Islamic Republic
of Afghanistan

Digital Foundation

Strategy For Afghanistan

2019-2021

Digital Foundation Strategy for Afghanistan

The Digital Foundation Strategy for Afghanistan is developed by the high-level Technical Committee, which has been established through the presidential decree number 66 dated 29 March 2018, chaired by H.E. the president of the Islamic Republic of Afghanistan.

The contents of this document are the sole responsibility of the government of Islamic Republic of Afghanistan.

For further information, please contact:
Web: www.digital.af
E-mail: mail@digital.af

© 2019 Government of the Islamic Republic of Afghanistan

Designed by: Ahmad Farin Sadiq | National Statistics and Information Authority
Printed in Kabul, Afghanistan

Foreword

We live in a globalized world. The digital evolution of the past decade has fundamentally changed the dynamics of how we live, work, and relate to one another. After the first and second industrial revolutions harnessed the power of steam, water, and electricity for mass production, the third revolution harnessed electronics and technology to automate production.

Today, we are witnessing the next phase in this process: the digital revolution. This revolution is not only changing the way we operate as human beings, but how we govern. In Afghanistan, we can leverage the opportunities offered by emerging technologies to get closer to achieving economic self-reliance, democratic stability, social empowerment, gender equality and accountability. Afghanistan, whose democratic state is 18 years old, has developed its institutions during this digital revolution, and now must fully integrate digitally to meet the demands and requirements of a modern system of government.

Why is this important for Afghanistan?

Tapping into opportunities offered by the digital revolution is particularly essential for a country like Afghanistan.

The majority of the Afghan population is under the age of 25, and continues to grow at a much faster rate than our economy. Because of this, we face a nearly %40 unemployment rate. One of the country's most significant development challenges is how to grow the economy substantially in light of the realities of population growth and conflict. In 2018, Afghanistan topped the World Bank Doing Business Indicator's Index of reformist countries in the developing world after implementing a series of reforms aimed at making it easier to invest and do business in the country.

This was a start but much remains to be done, including building infrastructure for e-commerce, and making efforts to formally digitalize the economy. This will pave the way for fully legalizing the economy and promoting SMEs, which will in turn contribute to national-level poverty reduction and acceleration of economic prosperity. Promoting e-payments will allow for formal economic transactions instead of via current traditional, non-accountable system.

Democratic system and institutions are still developing in Afghanistan, but huge strides have been made over the past five years to build on foundations and stabilize institutions, as well as create avenues for accountable and transparent governance and citizen access and dialogue. For example, the country's Access to Information Law is one of the best in the world and Afghanistan has one of the freest media environments ins the region. Afghanistan is also a member of the open Government Partnership. The Afghan government is now focused on further reforms that will not only inform and empower citizens, but will also allow the government to improve service-delivery and become more accountable and transparent.

Forty years of war had denied citizens, particularly women, access to services and the ability to exercise their rights. Since 2014, the National Unity Government has taken efforts to close the gender

gap through implementation of national priority programs to strengthen the socio-economic status of the Afghan women, increase their rights, and provide more space for them in government, business, and society. Much work remains to further include and empower our female citizens. Digitalization of economic and educational opportunities will play a vital role in further expanding opportunities for socio-economic advancement of all citizens, especially women.

Enhancing evidence-based decision-making in governance and development initiative is one of the proprieties and values of our young democratic government. Government decisions shall not be compromised by the personal will or politics of leaders, rather they should be evidence-based and digitally-equipped to ensure that governance and development initiatives are aligned with needs of the public and accessible and transparent to them. Digitalization of core government services functions, including election systems, will increase the legitimacy of the democratic process and systems in the country.

Why digital foundation strategy?

The digital transformation is in Afghanistan's near future and integral to our country's development. To be able to achieve our vision of a digital Afghanistan, we first need to develop a strategy that will chart us on a path toward digital transformation, starting with building a solid digital foundation which will enable us to harness the potential of technologies. The strategy will shape the government efforts for the next three years to focus on developing the following areas: digital infrastructure, regional connectivity, a technology-enabled public sector, unified data, and information governance.

I would like to thank the committee for preparing this strategy. Those individuals include Dr. Humayoun Qayoumi, my senior advisor and acting minister of Finance, Mr. Ahmad Jawed Rasuli, CEO of the National Authority of Statistics and Information, and Mr. Alham Omar Hotaki, CEO of National Procurement Authority. This high-level technical committee, under my direct supervision, will make every effort to ensure that government efforts are well coordinated and adequately funded so that the objectives of this strategy are achieved in a timely manner. We look forward to the time when the multiple benefits resulting from the implementation of this strategy are translated into improvements and increased prosperity of all Afghans.

Mohammad Ashraf Ghani
President of Islamic Republic of Afghanistan

Abbreviations and Acronyms

ICT	Information and Communication Technology
DFS4A	Digital Foundation Strategy for Afghanistan
EGDI	E-Government Development Index
TDF	Telecommunication Development Fund
MCIT	Ministry of Communications and Information Technology
ATRA	Afghanistan Telecom Regulatory Authority
ITU	International Telecommunication Union
ADSL	Asymmetric Digital Subscriber Line
APS	Afghanistan Payment Systems
PPP	Public Private Partnership
STM	Synchronous Transport Module
AfgREN	Afghanistan Research and Education Network
NPA	National Procurement Authority
SDGs	Sustainable Development Goals
MoE	Ministry of Education
MoHE	Ministry of Higher Education

Table of Contents

Introduction

At the digital age, technology is an engine of development which empowers the economy and society directly and indirectly. As a country, Afghanistan recognizes it and is determined to leverage the opportunities offered by the digital revolution and the advancement of ICT to accelerate socio-economic growth, narrow social and geographic gaps and promote modern, transparent and efficient government that provides citizen-centric services to its citizens. As the first step, the government is setting out a vision to build the essential digital foundations in the country over the next three years which will facilitate Afghanistan's digital transformation in the long run, which will be realized through the successful implementation of this strategy, which is branded as DFS4A (Digital Foundation Strategy for Afghanistan).

The strategy is built on four core strategic pillars that constitute the focus of the government for the next three years to address issues around building and strengthening digital foundations which will put Afghanistan on a firm path towards digital transformation. These pillars are Connected Infrastructure for Digital Transformation, Public Sector Reform, Information and Data Reform and Digital Capabilities Empowerment.

The Digital Foundation Strategy for Afghanistan begins with a context analysis section which provides an overview of where we are in digitalization, the challenges to be addressed and the opportunities to be leveraged to set a stage for a digitally-enabled Afghanistan in the long term. The next section contains the vision statement of the strategy together with the strategic objectives and a suite of guiding principles which together constitute the strategic framework of this strategy. The following section, the body of the strategy, covers the strategic pillars in details outlining strategic interventions for each strategic objective that will have to be implemented to achieve the defined strategic vision. Lastly, the final section of the document puts forward implementation arrangements that determine appropriate coordination mechanisms that will need to be applied to ensure full participation of all relevant actors in the successful implementation of this strategy.

Context Analysis

Afghanistan has made considerable progress in the area of telecommunications, information technology, and power resources expansion in the last 16 years. The country has witnessed good achievements in empowering its citizens to become digitally connected with the rest of the world by attracting extensive investments in the telecom sector, national fiber optic ring, and expansion of access to the internet.

Looking back at 2002, only one operator had acquired the operating license as the first mobile network operator of the country. Today, there are six operators delivering services to approximately 90% of the population[1]. Twenty-five provinces of the country are connected by the national fiber optic ring, and the connectivity for the remaining nine provinces is in progress[2]. Likewise, the dedicated internet access prices of 1mbps for consumers have gradually decreased since 2001 from approximately $5,000 US dollars to $105 US dollars (8000 AFN) as of December 2018[3], and more than 60 internet service providers are active in the country[4]. The television and radio broadcasting sector has also seen tremendous advancements with 113 television operators and 310 radio operators[5] operating actively in the country.

Despite the achievements in the technology sector of the country, there are still pertaining challenges which need to be addressed to pave the way forward for a digitally-enabled Afghanistan and connected society. These include the absence of a coherent policy, regulatory and institutional framework for digital transformation, lack of enabling infrastructure, lengthy and obsolete government processes, and acquisition and implementation of technology on an ad hoc basis. Moreover, duplicate and non-prioritized efforts, inadequate coordination among government institutions in technology implementation, lack of unified information and data governance framework, constrained human resources and capabilities, limited technology utilization in the delivery of public services and the absence of necessary research and development practices to aid digital transformation are other challenges that need to be tackled.

In respect of enabling policies and regulations, the existing policy and regulatory framework are not responsive to the needs of technological solutions adoption and the private sector empowerment. The framework needs to be strengthened through the

1.ATRA telecom statistics, mobile telephone population coverage (3rd Quarter 2018)

2.MCIT - December 2018

3.Afghan Telecom website, ADSL2+ Packages (www.afghantelecom.af/Content/InternetBandwidth.aspx)

4.ATRA telecom statistics, ISPs (3rd Quarter 2018)

5.ATRA telecom statistics, TV operators and Radio Operators (3rd Quarter 2018)

amendment of existing and development of new policies, laws, and regulations to facilitate digital transformation and provide an enabling environment for the private sector to invest and introduce innovative solutions and services.

Concerning enabling infrastructure and connectivity in the country, they lack the scale and robustness to implement e-government and digital economy initiatives successfully and to allow the education and private sectors to leverage the potential of digital technologies. Access to the internet is still expensive in comparison to some regional and global countries, and the utilization rate for the country is only 10.6%[6]. Afghanistan still needs to bridge the last-mile connectivity divide in major areas of the country since the fixed broadband subscriptions per 100 residents is 0.03%[7]. Likewise, the telecommunication infrastructure index for Afghanistan is 0.1138, compared to the regional average index of (0.4385)[8], which is relatively low.

Regarding technology adoption, the current processes make the implementation of standard digital technologies challenging and results in heavy customization of the solution at higher incurring costs. Similarly, the current government administrative processes for delivering public services are obsolete, process-centric and complex which require to be revamped and re-engineered by making them lean, standardized and straightforward to promote efficiency, effectiveness, transparency, and accountability. Moreover, technological interventions and standardized processes in delivering public services are inadequate which leave citizens struggling in receiving basic services.

The government has initiated e-government program since 2005 to leverage opportunities offered by the technology in providing government services. However, it has not been able to achieve its e-government goals. Referring to the United Nations E-Government Survey 2018 report, Afghanistan's E-Government Development Index (EGDI) has dropped six points in ranking since 2016. The latest country ranking for Afghanistan is 177 among 193 countries in respect to EGDI[9].

The vast quantity of data is being collected; however there are still challenges that need to be addressed on the strategic level to ensure effective coordination, integration, and management of data and information. First, the data is not collected and managed in a coordinated manner leading to duplicate efforts and inconsistency. Second, it is stored in

6. ATRA telecom statistics, Percentage of Individuals using Internet (3rd Quarter, 2018)
7. International Telecommunication Union, Afghanistan Telecom Statistics 2017
8. Telecommunication Infrastructure Index, UN E-Government Survey 2018
9. E-Government Development Index, UN E-Government Survey 2018

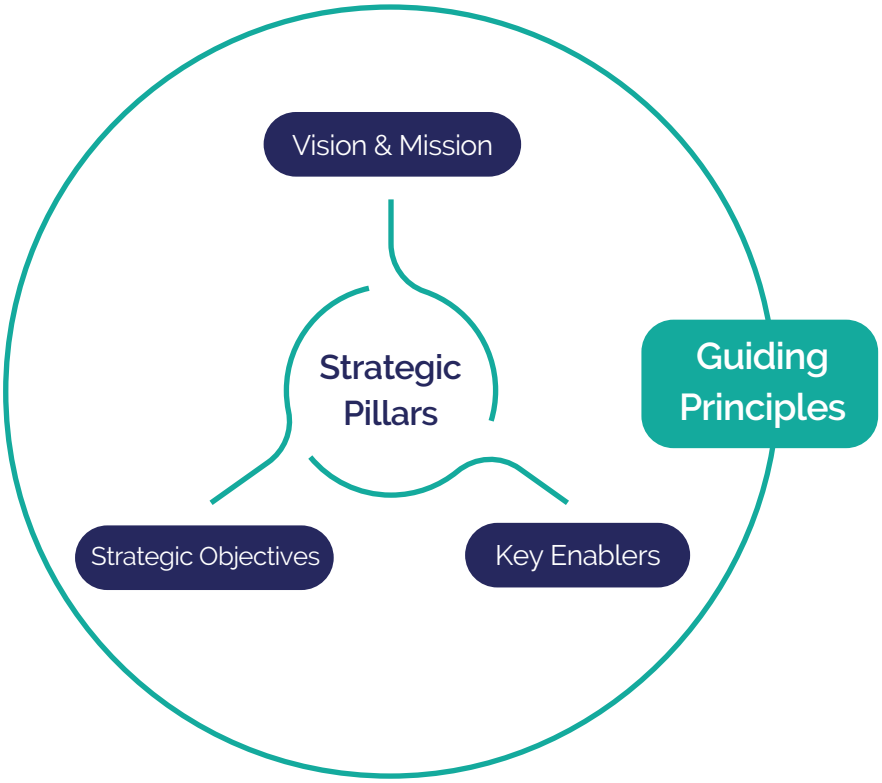
isolated silos in multiple and inconsistent formats, and a large amount of it is produced in unstructured form. Last but not least, the government entities lack the institutional capacity to analyze and utilize data to its full potential.

In spite of the countless efforts in building the technical capacity, there is still digital skills and capabilities gap within the technology sector of the country. The current educational programs are not aligned with the needs of the job market. In the public sector, civil servants lack the requisite technical skills to utilize and implement envisioned technology solutions.

The government recognizes the vitality of digital technologies and envisages to introduce necessary interventions to lay a sustainable foundation for digital transformation. Effective application of technology will complement and strengthen national peace and development goals and will contribute towards implementing national priority programs. The government aims to invest and promote technology in facilitating efficient governance, economic growth, and social well-being. Hence the government has devised this strategy to set firm and requisite foundations for technological advancement.

Strategy Framework

The key elements that constitute the strategic framework of this strategy are the vision, mission, core principles, strategic pillars, and strategic objectives and interventions. These are illustrated in the image below:



1. Vision

"By the year 2022, Afghanistan will have the requisite digital foundation facilitating citizen-centric public services, transparent and efficient governance, socio-economic growth, and narrowing geographic gaps."

2. Mission

"Our mission is to set the stage for a digitally-enabled Afghanistan through developing and reforming regulatory and institutional framework, establishing enabling infrastructure for digital transformation, enhancing data and information management and developing human capabilities."

3. Guiding Principles

The guiding principles of this strategy are a set of criteria which will guide the implementation of this strategy. In particular, these principles will assist the implementing stakeholders in selecting, building, buying, implementing and sustaining technology solutions in the public sector. These are as following:

Use state-of-the-art, affordable and sustainable technology

Utilize the latest infrastructure and solutions available by adopting and adapting the up to date technologies available in the market. Technology solutions should be of high quality, affordable and maintainable in the long run.

Share and re-use technology

Promote reusability and avoid duplicate efforts by sharing and reusing solutions, services, data and software components.

Follow agile principles

Implementation of any technology solution should adhere to the agile principles by focusing on client satisfaction, working solutions, collaboration, and change management.

Use open source first and adopt open standards

Priority should be given to using open source solutions that are mature, adaptable and ensures openness, maintainability, shareability, and cost-effectiveness. Solutions should use open standards to make sure technology works and communicates with other technologies, and can easily be upgraded and scaled.

Be interoperable, compatible and vendor neutral

Solutions should be able to work with other products or systems, at present and foreseeable future, operate satisfactorily on the provided infrastructure and encompass standardization, non-proprietary design principles, and vendor neutrality.

Buy for government

When acquiring technology solutions or services, the Government of Afghanistan shall be the entitled owner of the licenses and terms of use.

Make platform ownership integral

Core platforms developed or acquired for specific services should be managed, sustained and owned by the respective government entity that is mandated and responsible for the delivery of those services.

Promote Open data and information

Government data and information shall be openly available and accessible unless restricted by the law and regulations.

Use cloud first

Prioritize using cloud-based solutions as a platform, service, and infrastructure, where applicable.

Ensure security, reliability, and privacy

It shall be ensured that the appropriate level of protection is considered for digital assets, potential risks are mitigated, and recovery measures are in place, and data privacy is an integral part of the solution.

Be citizen centric

Adopt a citizen-centric approach while delivering government services through multiple channels to ensure mobility, accessibility, and transparency, increase public satisfaction and confidence.

Maximize adoption to minimize customization

Adopt standardized processes when implementing any technology solution to avoid customization, where applicable.

4. Strategic Pillars and Objectives

The strategy has identified four core strategic pillars, that constitute the focus of the government for the next three years to address the issues around building and strengthening digital foundations which will put Afghanistan on a firm path towards digital transformation. These pillars are Infrastructure for Digital Transformation, Public Sector Reform, Information and Data Reform and Digital Capabilities Empowerment. Each subsequent pillar is further divided into strategic objectives which will be enforced through necessary strategic interventions.

Strategic Pillar 1
Infrastructure for Digital Transformation

Strategic Objectives

- Create the right enabling and secure infrastructure for e-government, education, digital economy, and private sector development
- Ensure inclusive and affordable access to the internet
- Design National Smart Grid
- Reform spectrum management and accelerate the transition from analog to digital television

Strategic Pillar 2
Public Sector Reform

Strategic Objectives

- Re-engineer government processes and adopt technological solutions to increase efficiency and move towards citizen-centric services
- Develop a national digital addressing system
- Establish efficient and sustainable digital assets management mechanisms
- Regulate and promote Smart Digital Investment (SDI) in the public sector

Strategic Pillar 3
Information and Data Reform

Strategic Objectives

- Transform government data and information management
- Make government data and information open
- Promote evidence-based decision making

Strategic Pillar 4
Digital Capabilities Empowerment

Strategic Objectives

- Develop demand-driven educational programs
- Empower civil servants with the technological capabilities
- Raise public digital literacy
- Leverage e-learning opportunities to narrow the digital skills gap
- Advocate for technological innovation through research and development

Strategic Pillar 1

Infrastructure for Digital Transformation

Overview

While there have been some major achievements in the technology sector in the past, there are still challenges that need to be addressed at the foundational level for Afghanistan to achieve its aim of becoming a digitally-enabled country, able to leverage opportunities offered by the digital technologies to accelerate socio-economic growth and promote good governance. One of these challenges is constrained enabling infrastructure as a vital prerequisite for digital transformation. The existing connectivity infrastructure lacks the scale and robustness to develop and successfully implement e-government and digital economy initiatives. Moreover, access to the internet is expensive resulting in the lower utilization rate of only 10.6% which leaves Afghanistan with the challenge of bridging last-mile connectivity divide in major areas of the country.

The government of Afghanistan is committed to investing in building resilient technology infrastructure which will promote inclusive and sustainable economic growth while nurturing innovation. This strategic pillar of the strategy sets the government's strategic direction to strengthen the current technology infrastructure in terms of access, reliability, and security and further expand the underlying structures to achieve wider coverage for access to promote e-government, digital economy and empower the private sector with new opportunities. The pillar is built on four main strategic objectives, each of which is planned to be achieved through the implementation of a set of strategic interventions. These are outlined in the section below.

Strategic Objectives and Interventions

The strategic objectives for this pillar encompass a number of fundamental building blocks bringing together the coordinated efforts from the government and private sector to scale and secure its infrastructure for specific purposes that will contribute toward achieving the vision for building the digital foundation of Afghanistan.

Following are the strategic objectives identified for this pillar:

Create the right enabling and secure infrastructure for e-government, education, digital economy, and private sector development

Ensure inclusive and affordable access to the internet

Design national smart grid

Reform spectrum management and accelerate the transition from analog to digital television

Strategic Objective One

Create the right enabling and secure infrastructure for e-government, education, digital economy, and private sector development

This objective sets the direction for a digitally-enabled government and private sector, interconnected education, and health sector and availing new opportunities to utilize cashless transactions for promoting financial inclusion and stimulating economic growth. The strategic interventions to achieve this objective are outlined below.

Strategic Interventions

1. Invest in technology infrastructure to support the development of public and private sectors

The government understands the importance of digital technologies for peace and development and is committed to providing a universal and affordable infrastructure that will narrow the digital divide by investing in building the essential infrastructure. The government has already developed and officially endorsed the Open Access Policy to attract private and international investments in the area of technological infrastructure which has resulted in significant investment in fiber optic and broadband infrastructure by the private sector. Further public and international investments will be targeted at ensuring domestic and regional connectivity and infrastructure where the private sectors' return on investment is limited, and the population is deprived of connectivity. The focus will be to scale the current infrastructure and promote infrastructure sharing by providing opportunities through Public-Private Partnerships (PPP), and thus engendering economic equality, social mobility and economic growth.

2. Scale and improve connectivity and infrastructure to enable government intranet and cloud.

The government will invest resources and efforts to establish a secure and connected environment where all government institutions operate in a single network (Intranet). MCIT has already initiated a program called GovNet to address this issue. The government will allocate the required resources and will accelerate the efforts to ensure this program is completed by the end of 2021 in a sustainable manner to lay the foundation for future initiatives.

Furthermore, the government needs reliable, recoverable and secure infrastructure for hosting its services and data. While the government has invested in building the national data center, it is not responsive to the current and future needs of the government.

The government will invest in a modern and high-capacity cloud infrastructure to ensure reliable and secure e-government services and data management. MCIT has already initiated a project to modernize existing data center and migrate towards establishing cloud-enabled services. The government will take all the necessary steps to ensure successful and on-time implementation of this project.

3. Redesign and scale education and research network

Technology can play a vital role in promoting and strengthening education and health; however, the government of Afghanistan is yet to adequately leverage the benefits offered by digital technologies to promote and strengthen education and health sectors in the country. The Ministry of Higher Education has already established an education and research network known as AfgREN (Afghanistan Research and Education Network) which is connected to The Trans-Eurasia Information Network (TEIN) Singapore through STM 1 link with 155 Mbps bandwidth capacity. However, the network is limited and only interconnects five public universities. Furthermore, it lacks the required technical and financial capital for expansion and access to international educational and research resources and programs.

The government will redesign, build and sustain the national research and education network to support education sector by interconnecting schools, universities and research institutions to enhance collaboration in exchange of knowledge and resources and facilitate the availability of learning materials including digital content. Similarly, it will be ensured that the network is used to connect health institutions nationally and internationally to ensure delivery of quality health services at national level and promotion of collaboration with international health institutions in the areas of telemedicine and research.

4. Build requisite and reliable infrastructure enabling cashless transactions

Cashless transactions can play a significant role in ensuring transparent and quality public services, strengthening the financial sector and shifting towards a digital economy. Afghanistan aims to lay the foundation stone for enabling cashless transactions by first creating a secure and reliable infrastructure and environment. To this end, the country will invest in establishing the key building blocks for setting the stage for cashless transactions to pave the way forward for further financial inclusion. This will include building reliable infrastructure including automated payment gateways, interoperable, efficient, cost-effective, robust and ubliquitous e-payment services and reforming policy and regulatory framework to facilitate institutionalization of e-payments. Da Afghanistan Bank is currently implementing banking and payment policies, regulations and systems and will effectively and efficiently supervise and advance the entire sectorial e-payment initiatives.

Strategic Objective Two

Ensure inclusive and affordable access to the internet

The internet has become an essential medium of communication and collaboration, promoting new ways for exchanging information and knowledge, availing new opportunities for learning, and supporting economic growth and social well-being. Given the current economic status of the country, access to the internet is expensive, and a majority of the citizens cannot afford it which accounts for low internet utilization rate in the country. Similarly, the high cost and low quality of internet services hinder the growth of the private sector in particular; entrepreneurs, start-ups and innovators. This leaves Afghanistan with the challenge to improve its ranking globally and provide universal internet access to its citizens.

This strategic objective sets the government's direction to promote wider, affordable and quality internet access to the citizens by reducing internet connectivity cost, promoting fair competition and quality of services through effective regulations, and generating demand for further utilization.

The strategic interventions to achieve this objective are outlined below.

10. Deloitte for GSMA, "Mobile Taxes and Fees," February, 2014, p. 6.

Strategic Interventions

1. Reduce prices to promote affordable and quality internet access

Research shows that a 1% percent decrease in electronics taxation results in a 1.8 % increase in broadband penetration and a 0.7% increase in economic growth[10].The government will revise and align its policies including taxation to reduce internet connectivity prices and consumer electronics prices in particular; handheld devices, computers, and telecom hardware and equipment.Further, the government will make efforts to buy low-priced international bandwidth and distribute competitive and affordable internet to national services providers. Similarly, the implementation of necessary regulations and mechanisms to strengthen consumer rights protection and delivery of quality services will be ensured.

2. Generate demand for data usage to attract further investment

Considering the current internet bandwidth utilization in the country, it is mostly consumed by social media and the overall demand for data utilization is relatively low. The government will collaborate with mobile network operators, internet services providers, civil societies, media and entrepreneurs to identify innovative approaches to generate demand for internet usage. In the meantime, the government will invest in connecting public spaces in particular; schools, universities, research institutions, hospitals, and airports. In addition, the government will

promote digital content and support technology innovations that can contribute to generating data usage demand and utilization of digital content in education, health, and research institutions.

Strategic Objective Three

Design national smart grid

Transmission of efficient, affordable and reliable electricity for all citizens is one of the high-priority objectives of the government, and it is committed to innovating by integrating digital technologies in the energy sector. This strategic objective sets the government's direction for designing the requisite infrastructure for smart grid and electricity meters integration which will empower the electricity suppliers and consumers to take control of their energy consumption, avoid electricity wastage, reduce operational cost, ensure transparency and enable better management and equitable distribution. The strategic interventions to achieve this objective are outlined below.

Strategic Interventions

1. Assess current power infrastructure and regulations to evaluate readiness towards smart grid

This strategic intervention aims to assess the current settings and study the context before transitioning to smart power grids. The government will conduct research to identify the key building blocks for smart power grid and will introduce relevant interventions to ensure the country's readiness for transitioning. In light of the assessment, the government will develop relevant policies, regulations, and standards, deliver consumer education programs and set the stage for a pilot project.

2. Initiate Smart Grid pilot project

National smart grid project is a multi-year initiative, and prior to large-scale roll-out, the government will plan and implement a pilot project in one of the major urban areas of the country to test the deployed technologies. Based on the results of the pilot project and lessons learned, the government will design the national smart grid to be implemented in the long term.

Strategic Objective Four

Reform spectrum management and accelerate the transition from analog to digital television

Radio Frequency is a scarce resource and requires effective and efficient management to avail its full potential. Furthermore, good spectrum management can pave the way forward for leveraging opportunities offered by emerging wireless technologies. To this end, the government will focus on ensuring

consistency in its policy on matters such as competition, access and equity, non-discrimination, and fairness ensuring spectrum is allocated and assigned to relevant stakeholders.

Efficient spectrum management and digital television transmission can deliver wide range of potential benefits across the radio frequency value chain including; Spectrum efficiency gains and increased transmission capacity, improved signal quality and robustness, lower energy consumption and maintenance costs, flexibility and more efficient use of infrastructure.

The main issues, currently foreseen and that need to be addressed for Digital television transmission in Afghanistan are to assess, revise and endorse effective regulations, revision of broadcasting licensing, efficient frequency and coverage planning for digital broadcasting, attracting industry players to invest in digital services, licensing of operators and service providers, ensuring broadcast and consumer equipment availability, funding resources for service providers, production and procurement of TV content, accelerate the Digital Switch-Over, commencing and completing the Analog-Switch-Off. In addition, digital transmission empowered by interactive applications can provide an effective low-cost medium for delivering education, e-government, and other public services to people who do not have broadband access.

The strategic interventions to achieve this objective are stated below.

Strategic Interventions

1. Reform spectrum management for enhanced services development and delivery.

In general, spectrum management is a continuous challenge due to the growing number of spectrum uses and its allocation to emerging wireless technologies. Proper spectrum management will avail new opportunities for introducing and advancing wireless technologies including 4G and other emerging technologies. Afghanistan will strengthen and reform its spectrum management policies and regulations to establish an enabling environment for utilization of innovative wireless technologies. Furthermore, the government will revise the current national spectrum management and transition plan to make it comprehensive enough to address equitable radio frequency distribution and spectrum availability and promote innovation in the telecommunications sector which will in turn significantly contributes to the economic growth.

2. Reform and institutionalize policies and regulations for digital television broadcasting

Uncertainty in policy and unclear direction can hinder investment and commitment from broadcasters and other stakeholders to switch to digital broadcasting. In a competitive multi-channel and multi-platform environment, TV viewing is under pressure due to the development of other delivery platforms and internet-connected devices which deliver

media content (e.g., smartphones, tablets). In response to this, the government will assess the current available policy for digital televisions and introduce revised policy and regulations for digital television broadcasting and will work with broadcasters to plan for accelerating analog-to-digital transition.

The government has already initiated efforts through a private firm for development of digital television services, and further efforts are required to speed up the Digital-switch -over and Analog-switch-Off. This strategic intervention is aimed at providing a clear, transparent and consistent enabling environment to facilitate accelerated switchover and successful transition towards digital broadcasting.

Strategic Pillar 2

Public Sector Reform

Overview

E-government initiatives can play a vital role in promoting and facilitating quality and cost-effective public services, improving government's efficiency, ensuring transparency and enabling open government.

The current government processes in Afghanistan are obsolete and complex, which make the adoption of standard digital technologies challenging, often leading to heavy customization of the solution which causes inefficiency both in terms of cost and performance. Moreover, the country lacks a functioning addressing system leaving the government and businesses with a challenge to provide timely and quality services to the citizens.

The government is committed to revamp and re-engineer the government processes by making them lean, standardized and straightforward to exploit the benefits offered by e-government to promote efficiency, effectiveness, and transparency in the government and provide citizen-centric services to the citizens. For this purpose, the government will bring considerable reforms in its policies, administration, and operations to facilitate the integration of digital technologies in the public sector.

This strategic pillar of the strategy sets the government's direction to implement e-government through re-engineering of government processes and adopting technological solutions, developing an integrated national digital addressing system, establishing efficient and sustainable digital assets management mechanisms and introducing smart digital investment concepts.

The pillar is built on four main strategic objectives, each of which is planned to be achieved through the implementation of a set of strategic interventions. These are outlined in the section below.

Strategic Objectives and Interventions

The strategic objectives for this pillar address a set of key prerequisites that need to be met to set the stage for integration of digital technologies, which will enable a digitally-enabled government promoting efficiency, effectiveness, transparency and citizen involvement.

Following are the strategic objectives and strategic interventions identified for each objective for this pillar:

Re-engineer government processes and adopt technological solutions to increase efficiency and move towards citizen-centric services

Develop a national digital addressing system

Establish efficient and sustainable digital assets management mechanisms

Regulate and promote Smart Digital Investment (SDI) in the public sector

Strategic Objective One

Re-engineer government processes and adopt technological solutions to increase efficiency and move towards citizen-centric services

Effective and transparent public services greatly contribute to building citizen's confidence in the state and allow the government to advance its peace and development agenda. This strategic objective sets the direction for a digitally-enabled government through simplifying and standardizing public services, setting corrective actions by aligning the relevant regulatory frameworks with the redesigned services, and incorporating innovative digital technologies.

To achieve this objective, the following strategic interventions have been identified:

Strategic Interventions

1. Assess, simplify and standardize key government processes to facilitate the adoption of standard technological solutions

The government will identify key government services and will assess the processes used in the delivery of these services from simplification and standardization perspective. After the assessment, the respective processes will be re-engineered to assist the government in implementing technological solutions easily and minimize customization of ready-made and standard solutions. The government will utilize innovative technologies to ensure these services are delivered transparently, and that they are easily accessible and available to the public. While redesigning the public services, it will be ensured that the best practices are adopted and that the citizens are put at the center of the service delivery model.

2. Revise, amend and develop relevant policies and regulations to enable processes standardization

Parallel to simplification and standardization of the processes, the government will also revise and amend existing standard operating procedures, laws and policies to ensure that the redesigned processes are institutionalized. If required, the government will develop new regulatory and policy frameworks to ensure the new processes are implemented.

3. Deliver public services on the principles of transparency, accessibility, reliability, and efficiency

Efficient and transparent government services delivery contribute towards building public confidence in the government and promotes a stronger state. The government will deliver the

redesigned public services in a way that they are efficient and available at the citizens' convenience through multiple channels including mobile phone and tablets. The government will aim to design and implement feasible and reliable service delivery modalities based on the contextual requirement and ease-of-access. Similarly, some of the services will be made available online to improve the efficiency and availability of public services further and to reduce the number of visitors to the relevant government institutions.

4. Enhance public service delivery experience through solution-oriented innovation and technological advancements

Digital technologies have the potential to transform the nature of public services delivery. The government will adopt innovative solutions for delivering public services to its citizens, and in doing this, it will embrace a solution-oriented approach to ensure timely and efficient delivery of public services. Furthermore, digital technologies such as emails, Short Message Service (SMS), web and mobile solutions, broadcasting mediums and Interactive Voice Response (IVR) will be adopted for communication exchange and reaching out to the government. Meanwhile, the government will promote technological innovations that can engage the communities in leveraging technology for social development and economic growth.

The government will closely monitor and evaluate its public services delivery to maintain the quality of the end-user experience and ensure the required feedback loop is in place so that citizens can engage in improving the quality of the services. For this purpose, necessary mechanisms will be introduced to ensure the e-participation of the citizens.

5. Prioritize build, integrate, maintain and sustain core corporate platforms

The government will prioritize, build, integrate, maintain and sustain core corporate platforms to facilitate digitally-enabled government. The core platforms for the government will include electronic national identity platform, national electronic human resources management platform, public financial management platform, national digital payments platform including payment gateways, public procurement platform, public administration platform including program management, document management, and electronic communication, and electronic legal and justice support platform.

Prior to establishing the core corporate platforms, the government will strictly consider the guiding principles outlined in this strategy, and implement SAM (Solution Adoption Mechanism). SAM will promote three aspects of solution adoption, i.e., Share, Acquire and Build, to ensure better utilization of technology investment and resource savings. Further guidelines will be developed for SAM implementation.

Strategic Objective Two

Develop a national digital addressing system

Afghanistan lacks a comprehensive addressing system due to which the government, business community, and citizens are facing challenges on different fronts. The government postal service fails to deliver its services effectively, and the law enforcement and security agencies, and urban development and planning entities are unable to operate effectively.

This strategic objective sets the government's direction to develop and implement a national digital addressing system by leveraging innovative digital technological solutions. The strategic interventions to achieve this objective are outlined below.

Strategic Interventions

1. Assess the current addressing system and Introduce required policy and regulatory framework

The government will assess the current addressing settings and schemes and will analyze the context before transitioning to digital addressing system. The government will evaluate innovative solutions implemented in other developing countries and will identify the key building blocks for an integrated digital addressing system. The feasibility of implementing a digital addressing system will be conducted in consultation with relevant stakeholders to ensure the system addresses their challenges. The government will revise existing and develop new policies and regulations to institutionalize the digital addressing system.

2. Adopt and promote new digital addressing system

The government will adopt the digital addressing system and will promote the new addressing scheme to raise awareness and ensure utilization. In addition, necessary digital technologies will be developed and promoted to ensure different stakeholders of the digital addressing system can adapt and leverage the system.

Strategic Objective Three

Establish efficient and sustainable digital assets management mechanisms

On a yearly basis, the government and international development community invest a large amount of resources to acquire and maintain digital assets, especially technology hardware for the continuity of operations. However, Majority of the government institutions lack the necessary mechanisms for hardware repair and maintenance to ensure digital assets are utilized to their full potential. Digital hardware is replaced due to minor technical issues and necessary repair, and

reuse mechanisms are not in place.

This strategic objective introduces a relevant course of action to develop and establish a unified digital assets management mechanism to ensure efficient and sustainable utilization of the digital assets by following the 3Rs model to ensure the assets are adequately Refurbished, Reused and Recycled. The strategic interventions to achieve this objective are outlined below.

Strategic Interventions

1. Revise, amend and develop relevant policies and regulations

The government will revise, amend and develop relevant policies, regulations and standard operating procedures to ensure the efficient and sustainable digital assets management mechanisms and that digital assets are well-managed using 3Rs model.

2. Design and implement a centralized digital assets management system

To promote sustainability and efficiency, the government will invest in establishing a unified digital assets management system aligned with the revised, amended and newly developed policy framework and standard operating procedures. The centralized system will ensure that the acquired digital assets above a certain threshold are registered in a central digital assets registry. The registry will assist the government in future planning for investing in digital assets.

3. Institutionalize digital assets sharing and re-use

Afghanistan is a low-income country, and the government must make wise investment in digital assets to ensure cost-effectiveness and sustainability. Some categories of digital assets have a certain period of lifetime, and it must be utilized in the due period. In addition, the acquired digital assets in government institutions are less frequently utilized and not shared with other government counterparts. Similarly, unmanaged usage of some digital assets can result in excessive administrative and maintenance costs. This strategic intervention will establish necessary collaborative mechanisms within the government institutions to ensure digital resources sharing and re-use.

Strategic Objective Four

Regulate and promote Smart Digital Investment (SDI) in the public sector

Smart investments in the technology sector can promote efficiency, effectiveness, and sustainability in the government sector. The government is a major consumer of digital technologies and can easily promote digital technologies in the public sector. Enlightened regulations and corrective policy actions can create an enabling environment for supporting and strengthening the private sector in partnering with the government to provide

reliable and quality services.

This strategic objective sets the direction for adopting comprehensive procurement mechanisms to promote sustainable investment while acquiring digital assets for the government. The government will introduce relevant interventions to enable the institutions to budget and partner with the private sector in delivering timely and quality technology products and services. The strategic interventions to achieve this objective are outlined below.

Strategic Interventions

1. Plan and conduct bulk purchasing of digital assets

The government will aim to identify its overall requirement of digital assets, especially the hardware, on a yearly basis to pave the way for bulk purchasing through the National Procurement Authority (NPA). All government institutions will be required to plan for procuring the needed hardware and will need to share their plans with NPA before the commencement of new fiscal year for bulk purchasing. This practice will enable the government to ensure cost-effectiveness and partner with reliable companies to offer quality products in a timely manner. It will also pave the way for local vendors to attract investments from major international technology vendors to provide in-country support and maintenance services.

2. Revise, amend and implement relevant policies and regulations for digital assets procurement

Procurement of digital assets can be a complex process sometime, and general government procurement procedures may not meet the requirement. The government will revise, amend and implement relevant policies and regulations to accommodate flexible procurement of digital assets.

3. Institutionalize the contractual framework to support and strengthen digital assets procurement mechanisms

Procurement of digital assets requires an in-depth analysis of the technical requirement. Unclear specification mostly leads to delayed procurement processes, and sometimes the procuring entity ends up in getting what was not the requirement often leading to disputes. The government will implement a sound contractual framework for procuring digital assets, addressing the challenges pertained in the current mechanisms. The framework will cover bid evaluation mechanisms including technical and financial evaluations and will guide the procuring entity in preparing relevant technical specification covering various aspects of the digital assets including explicit technical specification, licensing and ownership, and support and maintenance.

4. Develop comprehensive cost estimation models for realistic budgeting of digital assets

Lack of comprehensive costing modalities leads to unrealistic budgeting and overpriced procurement contracts. Furthermore, it could create opportunities for corruption. The government will develop comprehensive cost

estimation models for procuring hardware and software products, technology services, software development, and support and maintenance. These models will assist the government entities to draw accurate and realistic budget estimations while preparing their procurement documentation.

Strategic Pillar 3

Information and Data Reform

Overview

Effective governance relies on timely and quality data for better understanding of pertaining challenges, weaknesses, and future opportunities. Production of timely, reliable and quality data, information and statistics promote informed policy making, evidence-based decision making, and transparent government, efficient delivery of services and effective planning and development programming.

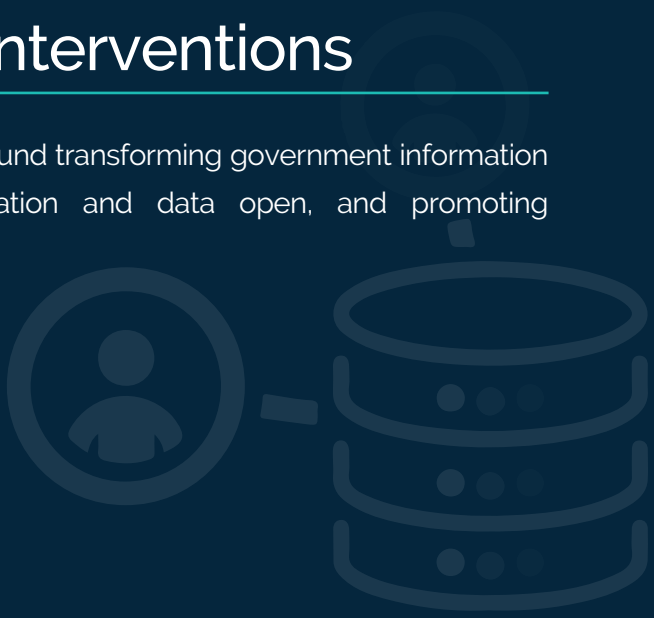
The government currently lacks a comprehensive data and information governance framework, to ensure data privacy and confidentiality, and promote openness. Information and data are stored in isolated silos in multiple and inconsistent formats, and a large amount of data is produced in unstructured form. The data is not collected and managed in a coordinated manner leading to duplicate efforts and inconsistency. Furthermore, the government institutions lack the analytical skills to utilize the data to its full potential, and most organizations do not collect granular data on the required indicators.

This pillar sets the government's strategic direction, to reform data and information, through building the foundation for strengthened and coordinated data and information management, to ensure effective governance, promote open government and open data, and ultimately pave the way for the institutionalization of data-driven decision making in the government.

The pillar is built on three main strategic objectives, each of which is planned to be achieved through the implementation of a set of strategic interventions. These are outlined in the section below.

Strategic Objectives and Interventions

The strategic objectives for this pillar cover key issues around transforming government information and data management, making government information and data open, and promoting evidence-based decision making in the government.



The strategic interventions to achieve the strategic objectives are outlined below.

Transform government data and information management

Make government data and information open

Promote evidence-based decision making

Strategic Objective One

Transform government data and information management

This strategic objective sets the government's direction to modernize the current data and information management mechanisms, to ensure coordination amongst the government entities to produce timely, reliable and quality data and information. It will also guide the government's interventions for collection, acquisition, and dissemination of data and information, storage of historical government data, and adopting practical and innovative approaches to manage geospatial data and information.

To achieve this objective, the following strategic interventions have been identified:

Strategic Interventions

1. Develop and institutionalize a unified data and information management framework

The government will implement a unified data and information management framework, to ensure the government entities have the requisite and capable institutional structures for proper data and information management. Similarly, the framework will set the standards and introduce guidelines for data sharing and dissemination, and data standardization in terms of data formats, collection approaches, metadata, and need-based data acquisition. Structured coordination will ensure that government institutions collect and manage valuable, comprehensive and granular data disaggregated by the required attributes and relevant to their monitoring and evaluation indicators.

2. Establish centralized and shared government data and information platforms

The government will establish and maintain a set of shared and centralized government data and information management platforms, to share and disseminate data and information in a timely manner. The shared platforms will include data.gov.af for managing open data, gov.af for government services and information, stat.gov.af for disseminating official statistics through dashboards, and geoportal for sharing and managing geospatial data and information.

3. Incorporate innovative technological solutions for data and information collection

The government will introduce and incorporate innovative technological solutions for data and information collection and organization. The government will ensure that the institutions identify and adopt instruments for quality and timely data and information collection and appropriate information access means for going towards digital by default. Innovative solutions may include utilization of

SMSs, web-based forms, interactive voice responses, smartphone and tablets based data collection, drones and GIS-based technologies.

4. Establish government data warehouse to enable effective data utilization and big data analytics

The government will invest in establishing an enabling environment for storing historical government data in a centralized data warehouse. It will pave the way forward for enhanced data utilization, and introduction of big data and artificial intelligence supported analytics. The data warehouse will ensure the data is retained and stored in a secure, available and accessible manner.

5. Adopt a holistic approach to geospatial data and information management

Accurate and timely geospatial data and information play a vital role in promoting effective planning and monitoring of government programs. The government recently aligned its policy to manage geospatial data and information centrally. However, further efforts are required to strengthen the centralized geospatial data and information management ensuring coordination and cooperation to avoid parallel efforts. The government will invest in acquiring and sharing timely geospatial information to support geospatial planning, monitoring and evaluation.

Strategic Objective Two

Make government data and information open

Afghanistan has introduced Information Access law to promote transparency and open government. This strategic objective will promote the law by reforming government data and information management and establishing the requisite mechanisms so that the information and data is well-managed and easily available and accessible. The government will strengthen and introduce relevant policy framework for institutionalizing open data. The strategic interventions to achieve this objective are outlined below.

Strategic Interventions

1. Introduce and institutionalize the requisite policies and regulations for the open government

In the light of Access to Information Law, the government will introduce and institutionalize relevant policies and regulations to enable information sharing and accessibility. Accordingly, the government will strive to make certain government datasets open and available to the public. To further support and contribute to Open Government Partnership, essential policies and regulations will be introduced to institutionalize open data culture amongst the government institutions.

2. Promote open government through systematic data sharing, open data and easy access to information

Despite a large amount of collected data, the data is still stored and managed in an isolated manner leading to limited utilization and inaccessibility. Some government institutions manage their data using management information systems; however, their datasets are not systematically used and shared with other government entities.

This strategic intervention will emphasize promoting and establishing mechanisms to ensure system to system integration for data access and sharing. The government will promote digital data accessibility and integration standards so that the government entities can share data and interoperate systematically. Standardized integration and systematic data sharing will enable government institutions to contribute towards open data initiative and promote open government.

Strategic Objective Three

Promote evidence-based decision making

Data utilization is critical for the government to ensure practical and data-driven policies, decision-making, planning, and monitoring. The government will invest resources to promote the culture of data and information utilization in government institutions and make the institutions data and information dependable. Aligning government priorities with monitoring and evaluation indicators will have a significant impact on promoting data-driven culture.

The strategic interventions to achieve this objective are outlined below.

Strategic Interventions

1. Institutionalize data and information utilization for effective design, implementation ,monitoring and evaluation of national programs

The government will ensure that timely and quality data is produced and used within the government institutions. The government will assess the necessary data production and utilization capacity in key government institutions to identify data and analysis gaps.

The government will use data to decide, plan, monitor, measure and enhance the impact of public programs and projects. In partnership with data users and relevant stakeholders, the government will align data needs with national development indicators and sustainable development goals (SDGs). The government entities will collaboratively align their monitoring and evaluation plans with the identified indicators to track progress and measure performance and impact.

2. Integrate geospatial data into planning, monitoring and reporting activities

The government of Afghanistan will leverage the potential of geospatial data and technologies in analysis, planning, and monitoring of socio-economic development and achievement of the SDGs. Geospatial data and technologies will play a key role in urban planning, agriculture production, natural disaster management, natural resources management, environmental protection, and infrastructure expansion. To acquire geospatial data, the government will utilize the opportunities offered by geospatial technology innovations including sensors, drones, and satellites.

Strategic Pillar 4

Digital Capabilities Empowerment

Overview

One of the critical requirement for any digital transformation is the availability of necessary resources and capabilities that empower the civil servants and public in general to utilize digital services and technological solutions. In Afghanistan, there is a digital skills and capability gap within the civil servants, the private sector and public as a whole to enable usage and implementation of envisioned technology solutions.

To support the country's vision of a digitally-enabled Afghanistan in the long run, the government will invest in building and aligning capabilities to enable operations and sustainability of technological solutions in the country.

This pillar sets the government's direction to identify and understand the current digital skills and capabilities gaps in the country, and invest in building these capabilities and competencies through designing and implementing demand-driven educational programs. This will be achieved through partnership with public and private universities and public and private technical training institutions and schools. Moreover, technological innovation will be promoted through the development of knowledge exchange centers and research and development units, and institutionalization of research-driven policymaking culture within the government institutions.

Strategic Objectives and Interventions

To build the capabilities, the government will assess the current situation and work with educational institutions and government entities to introduce new educational programs and courses to build the capacity and increase the digital literacy within the government. The government will also focus to create employment ready workforce for the public and private sector and bring together a research-driven culture within the government for knowledge sharing and policymaking.

Develop demand-driven educational programs

Empower civil servants with the technological capabilities

Raise public digital literacy

Leverage e-learning opportunities to narrow the digital skills gap

Advocate for technological innovation through research and development

Strategic Objective One

Develop demand-driven educational programs

This strategic objective sets the government's direction to understand the current gap between supply and demand of required skills, competence, and knowledge in the market and align the current and introduce new educational programs to create talented and informed human resource pool for digital transformation in Afghanistan. Further, it will guide the government's efforts to encourage research, innovation and entrepreneurship values into educational programs and form partnerships between national and international universities to share knowledge and experiences in the field of technology.

The strategic interventions to achieve this objective are outlined below.

Strategic Interventions

1. Align educational curriculum with market needs of technological knowledge, skills and competencies

The Government will assess the current educational programs and market needs to understand the gap between the skills, competence, and knowledge demanded and supplied. Based on the outcomes of the gap analysis , the government will revise and align the educational curriculum with the required market needs. Also, specialized degree programs and short term courses will be introduced through public and private universities and institutions to build capacity required to develop, implement and sustain technology solutions.

2. Embed research, innovation and entrepreneurship principles into educational programs

To be responsive to the ever-changing and fast track innovative nature of the technology and learn from the experience of other countries, there is a need to introduce the principles of research, innovation, and entrepreneurship in the educational programs. The government will create an enabling environment for academics and students to develop skills of research, innovation, and entrepreneurship through the provision of subject matter knowledge, the creation of labs for innovation, and financial and technical resources for entrepreneurs.

3. Develop formal and specialized accredited short-term certification programs

In light of the gap analysis, specialized and essential short term certification programs will be developed to uplift the skill sets and capabilities for digital transformation. The required certifications will be identified during

the gap analysis exercise, and the necessary programs will be developed by the concerned institutions.

4. Form partnership between national and international technical universities for knowledge exchange

In order to align the educational programs with international standards and industry demands, and to utilize the experience and resources of international universities, the government will create partnerships with other countries to build academic networks for research and development within the technology domain to benefit from the exchange of knowledge and experience.

Strategic Objective Two

Empower civil servants with the technological capabilities

Digital skills and capabilities in the public sector are a vital requirement for digital transformation. Lack of sufficient digital skills and capabilities of the civil servants is considered as one of the major barriers in proper utilization of technology solutions.

This strategic objective is targeted at strengthening and building the required digital capabilities of the civil servants to empower them with the necessary capabilities to utilize technological solutions, and at the meantime to integrate digital skills requirements into recruitment and promotion procedures.

The strategic interventions to achieve this objective are outlined below.

Strategic Interventions

1. Identify the need for and provide digital skills and competencies for civil servants

The necessary digital skills for civil servants comprise of abilities such as using email services and office productivity tools, use of technology to support collaborative working, ability to research topics online, and ability to operate on different devices. The government will conduct assessment and identification exercises to design capacity building programs to build these capacities and create a pool of digitally enabled civil servants.

2. Embed digital skills and competencies into recruitment, performance appraisal and promotion of civil servants

To build the digital literacy in public organizations and increase the effectiveness of capacity building programs, the government will introduce policies and regulations to integrate digital skills requirement into the recruitment process and performance appraisals. Moreover, incentives and promotions will be given to civil servants with digital skills, to motivate and encourage them and embed digital literacy into the public sector.

Strategic Objective Three

Raise public digital literacy

This strategic objective sets the government's direction to develop and raise the digital literacy of the public to enable enhanced utilization of e-government services and raise e-participation.

The strategic interventions to achieve this objective are outlined below.

Strategic Interventions

1. Promote usage of digital services through public awareness campaigns

To promote usage of digital services, the government will develop and run public awareness campaigns in collaboration with civil societies and media to inform and guide the public about the accessibility and delivery of services. The emphasis of such programs will be to educate the public and enable them to benefit from digital services. These campaigns will be an integral part of the implementation plan of digital services.

2. Design digital literacy program to promote digital inclusion

With the support of civil societies, media, and private sector, the government will ensure digital inclusion through concepts of e-participation and leaving no one behind. Certain programs will be developed and implemented to increase public digital literacy through different channels including literacy programs, schools, television, radio, and social media. Furthermore, certain incentives will be developed and provided to encourage and attract the public towards usage of digital services.

Strategic Objective Four

Leverage e-learning opportunities to narrow the digital skills gap

The digital age has revolutionized the traditional education delivery mechanisms. E-learning provides the opportunity to learn new skills at one's own pace, speed and discretion, anytime and anywhere. This strategic objective will direct the government efforts to utilize the available opportunities of e-learning to develop the requisite digital skills by making the current content available through different channels and localizing them for further effectiveness.

The strategic interventions to achieve this objective are outlined below.

Strategic Interventions

1. Make Existing and New digital content available through appropriate channels

Considering limited internet accessibility, the government will make digital contents available through different means. In areas

where internet access is available, e-learning will be institutionalized into capacity building activities of all government organization, and where internet access is an issue, necessary arrangements will be made to acquire the digital contents from the respective provider and made available offline to all government staff. Additional efforts will be made to incorporate E-learning as a platform into educational system by MOE and MOHE through integrating E-learning tools like Edx, Udemy, Khan Academy and digitization of current curriculum and teaching materials.

2. Develop and localize digital contents in national languages

To make most out of the digital contents, efforts will be made to localize the contents, in order to make them understandable, serviceable, and reachable to a vast majority of students, civil servants and the public in general.

Strategic Objective Five

Advocate for technological innovation through research and development

This strategic objective will direct government efforts to promote the culture of technology innovation, research, and development within the government institutions and academia. Technology policy research will be embedded as an integral part for future technology related decision making and technology solutions development.

The strategic interventions to achieve this objective are outlined below.

Strategic Interventions

1. Establish "Knowledge Exchange and Innovation Center for Digital Transformation"

Digital transformation is a long-run initiative and requires continuous coordination, alignment and proper selection of technologies and tools. The government will establish a knowledge exchange and innovation center to learn from the experiences at national and international levels, and provide a platform for research and innovation. The center will also work towards building capacities for digital transformation including; technical, management and policy aspects of technology solution implementation.

2.Institutionalize and build capacity in research and development for innovative technology solutions

Research and Development have become the primary strategic enabler for growth, finding solutions and new effective ways of doing things, and providing the competitive edge to the government in selection and implementation of technological solutions. It plays a crucial role in developing effective solutions, policies, and strategies, and hence should be placed at the center of all

development interventions. The government will build programs to increase capacities in Research and Development, to acquire and enable adoption of best solutions. Furthermore, the government will introduce relevant interventions and regulatory framework to pave the way for institutionalizing research induction in any policy development matter related to technology.

Implementation Arrangements

Transferring the Digital Foundation Strategy for Afghanistan from paper to practice requires comprehensive and coordinated planning, monitoring and evaluation across all sectors to ensure the inclusive participation of all relevant actors in the successful implementation of this strategy. To ensure the timely realization of the vision put forward by this strategy, the high-level Technical Committee, which has already been established through the presidential decree number 66 dated 29th March 2018, chaired by H.E the President, will lead the effort to monitor the implementation of this strategy. Furthermore, for the successful execution of the strategy the government will:

- Establish a national technical taskforce which will provide technical assistance to the strategy implementing parties in execution of strategic interventions, coordinate strategy-related affairs and report to the high-level technical committee on the progress.
- Consolidate parallel structures to avoid duplicate efforts and enable unified direction and approach for strategy implementation
- Communicate the strategy with all the stakeholders to ensure they take ownership and execution responsibility for the strategic interventions that are relevant to them.
- Develop a detailed annual implementation plan in consultation with relevant stakeholders through prioritization of activities based on their importance and the pace of the implementation depending on the availability of adequate resources.
- Develop a feasible financial plan aligned with the implementation plan for the execution of the strategy.
- Align and efficiently utilize the Telecom Development Fund (TDF) and available financial resources for the implementation of this strategy.
- Develop a comprehensive risk management system to ensure that all interventions are being implemented as per the strategy implementation plan and to ensure that if any intervention is at risk of going off-track, corrective actions are taken.
- Conduct an annual review of the strategy in light of the progress made and new developments in the area of technology.

The government is committed to implementing this strategy within next three years, and in doing so, it will align all the ongoing technological initiatives and projects that are feasible and stop or postpone all other efforts that are in contradiction with this strategy. Similarly, collective engagement with the private sector will be ensured in the adoption of the new approaches and technologies set out in the strategy. Moreover, the government will make use of the experiences and best practices of technology implementation in regional countries with resembling context, in particular, India for the implementation of this strategy.

2019-2021