



Training Toolkit on Government Innovation for Social Inclusion of Vulnerable Groups

Module 8

Digital Government and Frontier Technologies for Promoting Social Inclusion of Vulnerable Groups: Potentials and Challenges





Contents

1. Harnessing Digital Government and Frontier Technologies for Social Inclusion of Vulnerable Groups
2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable Groups
3. Challenges in Advancing Inclusive Digital Solutions and Policy Considerations

Learning objectives

- To enhance understanding on how to use digital government tools to address the specific needs of vulnerable groups
- To provide understanding on obstacles and solutions of digital government tools and frontier technologies for social inclusion of vulnerable groups

1. Harnessing Digital Government and Frontier Technologies for Social Inclusion of Vulnerable Groups





1. Harnessing Digital Government and Frontier Technologies for Social Inclusion of Vulnerable Groups

Transforming Public Services through Digital Government

- Digital government is a cross-cutting element contributing to the creation of people-centred public services
- In principle, digital government has evolved through 4 stages:
 - Digitalization (technology in government): establishing government portals, and providing online access to public services
 - Transformation (electronic government): reengineering administrative processes, and enabling collaboration between government agencies
 - Engagement (electronic governance): utilising social media to engage citizens in government decision-making, and making government data available for businesses to build public services
 - Specialization (policy-driven electronic governance): supporting development in e- education, e- health, e-economy and other e-sectors, and supporting local communities and vulnerable groups in addressing their needs.





1. Harnessing Digital Government and Frontier Technologies for Social Inclusion of Vulnerable Groups

E-Government and Digital Government

- **E-Government** is the use of ICT and its application by the government for the provision of information and public services to the people.
- **Digital government** is the use of digital technologies, as an integrated part of governments' modernization strategies, to create public value. It relies on a digital government ecosystem comprised of government actors, non-governmental organisations, businesses and other stakeholders which supports the production of and access to data, services and content through interactions with the government.
- **Frontier technologies** have the potential to disrupt the status quo, alter the way people live and work, rearrange value pools, and lead to entirely new products and services: such as the use of **big data**, **artificial intelligence**, **Internet of Things**, **blockchain**, etc.



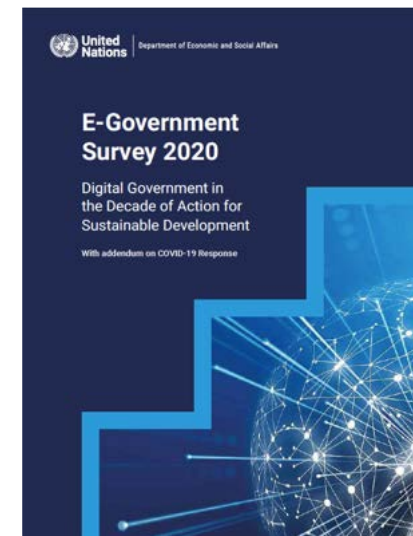


1. Harnessing Digital Government and Frontier Technologies for Social Inclusion of Vulnerable Groups

Digital Government and the 2030 Agenda

According to the UN E-Government Survey

- Digital government has a huge potential to support the transformation towards sustainable and resilient societies.
- Digital government and the use of frontier technologies also contributes to a better social inclusion of the poor and vulnerable and help them to become resilient.



<https://publicadministration.un.org/en/Research/UN-e-Government-Surveys>





1. Harnessing Digital Government and Frontier Technologies for Social Inclusion of Vulnerable Groups

Global Trends in E-Government – UN E-Government Survey 2020

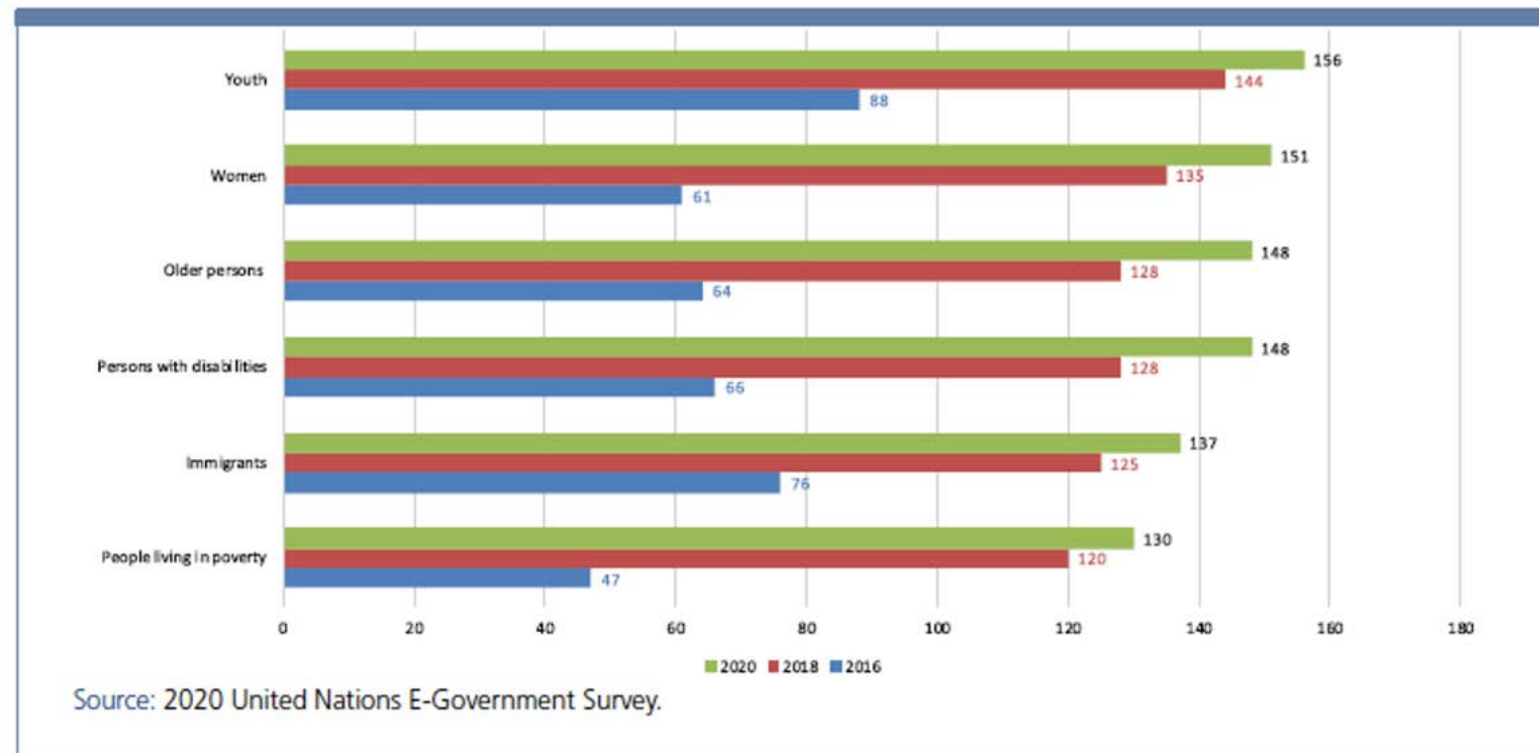
- **E-government development levels have improved globally across all regions and all income groups and among countries in special situations.**
- **Online services provision is expanding and may enable Governments to be more efficient, open, transparent and inclusive.**
 - *In pursuit of the 2030 Agenda's objective of leaving no one behind, between 67 and 80 per cent of the United Nations Member States offer specific online services for youth, women, migrants, older people, persons with disabilities, and those living in poverty.*
- **National portal functions are increasing.**
- **Governments are sharing more information with the public.**
- **Trends in mobile services provision are improving.**



1. Harnessing Digital Government and Frontier Technologies for Social Inclusion of Vulnerable Groups

Growing Trend of Using Digital Government Tools for the Inclusion of Vulnerable Groups

Figure 1.10 Numbers of countries providing online services to vulnerable groups, 2016, 2018 and 2020





1. Harnessing Digital Government and Frontier Technologies for Social Inclusion of Vulnerable Groups

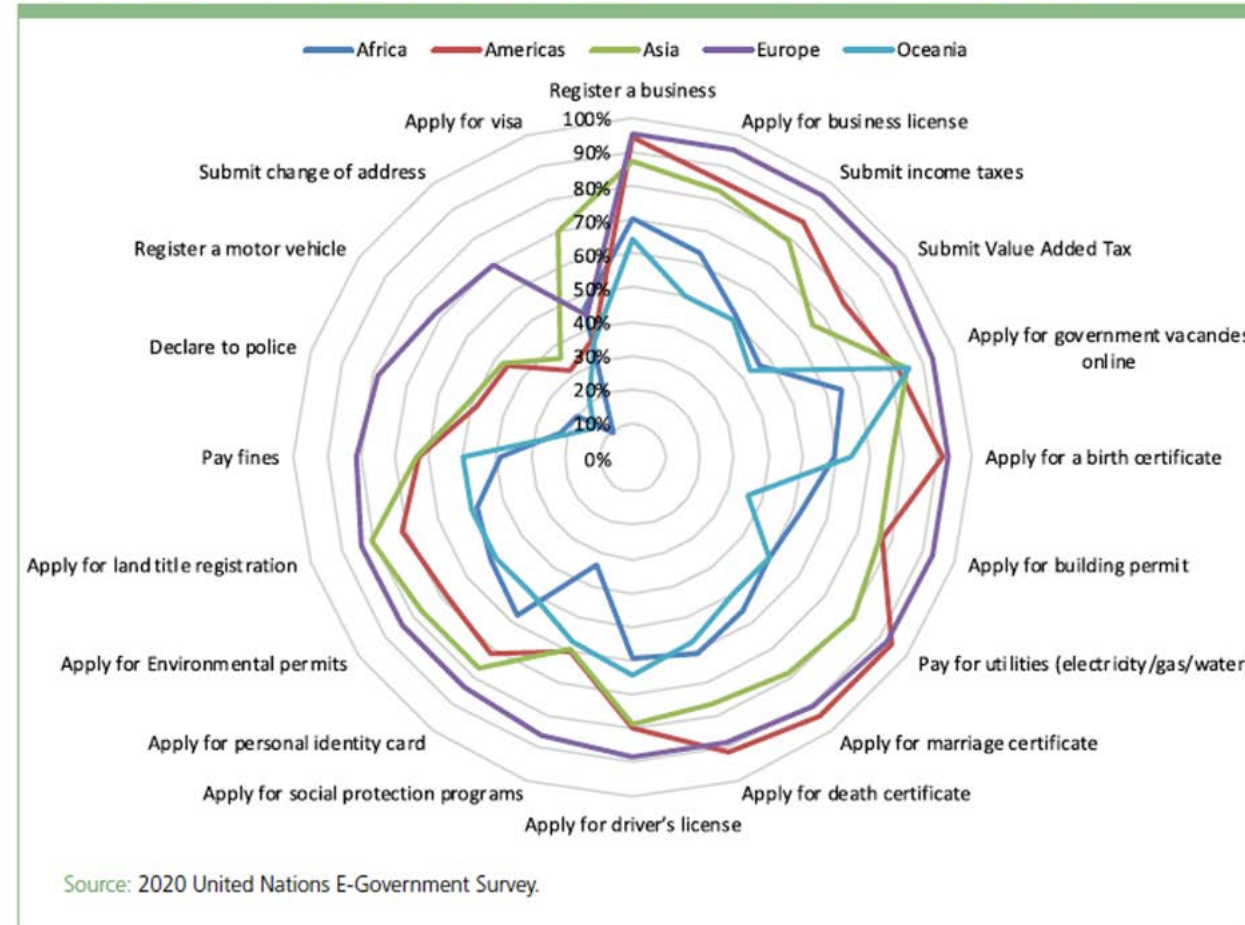
How Digital Tools Improve Social Inclusion of Vulnerable Groups - An Overview

- Increase access to information about public services for vulnerable groups
- Provide people from vulnerable groups with legal ID as a prerequisite of various public and societal services
- Reduce administrative burden for vulnerable groups and improve service delivery for vulnerable groups
- Help better targeting of public services for vulnerable groups
- Improve disaster management in order to protect vulnerable groups
- Facilitate the participation of vulnerable groups in public service innovation



1. Harnessing Digital Government and Frontier Technologies for Social Inclusion of Vulnerable Groups

Figure 2.6 Percentage of countries in each region offering online services, 2020



Source: UN E-Government Survey 2020



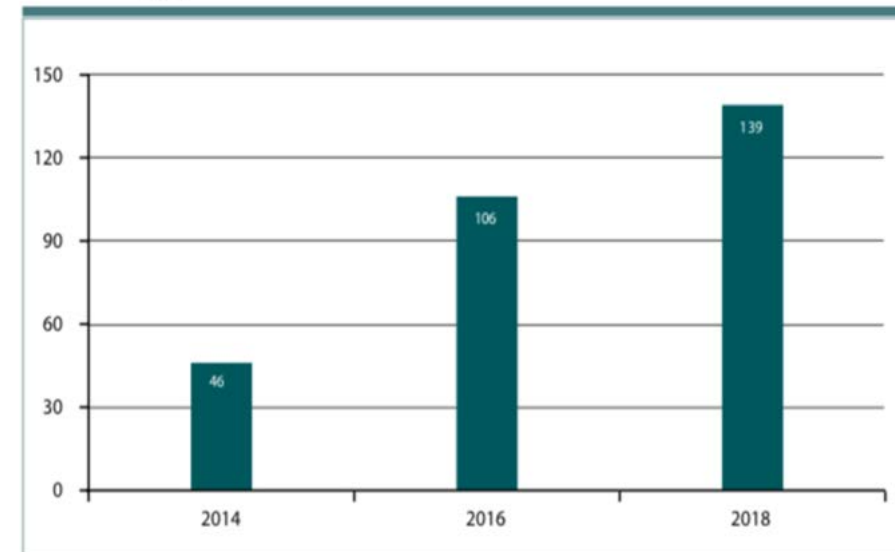


1. Harnessing Digital Government and Frontier Technologies for Social Inclusion of Vulnerable Groups

Open Government - Increasing Access to Information about Public Services

- The **concept of open government** aims at empowering citizens by providing them easy access to governmental data.
- Open government data helps implementing the 2030 Agenda
 - by providing transparency and accountability
 - by **improving access to public service for vulnerable groups**
- **Digital government is a key enabler for open government:** many countries provide open government data through dedicated open government data portals, websites or catalogues.

Figure 5.18 Countries with Open Government Data Portal and/or Catalogues in 2014, 2016 and 2018



Source: UN E-Government Survey (2018)





2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable groups





2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable Groups

Bangladesh – Access to Information (a2i) (1)

- The Bangladesh a2i initiative demonstrates how digital service platforms improve transparency and quality of public services and bring it closer to the citizen
- It is an excellent example how digital government tools can be used to transform government services for citizens, in particular vulnerable groups, in a comprehensive way as a whole-of-government programme
- Goal: building a digital nation through delivering public services at citizens' doorsteps by
 - Widening access, especially of the underserved
 - Decentralizing delivery
 - Improving quality



Source: <https://a2i.gov.bd>



2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable Groups

Bangladesh – Access to Information (a2i) (2)

Main Elements:

- National E-Government Service Portal
- Decentralized One-Stop Service Centers
- Service Process Simplification
- One-Stop Land Use Portal
- Digital Financial Services
- Innovation Lab & Innovation Fund
- Skills Development Portal
- SDG Tracker: data for policy design & evaluation



Source: <https://a2i.gov.bd/about/>



2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable Groups

Bangladesh – Access to Information (a2i) (3)

- The a2i government service portal “Shebakunja” is helps vulnerable groups to better access public services; provides detailed information about all citizen-centric services
 - All information can be obtained without having to visit the authorities
 - People without internet access can visit one of the local digital service centers
- More than 5000 decentralized **one-stop Digital Centers at local level**
- **Multi-channel delivery:** citizens have the choice
 - To apply for services online from home
 - To apply for services online at a service center
 - To apply in the traditional way at a service center



Source: <https://a2i.gov.bd/one-stop-shop-2/>



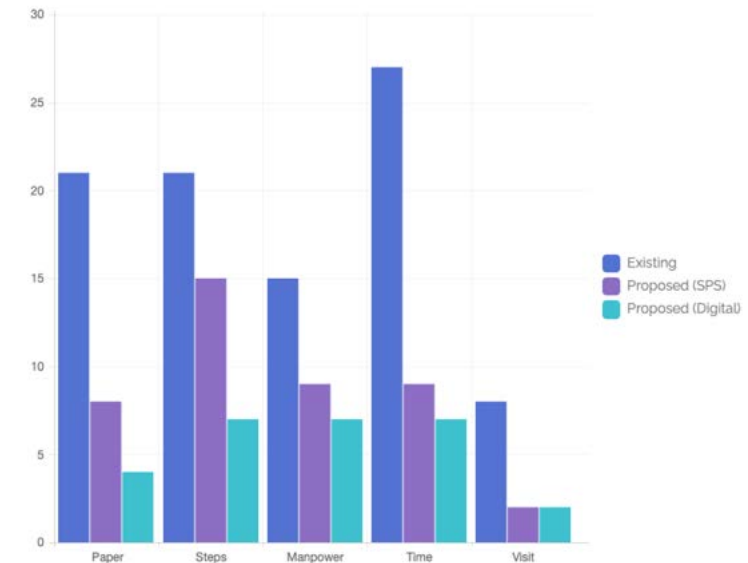
2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable Groups

Bangladesh – Access to Information (a2i) (4)

Service Process Simplification (SPS)

- Equipping civil servants with a tool to simplify access to public services thereby reducing the time, cost and number of visits (TCV) required for citizens to access them.
- Maps of the entire service delivery processes end-to-end
- Elimination of **unnecessary steps** and replacement of paperwork by e-files
- Redesign into a more **easily accessible** platform for citizens from a greater number of delivery-points

Existing & Proposed Primary Pension System



3600+ Public Servants
trained in simplifying government services

424 Public Services
simplified for better delivery

62+ Public Offices
sensitized to simplify service processes

More than 1
service transformed in every public office every year

Source: <https://a2i.gov.bd/e-governance/>



2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable Groups



World Bank ID4D Initiative - Providing people from vulnerable groups with legal ID through digital ID systems (1)

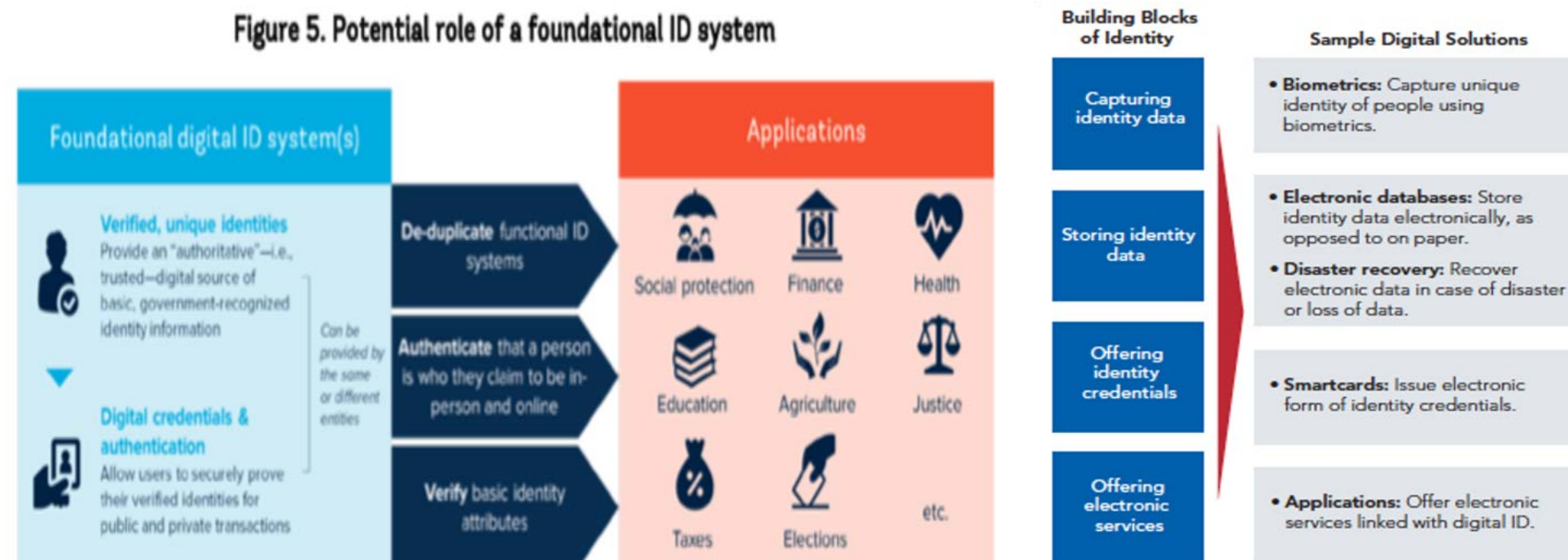
- Digital ID systems are a powerful tool to identify vulnerable groups and enable better access to public services, as mentioned in Module 4 and 6
- The World Bank ID4D initiative supports countries to build inclusive identification systems, including civil registration, using digital solutions
- Goal: to enable people to access public services and exercise their rights, supported by digital identification
- Introducing digital ID systems requires dedicated strategy how to include people from vulnerable groups



2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable Groups

World Bank ID4D Initiative - Providing people from vulnerable groups with legal ID through digital ID systems (2)

Figure 5. Potential role of a foundational ID system



Source: World Bank ID4D Practitioner's Guide,



Refer to **Module 5 Identifying Vulnerability and Vulnerable Groups**



2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable Groups

New York City, United States - ASL Direct

- The City of New York introduced ASL Direct, a video call system that integrates the use of sign language, to provide residents with hearing disabilities with direct access to city services and information. Through the use of webcams, ASL Direct allows them to communicate with a specialist fluent in American Sign Language (ASL) from the Mayor's Office for People with Disabilities.
- Those who use ASL Direct are provided with a one-stop shop through which they can access city information and services relating to employment, housing, accessible transportation, emergency management, city accessibility and other areas of interest. This service is provided online and through a mobile app.

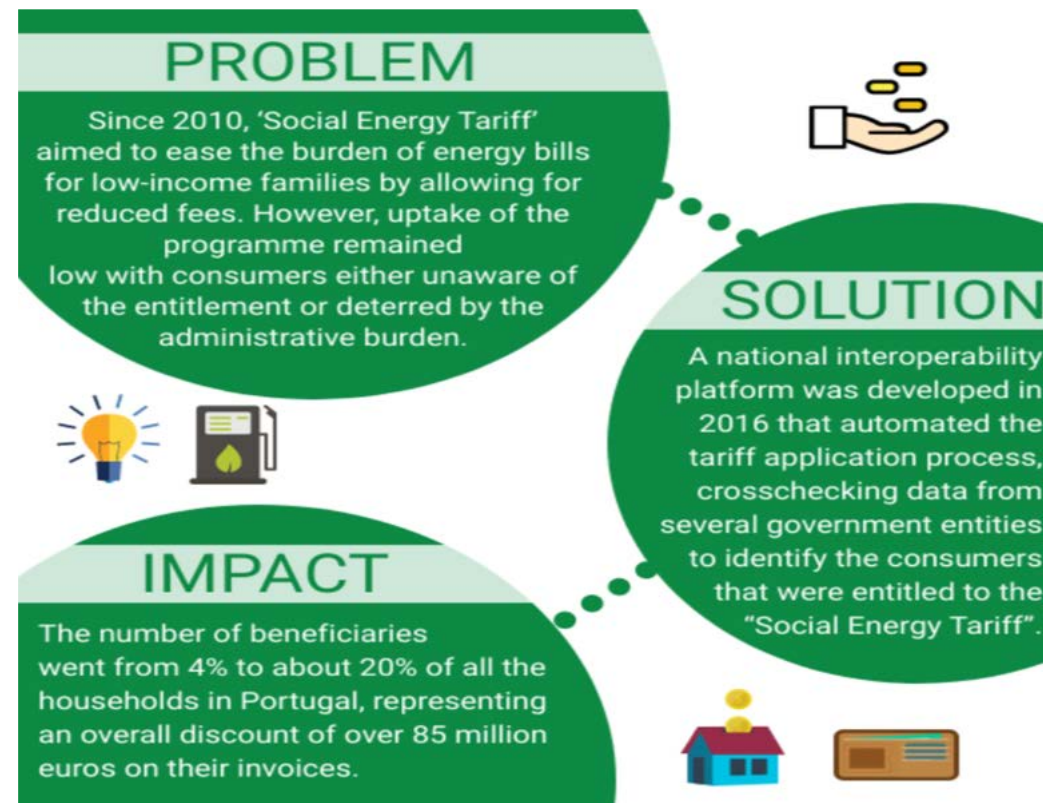
Sources: City of New York, Mayor's Office for People with Disabilities
(<https://www1.nyc.gov/site/mopd/initiatives/asl-direct.page>)





2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable Groups

Portugal - Automatic Social Energy Tariff (ASET) (2020 UNPSA Winner)



<https://publicadministration.un.org/unpsa/database/Winners/2020-winners/ASET>





2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable Groups

Improving Disaster Management & Protecting Vulnerable Groups during Disasters

- Increasing natural disasters affect vulnerable groups particularly hard due to weak resilience to shocks
- Digital technologies are an essential element in disaster risk management (DRM)
- improved disaster management can better protect vulnerable groups and address their special demands in disaster preparedness, prevention, management, and recovery

DRM Phases	Prevention	Reduction	Preparedness	Response	Recovery
ICT Roles					
ICT for society's resilience (non-ICT Sectors)	<ul style="list-style-type: none"> • Make ICTs available to improve risk assessments • ICT as crucial instruments for analysis • ICT to enhance development/business investment planning 	<ul style="list-style-type: none"> • Set up risk databases • Introduce Geo-Referenced Information Systems (GIS) for decision making, planning and mitigation • Expand ICT as a tool for disaster knowledge, innovation, education • Enhance coordination via ICT • Enhance risk observation, assessment and early warning by ICT 	<ul style="list-style-type: none"> • Plan and put in place emergency decision making tools (assessment, mapping, databases, planning) with ICT • Set up and enhance emergency/humanitarian communication, application and coordination • Position ICT as one of common services to all sectors 	<ul style="list-style-type: none"> • Gather data and information on casualties, losses and damage for coordinated responses • Request for satellite imagery of affected areas • Activate data backup in case socioeconomic data is lost. • Inform citizens of available emergency services and information via SMS, website, radio or PA 	<ul style="list-style-type: none"> • Enhance rapid assessments and detailed Post Disaster Needs Assessment (PDNA) • Use ICT systems and applications to facilitate disaster response efforts • Inform more robust future investment within the recovery framework

Source: UN E-Government Survey 2018, Table 3.2, modified





2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable Groups

Improving Disaster Management & Protecting Vulnerable Groups during Disasters

Madagascar – Use of Data for DRR

- National Bureau for Risk and Disaster Management has set up a database for coordinating emergency response and relief, preparation and prevention, and disaster mitigation.
- Data is used to evaluate the availability of food, sanitation facilities, equipment, shelter and medical needs and assistance
- Stakeholders, such health and medical professionals, have access to available ICT channels to relay data to the disaster risk management system including through 1) telephone (free emergency number available to all operators); 2) Short Message Service (periodic messages regarding the current situation), and 3) data transmission (images from satellites or agents on the ground)

Source: UN E-governance Survey 2018





2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable Groups

Digital Government for E-Participation

- Digital tools can stimulate and facilitate participation of citizens in public decision-making, thus also empowering vulnerable groups.
- **Co-designing**: involving citizens in decisions on the design process of public services – e.g. e-consultations (online-consultations or social media)
- **Co-creating**: digital tools enabling citizens to become an active, informed partner in problem-solving
- Effective inclusion of vulnerable groups requires **e-participation tools that are easily accessible**, e.g. call-centers, SMS and social media

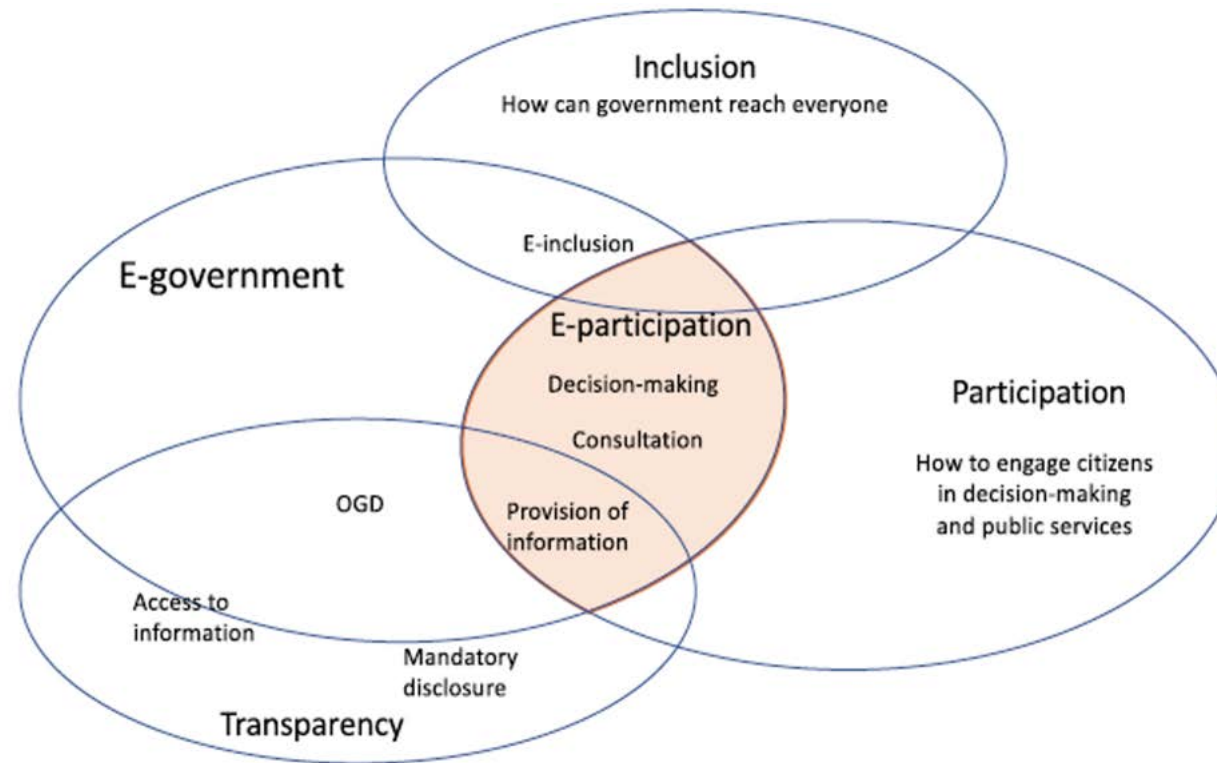




2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable Groups

Digital Government for E-Participation

The Relationship between E-Participation and Other Dimensions of Governance



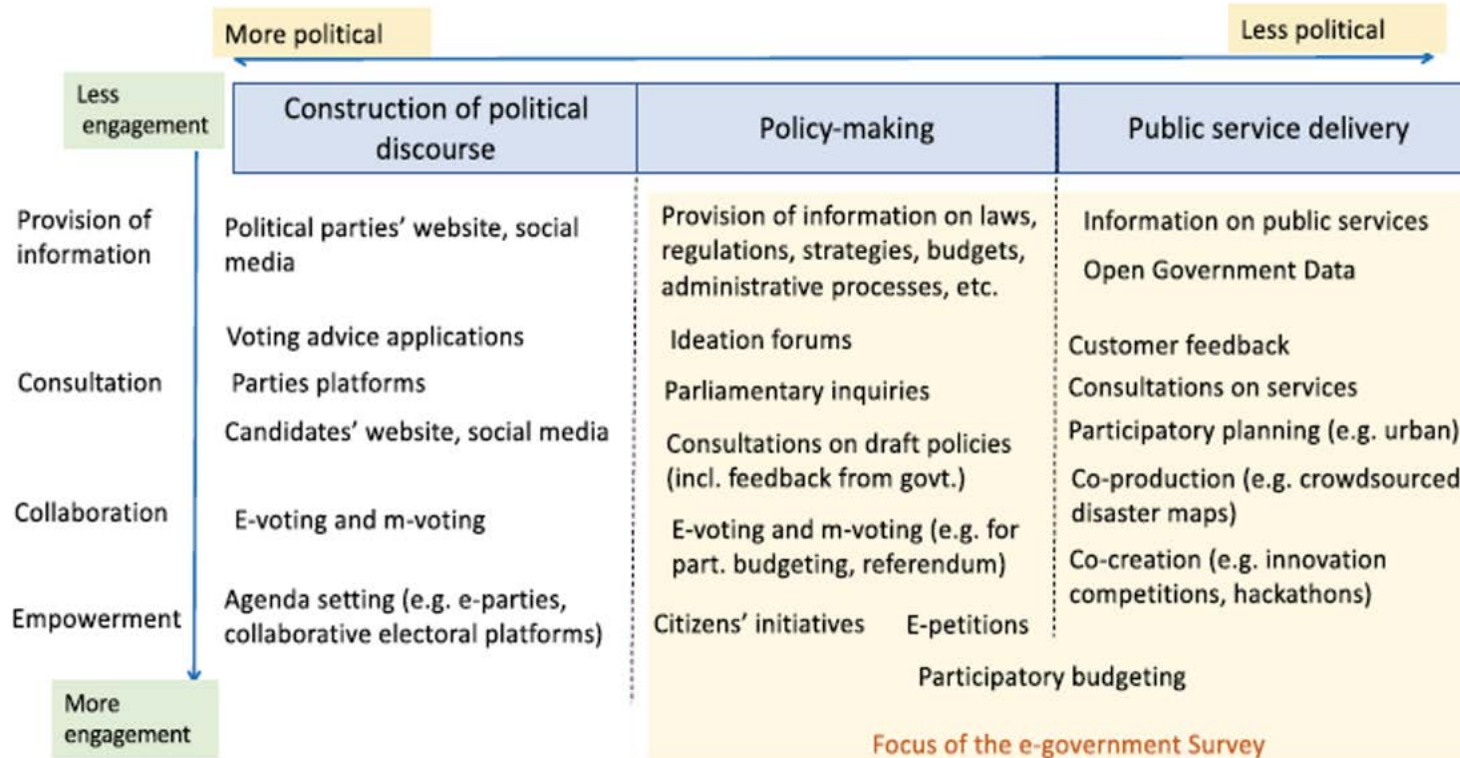
Source: UN E-Government Survey 2020



2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable Groups

Digital Government for E-Participation

The e-participation spectrum based on the political dimension and level of engagement, with examples of associated tools



Source: UN E-Government Survey 2020



2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable Groups

Digital Government for E-Participation

Table 5.6 Summary of assessed e-participation features

<ul style="list-style-type: none"> • Availability of sources of archived information (policies, budget, legal documents, budgets, etc.); use of digital channels (including mobile devices/platforms) and open data technologies in the areas of education, health, finance, social welfare, labour, environment.
<ul style="list-style-type: none"> • Availability of online information on citizens' rights to access government information (such as Freedom of Information Act or Access to Information Act)
<ul style="list-style-type: none"> • Evidence about government partnership/collaboration with third parties (civil society, private sector) in providing services
<ul style="list-style-type: none"> • Evidence about free access to government online services through the main portal, kiosks, community centers, post offices, libraries, public spaces or free WiFi
<ul style="list-style-type: none"> • Availability of open datasets (in machine-readable non-proprietary formats), related policies/ guidance
<ul style="list-style-type: none"> • Evidence about collaborative co-production, crowdfunding
<ul style="list-style-type: none"> • Evidence about engaging citizens in consultation/communication to improve online/mobile services and raise citizens' satisfaction
<ul style="list-style-type: none"> • Evidence about engaging citizens in consultation/communication on education, health, finance, social welfare, labor, environment
<ul style="list-style-type: none"> • Availability of "personal data protection" legislation online
<ul style="list-style-type: none"> • Evidence about opportunities for the public to propose new open datasets to be available online
<ul style="list-style-type: none"> • Availability of e-participation policies/mission statements
<ul style="list-style-type: none"> • Availability of public procurement notifications and tender results online
<ul style="list-style-type: none"> • Availability of online tools (on the national portal) to seek public opinion and other input in raw (non-deliberative) form policy formation
<ul style="list-style-type: none"> • Evidence on decisions made that included results from online consultation with citizens in the education, health, finance, social welfare, labor, and environment sectors
<ul style="list-style-type: none"> • Evidence about governments' publishing outcomes of policy consultations online





2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable Groups

Digital Government for E-Participation

Paraguay - Use of social media for co-creation of the 4th National Action Plan

- Paraguay used easily accessible social media *WhatsApp* to increase participation of citizens from the countryside and marginalized and vulnerable groups in the creation of the 4th National Action Plan (2018 – 2020).
- Created of 14 thematic WhatsApp groups, including e.g. Youth, Social Inclusion, Fight against Poverty, Health, Indigenous Affairs
- Public officials, citizens and NGOs were encouraged to share the “invitation link” to the participation in the 14 WhatsApp groups
- Participation in WhatsApp groups was combined with physical meetings.
- Result: around 1,000 citizens participated and contributed with proposals. WhatsApp group now remain for monitoring of the Action Plan.



https://docs.google.com/forms/d/17c0S8WnrM8h6nWW8L3ow3lKej_-6JoQlccdlzhOBk04/viewform?ts=5a6f3cf7&edit_requested=true



2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable Groups Digital Government for E-Participation

Seoul Metropolitan Government, Republic of Korea - M-Voting

- Sharing the policy decision-making process with citizens
- Promoting citizens' participation on policy decision-making, including by vulnerable groups
- Increasing the public policy quality
- Significantly alleviate the cost of voting
- Location based vote with GPS and QR (G2C)



The mVoting system can be used quickly and with ease regardless of age or sex. It is a "smart city" platform that has been developed using blockchain technology, which prevents the falsification of vote data to guarantee the transparency and credibility of vote results. It allows citizens to participate, both directly and indirectly, in the decision-making processes for municipal policies.



Today, the smartphone is much more of an essential tool in citizens' lives than it was 10 years ago (five consecutive first-place standings among the world's e-governments, one of the highest levels of civic participation, smartphone distribution rate of over 90 percent (Korea Communications Commission), etc.).



Based on the increasing need for a platform that can directly collect citizens' feedback at large-scale policy conferences, mVoting was developed as a mobile e-voting system capable of realizing true democracy, the value most highly regarded by Seoul Metropolitan Government.

Source: <https://seoulsolution.kr/en/content/%E2%80%98mobile-voting-app%E2%80%99-m-voting>



2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable Groups

Malaysia - Digital Economy Initiatives for People-centric Economic Growth and Better Distribution of Wealth



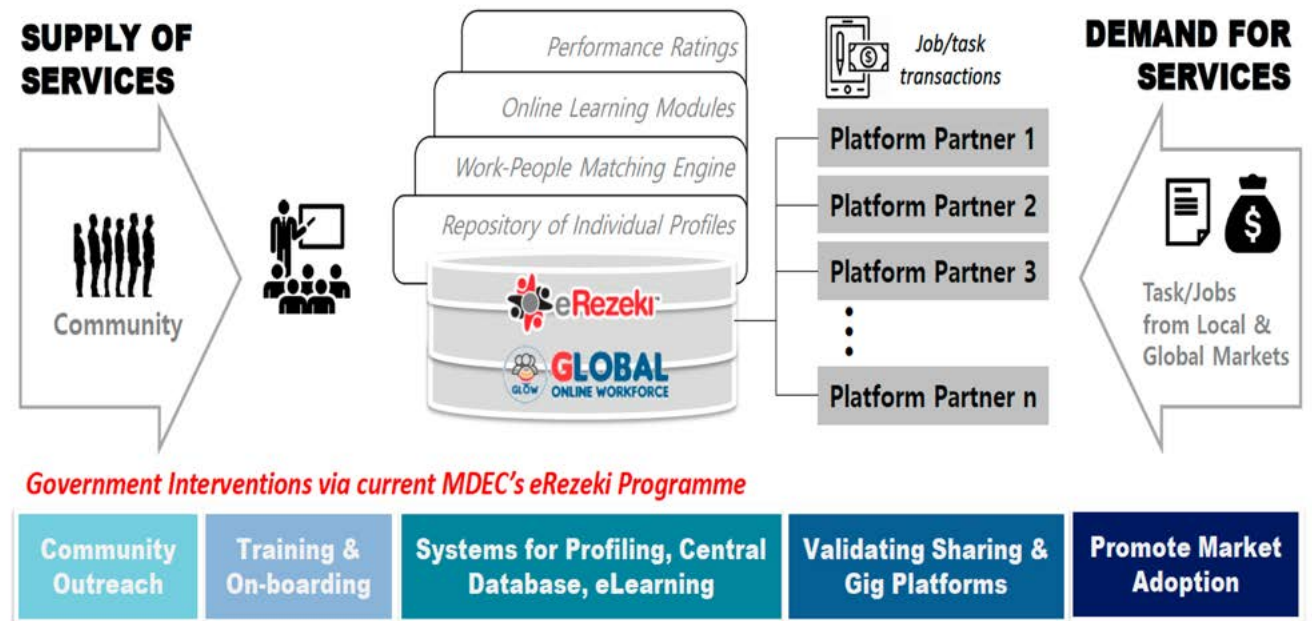
Income opportunities as gig workers, providing services and powering new growth for selected economic sectors

Low and semi-skilled jobs / tasks



New form of employment for skilled workers, winning high value jobs on global freelance platform and exporting professional services

Skilled and high value jobs



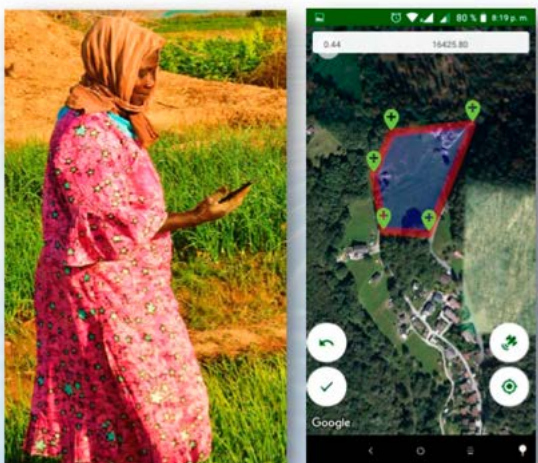
Source: Presentation by Mr. Nodarzy Razak Norhalim, Director, Digital Inclusion Division, MDEC during UN DESA Online Training Workshop on Government Innovation for Social Inclusion of Vulnerable Groups (Nov. 2020)



2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable Groups

UN Women - Buy From Women

* For women smallholder farmers



www.buyfromwomen.org

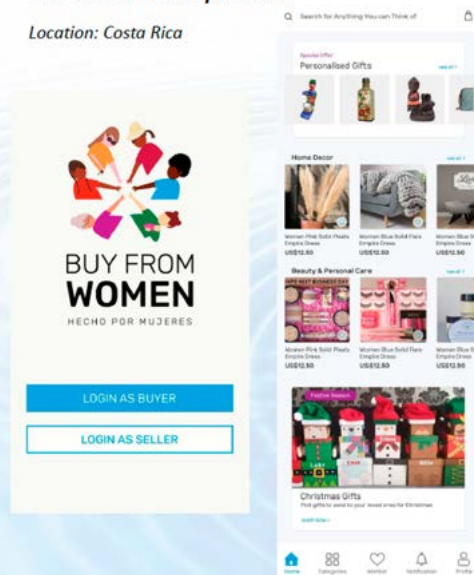
Location: 8 countries
Partner: government, local NGOs, telecom

Web and mobile app for women farmers to access to land, finance, information and markets

<p>Land tenure insecurity limits women's economic opportunities and leaves them more vulnerable to poverty, hunger, gender-based violence and displacement.</p> <p>LAND</p> <ul style="list-style-type: none"> Using GPS for land mapping and digital records of land-holding Forecasting and tracking harvest volume using land data 	<p>Gap between men and women in ownership and control of physical assets, plus gaps in human and social capital, influence women's ability to access finance.</p> <p>FINANCE</p> <ul style="list-style-type: none"> Providing virtual financial accounts with mobile wallets Establishing digital records and facilitating access to credit 	<p>Knowledge of farming techniques to digital ID and productivity, however, women farmers have inadequate access to agricultural extension and training services.</p> <p>INFORMATION</p> <ul style="list-style-type: none"> Receiving text or voice messages from peers or groups on production, storage, prices, transportation, weather, etc. 	<p>Transportation, infrastructure and social norms constrain rural women's access to markets and participation in farmer organizations and cooperatives.</p> <p>MARKETS</p> <ul style="list-style-type: none"> Connecting farmers, coops and buyers Facilitating purchases, sales & inventory management
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* For women entrepreneurs

Location: Costa Rica








Videolink to the Presentation

Source: Presentation by Ms. Angela Rong Chen, Innovation Programme Officer, UN Women during UN DESA Online Training Workshop on Government Innovation for Social Inclusion of Vulnerable Groups (Nov. 2020)



2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable Groups

Frontier Technologies for Better Targeting Public Services for Vulnerable Groups

- Increasingly governments use frontier technologies, such as Big Data management, to better target public services to vulnerable groups and improve public service delivery.
- What makes **Big Data** “big”?
 - The high volume, high speed, and large variety of data collected from various new sources that generate data automatically, such as through the use of satellite imagery, sensors, search engines, social media, and other automatically-driven data production methods
 - Big Data has been coined to describe the exponential growth and availability of data, both structured and unstructured and is defined by 3 V’s: Volume, Velocity and Variety.
- Big Data collection and assessment need new technologies, such as cloud computing, machine learning and new data storage technologies.



2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable Groups

Big Data Analytics



How data science and analytics can contribute to sustainable development



www.un.org/isa/insights.org
©UNGlobalPulse 2016

1 NO POVERTY
Spending patterns on mobile phone services can provide proxy indicators of income levels

2 ZERO HUNGER
Crowdsourcing or tracking of food prices listed online can help monitor food security in near real-time

3 GOOD HEALTH AND WELL-BEING
Mapping the movement of mobile phone users can help predict the spread of infectious diseases

4 QUALITY EDUCATION
Citizen reporting can reveal reasons for student drop-out rates

5 GENDER EQUALITY
Analysis of financial transactions can reveal the spending patterns and different impacts of economic shocks on men and women

6 CLEAN WATER AND SANITATION
Sensors connected to water pumps can track access to clean water

7 AFFORDABLE AND CLEAN ENERGY
Smart metering allows utility companies to increase or restrict the flow of electricity, gas or water to reduce waste and ensure a adequate supply at peak periods

8 DECENT WORK AND ECONOMIC GROWTH
Patterns in global postal traffic can provide indicators such as economic growth, remittances, trade and GDP

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Data from GPS devices can be used for traffic control and to improve public transport

10 REDUCED INEQUALITY
Speech-to-text analytics on local radio content can reveal discrimination concerns and support policy response

11 SUSTAINABLE CITIES AND COMMUNITIES
Satellite remote sensing can track encroachment on public land or spaces such as parks and forests

12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Online search patterns or e-commerce transactions can reveal the pace of transition to energy efficient products

13 CLIMATE ACTION
Combining satellite imagery, crowd-sourced witness accounts and open data can help track deforestation

14 LIFE BELOW WATER
Maritime vessel tracking data can reveal illegal, unregulated and unreported fishing activities

15 LIFE ON LAND
Social media monitoring can support disaster management with real-time information on victim location, effects and strength of forest fires or haze

16 PEACE, JUSTICE AND STRONG INSTITUTIONS
Sentiment analysis of social media can reveal public opinion on effective governance, public service delivery or human rights

17 PARTNERSHIPS FOR THE GOALS
Partnerships to enable the combining of statistics, mobile and internet data can provide a better and real-time understanding of today's hyper-connected world

<https://www.un.org/en/sections/issues-depth/big-data-sustainable-development/>



2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable Groups

Big Data Analytics & Cloud Computing

Guizhou, China - Better targeting poverty alleviation through cloud technology

- Implemented by the Guizhou Provincial Poverty Alleviation and Development Office (GPPADO); Guizhou Province is confronted with a high number of people living in or endangered by poverty
- GPPADO identifies and monitors poor households and factors leading to poverty through Big Data analysis and cloud computing
- The Guizhou-Cloud Big Data Platform tracks detailed and real-time information on vulnerable citizens and poor households on: geographic position, economic environment, housing, family size, household income
- Based 84 new indicators for poverty measurement



Source: http://p.china.org.cn/2017-09/30/content_50029752.htm



2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable Groups

Blockchain

- Blockchain can create a reliable database of interconnected assets that is shared across a network.
- Blockchain presents new opportunities to transform governance and public administration : managing ID verification, remittances, civic registration (e.g. for land ownership, births, deaths, and marriages) and medical information access.



<https://www.un.org/en/un-chronicle/blockchain-and-sustainable-growth>



2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable Groups

Blockchain

World Food Programme - Blockchain-based Humanitarian Food Distribution System

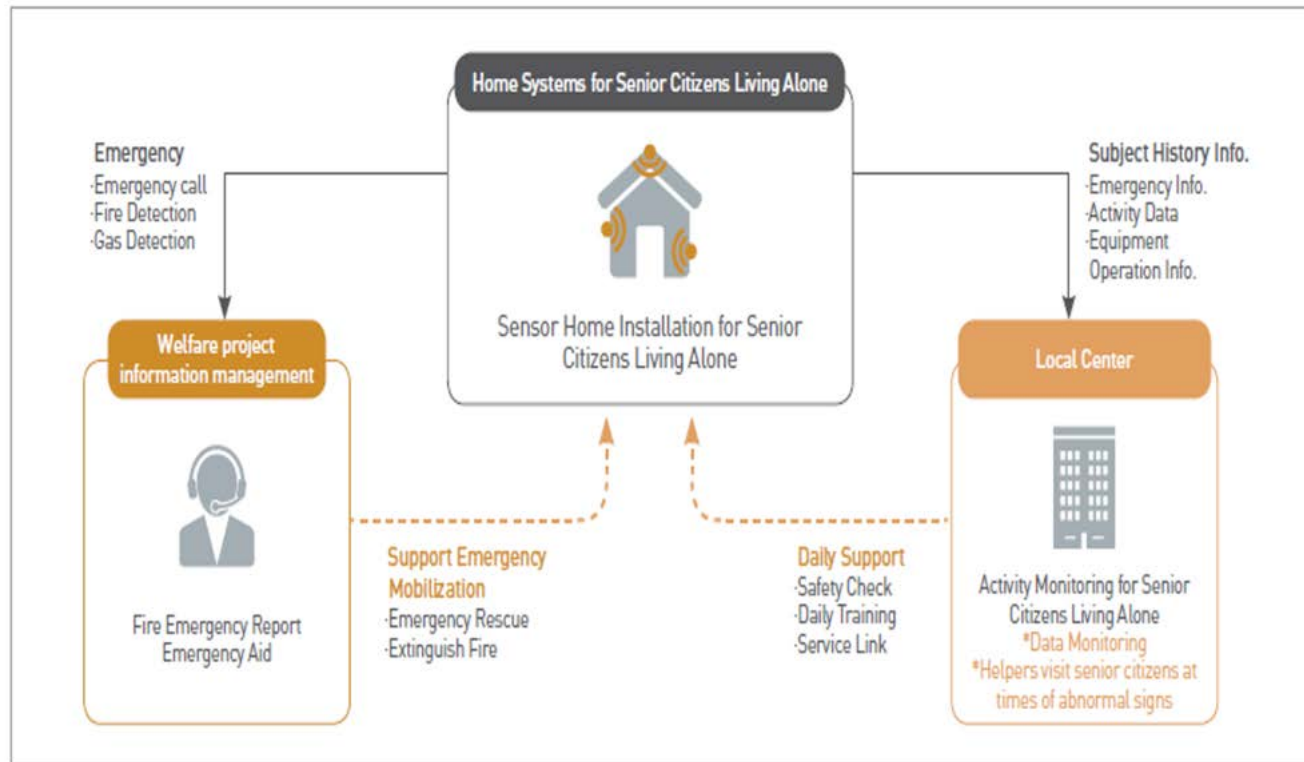
- 70% of refugees in Jordan have limited access to humanitarian assistance due to their lack of official identification.
- Refugees can receive humanitarian aid even without bank accounts and documents.
- “Building Blocks” distribution system links information for distributing food vouchers, such as how much each refugee should receive and their unique ID number, to biometric data stored in the refugee database.



2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable Groups

IoT

Republic of Korea - U-CARE System For Senior Citizens Living Alone



- Installation and operation of u-Care sensors
- In the case of emergency, the gateway automatically sends alarms to the u-emergency center.
- Better efficiency in protecting the lives and properties of elderly people living alone by quickly responding to cases of fire and other emergencies

Source: Korea e-Government for Sustainable Development (Ministry of the Interior and Safety, 2017)



2. Innovative Cases of Digital Solutions for Inclusion of Vulnerable Groups

IoT

Poland – Virtual Warsaw

- Smart city based on Internet of Things (IoT) technology that gives eyes to the visually impaired residents
- Deploying a network of hundreds of thousands of beacon sensors
- Enable them to move independently with assistance from their smartphones



Source: <https://www.oecd.org/gov/innovative-government/embracing-innovation-in-government-poland.pdf>

3. Challenges in Advancing Inclusive Digital Solutions and Policy Considerations



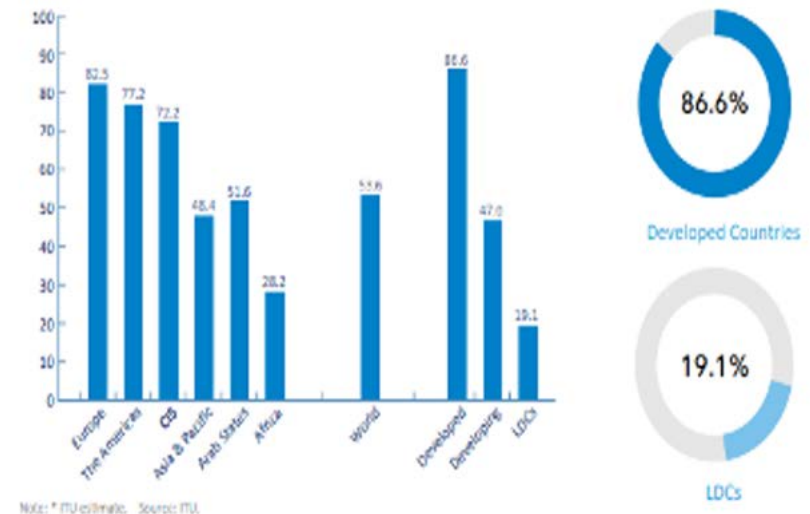


3. Challenges in Advancing Inclusive Digital Solutions and Policy Considerations

1) Bridging Digital Divide

- The digitalisation of the economy, society and governmental services bearing the **risk that social exclusion of marginalised and vulnerable groups gets interlinked with digital exclusion.**
- Frequently lower-income families, those with less education, persons with disabilities, minorities, and rural residents lag behind in both broadband adoption and computer usage.
- Digitalisation of government services may contribute to **digital divides.**
- Digital divides = social exclusion through technical, socio-economic, cultural and other obstacles for vulnerable groups to effectively use digital services (as explained in the following slide)
- Governments have to develop strategies for **e-inclusion** in order to prevent and overcome digital divides.

Percentage of individuals using the Internet, by region and development status, 2019*

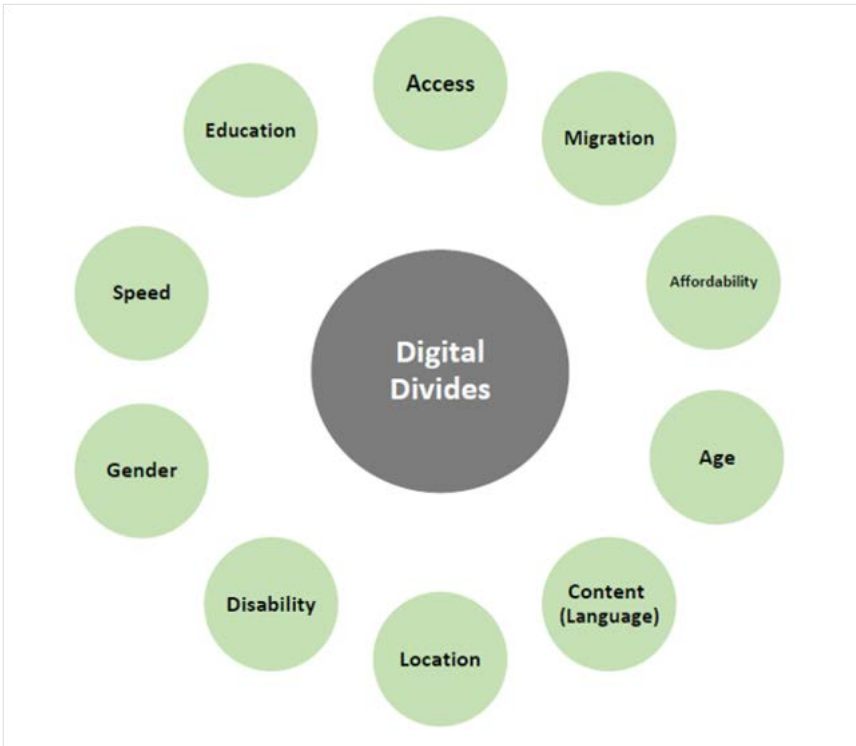


Source: <https://www.itu.int/en/ITU-D/Statistics/Documents/facts/FactsFigures2019.pdf>



3. Challenges in Advancing Inclusive Digital Solutions and Policy Considerations

1) Bridging Digital Divide - Multiple Digital Divides



Access	Globally most people still have no access to the internet
Capacity	Digital infrastructure is frequently limited in bandwidth and capacity
Location	Rural and remote areas disadvantaged in terms of access and quality
Affordability	ICT equipment is less affordable to poor households
Education	Low education and literacy rates are an obstacle to the use of digital services
Skills & habits	Lack of digital skills is a barrier to the use of digital services; certain groups are less accustomed to use digital tools, e.g. older people
Language	Content is frequently not provided in local languages of rural communities or ethnic minorities
Gender	Women use internet less than men
Disability	Disabilities create obstacles to use internet sides
Migration	Migrants might face language and other cultural barriers



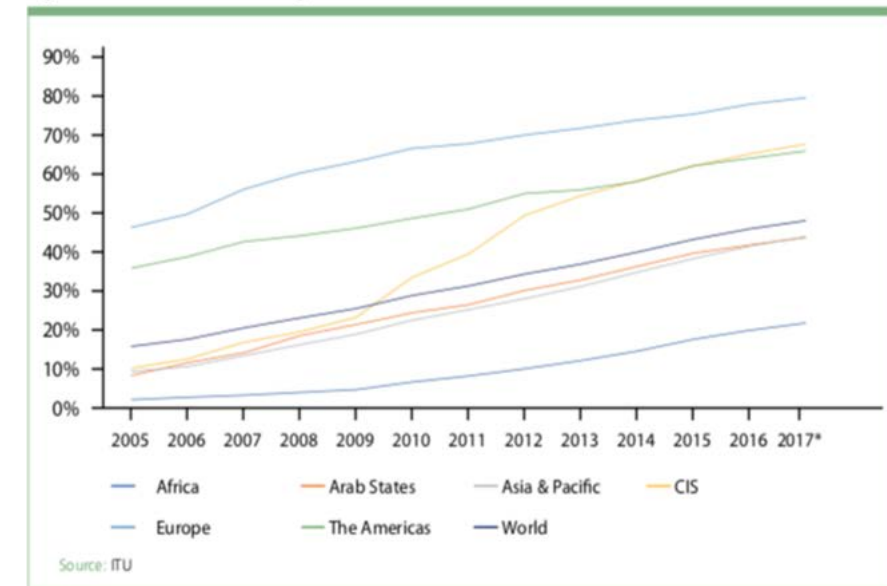
3. Challenges in Advancing Inclusive Digital Solutions and Policy Considerations

1) Bridging Digital Divide

Overcoming Infrastructure Divides

- Differences in the establishment of internet access and infrastructure leading to digital infrastructure divides
- Digital infrastructure divide between world regions and within countries, with vulnerable groups usually in a disadvantaged position
- So far, most of the world population remain off-line.

Figure 2.1. Individuals using the Internet



Source: ITU

Source: UN E-Government Survey 2018



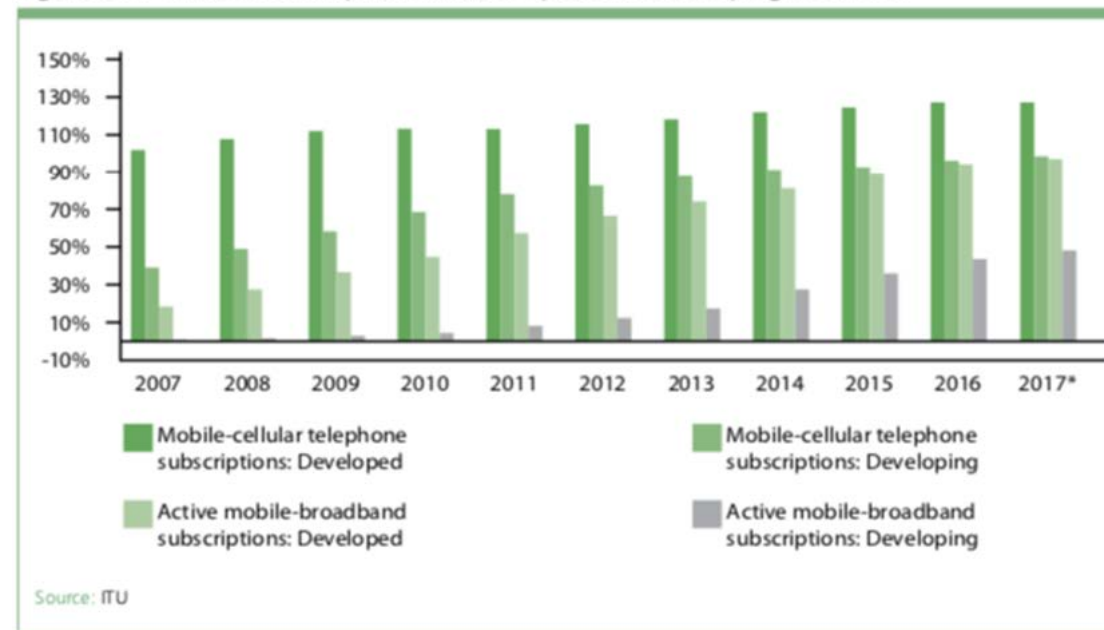


3. Challenges in Advancing Inclusive Digital Solutions and Policy Considerations

1) Bridging Digital Divide Overcoming Infrastructure Divides

- Mobile phones are helpful to intermediately bridge the infrastructure divide, in particular for vulnerable groups

Figure 2.2. Mobile subscriptions in developed and developing countries



Source: UN E-Government Survey 2018



3. Challenges in Advancing Inclusive Digital Solutions and Policy Considerations

1) Bridging Digital Divide Overcoming Digital Literacy Divide

- Improving digital skills helps social inclusion
- Training should be provided decentralised and close to the target group: schools, local communities, residences of vulnerable groups.
- Training can be provided by public staff or in cooperation with NGOs or volunteers, e.g. young people with digital skills.



3. Challenges in Advancing Inclusive Digital Solutions and Policy Considerations

Overcoming Digital Literacy Divide

Digital Inclusion Plan - Republic of Korea

— Vision —

“**A Digitally Inclusive Nation for All**”

- Task 1** **(Capacity)** Help all citizens build comprehensive digital capacities
- Task 2** **(Environment)** Help vulnerable groups easily utilize digital technologies and services
- Task 3** **(Utilization)** Promote wide use of inclusive digital technologies and support vulnerable groups' social engagement and employment
- Task 4** **(Foundation)** Build a framework for public-private cooperation and promote citizen-led community problem-solving



Videolink to the Presentation

Source: Presentation by Prof. Mr. Myuhng-joo Kim, Professor, Seoul Women's University, Republic of Korea during the Capacity Development Webinar Series "Accelerating Digital Transformation for Sustainable and Resilient Recovery from COVID-19" (Oct 2020)



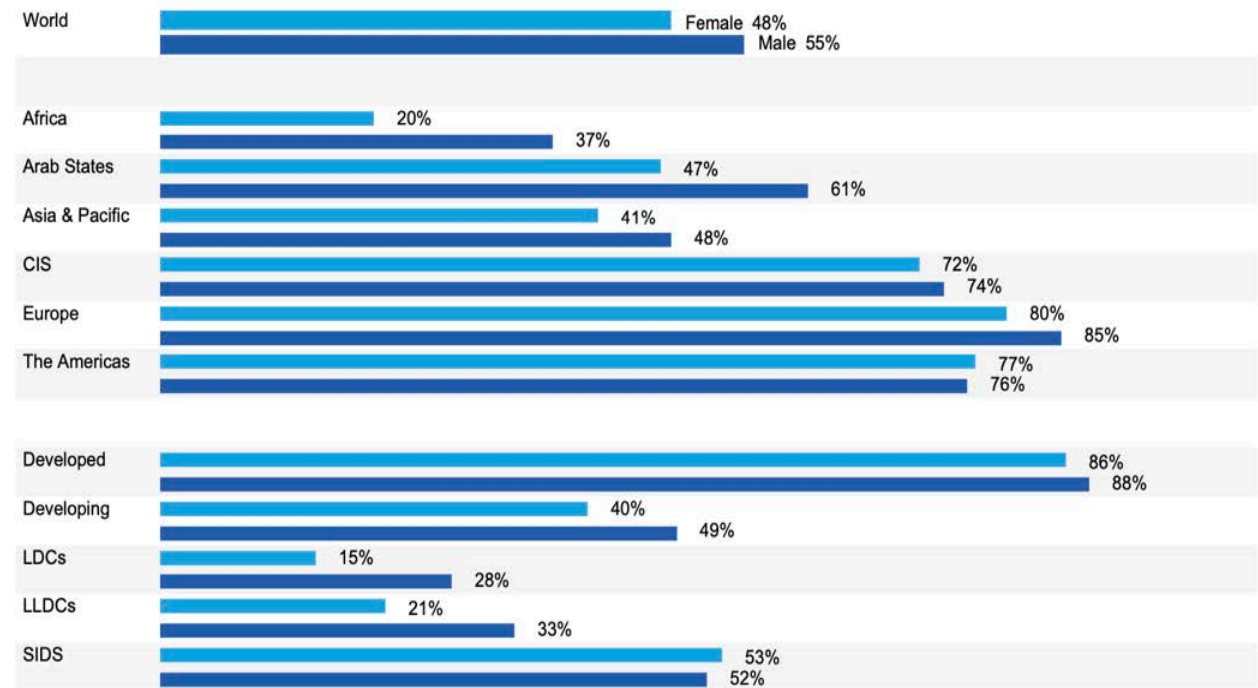
3. Challenges in Advancing Inclusive Digital Solutions and Policy Considerations

1) Bridging Digital Divide

Building Gender-Responsive Digital Government Policies

- 2019, only 48 % of women were online, compared to 55 % of men.
- Reasons include:
 - Traditional role patterns
 - Less content specifically targeted to women in digital public services

Percentage of female and male population using the Internet, 2019*



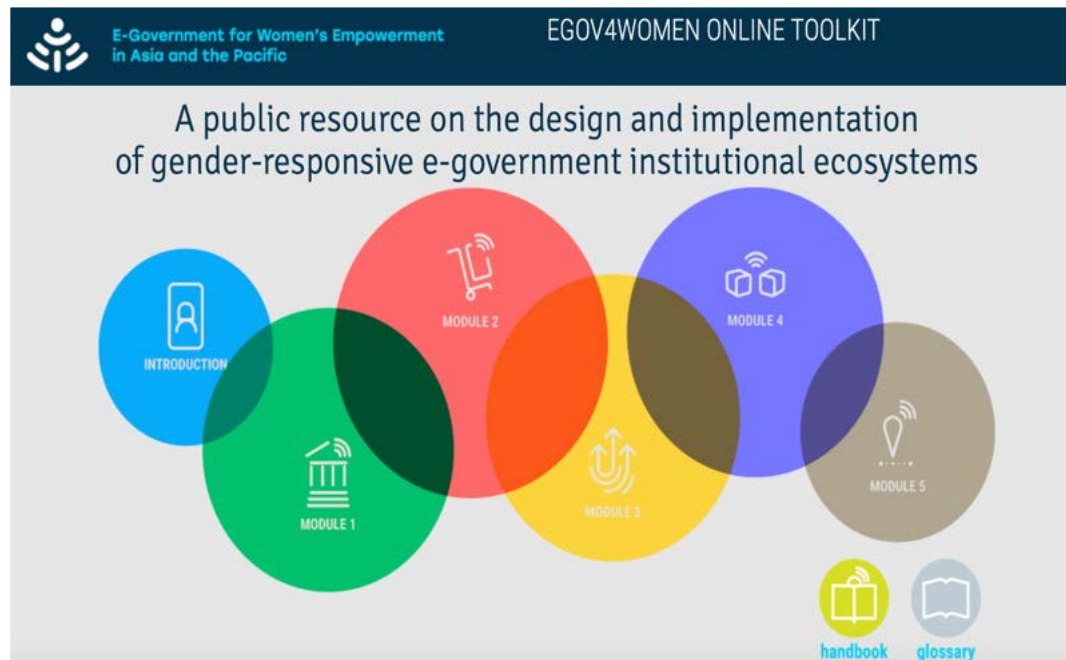
* ITU estimate. Source: ITU



3. Challenges in Advancing Inclusive Digital Solutions and Policy Considerations

1) Bridging Digital Divide

Building Gender-Responsive Digital Government Policies



- **Training Toolkit “E-Government for Women’s Empowerment in Asia and the Pacific” Jointly developed by UNDESA/DPIDG & UNESCAP**
- The Toolkit aims to provide practical Guidance to
 - Ensure women’s rights to participate in information society
 - Involve women in designing e-government services
 - Promote digital literacy as a pathway to women’s empowerment

Link to the [Toolkit](https://egov4women.unescapsdd.org)

<https://egov4women.unescapsdd.org>





3. Challenges in Advancing Inclusive Digital Solutions and Policy Considerations

1) Bridging Digital Divide

Ensuring Web Accessibility for Persons with Disabilities

- Persons with disabilities are confronted with obstacles to use websites: visual, auditory, physical and others.
- For example, websites frequently not designed for screen readers that are used by visually impaired persons.
- Websites, web applications, browsers, and other web tools have to be designed in a way that ensures accessibility for persons with disabilities.
- The Web Accessibility Initiative offers standards, strategies and resources for that purpose.



<https://www.w3.org/WAI/people-use-web/>





3. Challenges in Advancing Inclusive Digital Solutions and Policy Considerations

2) Improving the Usability of Websites for Vulnerable Groups through Content Design

- Government websites should be designed in a way that they have a specific value for the targeted vulnerable group.
- Content should be specifically designed for the target group.
- Content should be adapted to the local environment.
- Content should be provided in local language or language of the target group.
- Including NGOs, local communities and volunteers from the vulnerable group helps with a context specific and useful design of websites for digital government.



3. Challenges in Advancing Inclusive Digital Solutions and Policy Considerations

3) Data Protection and Digital Trust of Citizens on Government

- E-government collects and processes huge amounts of **sensitive data of citizens, including personally identifiable information**
- UN Special Rapporteur on extreme poverty and human rights about the **digital welfare state** warns about the risk that:
 - Vast quantities of sensible data can be misused by governments or private sector to surveil and steer citizens' behaviour
 - Citizens much more visible to governments, but not the other way round
- Citizens trust in e-government needs **effective data protection legislation and transparency**
- **Example: General Data Protection Regulation (GDPR), European Union**
 - Based on individual rights of citizens to control collection/ processing/ storage of their data
 - Legally binding rules for authorities and companies
 - Independent Data Protection Authorities monitor implementation





3. Challenges in Advancing Inclusive Digital Solutions and Policy Considerations

Conclusion - Digital Government for Leaving No One Behind

- Digital government and the use of frontier technologies contribute to a better social inclusion of the poor and vulnerable and help them to become more resilient by offering **opportunities** for
 - Increasing access to information about public services for vulnerable groups
 - Providing people from vulnerable groups with legal ID as a prerequisite of various public and societal services
 - Reducing administrative burden and improve service delivery for vulnerable groups
 - Helping better targeting of public services for vulnerable groups
 - Improving disaster management in order to protect vulnerable groups
 - Enabling e-participation in co-designing services and co-creating empowerment
- be embedded **in strategies that make full use of the opportunities and minimize the risks**



3. Challenges in Advancing Inclusive Digital Solutions and Policy Considerations

Conclusion - Digital Government for Leaving No One Behind

- **Challenges/Risks** need to be considered
 - Digital divides disadvantaging vulnerable groups
 - Avoiding Digital First or Digital by Default and establishing multi-channel service delivery
 - Trust in e-government need citizens rights on data protection and transparency
 - Cyberattacks and lack of e-resilience
- The use of digital government in order to support the implementation of the 2030 Agenda and to improve the social inclusion of vulnerable groups should be embedded **in strategies that make full use of the opportunities and minimize the risks.**



Group Work





Group Work 30'

Group Debate: Pros & cons of digital government for vulnerable group inclusion

- 1) Please randomly divide the group in 2 groups. The 2 groups should sit one in front of the other.
- 2) One group will advocate for more technological innovation and digital governments to support vulnerable groups.
- 3) The other group will advocate against digital governments to support vulnerable groups.
- 4) Both groups have 5 minutes to internally discuss their strategy and points of defense.
- 5) Each group has 5 minutes to convince the other group of why their approach is better.
- 6) After presentation, start open discussion for 10 minutes.



Group Work 30'

- After the Debate is over, whole participants will be mixed and divided into different groups.
- Based on the arguments shared during Debate, each group will come up with 5 major policy considerations/recommendations for effectively leveraging digital government and frontier technology for social inclusion of vulnerable groups.





Background Materials

<p>Key Readings</p>	<ul style="list-style-type: none"> UN DESA (2018), <i>United Nations E-Government Survey 2018, Gearing E-Government to Support Transformation Towards Sustainable and Resilient Societies</i> https://publicadministration.un.org/egovkb/Portals/egovkb/Documents/un/2018-Survey/E-Government%20Survey%202018_FINAL%20for%20web.pdf UN DESA (2020), <i>United Nations E-Government Survey 2020, Digital Government in the Decade of Action for Sustainable Development</i> https://publicadministration.un.org/egovkb/Portals/egovkb/Documents/un/2020-Survey/2020%20UN%20E-Government%20Survey%20(Full%20Report).pdf UN DESA & UN ESCAP (2016), <i>E-Government for Women’s Empowerment in Asia and the Pacific, EGOV4WOMEN ONLINE TOOLKIT</i> https://egov4women.unescapsdd.org United Nations General Assembly (2019), <i>Report of the Special rapporteur on extreme poverty and human rights, A/74/493</i>, https://undocs.org/pdf?symbol=en/A/74/493 UN DESA (2018), <i>World Economic and Social Survey 2018: Frontier Technologies for Sustainable Development</i>, https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/publication/WESS2018_full_web.pdf UN DESA (2020), <i>Frontier Technology Issues: Can digital technologies put us back on the path to achieve the SDGs?</i> https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/publication/FTI_Nov_2020.pdf
<p>Further Readings</p>	<ul style="list-style-type: none"> UN Women (2018), <i>Gender Equality and Big Data</i> https://www.unwomen.org/-/media/headquarters/attachments/sections/library/publications/2018/gender-equality-and-big-data-en.pdf?la=en&vs=3955 G20 Policy Brief (2019), <i>Bridging the Gap Between Digital Skills and Employability for Vulnerable Populations</i>, https://www.g20-insights.org/policy_briefs/bridging-the-gap-between-digital-skills-and-employability-for-vulnerable-populations/ European Commission (2017), <i>What next for digital social innovation?</i> Abuduaini, A. (2014), <i>Barriers and benefits in the adoption of e-government in China</i>, <i>Applied Mechanics and Materials</i>, https://doi.org/10.4028/www.scientific.net/AMM.678.473 (vol. 678, pp. 473-476) UN DESA (2019), <i>Report of the Expert Group Meeting on “Socially just transition towards sustainable development: The role of digital technologies on social development and well-being of all”</i> https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/09/EGM-CSocD59-Final-Report-1.pdf



End of Module 8

