chad has been subjected to multiple shocks.** In 2020, real GDP contracted by 0.6 percent, against growth of 3 percent in 2019 and 2.4 percent in 2018. The recession is mainly due to a temporary suspension of oil production, the main driver of the economy, and closing borders to contain the COVID-19 pandemic, which has caused a slowdown in trade. In April 2021, a rebel incursion led to the death of President Deby, closing a long chapter of relative political stability. In a break from the constitution, a Transition Military Counsel (*Conseil Militaire de Transition* - CMT) was established with a mandate to hold elections within 18 months, and has since extended the timeline by 24 months, spurring protests in October 2022. The ongoing Russia-Ukraine war is exacerbating existing food insecurity risks and threatens an increase in poverty while the economy will benefit from higher oil prices. The country's security and humanitarian situations are challenging given the security tensions along the border areas and serious threats from non-state armed groups particularly in the Lake Chad region. Chronic instability along the borders and intra-communal violence result in forced displacements and refugee inflows. Chad is the world's fifth largest receiving country in relative terms, with 520,000 refugees and 400,000 internally displaced persons (IDPs) in 2021.<sup>2</sup> A legacy of unresolved cross-regional internal conflicts and rising tensions pose a risk of escalation. Chad's economy, institutions, and people are thus affected as a function of longer-term structural challenges, protracted insecurity, over-dependence on oil, and sub-optimal government intervention.<sup>3</sup>
3. **Climate change in Chad has serious repercussions on the socio-political and economic vulnerability of the country.** The country and its natural resource-dependent economy are extremely vulnerable to climate

<sup>1</sup> GNI per capita, Atlas method (current US\$) - Country Ranking - Source: World Bank national accounts data, and OECD National Accounts data files.

<sup>2</sup> <https://data.worldbank.org/indicator/SM.POP.REFG>

<sup>3</sup> World Bank, 2021. Chad Country Engagement Note



variability. Over decades, agricultural productivity has declined due to the changing climate, depletion of natural capital and poor management of scarce water resources, and inter-community tensions have increased mainly between nomadic herders and farmers for access to land, water, and pastures. Extreme climate events disproportionately affect the poor, with floods generating damages especially in urban areas, displacing populations and preventing cities from properly fulfilling their role as an engine for growth, dampening their population absorption capacity, with droughts largely contributing to food insecurity.

4. **Chad's population is young and growing quickly, putting pressure on the country's resources.** The population is projected to grow from 17 million in 2021 to 22 million by 2030. The fertility rate was an estimated 6.3 births in 2020, significantly higher than the SSA average (4.7 in 2020)<sup>4</sup>. Chad has the third youngest population in the world: the median age is 16.6 years, with two-thirds of the population estimated to be younger than 25 years old. The weak capacity of the private sector, coupled with the limited room for increasing payroll budgets, makes it challenging to absorb the large cohort of young job seekers. Youth unemployment is a significant challenge, as the number of young people entering the job market each year increased from 140,000 to nearly 210,000 between 2012 and 2020.
5. **Gender inequality in Chad is among the highest in the world, and little progress has been made in the past decade.** Women and girls are disproportionately exposed to economic and social vulnerabilities driven by social and cultural norms. Male literacy is almost double compared to female (40.7 percent of young males compared to 22.4 percent of young females in 2021) and girls are lagging in primary, secondary, and tertiary enrollment, and completion. Only 1 percent of women are employed in waged and salaried jobs compared to 11.4 percent of men. Access to productive assets is also lower among women, including opportunities for paid labor, valuable land, and chemical inputs. Women are underrepresented in public life and decision-making spaces, holding 14.9 percent of seats in national parliaments and 14.3 percent at ministerial level positions.

#### Sectoral and Institutional Context

6. **Chad's digital economy is nascent, with many of the foundational building blocks needed to propel digital transformation at scale still underdeveloped or missing.**<sup>5</sup> Bringing more Chadians online by increasing internet access and supporting greater uptake is needed, as the present level of broadband access, which stands at 3 percent, is among the lowest in the Central African sub-region as well as in the Sahel region. Weak digital adoption by consumers, businesses, and government means that digital technology is yet to have the desired transformational impact it could through contributions to growth, job creation, and expanded service delivery.
7. **The Government of Chad (GoC) recognizes the potential of digital transformation to support the country's paths for development.** After the National Plan for Information and Communication Infrastructure (NICI), adopted in 2009, and the National ICT Development Strategy (*Plan Tchad Numérique 2017-2021*), adopted in November 2017, the Ministry of Telecommunications and Digital Economy (*Ministère des Télécommunications et de l'Economie Numérique – MTEN*), elaborated a new Strategic Plan for the Development of Digital and Post (*Plan Stratégique de Développement du Numérique et des Postes 2021-2030*), to “accelerate Chad's digital transformation” and position this country as a “crossroad for ICT in Africa”. This plan, currently in force, aims at modernizing infrastructure, integrating digital technologies into growth sectors, and creating jobs.
8. **Over the past two decades, the GoC has established several dedicated agencies and initiatives to advance the country's digital transformation among which are:** (i) the Regulatory Authority for Electronic Communications and Post (*Autorité de Régulation des Communications Électroniques et des Postes - ARCEP*), established in 2014;

<sup>4</sup> World Bank, 2021. Chad Country Engagement Note

<sup>5</sup> World Bank, 2023 (forthcoming). Chad Digital Country Diagnostic (P177120).



(ii) the ICT Development Agency (*Agence de Développement des TIC – ADETIC*), established in 2014; and (iii) the National Agency for Computer Security and Electronic Certification (*Agence Nationale de Sécurité Informatique et de Certification Electronique - ANSICE*), established in 2015.

#### *Gaps in broadband access*

9. **Due to its geographical characteristics<sup>6</sup>, Chad heavily depends on its neighboring countries for international connectivity and faces huge last mile digital infrastructure access challenges that are compounded by a low electrification rate.** Less than half of the Chadian population has access to broadband connectivity, and only 3 percent of the inhabitants have broadband subscriptions.<sup>7</sup> Of the 8,702,545 users of electronic communications services in Chad, 99.85 percent are mobile subscribers, and only 16 percent of them use mobile internet (including second generation mobile technology (2G), which does not offer broadband connectivity). The two private mobile operators, Moov Africa Chad and Airtel Chad are the main providers of mobile broadband services since the cessation of activities of Salam, the mobile branch of the State-Owned incumbent operator Sotel Tchad. Chad has one of the lowest electricity access rates in the world (11 percent compared to SSA average of 48 percent) and lacks reliable access to electricity, which is a prerequisite to deploying digital infrastructure and rolling out digital services across the territory. Basic access to adequate and affordable energy is not equally distributed across the country and the national power grid is composed of independent city-based systems. Outside the capital N'Djamena and secondary cities, there is no grid electrification, leaving most rural areas with no electricity.
10. **The legal and regulatory framework is relatively conducive to the establishment of a competitive telecommunications/broadband market.** The Law N°013/PR/2014 sets the regulatory framework for electronic communications and postal activities in Chad, on the basis, among others, of the non-discriminatory treatment of operators, their contribution to the universal service fund (USF), and the protection of consumers and the environment and the Law N°014/PR/2014 determines the terms and conditions for the establishment and operation of electronic communications infrastructure and networks, as well as the provision of electronic communications services in the Republic of Chad. However, some limitations remain, concerning for example roaming, number portability, and operation of the USF. A multi-party commission (public and private) was set up in 2021 for the revision of Law 14/PR/2014 to overcome these limitations.
11. **The GoC initiated a number of structural projects in support of the country's digital infrastructure.** The main ongoing projects are: (i) the implementation of an Internet Exchange Point (IXP) at ADETIC; (ii) the Electronic Communications Infrastructure Modernization Project (PMICE), financed by EXIMBANK (US\$180 million), which aims to build 1,200 kilometers of optical fiber, a Data Center and its national backup, as well as 200 mobile telephone sites for the modernization of the Chadian International Telecommunications Company (*Société des Télécommunications Internationales du Tchad – Sotel Tchad*); and (iii) the Trans-Saharan Corridor Project, funded by the European Union and managed by the African Development Bank (US\$30 million), which includes the construction of 550 kilometers of optical fiber between Massaget (Chad) and N'Guiguimi (Niger) under a Public Private Partnership (PPP).

#### *Unaffordable broadband data services*

12. **Chad is a country where the cost of providing digital services is extremely high.** The large size of the Chadian territory, the high and volatile ICT sector tax burden, the limited competition on the broadband retail market as

<sup>6</sup> Chad is vast (surface area of 1,284,000 km<sup>2</sup>) with geographically hard-to-reach areas, landlocked (no direct access to submarine cable systems) and is a very sparsely populated country (13 inhabitants per km<sup>2</sup> of land area). World Bank, 2022. World Development Indicators. Available at: <https://data.worldbank.org/indicator/EN.POP.DNST?locations=TD>

<sup>7</sup> ITU, 2020. World Telecommunication/ICT Indicators Database. Available at: [https://www.itu.int/en/ITU-D/Statistics/Documents/DDD/ddd\\_TCD.pdf](https://www.itu.int/en/ITU-D/Statistics/Documents/DDD/ddd_TCD.pdf)



well as on the wholesale market, and the low purchasing power of Chadian populations are all factors that make expensive the deploying and operation of broadband connectivity infrastructure and unaffordable for average Chadians broadband data services. Costs are further exacerbated when factoring the cost of producing the energy needed to run the network equipment. The high taxation of the sector also negatively impacts the service price, operators' turnover, investment capabilities, and service quality. Indeed, in 2022, the average cost of a 1 gigabyte (GB) Data-only mobile-broadband basket represents 9.51 percent of Chadian gross national income (GNI) per capita compared to 3.76 percent in Niger and 1.16% in Cameroon.<sup>8</sup> As for the retail market, there is a near duopoly between mobile operators Moov Africa (with 52.6 percent of subscribers) and Airtel (with 47 percent). Indeed, Chad's broadband market is, 99 percent dominated by the mobile segment. When it come to the wholesale broadband market, historically dominated by the state-owned Sotel Tchad, it is now shared between the historical operator and a new company named Sudachad, a wholesale infrastructure operator under a Public Private Partnership (PPP), which operates the GoC's fiber assets on an open access basis.

#### *Limited digitalization of public services*

13. **Few digitalization initiatives have been launched in the public administration in Chad.** Most ongoing government initiatives aim to digitalize government back-office systems or core government functions, such as public financial management (integrated Public Finance Management System - *Système Intégré de Gestion des Finances Publiques* (SIGFiP), eTax application, Automated System for Customs Data – ASYCUDA World). Those digital back-office systems have been developed in a siloed approach and through different funding sources, which limits interoperability, efficiency, and sustainability and prevents them from effectively exchanging data and providing integrated services. These systems are not developed based on common technical and security standards and guidelines. Furthermore, there are no end user-facing — government-to-business (G2B) and government-to-person (G2P) — transactional (i.e., not just information) digital services in place. Lack of leadership and of a whole-of-government approach for public sector modernization, limited change management for digitization, and deficiencies in digital skills among public servants have altogether contributed to a digital landscape wherein digital public platforms are limited in number. Consequently, Chad still ranks at the bottom of the 2022 global e-government development index (189<sup>th</sup> out of 193 countries), well behind its peers such as other Sahelian countries (e.g. Burkina Faso 166<sup>th</sup> and Mali 168<sup>th</sup>) or CEMAC countries (e.g. Cameroon 141<sup>th</sup> or Republic of Congo 161<sup>th</sup>).<sup>9</sup>
14. **The GoC lacks the enabling environment that digital government requires for the secure delivery of digital public services.** The GoC has taken steps since 2015 toward adopting a legal and regulatory framework supporting digital transformation, establishing trust in digital initiatives, and improving data protection in line with international standards, including: consumer protection (No. 005/PR/2015), establishment of ANSICE and its mandates (No. 006/PR/2015), personal data protection (No. 007/PR/2015), electronic transactions (No. 008/PR/2015), and cybersecurity and fights against cybercrime (No. 009/PR/2015). Legal and regulatory gaps remain in critical areas such as data privacy breaches, identification of the critical infrastructures to protect from cyber incidents, interoperability, open data, and security of electronic transactions to ensure digital transactions are legally recognized and done in a secure and protected manner. In practice and despite legal and institutional progress, the framework in place is not yet fully applied. For instance, the GoC is not yet able to manage security breaches in key public systems or to provide digital trust services (including authentication and certification). The implementation of a national public key infrastructure (PKI), a Computer Emergency Response Team (CERT), data protection systems, and associated regulations are priority projects for the GoC. Finally, while ADETIC is

<sup>8</sup> Source : 2022 Average price of 1GB (<https://www.cable.co.uk/mobiles/worldwide-data-pricing/>) and 2021 GNI per capita (<https://data.worldbank.org/indicator/NY.GNP.PCAP.CD>)

<sup>9</sup> United Nations Department of Economic and Social Affairs (UNESA), 2022. E-Government Survey 2022: Digital Government in the Decade of Action for Sustainable Development. Available at: <https://desapublications.un.org/sites/default/files/publications/2022-09/Web%20version%20E-Government%202022.pdf>



making noticeable progress in interconnecting ministries, departments, and agencies (MDAs), such as rolling out the government eGov network and providing basic connectivity, most government offices lack access to sustainable and high-quality broadband internet, as well as the ability to exchange data through a secure network or even a common inter-governmental framework.

15. **Digitization of government payments could bring efficiency and transparency and help increase access to public digital financial services and support financial inclusion.** Chad has one of the lowest financial inclusion levels at the regional and global levels. Digital financial services are embryonic: in 2021, there were only 176,798 active mobile money accounts, with limited withdrawals and deposits. Chad is one of the few countries where mobile money contracted decreased in 2020 due to illegal use of phone credit units for peer-to-peer (P2P) transfers, with agents acting as a relay point. Several financial regulations restrict the issuance of e-money for microfinance institutions. Although some services allow the use of mobile money (e.g., payments of community teachers and payments of cash transfers in some areas outside the main cities), a shared government digital payments infrastructure is not available and the GoC makes limited use of digital means of payment due to a lack of government-wide directives or standards. Only 0.1 percent of adults receive government payments in digital form<sup>10</sup>. The GoC aims to accelerate adoption of digital payments by the urban and rural population and thus reduce over-reliance on cash. However, several constraints impede greater digitization of G2P payments, notably (i) gaps in access to digital financial services and cash flow issues at points of service; (ii) a limited number of platforms and services conducive to digital payments; (iii) outdated legal framework; and (iv) lack of interoperability among mobile wallet providers and payment platforms.
16. **Chad's digital transformation requires secure ways for people to authenticate themselves in person and online that are trusted by government and private sector providers—however, such capability is currently lacking, and existing government recognized legal identification (ID) systems require reforms to serve as a foundation for digital service delivery.** Chad manages two separate systems for civil registration (CR) and the national ID card.
  - The CR system is essentially paper based with no consolidated database, decentralized, and managed by local governments under the supervision of the Ministry of Territorial Administration and Decentralization (*Ministère de l'Administration du Territoire et de la Décentralisation* - MATD). Birth registration rate is low: only 26 percent of new births registered compared to the SSA average of 43 percent. The low demand is caused by, but not limited to the following issues: (i) lack of awareness on the importance of birth registration; (ii) lack of incentives to register until credentials are needed to access a service e.g. primary school education (coverage figure is for percentage of children under 5 without a birth certificate); (iii) cumbersome late birth registration process is a disincentive to obtaining birth certificates. Digitalization of CR services and creation of a centralized civil registry under the National Secured Credentials Agency (*Agence Nationale Des Titres Sécurisés* - ANATS) is underway with corresponding efforts being made to improve accessibility of registration centers through integration with existing systems such as health and veterinary services to cater to nomadic population groups. Given the importance of this system for health, education, and public planning, the GoC, leveraging guidelines of APAI-CRVS<sup>11</sup> developed a strategic plan to systematically strengthen CR.

<sup>10</sup> World Bank, 2017. The Global Findex Database 2017: Measuring Financial Inclusion and Fintech Revolution. Available at: <https://openknowledge.worldbank.org/handle/10986/29510>

<sup>11</sup> The Africa Program on Accelerated Improvement of Civil Registration and Vital Statistics (APAI-CRVS) is a regional program led by the United Nations Economic Commission for Africa following the political commitment and policy directives of the African ministers in charge of civil registration to reform and improve CRVS systems on the continent.





- In 2020, Chad introduced an integrated identity management system, SIGPTS, managed by ANATS to oversee the issuance of a unique national identification number (NIN – through the National Biometric Register of Populations (RNB) module), national ID card, passport, and other immigration documents. Coverage of the national ID card also remains low, with only three (3) percent of the Chadian population (over 12 years old) in possession of a National ID card, and suffers a significant gender gap. Accessibility of points of registration remains a barrier with a growing need for mobile enrollment mechanisms. Enrollment processes for the RNB and National ID card also need to be streamlined to optimize expenditure. Updates to improve system performance through improved governance, including enhancing security controls and data protection safeguards while ensuring that data hosting/storage capacity is adequate for the volume of data being managed are also necessary.

#### *Gaps in digital skills and literacy*

17. **Gaps in digital skills and literacy are an obstacle to Chad's digital transformation.** The Technical Vocational Education and Training (TVET) system is fragmented, uncoordinated, has poor infrastructure, and does not integrate digital skills. There is low tertiary educational attainment and a limited number of highly skilled professionals in the digital sector. The leading STEM institutions are the University of N'Djamena, the Institute of Science and Technology of Abéché, the Polytechnic University of Mongo, and the National ICT School (*Ecole Nationale Supérieure des TIC – ENASTIC*). ENASTIC conducts scientific and applied research and prepares its students for career pathways in local digital firms through an internship program. Finally, there are also limited digital skills among public servants, which impedes the adoption of digital government services.

#### Relationship to CPF

18. **The proposed project is aligned with Chad's Country Engagement Note (CEN) for 2023-2024**, discussed by the World Bank's Board of Executive Directors in November 2022, which supports the country's second Five-Year Development Plan. The proposed project will include activities to help reach CEN Objective 2: Improve Governance and Transparency, and CEN Objective 3: Increase inclusive access to basic services and infrastructure. The project would also contribute to achieving Chad's Prevention and Resilience Allocation Action Plan, through support for activities to help achieve Strategic objective 2: Improve governance and strengthen political dialogue and Strategic objective 3: Increase access to basic social services and enhance local development strategies, especially in rural, border, peripheral, and conflict-affected areas

### C. Proposed Development Objective(s)

To expand access to affordable and climate-resilient broadband connectivity in targeted areas and facilitate the delivery of select digital public services.

#### Key Results

19. The following indicators will be considered for measuring achievements of the PDO:

#### **Expand access to affordable and climate-resilient broadband connectivity**

- People provided with new or enhanced access<sup>12</sup> to broadband internet (number), of which percentage women and of which percentage rural

<sup>12</sup> The data include both people who have gained new access to Internet and people who have benefitted from improved Internet service (e.g., affordability, quality) during project implementation. Internet use can be through fixed or mobile networks, and can be at any location of access (e.g., home, work, school, public places).





- Newly built or upgraded infrastructure that is resilient to climate related shocks (percentage)<sup>13</sup>
- Price of 1 GB of mobile data per month, as a percentage of GNI per capita (percentage)<sup>14</sup>

#### Facilitate the delivery of select digital public services

- Number of new births registered (digitally enabled), of which percentage women and of which percentage rural
- Government-to-People (G2P) and People-to-Government (P2G) payments delivered by mobile money (number), of which percentage women and of which percentage rural

### D. Concept Description

20. **The proposed project is designed to pose the foundations for and address bottlenecks to digital transformation in Chad.** Based on the findings and recommendations of the DE4A Chad assessment conducted, through four integrated and mutually reinforcing components, project activities will seek to (i) strengthen the institutional, strategic, legal, regulatory, and policy frameworks for broadband access, implement a trusted digital economy and prepare strategies for digitalization of selected sectors; (ii) expand broadband connectivity in rural, peri-urban and urban areas and enhance basic and intermediary digital skills of the population; (iii) lay key foundations for digital government services and systems through, among other things, enhancing E-Government technical foundations and services and strengthening digital capabilities of public sector actors; and (iv) provide institutional coordination and project management support. The proposed project is conceived in alignment with the Paris Agreement and would incorporate climate adaptation measures and mitigation solutions. All activities of the project will apply the Maximizing Finance for Development (MFD) principles, ensuring that public interventions catalyze private sector interventions.

#### **Component 1: Enabling environment for the development of the digital economy** (indicative amount US\$5 million)

21. **This component aims to support the development of *strategic, policy, legal, regulatory, and institutional frameworks needed to achieve a safe and vibrant digital economy* and reach the objectives of the Strategic Plan for the Development of Digital and Post 2020-2030.** The component will support technical assistance (TA) of enablers in two areas: (i) climate-resilient and affordable broadband access and (ii) trusted and effective provision and use of digital services. Activities are grouped in the following sub-components:
- *Sub-component 1.1. Strategic, policy, legal, regulatory, and institutional frameworks for climate-resilient and affordable broadband access.* This sub-component will aim to strengthen broadband market competition and stimulate private sector participation in closing the digital access gap, in line with mobilizing finance for development (MFD) principles.
  - *Sub-component 1.2. Strategic, policy, legal, regulatory, and institutional frameworks for trusted digital services.* This sub-component will aim to create a trusted environment for the development and use of digital services.
  - *Sub-component 1.3. Strategies for digitalization of selected sectors.* This subcomponent will aim to prepare strategies for digitalization of selected sectors (use cases) that could inform the development and

<sup>13</sup> The newly built and upgraded infrastructure will be subject to quality standards that include compliance with the requirements for disaster response and for climate change mitigation (to be elaborated in bidding documents). These requirements will include, for example, the usage of weather-resistant materials, waterproof coverings, and underground infrastructure with climate-resilient design to withstand floods.

<sup>14</sup> This indicator is to capture the impact of Component 1 of the project on competition, which is expected to translate into lower Internet prices. Both Component 1 (through support to telecom regulation) and Component 2 (through the connection of MDAs in urban areas) will promote competition and are henceforth expected to result in higher affordability of broadband services.



use of digital services in priority sectors such as education and agriculture – with a view to improving access in particular for women and marginalized populations.

**Component 2: Expanding climate-resilient broadband connectivity and digital inclusion** (indicative amount US\$67 million)

22. **In line with MFD principles and spatial targeting approaches where synergies with ongoing and pipeline projects can be created, especially in the Energy, Transport, Agriculture and Education sectors, this component aims at expanding digital connectivity to both rural and urban areas to increase the population and MDAs' access to broadband internet.** Public financing will only be employed to the extent necessary and where electricity is available or is going to be deployed in (i) selected rural areas, where private sector interest is insufficient to provide connectivity without additional intervention or incentives such as reverse auction schemes and (ii) urban and peri-urban areas, to connect selected MDAs through an aggregated pre-purchase of capacity. The digital infrastructure built under this project will be subject to quality standards and climate-change resilience evaluation, including compliance with the requirements for disaster response and for climate change adaptation and mitigation. Infrastructure deployed will need to be energy efficient and powered by renewable energy, and network design options will take into account the entire construction, operation and maintenance cycle, in order to enhance the resilience of infrastructure to climate risks. Whilst investments are envisaged throughout the country, targeted areas of intervention will be defined during project preparation based on analysis of white zones, government priorities, synergies with other infrastructure projects, and security risks as well as electricity densification plans.
- *Sub-component 2.1. Rural broadband access.* Aiming at addressing market failures preventing rural areas from having access to broadband internet, this sub-component will finance feasibility studies to identify options for public intervention in the broadband value chain and investments to expand broadband infrastructure in rural lagging areas.
  - *Sub-component 2.2. Urban and peri-urban broadband access.* This sub-component aims to fill the last mile broadband connectivity gap of MDAs, including pre-purchase of wholesale capacity for government, under indefeasible right of use (IRU). Financing needs for indoor connectivity (Wi-Fi routers, LAN, etc.) and energy will also be assessed during preparation.
  - *Sub-component 2.3. Digital inclusion.* This Sub-component will focus on enhancing basic and intermediary digital skills of the population to strengthen internet adoption for productive purposes, including for using digital services, such as G2P and Digital Financial Services (DFS). Particular attention will be given to ensuring that the most vulnerable communities, including in remote rural areas, women, youth, and persons with disabilities (PWD), are prioritized. Proposed activities include the development of training programs for young trainees to enhance basic and intermediary digital skills for internet adoption. They will mainly target areas covered by infrastructure investments under sub-components 2.1 and 2.2. Trainings would first be tested as pilots in selected communities, adopting an iterative approach and customized to the local context of Chad, before being expanded under the project.

**Component 3: Laying key foundations for digital government systems** (indicative amount US\$42 million)

23. **This component aims to support the development of core digital public infrastructure and institutional capacity to strengthen digital public service delivery, build prioritized services and systems, and enhance the government's operational efficiency.** Priority digital services identified by government for digitalization include civil registration and digital payments – with a view to improving access in particular for women and marginalized populations.



- *Sub-component 3.1. Enhancing e-government technical foundations and services.* This sub-component will aim to strengthen the digital foundations for digital public service delivery, including the whole-of-government approach to digitization of public services, secure and efficient data hosting, exchange, and integrity. It includes support to strengthen cybersecurity and data protection capabilities and prepare the implementation of a digital ID system.
- *Sub-component 3.2. Modernization of civil registration.* This sub-component would aim to digitalize the CR system and expand coverage for both citizen and non-citizen populations in Chad through the development of a blueprint to scale up digitalization efforts, informed by a qualitative study to better understand drivers of low demand for birth registration services, the realization of targeted birth registration campaigns to improve coverage, and capacity-building to ANATS and registration centers.
- *Sub-component 3.3 Digitization of payments.* This sub-component would focus on accelerating the digitalization of financial services via the strengthening of digitization of G2P payments (including salaries, pensions, social transfers, etc.) as well as P2G (including collection of taxes, customs, utility bills, etc.).
- *Sub-component 3.4. Digital public sector capabilities.* This sub-component will aim to strengthen digital capabilities within specific central and local government entities targeted by the Project, in partnership with the private sector when feasible. It would include institutional support to ENASTIC, deployment of digital skills training programs for public servants (IT professionals, senior officials and managers, users of project-supported digital systems) and targeted awareness campaigns and change management activities.

**Component 4: Project Management and Coordination (indicative amount US\$6 million)**

24. This component would finance the project management costs, including set up a dedicated Project Implementation Unit (PIU), and coordination capacity. This would include procurement, financial management (FM), monitoring and evaluation (M&E), environmental and social (E&S) management, including inclusive and comprehensive consultation mechanisms, qualitative user research and satisfaction surveys as necessary.

**Component 5: Contingent Emergency Response Component (CERC) (amount US\$0 million)**

25. This component would support the GoC in swiftly responding to eligible natural or man-made crises or disasters that have caused or are likely to imminently have major adverse economic and/or social impacts.

Legal Operational Policies	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No
Summary of Screening of Environmental and Social Risks and Impacts	

Large-scale infrastructure investments of this national scale project, including the deployment of fiber and new cell-sites, are likely to have negative environmental impacts that will need to be proactively managed. Distribution of hardware and digital devices also pose environmental risks related to safe final disposal of hazardous waste. Risks related to e-waste generation and energy consumption will also require strong mitigation measures that will be done through TA for implementation of e-waste provisions and by specifying energy efficiency requirements in procurements undertaken.



In addition to environmental impacts, the deployment of digital infrastructure could prompt temporary or permanent economic or physical displacement. While the project seeks to actively address digital inclusion and expand access to broadband, digital tools and public services, there is a risk of social exclusion of vulnerable or marginalized populations in digital access, such as the elderly, that will need to be actively addressed as part of targeting, especially in relation to access to networks and the various digital skills and device access schemes envisioned. High levels of illiteracy and most people living in rural, often remote areas, add another layer of risk for exclusion from access.

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**APPROVAL**

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