UN-ESCWA
United Nations Economic and Social Commission for Western Asia

Kuwait Digital Development Review Report – 2019

Towards Empowering People and Ensuring Inclusiveness

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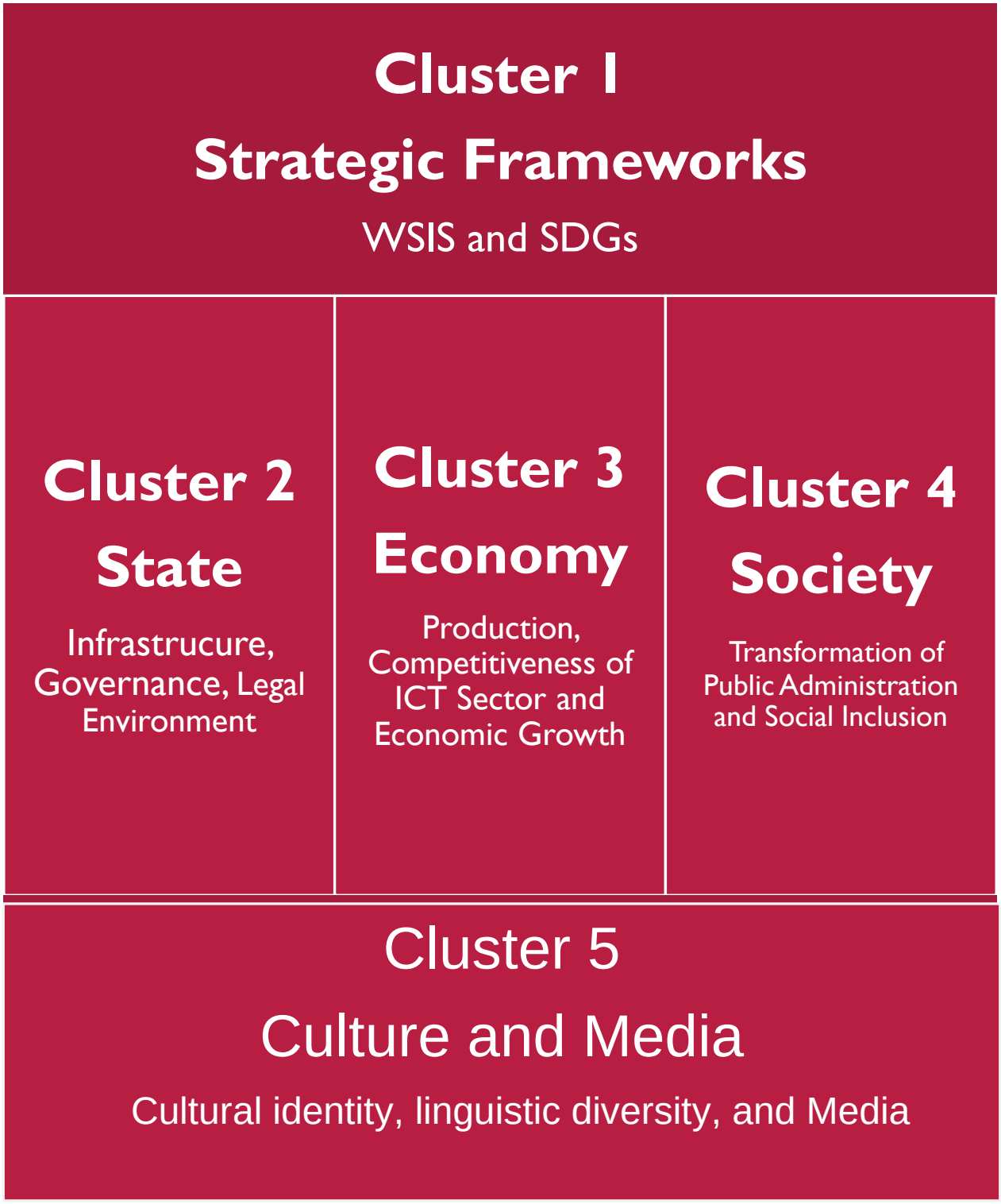
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I. Cluster One: National, Regional and International Strategic Frameworks

A. National digital strategies (The role of the government and all stakeholders (C1))

Overarching National Digital Strategy exists (like Digital Nation, Smart Nation, Digital Economy…etc.)	Yes
Name of the Strategy	New Kuwait: Kuwait Vision 2035[1]
Year of adoption and latest update	2010
Government agency in charge	*Name in English:* General Secretariat of the Supreme Council for Planning and Development *Name in Arabic:* الأمانة العامة للمجلس الأعلى للتخطيط والتنمية
Pace of implementation	*Average*
Description of progress made (about 150 words)	*Yes*
Sectoral (ICT):	
ICT Sector strategy / plan exists	
Name of the strategy / plan	Kuwait ICT Vision 2035
Year of adoption and latest update	Pending approval
Government agency in charge	*Name in English:* *Name in Arabic:*
Pace of implementation	*N/A*
Description of progress made (about 150 words)	
Other Sectors:	*Yes*
Digital Transformation strategy / plan exists (Digital Learning / Digital Health…etc.	*Cyber Security*
(Repeat this section – 5 rows – as required)	
Name of the strategy /Plan	National Cyber Security Strategy for the state of Kuwait[2]
Year of adoption and latest update	*2017-2020*
Government agency in charge	*Name in English: Communication & Information Technology Regulatory*

[1] https://www.mofa.gov.kw/en/kuwait-state/kuwait-vision-2035/

[2] https://citra.gov.kw/sites/en/LegalReferences/English%20Cyber%20Security%20Strategy.pdf

	Authority *Name in Arabic:* الهيئة العامة للاتصالات وتقنية المعلومات
Pace of implementation	*Average*
Description of progress made (about 150 words)	The State of Kuwait has published a National Cyber Security Strategy (NCSS). This demonstrates a commitment at the highest level to provide a secure and resilient cyber space to safeguard the national interests of the State of Kuwait. The key objectives of this strategy are: • Promote a culture of cyber security that supports safe and proper usage of cyberspace • Safeguard and continuously maintain the security of Kuwaiti national assets including critical infrastructure, national data, communications technologies and the internet • Promote the co-operation, co-ordination and information exchange among local and international bodies in the field of cyber security. After publishing the strategy in 2017, a 6-moths consultation phase was conducted to develop the framework, operating model and the national cyber security programme. Currently, the program is in the implementation phase towards achieving the vision and the objectives listed above.

B. National Engagement in International and Regional Cooperation Initiatives (C11)

1. WSIS Follow-up

Regional projects for building the information society/digital economy with national components in Kuwait, including pilot projects, are:

- The General Secretariat of the Supreme Council for Planning and Development (GSSCPD) established the "National Knowledge Economy Center" to be the key cornerstone for the digital and knowledge economy transformation plans in Kuwait. It supports the strategic direction of the vision of Kuwait 2035 towards integrating inputs of modern knowledge and technology to build a national economy with an added value that employs innovation and regeneration in addition to promoting investment, productivity and competitiveness.

- in the National Development Plan (NDP), the GSSCPD has developed a section dedicated for promoting e-government projects and providing support and assistance to the Central Agency for Information Technology (CAIT). The NDP has an e-government program under the effective government pillars. This program includes 19 projects that are implemented by 15 governmental departments.

The Government of Kuwait has always been keen to keep an online record of their WSIS success stories in a concise and compelling format in order to exchange knowledge, experiences and best practices on policies and tools that are designed to promote the Information Society at regional and sub-regional levels. Examples of these success stories are as follows:

- WSIS 2019 winner – Dr. Salah AlNajem – prize champion for social intelligence analysis project (Kuwait University).

- WSIS 2017, action line C7 E-learning: e-learning virtual classroom system, Kuwait University.

- WSIS 2015 winner, Kuwait official environmental portal, Beatona[3].

[3] www.beatona.net

- WSIS 2014 winner, e-science: remotely operable scanning electron microscope, Kuwait university.
- WSIS 2013 winner, CSC Kuwait e-employment system.

2. *Other related Frameworks (other than WSIS)*

The Communication and Information Technology Regulatory Authority (CITRA) has cooperation initiatives in the field of cybersecurity with NATO. In addition, the Central Agency for Information Technology (CAIT) is participating in national and regional pertinent projects, as shown below:

- **The GCC Executive e-Government Committee**

This committee works towards achieving common regional goals for future integration in all major fields that serve the societies in the Gulf States, thus achieving sustainable development goals. Moreover, the Gulf States have developed a **"Strategy Guide for e-Government"** in order to achieve mutual goals through the following vision: "Strengthen the role of secure e-Government in sustainable development; elevate Public Sector efficiency and regional integration"
Five major strategic goals have been approved to achieve the GCC vision:

1. To develop e-Government nationally and regionally.
2. To strengthen coordination efforts between Gulf States in the e-Government field.
3. To Support electronic integration between Gulf States.
4. To use e-Government as a sustainable development tool for achieving higher quality of life for its citizens.
5. To encourage competitiveness among Gulf States in the e-Government field regionally and internationally.

- **The Spatial Infrastructure for Geographical Information System**

The main goal of this project is to develop a holistic framework to organize government efforts related to Geographical Spatial Data. this is through establishing policies and standards to enable the exchange of spatial and descriptive geographical data nationwide, which, in tun, facilitates the access and use of information by the decision makers, investors and other members of the society.

II. Cluster Two: Infrastructure, Governance and Legal Environment Policy Areas

A. ICT Infrastructure (C2)

Infrastructure is central in achieving the goal of digital inclusion, enabling universal, sustainable, ubiquitous and affordable access to ICTs by all. It considers relevant services already in place in developing countries and in countries with economies in transition, to provide sustainable connectivity and access to remote and marginalized areas at national and regional levels.

1. Market structure and regulatory landscape

Kuwait has three private mobile network operators and five private internet service providers. The Ministry of Communications operates the fixed line services. Kuwait has two kinds of licenses:

1-ISP

2-Sub-ISP

Currently CITRA is renewing the above-mentioned kinds of licenses, and CITRA is about to issue a new licensing framework.

The telecommunications market in Kuwait can be divided broadly into mobile voice, mobile data, fixed voice and fixed data. In terms of spending, the overall market is expected to grow at a compound annual growth rate (CAGR) of 1.9% between 2014 and 2019, in line with some of the other markets in the region. Mobile data is expected to continue to be one of the fastest-growing segments, driven by the limited fiber reach in the country, growing smartphone adoption and high mobile penetration. Specifically, mobile data is expected to grow from $847 million in 2014 to $1,224 million in 2019, representing a CAGR of 7.6%. Fixed data is expected to grow at a CAGR of 2.5% during the same time period, as the country rolls out more fiber cables and enterprises start to consume advanced IT solutions that rely on stable, highspeed connectivity (e.g., cloud and managed services). Voice services, both fixed and mobile, are expected to decline slightly as spending on traditional voice services shifts to over-the-top (OTT) and voice over IP (VoIP) technologies, and the general mindset moves from voice to SMS and OTT messaging.

Kuwait has three mobile operators (Zain, VIVA, and Ooredoo), offering services on one of the most advanced mobile networks in the Middle East. The presence of three operators in a country with a population of about four million means that data and voice tariffs are not only competitive, but also reviewed and adjusted frequently. The fixed voice market is, however, dominated by the sole provider, the Ministry of Communications (MoC). The Ministry of Communications is also responsible for establishing and maintaining fixed connectivity nationwide, which in turn used by the ISPs (FASTtelco, QualityNet, BONLINE previously known as Gulfnet, and KEMS) who are responsible for offering fixed connectivity services to enterprises and consumers. Competition between ISPs means that connectivity prices for fixed-line services are reasonable, but many services are still delivered over copper networks, while fiber cables are still being laid in most parts of Kuwait. As a result, most consumers and enterprises rely on mobile networks for their high-speed Internet needs.

Regarding the regulatory environment, Kuwait's parliament approved legislation in April 2014 that would create an independent regulator. CITRA was established in 2015 and officially began its regulatory activities in early 2016, being the last of the Gulf Cooperation Council (GCC) countries to establish an independent telecommunications regulator. Prior to that, MoC was the sole entity with the authority to lay fiber optic cables in Kuwait, resulting in the aforementioned slow growth of fixed broadband networks and lack of advanced fixed telecommunications services. The mobile market has been more dynamic than the fixed market, with fierce competition between Zain, Ooredoo, and VIVA. Liberalization in the mobile segment and the strongly competitive environment have increased network investments in connectivity improvements. In September of 2015, a CITRA delegation visited Bahrain's telecommunications regulator to gain knowledge of that country's experience in fixed and mobile high-speed broadband services, international connectivity, digital security, and

the Internet ecosystem. CITRA will have to address a number of issues, including the liberalization of the fixed telephony market, spectrum allocation practices, facility sharing (including duct sharing), rights of way, ensuring healthy and sustainable competition in the fixed and mobile markets, and creating QoS regulations. The new regulator must be introduced as a non-government player, focusing on creating a dynamic ICT market, and ensuring the efficient regulation of said market. As a recently established regulator in an already active market, it should establish a competitive environment, with a special focus on protecting consumers' interests while stimulating enterprise ICT investments. In other words, the new regulator should refrain from over-regulation, which would harm the investment initiatives of network operators. Right of way regulations for network deployments and duct-sharing regulations for the efficient utilization of infrastructure assets are of vital importance for the development of broadband networks in Kuwait. The introduction of an efficient regulatory framework will be beneficial for all stakeholders in Kuwait's ICT ecosystem, including operators, consumers, vendors, and systems integrators.

Telecom Service	**Status of regulatory landscape**	**List all awarded telecom licenses**
Mobile services	*competitive*	Zain (including internet) Viva (including internet) Ooredoo (including internet)
Internet services	*competitive*	Quality Net Fast Telco Mada Zajil B-Online BONLINE previously known as (Gulfnet) KEMS

2. ICT Infrastructure by Service Type

Kuwait has three private mobile network operators and five private internet service providers. The Ministry of Communications operates the fixed line services. FTTH deployment is currently underway with 60% GPON connections deployed.

Fixed Voice — VoIP, MoC delivers fixed voice services over its access network, which is primarily copper-based. With no explicit legislation that authorizes non-MoC bodies to provide VoIP over fixed networks, VoIP is officially prohibited in Kuwait. The insufficient quality of fixed voice services led directly to the shift from fixed to mobile, especially among consumers. Consumers in Kuwait overwhelmingly use mobile networks as their sole means of voice communication, as well as for their Internet needs. Companies are increasingly migrating from the MoC's traditional telephony services to ISPs' IP voice solutions, especially companies located in buildings with last mile fiber networks.

Fixed Broadband — Fiber, according to the current legal framework, ISPs are only authorized to offer Internet access services directly to customers. Last-mile technology is primarily owned by MoC, where ISPs utilize this access network to provide all customer services (billing, advertising, customer support, etc.). In this environment, ISPs do not have much room to differentiate themselves, other than competing on price points and improved customer experience. As MoC is the sole entity responsible for fiber rollout, the migration to next-generation access networks (fiber to the "x") in Kuwait has been very slow compared to other countries in the region. DSL is still the dominant technology, with copper the primary medium for access networks. The lack of a clear broadband policy and a supporting regulatory framework together are delaying FTTB/H investments, which prevents internet users (consumer and business) from benefitting from high-speed broadband connectivity

solutions. The Kuwait telecommunications market needs greater liberalization, which includes allowing private or semi-private entities to take the lead in laying fiber optic cable, then providing connectivity on an open-access basis as what is done in Qatar and Nigeria.

Regarding Mobile Number Portability (MNP), MoC decided to introduce MNP in Kuwait due to increasing requests. When MNP was introduced, in June 2013, some growing pains were evident, particularly around high migration charges and delays, but the situation has improved since then, as has the system.

In-service ISPs:

- Quality Net
- Fast Telco
- Mada
- Zajil
- B-Online
- KEMS
- Gulf sat
- BONLINE previously known as (Gulfnet)

In-service mobile phone networks:

- Zain
- Viva
- Ooredoo

Indicator	Value	Latest Year
Mobile phone penetration	172.6	2017
Percentage of households with Internet access	99.7%	2017
International Internet bandwidth (bit/s) per Internet user	345,000 Mbits 218,309 Mbits (not official yet)	2017 2018
Percentage of the population covered by mobile networ	100%	2017
- At least 3G	99.8%	2017
- At least LTE/WiMAX	99.6%	2017
Fixed-broadband subscriptions by speed tiers as a % of total fixed-broadband subscriptions	163,014 Mbits	2017
- 256 Kbit/s to 2 Mbit/s	23,798 Mbits	2017
- 2 to 10 Mbit/s	55,668 Mbits	2017
- 10 Mbit/s or more	83,548 Mbits	2017

3. ICT connectivity

No information available.

4. Internet Architecture

Kuwait has a robust backbone network infrastructure. The network is flat with adequate capacity distributed across the country. Kuwait is fully covered by 4G mobile network services. Several Wifi hotspots are available for use at different locations. Kuwait is currently deploying FTTH network currently covering 60% of the premises. The project aims to achieve 100% coverage by 2027. Kuwait has recently launched an internet exchange point connecting all local service providers and digital businesses. The local root server (.kw) is maintained by CITRA. The adoption of IPv6 is currently being planned.

5. Domain name management and adoption

CITRA manages and supervises the national Internet registry pertaining to the country code top-level domain name (ccTLD).

Name of ccTLD registrar	*Name in English: Communications and Information Technology Regulatory Authority* *Name in Arabic:* *الهيئة العامة للاتصالات وتقنية المعلومات*
URL of registrar	https://citra.gov.kw/sites/en/Pages/Home.aspx
Total Number of ccTLDs registered in the country for the years 2015, 2016, and 2017.	The .kw was registered since 1992. No other ccTLD is registered after that.

Arabic ccTLD is not available.

B. Governance (C1 and C11)

1. Public/Private Partnership (PPP), Multi-Sector Partnership (MSP) and Role of Non-Governmental Organizations

No information available.

2. Participation in Internet Governance activities

CITRA set national policies to the ISPs in the country in regard to internet security. CITRA also participates in an annual Internet Governance Forum In addition to quarterly meetings by invitation. CITRA is also member of the Governmental Advisory Committees (GAC) and the Country Code Names Supporting Organisation (ccNSO).

C. Legal environment, ethics and building trust (C2, C5, C6 and C10)

The provision of an enabling environment is crucial to mobilize resources and create a climate conducive to the acquisition and dissemination of ICT.

Moreover, a trustworthy, transparent and non-discriminatory legal, regulatory and policy environment constitutes an essential basis for cooperation between public and private sectors. The sensitivity and value of digital information and the need to protect it are increasing. This area tackles specific requirements regarding security and privacy, protection of personal data and confidentiality of information.

1. Legal and regulatory environment

Policies regarding the best practices in cyber security are currently under development by CITRA and will be tailored to the specific needs of the state of Kuwait in both private sector (e.g. ISP, telecom, etc.) as well as government entities. In this regard, the following are the key pertinent legislations in Kuwait:

- Intellectual Property Rights Law[4]
- Information Technology Crimes law 63/2015[5]
- Kuwait Electronic Transactions Law 20/2014[6]

International Treaties and Conventions on Intellectual Property	Adopted (Y/N) or Observer	Year of Adoption
WTO	Yes	**1995**
Paris Convention	Yes	**2014**
PCT	No	
WCT	No	
Madrid Agreement	No	
Hague Agreement	No	
PLT	No	
TRIPS	Yes	**1994**

Cyber Laws	Available?	Law number	Year Passed
e-transactions law	Yes	20	2014
e-signature law	Yes	20	2014
e-payment	Yes	20	2014
e-commerce	Yes	20	2014
Management of PKI available	Yes	20/2014	

2. Privacy and Data protection

Laws addressing privacy and data protection in Kuwait are:

- Kuwait Electronic Transactions Law 20/2014[7]
- Information Technology Crimes law 63/2015[8]

Polices regarding data privacy have been developed and are pending approval as part of the national cybersecurity strategy for the state of Kuwait. In this regard, CITRA has reviewed other internationally known regulations regarding data privacy such as GDPR to develop the aforementioned data privacy

[4] National Library of Kuwait: Intellectual Property Rights Law

[5] Information Technology Crimes law 63/2015

[6] Kuwait Electronic Transactions Law 20/2014

[7] **Kuwait Electronic Transactions Law 20/2014**

[8] **Information Technology Crimes law 63/2015**

policies/regulations. Currently, CITRA is working on a cloud data classification policy to be published. The regulations shall determine the general rules and guidelines which shall protect the fundamental rights and freedoms of individuals.

Since CITRA has the official mandate regarding national cyber security activities in Kuwait including awareness raising, as the National Cyber Security Strategy has a clear objective to spread awareness to all segments of society, a number of initiatives have already been implemented and currently in process to target governments, academic institutions and the public to increase their cyber security awareness. A 3-year awareness campaign began last year. Also, CITRA regularly publishes on social media tips about privacy and cyber security awareness. The following are examples:

https://www.instagram.com/p/BV68k6DBAFY/?hl=en&taken-by=citrakuwait
https://twitter.com/CitraKuwait/status/931076111567654912

Moreover, CITRA has recently offered an e-service which allows public users report any content that violates the privacy of their data. In addition.

3. Countering misuse and preventing abuse of ICTs

In addition to the above-mentioned Information Technology Crimes law 63/2015 and Kuwait Electronic Transactions Law 20/2014, the following complement the regulatory framework that address misuse and abuse of ICTs:

- ISP Liability Ministry of Communication decision no. 271/2012[9]
- Kuwait and INTERPOL Agreement of cooperation regarding cyber crime[10]

Moreover, the Ministry of Interior (MoI) is playing the main part in combating cybercrime by enforcing the law through the Department of Combating Electronic Crime[11]. This Department also plays a major part in spreading awareness to the public about privacy and cybersecurity issues via social media.
(Twitter: https://twitter.com/ECCCD?lang=en and Instagram: https://www.instagram.com/ecccd/)

4. Use of electronic transactions and documents

For e-signature, the Public Authority for Civil Information (PACI) is in charge of issuing and regulating the PKI in the State of Kuwait (CA: Certifying Authority - Root). Certificates are issued to the public and stored on their smart Civil Identification cards. This enables the card holder to digitally sign documents when needed. PACI also provides e-authentication for online services. All government electronic services are legally supported by the Kuwait Electronic Transactions Law 20/2014**.** Moreover, Mobile ID project using biometrics (fingerprint and facial recognition) is in process and to be applied in all government entities e-services.

5. Online and network security

CITRA has prepared a National Cyber Security Strategy (2017-2020) including implementation approach and plan to protect national assets including critical infrastructure; national data, communication technologies and the Internet in the State of Kuwait (objective 2 of the strategy)[12]

Also, the National Cyber Security Strategy instructed that it is a must to establish and maintain National Cyber Security Center- NCSC including Security Operation Center (SOC) and Computer Emergency Response Team (CERT) functions to serve all government agencies, private sector and individuals, in order to promote the

[9] **ISP Liability Ministry of Communication decision no. 271/2012**

[10] **Kuwait and INTERPOL Agreement of cooperation regarding cyber crime**

[11] https://www.moi.gov.kw/main

[12] https://citra.gov.kw/sites/en/LegalReferences/English%20Cyber%20Security%20Strategy.pdf

country's ability to protect national interests from possible cyberattacks according to the Strategy, the responsibility of protecting the critical national infrastructure entities (CNI's) is allocated to CITRA. CITRA national CERT team had received several incidents, where responsive actions has been taken in cooperation with other CNIs, and remediated advice had been given. CITRA has also prepared a national CERT Strategy. The latest exercise done by CITRA in this regard is a specialized technical training workshop under the supervision of the Information Security and Emergency Response Department [13]. Also, as part of the Cyber week event on 21-25 of October 2018 in partnership with ARCC-ITU, a cyber drill exercise was conducted in which both national and regional CERTs participated.[14]

Moreover, CITRA has a 3-year plan for cyber security awareness raising as part of the National Cyber Security Strategy. CITRA also organizes national conferences, workshops and activities with stakeholders and has set a plan to communicate with the public as part of the aforementioned awareness raising campaign. This also includes the National Cyber Security Awareness Programmer that to be implemented in 3 years and targets the public, including children[15]. In the meanwhile, CITRA will adopt international policies including those from ISO and the National Institute of Standards and Technology (NIST), while in the future CITRA will create their own tailored policies.

III. Cluster Three: Digital Economy, Employment and Trade Policy Areas

A. Building the ICT Sector (C12)

Building the ICT sector requires public-private cooperation, in addition to the availability of many factors including investments and finance facilities, industry structure, and RDI capacities. The sector could include operators of telecommunications services, computer hardware manufacturing, software development, service provision, call centres, technical training, Web design and development, digital content development and Arabization, and providing technological solutions.

1. ICT Firms

There are different Companies that are registered in Kuwait Chamber of Commerce, as shown below:

a. Telecommunications Companies

- Companies provide services in the field of modern communication total of 5 members.
- Earth satellite communications stations total of 10 members

b. Content Firms (Local and national digital content development)

- Web page development design and maintenance total of 177 members.

c. Software Companies

- Computer Programs Centers total of (234) members.

[13] https://citra.gov.kw/sites/en/Pages/NewsDetails.aspx?NewsID=38

[14] https://www.itu.int/en/ITU-D/Regional-Presence/ArabStates/Pages/Events/2018/Cyber/Cyber.aspx

[15] https://citra.gov.kw/sites/ar/Documents/kids.pdf

2. R and D, Innovation and Standardization in the ICT sector

The Kuwaiti Foundation for the Advancement Science (KFAS)[16] is a private non-profit organization that was established in 1976 by an Amiri Decree under the direction of the late Amir of Kuwait, HH Sheikh Jaber Al-Ahmad Al-Jaber Al-Sabah. His enduring vision has been to create and develop a thriving culture of science, technology and innovation for a sustainable Kuwait. KFAS's charter represents the commitment by local shareholding companies to contribute 5 percent of their annual net profits to fund the foundation, which over the years has been reduced to 1 percent.

Tremendous strides have been made throughout KFAS's journey to promote STI and encourage a culture of research and development in Kuwaiti society, especially considering the numerous challenges inherent to generating socioeconomic growth and national development in such a ground-breaking manner. KFAS has been building a well-equipped STI workforce to meet the socio-economic adversities that Kuwait and other countries are bound to face, in particular encouraging and educating the youth. In Kuwait, the foundation promotes and advocates for science, technology and innovation through the dissemination of knowledge in a number of different ways, including scientific publications, books and community-based events. The foundation also collaborates with local and international institutions to raise the quality of research in Kuwait and drive innovative solutions for areas of national priority. KFAS is also building an STI-competent private sector by fostering the means to increase R&D capacity, as well as to increase the private-sector investments in STI. Finally, through our regional and international collaborations with world-renowned academic and research institutions and major corporations, KFAS gives the local community greater access to partnerships focused on enhancing the national science and technology platform.

Specialized centers of excellence have been established in Kuwait and continue to be funded as subsidiaries of the foundation, providing the country with additional ways to address national challenges through research and development. These are:

- The Scientific Center;
- Dasman Diabetes Institute;
- Sabah Al Ahmad Center for Giftedness and Creativity;
- Jaber Al Ahmad Center for Nuclear Medicine and Molecular Imaging;
- KFAS Academy;
- The Advancement of Science Publishing and Distribution Company.

KFAS's strategic objectives continue to guide the foundation as it strives to catalyze the change Kuwait needs to ensure the country's future development and long-term sustainability.

KFAS offers its service to a wide range of beneficiaries, including the scientific and research community, the private sector, students, the public and CSOs, and policymakers.

3. Government facilitation, Investments and Financing the ICT sector

The National Fund for Small & Medium Enterprise Development, which is a governmental sovereign fund, aspires to be the key enabler of Entrepreneurship and Innovation. The National Fund (NF) is putting forth the foundation that fosters ICT ventures in variety of ways, whether in terms of funding ICT related projects or providing training and incubation services. NF has already executed a highly intensive ICT focused incubation program for 8 participants. Those entrepreneurs received training and one-on-one coaching in addition to seed funding for their tech projects. NF is planning to sponsor a similar program soon. Additionally, in collaboration with the Ministry of Commerce, NF has requested to issue a Specialized Business Incubator with focus on ICT.

A success story from the NF ICT incubation program was a project called "Techno Care" by two women entrepreneurs. Their HealthTech start-up aims to increase the quality of life for patients with disabilities and their caregivers by developing apps for wearable devices and mobile phones. Another success story by a

[16] https://www.kfas.org/

participant is called "Idea Space", where an electrical engineer with passion for robotics and technical fabrication has created a Maker's Space that focusses on research, innovation, fabrication and product invention development.

ICT projects in Kuwait are mostly concentrated in the service apps and platforms categories, as they are widely popular and are not capital intensive. There hasn't been much interest in establishing startups in avant-garde technologies like IoT, VR, AR. etc. Hurdles that might be obstructing the growth of Tech start-ups in other ICT sectors could be due to the capital requirement, lack of the required legislation for avant-garde technologies, the risk-aversion nature of the entrepreneurs in the region, and the lack of advanced resources that are required for cutting-edge technological projects in other ICT sectors. NF aims to fill the knowledge gap in these areas by planning advanced specialized incubation programs in collaboration with local private-sector incubators and international renowned specialized institutions.

B. Economic Impact of the ICT Sector (C12++)

1. *Contribution of ICT sector in the national economy*

No information available.

2. *Trade in ICT goods and services, and ICT-enabled-services (e-Trade)*

No information available.

3. *E-business*

All local banks in Kuwait offers well-diversified and sophisticated electronic services through their online portals to their clients. In addition, there are many effective e-commerce websites. Such portals and websites are gender neutral. B2B and B2C applications in Kuwait are very mature. The following e-business models exist in Kuwait:

- B2B
- B2C
- C2C
- C2B
- Government / Public Administration E-commerce

Gender differences are not considered in model designing.

E-Payment systems are available and widely used in Kuwait. For instance, Tasdeed is available for the public and is provided by partnership between Ministry of Finance and KNET Company.

Regarding persons with disabilities, the Central bank of Kuwait issued regulations on 15 July 2015 regarding the banking services provided to customers with special needs. These regulations set the minimum requirements which banks are required to offer to their customer with special needs, which includes the online banking services.

Laws/services	Available?	Law number	Year Passed
e-banking services	*Yes*	Law No. 32 of the year 1968 concerning currency, the central bank of Kuwait and the organisation of banking business	1968
e-commerce law	*Yes*	Law no. 20 of year 2014 concerning electronic	2014

		transactions.	
Name other laws on e-services	Law no. 20 of year 2014 concerning electronic transactions.		2014

4. Employment in the ICT sector

Two authorities in Kuwait handle employment; Civil Service Commission for the public sector and the Public Authority for Manpower handles employment for the private sector.

Information technology affects the growth of employment in many ways, including saving time and effort, facilitating transactions, employee's fast delivery, reducing pressure on employees by auditors. The impact of ICT on employment growth in several directions include:

- A significant shift in the labor market as ICT has created new jobs and made labour markets more innovative.
- ICT helps to increase employment opportunities associated with ICT in government agencies.
- Complete recruitment procedures through the use of ICTs, giving new and more flexible forms of employment and services.
- ICT creates opportunities, but at the same time poses a challenge to employment, requiring staff to keep up with the new development and modernization of ICTs.
- On the other hand, ICT reduces the demand for jobs that have been automated.

ICT has contributed to job creation for youth and females, especially in ICT-related jobs in government agencies.

ICT could be a labour substitute in some cases. For example, an Authority has provided an e-service to facilitate transactions procedures for business owners electronically, thus, the business owner might reduce the number of their employees as they can do the transactions themselves through the e-service instead of hiring a transaction agent within their organization. In the same connection, automation of processes and procedures within ministries and government agencies led to a less dependence on the human factor, which resulted in a reduction in the number public employees.

Success stories:

1- **Civil Service Commission (CSC):**
   - CSC MOTAKMEL systems, with the participation of a large number of national cadres in the field of ICT, contributed to the creation of employment opportunities of new national cadres.
   - The Civil Service Commissions is hiring newly graduated national cadres in addition to offer special training and rehabilitation deprograms to qualify candidates to work in the field of ICT. By doing that, CSC gears its efforts to address one of the main obstacles in this regard which is the lack of the required number of national cadres qualified to work in ICTs.

2- **Public Authority of Manpower:**

The Public Authority of Manpower, since its inception, has developed several systems pertinent to employment promotion. Among the most important achievements:

1. It started with the establishment of the As-hal Service ("خدمة أسهل"), which is one of the most important services in the country. It helps facilitating the procedures needed to recruit employees for business owners, as well as, handling all the transactions online.
2. Providing a labour service to benefit all types of workers and enable them to submit their transactions electronically, submit complaints and inquire about absentee reports.
3. Establishment of a labour inspection management system. The management staff was provided with a smart device that assists them in the inspection process. The Authority also has conducted training courses for the employees and explained how to deal with the system and the smart device.

4. The Authority is linked with 12 government agencies.
5. Automating the system of labour relations and automating all types of complaints.

The Authority is still in the process of developing its regulations and providing the best services to assist its own employees and the auditors.

In this regard, Information technology can increase the work effectiveness and efficiency while decreasing the number of workers, and that can be clearly seen in audits process. Previously, audit process starts by search among the pile of hardcopy files, then checking each file to see whether it meets the requirement. Such process takes a lot of time, effort and more people to perform. But now, as the process is done electronically by the system, it only takes a few minutes and a few clicks to get the required data, which made the process faster, efficient with less or no errors and less workers needed to complete the audit process.

In general, ICTs contribute significantly to increasing the production efficiency and reducing the cost of production of goods and services through:

- Better identifying and responding to the needs of citizens and employees.
- Keeping abreast of what is new, taking advantage of the information and communication.
- Adopting methodologies that support standardization, facilitation and prompt implementation of procedures to ensure citizen satisfaction and service quality.

5. E-employment

ICT provide means to locate employment by publishing job advertisements in social networking websites or by submitting applications over through the internet. Nowadays, there are many electronic applications that assist in publishing advertisements, where also applicants in Kuwait can submit their documents electronically either via e-mail or by uploading the documents on the site). For instance, The Civil Service Commission in MOTAKMEL systems uses different methods, including the following:

- Announcements about the vacancies and the dates of registration for recruitment and nomination.
- Send text messages to provide citizen follow-up on all recruitment procedures.
- KIOSK provides many services at different location to citizens and employees.
- User account for each employee on the CSC-portal.
- National Central databases for all employees.
- National Central databases for Job seekers.
- Résumés for all employees.

IV. Cluster Four: Digital Transformation and Social Inclusion Policy Areas

A. Inclusive and Empowering Access to relevant information, knowledge, applications and Content (C3)

1. *Inclusiveness (access): Availability, Development, Affordability, and Adaptability*

The State of Kuwait has been a pioneer in providing information to the Public via different channels using the internet with no gender sensitivity. Different internet plans are available for households, schools, businesses, government agencies, etc. Internet services are provided by ISPs and telecom companies, regulated by CITRA, to cover all the Kuwaiti Society's needs with different plans that vary in price where customers choose the appropriate plan that fits their need versus budget.

In terms of adaptability, the Kuwait e-Government Portal was designed using international standards for persons with special needs for inclusiveness purposes.

An additional means of access for the public are cafes and shopping malls where Wi-Fi open networks are available.

2. *Empowerment (use): Educational, Entertainment, Political Engagement, Economic Returns*

It is noticeable that women in the State of Kuwait have been empowered over the recent years. By taking high level positions in different sectors and participating in the decision-making process for the advancement of major projects nation-wide, owning and running successful businesses in the private sector, participating in the political and academic sectors. In short, women are active in all fields that are directly connected to the Information Society and SDGs, and this is clearly reflected in and covered by the traditional and social media. [17]

B. Capacity building on ICT4D/Digital Development (C4)

1. *ICT in Education and Training (including e-Learning)*

a. Basic literacy

In general, Ministry of Education (MOE) already initiated some efforts to improve educational services to deliver education to all possible segments, nevertheless, MOE already improved the mechanism and increased the number of channels to provide learning in a simple and complimentary way. For basic literacy, MOE now have number of 4 schools without any increase from 2018. All these efforts are reflected into increasing the citizens' maturity an level of awareness the importance of learning, at least learning the basics.

As per the records, Kuwait has the following numbers:

- For basic literacy (Elder - Intermediate level) "تعليم الكبار متوسط", there is a number of 3,576 students, and for basic literacy (Elder - High level) "تعليم الكبار ثانوي", there isa number of 8,311 students.
- The total number of schools is 4 schools, each of them is well equipped and provided with many facilities such as a free internet access "**Wi-Fi**" along with computer labs, for example.

b. Primary and secondary education

MOE developed and keep maintaining its own software applications, when required, along with many online services. This includes a modern Arabized website that integrates with many external and internal services and connected to all popular social media sites such as Twitter, Instagram, YouTube and Facebook.

[17] KUNA Article (11/03/2019), Kuwait Times Article (02/08/2018), Kuwait times Article (28/10/2017), Women Culture & Social Society (since 1963).

An example of MOE applications is "Kuwait Educational Portal" which is run and maintained by MOE staff to serve almost 728,000 concurrent end-users (students, mentors, teachers, school administration staff, parents, and technical staff). MOE also developed many other software applications such as Students information System (SIS), Teachers information System (TIS) and electronic documents management system and much more.

MOE also gives attention to include easy and attractive mobile applications for both platforms: iOS and Android, which are designed to help end-users getting a service in simple way and for free.

Moreover, these huge efforts that are exerted not only in the technological/software side, but also expanded to enhance the architecture of learning, including educational tools and equipment along with locations in addition to the teacher's personal skills and awareness. In this regard, there are plans to keep this growth in the aforementioned aspects as a strategic goal to support the supreme vision of His Highness the former Emir of the State of Kuwait, Sheikh Sabah Al-Ahmad Al-Jaber Al-Sabah, which clearly states that this right to education is equal to all citizens and is mandatory for ages from 6 to 18 years.

For primary and secondary education, MOE also have continual projects whether in development or knowledge quality. To overcome the problem of continued population growth and the required resources to support students, MOE built a number of 890 schools for all levels which are distributed across six governorates. These schools are equipped with internet service and monitored by network cameras.

MOE already initiated some efforts to improve the educational services to deliver education to all. MOE already improved the mechanisms and increased the number of channels to support and facilitate the learning provision. In this regard, the number of registered distance learning students are 5,578 students.

Regarding technology adoption, MOE early recognised the importance of having adequate IT infrastructure as it facilitates and supports all the activities within the education system. For instance, MOE built a modern Data Centre to manage all technology services and to maintain any service MOE provides. In addition, MOE recently started using cloud services to make sure that its services will not be stopped or interrupted for any reason,

At MOE, there is a healthy variety and diversity of technologies to develop, manage, monitoring and operate the huge infrastructure on premises such as Microsoft SharePoint, Oracle, .NET, JAVA, MS SQL Server and many other tools.

MOE also achieved many rewards as the best website and best web-services provider amongst all GCC ministries.

Please refer to the table hereinafter for more details:

	Students	Schools
	Current	Current
Kindergarten - رياض الأطفال	42,168	200
Elementary - الابتدائية	157,405	271
Intermediate - المتوسط	121,676	217
High / Secondary - الثانوي	76,272	145
Religious Institutes (I) - المعاهد الدينية المرحلة المتوسطة	1,312	4
Religious Institutes (H) - المعاهد الدينية المرحلة الثانوية	1,308	7
From Home – General - تعليم المنازل – عام	1,565	12
From Home– Religious - تعليم المنازل – معاهد دينية	**4,013**	12
Distance learning - التعليم عن بعد	0	0
Special Learning (E) - التعليم الخاص للمرحلة الابتدائية	274	6
Special Learning (I) - التعليم الخاص للمرحلة المتوسطة	257	6
Special Learning (H) - التعليم الخاص للمرحلة الثانوية	193	6
Basic literacy (Elder) (I) - تعليم الكبار متوسط	3,576	2

Basic literacy (Elder) (H) - تعليم الكبار ثانوي	8,311	2
GRAND TOTAL	418,330	890

c. Higher education

General Secretariat of Private Universities Council:

There are mainly two major applications for private universities:

1- Staff Management information.
2- Student Management information.

Public Authority for Applied Education and Training (PAAET):

In PAAET, a full education system that fulfills all sectors is implemented. Complete information of the students, teachers, resources, courses and grades obtained by the students are digitally stored and processed. There is an e-learning system where students can register for courses and workshops online. Some of the other examples of education systems implemented in PAAET is SIS.

Currently, virtual universities are not accredited in the state of Kuwait. However, ICT is used to allow access for students and staff members for teaching purposes. Plus, there are libraries of e-content available. Social media is also heavily used by students and staff members for connectivity and communication purposes, taking into consideration the adaptability for persons with disabilities. Students can also access the learning materials through self-learning channels like Moodle provided by PAAET.

d. Training and other forms of education:

- Online libraries are provided for researchers so as to access the research papers of their interest.
- Laboratories are equipped with computers, internet and other facilities.
- There are e-learning systems where the workshops and training can be registered online and benefitted by students.
- Computer Centers provide training for teachers and other participants on the existing/newly implemented ICTs.
- Trainings are accessible for the persons with disabilities and are provided with disability aids.
- A cybersecurity academy will be built and run by CITRA to ensure the growth of the pertinent national skills.

One of the major obstacles is the adoption of ICT by the people in the organization. In this regard, PAAET succeeded in enforcing ICT during the last four years by providing all necessary hardware, software, tools and trainings. One of the notable successes is the implementation of office 365, the largest implementation in Kuwait, for 60,000 users.

2. Targeted Training programmes (for capacity building on the use of ICT4D)

- Civil servants: In order to provide a long standing policy, civil servants require the following trainings: knowledge of system analysis and design, understanding complex policy problems, project and risk management, procurement, business management, commercial law and economics, finance and investment, and audit and control. Professional civil servants need to be future-oriented, adopt evidence-based approach, innovative, and able to adapt to changes.
- Women: Basic IT and social media literacy, and basic accounting principles.
- Youth: Basic IT literacy, software development, web development (HTML), game development, animation.
- People with Disability: Basic IT literacy.
- Elderly: Basic IT and social media literacy.

The education level, language, access to market and access to network are among the major challenges facing women, youth, elderly and the people with disabilities in this regard. Youth employability requires important integrated efforts that include actions in the areas of education, skills development, job supply and support for young low-income entrepreneurs, particularly in the knowledge intensive sectors. The participation of young

people in the development and implementation of initiatives that use ICTs to create job opportunities is likely to be a key factor in the success of such initiatives.

Though wealth of knowledge, skills and expertise have been the major hurdles in implementing ICT4D, now all the above groups possess the required knowledge at least to fulfil their basic requirements using ICT.

C. ICT applications (C7)

1.E-Government

The ICT strategy is under process by CITRA. It is to ensure the technological readiness for the public sector. The digital transformation projects are also part of the plan to ensure seamless operations and services delivery. Assessments are to be conducted during the exploration stage and studies preparation of the ICT strategy.

- **G2G (Government-to-Government) interaction between local and central governments:**

  The G2G project is one of the most important applications of e-government. Through this project, government agencies can exchange government correspondence electronically among themselves, thus speeding up the work cycle within a framework of accuracy and confidentiality.

  The number of beneficiaries of this project is currently 83 government agencies which constitutes 91% of the total number of government agencies in the State of Kuwait. Work is going on to coordinate with the rest of the bodies that have not yet participated as well as a number of 9 government agencies to be linked with the Kuwait Information Network (KIN), which qualifies for the benefit of the services of this project.

  Moreover, The Council of Ministers issued both Resolution No. 412 of 2014, which obliges government agencies to start using the electronic correspondence project among themselves using modern applications, binet Resolution No. 445 of 2016, which stipulated the adoption and circulation of electronic correspondence of January 2017, provided that manual correspondence between the authorities should be stopped..

  It is worth mentioning that the applications and programs that are operated all government agencies benefiting from this project are designed and developed by specialized national cadres from the Central Agency for Information Technology (CAIT). The government agencies are provided with different versions of such program without any financial burdens.

- **G2C (Government-to-Citizen) delivery models and government portals:**

  The Government Portal is run by CAIT and is available online through http://www.e.gov.kw. CAIT is currently in the process of developing a mobile-friendly version.

- **G2B (Government-to-Business) interaction between local and central government and the commercial business sector:**

  CAIT has completed a framework for the participation of private sector companies effectively in the field of consultation and implementation of IT projects in the country in alignment with the 2030 vision to implement the SDG.s The framework consists of several stages that are already completed, including developing a system for the process of registering and qualifying applied companies. This process aimed to reduce the risks of delay or failure to implement projects and government initiatives, improve the quality of pertinent products ranging from systems, electronic equipment and services, and to enhance performance and efficiency in the private sector by creating a transparent competitive environment. The new registrations and qualifications system aim to achieve many benefits to the system users, namely national and foreign companies. The most important among these benefits are:
  - Saving time and effort in performing registration procedures.
  - Providing many necessary visits by representatives of companies and institutions to review the specialists of the Central Information Technology.

- Reducing significantly the number of visits to the premises by corporate and company representatives.
- Increasing the accuracy of recorded data.
- Avoiding repetition of data entry as the recorded data is saved automatically in an orderly manner that is easy to be retrieved.

All necessary steps of the system for registering and qualifying the companies are carried out immediately through the official website of the State of Kuwait (www.e.gov.kw). This includes all necessary data and supporting documents to be studied and reviewed by CAIT. All the steps are automated, starting from data entry to the issuance of the qualification certificate, which is issued and received electronically (e-Certificate). During the process and before receiving the e-Certificate, the registered companies receive a link for electronic payment (e-payment) through an automated system. The system also provides easy way to publish all type of reports.

It is worth mentioning that the registration and qualifying system accommodates all the major and sub areas of specialization in the IT sector. It includes 11 major fields and 73 sub-fields. The number of registered companies in these fields, until 7/3/2019, are 376 companies working in the field of IT in Kuwait. 276 companies thereof have received e-certificates in 2019 and other applicants are in the process of qualification study.

Name of Authority in Charge of ICT in Public Administrations	**English Name**: Council of Ministers General Secretariat **Arabic Name:** الأمانة العامة لمجلس الوزراء **URL:** www.cmgs.gov.kw
Name of e-Government authority	**English Name:** Central Agency for Information Technology **Arabic Name:**الجهاز المركزي لتكنولوجيا المعلومات **URL:** www.cait.gov.kw
Number of implemented government e-services	950 e-services provided by 49 agencies 993 content informative services by 49 agencies
Number of planned government e-services	337 planned e-services for 2019/2020

URL of e-government portal: https://www.e.gov.kw		
Information	General	*Yes*
	Laws	*Yes*
	Directories	*Yes*
Services	Static Info	*Yes*
	Downloadable Forms	*Yes*
	Interactive	*Yes*
e-payment		*Yes*
Online account		*Yes*
Bilingual		*Yes Arabic/English*
Citizen Participation	Blogs	*No*
	Polls	*Yes*

Social Media	Facebook	*Yes*
	Twitter	*Yes*
	LinkedIn	*No*
	YouTube	*Yes*
	Other	*Instagram*
Additional Services	RSS	*Yes*
	Web Statistics	*Yes*
	Search	*Yes*
Mobile version	Support for smartphone/tablet	*Yes*
	Dedicated App (iOS or Android based)	*Yes*
Other features		*Read Speaker (Text to Speech Synthesis)*

2.E-health

Kuwait has a complex health information system. A lot of good quality data is generated on morbidity, mortality, vital health statistics and utilization from all levels of health care delivery. Detailed statistics are available for primary, secondary and specialized care. However, there are separate systems of data collection for primary health care facilities and secondary & tertiary health care hospitals in addition to separate reporting systems for preventive and curative care. Other than regional offices, there are 3 central departments involved in data collection and management namely, department of statistics and medical record (collects data from public and private hospitals), public health department (concerned only with preventive services data), primary health care department (receives data on OPD from Primary Healthcare Centers-PHC centers). Various health programs generate their own reports which are not part of the routine information system. In addition, Central Information Systems Department (ISD) deals with computerization, networking and developing software programs.

The department of statistics and medical record is the main department responsible for the management of information including data and statistics exchange and publications within the Ministry of Health. It undertakes compilation, statistical analysis and reporting of health data in the country. The data is collected through its offices in the health regions, which is compiled and analyzed on monthly basis. It regularly publishes quarterly and annual health statistics reports. The department has health registration, medical records and health statistics sections. All the births and deaths in the country are registered. For each new-born a separate file is prepared and maintained in the health facility's catchment area. In addition, all the people entering Kuwait are also registered. The department shares the responsibility of registration of expatriate workers with the legal department in the Ministry of Health. Medical records section is responsible mainly for all the records of country's hospitals and clinics. It collects data, develops formats for reporting and conducts trainings for the staff in filling the forms and reports. Data from primary healthcare centers and preventive services is reported separately to the respective departments and then it reaches the department of statistics and medical records statistics, where all the data is compiled, and reports are generated on quarterly and annual basis. These reports are disseminated to the Ministry of Health, regional health offices and sometimes to the hospitals and clinics.

The department of public health in the Ministry of Health is mainly responsible for the prevention of diseases. It has 4 divisions:

1. Disease control division responsible for prevention and control of communicable and non-communicable diseases, environmental sanitation, food handler's services and epidemic control.
2. Port and border division, which enforces international health regulations and responsible for screening of expatriates for communicable diseases, HIV/AIDS, TB and hepatitis.
3. Public health laboratory with sections on microbiology, hemp-chemistry virology and malaria control.
4. Rodent and insect control division.

The department of public health department receives data on preventive services directly from the health centers and hospitals and it issues a detailed weekly report that includes EPI, disease surveillance and other preventive activities. The information is also sent to the department of statistics and medical records.

The department of Public Health also has seen substantial improvement in their services through computerization of the following areas of their operation:

- The IT department in liaison with the Public Health Department recently rolled out the Preventive and Immunization Module to all its centers located at PHC centers throughout Kuwait.
- Pre-Marital Screening Module was rolled out to all the Pre-Marital Centers with direct data transfers from Shaab Virology Lab and Hematology and Infectious Labs of Maternity Hospital.
- Expatriate System was rolled out to all centers of Ports and Borders division needs for screening of expatriates.
- A prototype is currently under testing for the Food Handlers Examination section of Ports and Borders Division.

The flow of data is quite intricate. From Primary health care centers, patient record and outpatient data is entered in the computers by the statistical clerks and reported manually to department of statistics and medical records and copies sent to regional health directorate. The outpatient data include, new and follow up cases, nationality and morbidity along with personal information of each patient. Data on preventive services goes directly to the central department public health. From secondary and tertiary care levels, number of outpatients and detailed inpatient data is reported to department of statistics and medical records as well as to the regional health office, while preventive services data flows separately to the public health department. Each regional and specialized hospital has a statistical unit within a medical records department which is responsible for collecting morbidity and inpatient data. Administratively, the unit belongs to the region. Outpatient clinics and operation theatres have their separate data collection and reporting system. In all, a hospital sends 8 different reports (forms) to the department of statistics and medical records through regional office every month. They send weekly reports to the director of the hospital. Hospitals also generate their own detailed annual reports.

The IT department is in an advanced stage in the process of computerizing the data collection by the Statistics Department from the specialized hospitals. Since the statistics department personnel are already located in hospitals, this application is expected to be rolled out in the shortest possible time.

Another addition to the Health Information System is overseas treatment for Kuwaiti nationals. This department has health offices in UK, Germany, US and some other countries to handle their patients' affairs. This too is being managed electronically, thereby making it possible to integrate the data to the Patient Electronic Medical Record.

- Sourcing of Data

Some of the external agencies from which information is sourced by the Ministry of Health (MOH) are:

- Pubic Authority for Civil Information (PACI): PACI provides on a monthly basis demographic data which helps in taking note of new entrants to Kuwait, movements of people from one residential area

to another within Kuwait, change of nationality from non-Kuwaiti to Kuwaiti etc. This also supports many applications like PCIS, Health Insurance, Hospital Information Systems and other systems. Data transfer is by way of CDs. It is expected to have G2G online data transfer very soon through KIN network.

- Civil Services Commission (CSC): Registration of sick leave requests by government employees are transferred to PCIS system and processed when the employee visits the PHC centers. Processed information is fed back to CSC for their sick leave management for the employees. Both ways data transfer is done electronically.
- Ministry of Interior: Collection of data pertaining to expats arriving at the borders and ports of Kuwait. This is then handled through the Expatriate Information System electronically.

No.	Health care system	Level of Maturity			Implementation Status
		Preliminary	Intermediate	Advance	
1	Patient Care Management			✓	✓
2	Digital record keeping			✓	✓
3	Pharmaceutical Management		✓		✓
4	Databases for national healthcare			✓	✓

Pharmaceutical Management is implemented in all MOH medical facilities and are operational. An e-prescription project is underway, which will enable public and private pharmacies to be integrated under the same protocol. Of course, the project requires approval from financial, governance and regulatory bodies for taking it forward.

MOH Information Systems Department has a service portal which is being hosted by a data center and reaches out to all the people of Kuwait to help alert, monitor, and control the spread of communicable diseases and to provide medical and humanitarian assistance in disasters and emergencies.

Furthermore, there are social media and text message services for the entire population of Kuwait to provide information on outbreak and control of any emergencies.

➢ Success Stories:

MOH has launched many e-services, some thereof are:

- Hospital & Clinic Online appointments;
- Vaccination history;
- Health Insurance service for expatriate;
- Medical licenses application for medical professionals;
- Pre-marital medical examination;
- Many more services as listed on the portal under e-Health services.

➢ Hurdles:

It becomes imperative that, while hosting any service online, MOH Information System Department (MOH-ISD must have suitable comprehensive security measure of data privacy and confidentiality. MOH-ISD needs full support from various department of MOH and other agencies to fast-track and ease the process of procurement of required technologies in short period of time. Currently, it takes couple of years to implement any IT project, which is a very long period due to the obsolescence of the for any requested threat prevention and security technology and other new technologies become in the horizon fora as these threats of security breaches are evolving every day.

V. Cluster Five: Culture and Media Policy Areas

A. Cultural identity and linguistic diversity (C8)

Use of ICT in support of cultural and linguistic diversity

One of the prominent examples of using ICT to support cultural diversity in Kuwait is in the education sector. The Ministry of Education and the National Center for Educational Development of Kuwait, through the ICT working Group, make great effort to ensure cultural diversity while developing ICT curriculum and Standards Component to be taught in Kuwaiti school. They Support an inclusive curriculum, thus helping students to be aware of Kuwaiti cultural diversity and promote respectful relations with others.

B. Media (C9)

1.Media diversity, independence and pluralism

No information available.

2. The media and its role in the Information Society

The constitution guarantees freedom of opinion, freedom of the press and freedom of communication. The media in Kuwait are mainly privately-owned newspapers and are largely independent and diverse in their reporting.

The traditional media (radio, television and the press) is still considered the main reliable source of information for bridging the knowledge gap, which is based on the dissemination of official information by local and international correspondents. Traditional media cannot be dispensed with because they are still a source of reliable information for many members of society. Particularly, Radio Kuwait is a key element in bridging the knowledge gap, especially in remote areas.

All media materials are broadcast through a traditional media channel (radio waves) and there are competent bodies in the Ministry of Information to supervise the quality/content and length of broadcasting. Kuwait has a pioneering role in empowering women in all pertinent fields.

The News and Political Programs Sector - Arabic Television is committed to delivering the news to viewers with transparency and clarity.

The sector is keen to cover the local and international scenes and to cover the latest events using traditional media, in order to bridge the knowledge gap and facilitate the flow of knowledge and news. The use of new media is also prevalent in the dissemination and use of information because of its great impact in various aspects of life

The sector is keen on the equality of women and men in all functional rights. At the same time, women make up at least 50% of the total number of employees in the jobs of editing news and preparing political and economic programs in addition to working in all other departments.

3. Convergence between ICT and the media

No information available.

4. Social Media in the Arab World

The Department of Media Services and New Media at the Ministry of Information highlights the role of social media in raising awareness and building the information society. This is done through employing information technology in the dissemination of programs, seminars, conferences and courses related to building the information society. This is in addition to covering media activities and disseminating them using the social media accounts of the Ministry of Information. This is all done while keeping abreast of the rapid developments of communications and information technology. These tools of communication contribute to the diffusion of information and enhancing the community access to information.