Digital4Women: how to enable women empowerment in Africa through mainstreaming digital technologies and services in EU development programmes

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Executive Summary

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Introduction

Since the end of the 20th century, lives and societies have increasingly become digitalised with internet, digital technologies and tools as drivers for sustainable development. Their "leapfrog" potential has put the topic at the core of the development agenda, notably of emerging markets, such as in Sub-Saharan Africa where mobile connections have leapt to 475 million compared to just 12.3 million fixed line connections[1]. To a lesser extent, access to internet has also increased significantly in Sub-Saharan Africa at the fastest rate worldwide, jumping from 2.1% in 2005 to 28.2% in 2019.[2] According to GSMA, in 2018 mobile technologies and services generated 8.6% of GDP in Sub-Saharan Africa[3].

However, to unleash its potential, the **digital divide**[4], known as the gap in terms of accessibility and use of digital technologies needs to be carefully considered and addressed. Furthermore, the gender digital gap is notable in Sub-Saharan Africa as women are 13% less likely to own a mobile phone[5] and the **gender digital gap in mobile internet usage is 34%**[6]. Women in the Sub-Saharan region face complex and interlinked inequalities and barriers[7] that hamper access to mobile phones and the internet including: the cost of devices and data, lack of awareness and understanding of the internet, lack of digital skills, a perception of irrelevance, concerns around safety and security, and/or lack of access to infrastructure, such as electricity or quality network coverage, particularly for women living in rural areas[8]. These factors disproportionally affect women and when grouped with structural and broader socio-economic constraints (low education, literacy and economic dependence), further hinder women's access to the internet and digital technologies.

As many countries are experiencing a push towards a "digital economy", the digital skills and literacy gender gaps need to be addressed. Despite significant investments in digital entrepreneurship, there remains a need to focus on job creation and employment opportunities through tech-enabled businesses as well as on the enabling environment, specifically for youth and women, to ensure that they are not left behind. To address the digital and gender gaps in Sub-Saharan Africa, the EU established the **Digital for Development (D4D) Agenda in Africa**. The four core areas of work for digitalisation and international partnerships: (i) Governance, Policy and regulatory frameworks, (ii) Connectivity - accelerating the achievement of universal access to affordable broadband; (iii) Digital skills and support to digitally enabled entrepreneurship; (iv) Accelerating the adoption of eServices and the further development of the digital economy. Furthermore, the EU Gender Action Plan III 2021-2025 adopted by end 2020 is based on "(1) key actions to achieve gender equality combined with (2) gender mainstreaming by strengthening the

1 'Mobile is catalyst for explosive growth in Sub-Saharan Africa', GSMA, Spectrum, 2012, Link: https://www.gsma.com/spectrum/resources/gsma-report-reveals-mobile-is-catalyst-for-explosive-growth-in-sub-saharan-africa-2/ (consulted on September 08 2020)

2 'Measuring Digital Development Facts and Figures 2019',International Telecommunication Union, Link: https://www.itu.int/en/ITU-D/Statistics/Pages/facts/default.aspx (consulted on September 08 2020)

3 Ayertey Odonkor, A., Amoah-Darkwah, E., 'Does digital technology stimulate economic growth in Sub-Saharan Africa', Modern Ghana, Link: https://www.modernghana.com/news/1016684/does-digital-technology-stimulate-economic-growth.html (consulted on September 08 2020)

4 "Understanding the Digital Divide", *OECD.* 2011. https://www.oecd.org/sti/1888451.pdf

5 'The Mobile Gender Gap : Africa', GSMA 2019, Link: https://www.gsma.com/mobilefordevelopment/resources/the-mobile-gender-gap-africa/ (consulted on September 08 2020)

6 Araba, S. & Hafkin, N. 'Taking stock: Data and evidence on gender equality in digital access, skills and leadership', United Nations University Institute on Computing and Society/International Telecommunications Union: Macau. 2019.

7 'Realising the full benefit of mobile for women in Africa', GSMA 2019, Link: https://www.gsma.com/mobilefordevelopment/blog/realising-the-full-benefit-of-mobile-for-women-in-africa/ (consulted on September 08 2020)

8 'Gendering Surveillance', Internet Democracy 2019, Link: https://internetdemocracy.in/issues/data/gender-and-surveillance/ (consulted on September 08 2020)

integration of a gender perspective in all EU policies and major initiatives, (3) policy dialogue"[9].

With these policy structures in min, this study aims to identify the key factors and trends regarding gender and digital in Sub-Saharan Africa, specifically barriers that are holding back women from accessing the opportunities of digitalisation. This report analyses the trends, policies frameworks and ecosystems as well as challenges and opportunities concerning digital and women's empowerment in Sub-Saharan Africa. This is followed by a review of good practices and lessons learnt as well as current EC initiatives to inform the set of policy and programming recommendations. The analysis at a regional and national level is based on desk research, clustering of international gender and digital Indicators, stakeholder interviews in shortlisted countries and the EC digital project database.

Contextual Analysis

Many Sub-Saharan countries have already started following the path towards a digital economy. Nairobi, Johannesburg and Lagos are the top cities for African tech attracting international actors and are host to several tech start-up hubs and tech entrepreneurs. There is growing participation of women in the tech sector yet there is a continued need for enabling environments to encourage female entrepreneurship. E-services have also taken off, offering potential to reach a wider market with digital services yet also leaving those behind that do not have access to digital. To support these growing economies, some countries such as Nigeria and Rwanda, have policies and strategies to better their digital infrastructure and usage of digital technologies and services. Nonetheless, countries with policies and strategies in place need to ensure they do not fall short in practice, where other countries need to develop them altogether.

Four indicators produced by international organisations were assessed to identify regional trends on digital connectivity and access, and gender inequalities in Sub-Saharan Africa. These included the 2020 World Economic Forums' Global Gender Gap Score; the 2017 World Bank Mobile Subscription Access per 100 inhabitants; the 2018 OECD percentage of individuals using the internet; and the 2018 GSMA Connectivity score. For each country, the four indicators were attributed to one of three categories relative to Sub-Saharan Africa: Low, Medium or High.

Eight countries scored in the **High Cluster**, which represents those with advanced connectivity and gender equality across two or more indicators: Botswana, Cabo Verde, Côte d'Ivoire, Gabon, Ghana, Mauritius, Namibia, and South Africa. It is worth noting that these countries all ranked in the top 10 in Sub-Saharan Africa for GDP per capita and some better performing countries benefit from fibre optic cables[10].

Medium scoring countries included nineteen countries with a medium score across two or more indicators, including Benin, Cameroon, Congo, Eswatini, Ethiopia, Kenya, Lesotho, Liberia, Mozambique, Nigeria, Rwanda, Senegal, Sierra Leone, Sudan, Tanzania, Togo, Uganda, Zambia and Zimbabwe. Countries in this cluster present a variety of profiles, ranging from low to high scores in terms of connectivity and gender equality but most can be considered as emerging with room for improvement.

The **Low scoring country cluster** included fourteen countries with low scores across two or more indicators. Countries in West and Central Africa, such as Chad, Central African Republic (CAR) and Niger all scored low for all (available) indicators; and Burkina Faso, Democratic Republic of Congo, Guinea, Guinea-Bissau and Mali scored low for two or three indicators. Outside of these regions, Angola, Burundi, Comoros, Malawi, Madagascar, Mauritania, Somalia and South Sudan also scored low for at least three indicators. All

[9] Questions and Answers : Gender Equality Strategy 2020-2025, European Commission,2020, Brussels, Link: https://ec.europa.eu/commission/presscorner/detail/en/qanda_20_357 (consulted on September 08 2020)

[10] 'Bringing Africa Up to High Speed', International Finance Cooperation 2019, Link: https://www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/news+and+events/news/cm-stories/cm-connecting-africa (consulted on September 08 2020)

countries in this cluster have in common a systematic low score for the indicator "% of individuals using the internet", indicating that a low percentage of their population "have used the internet in the last three months from any device". Few countries had encouraging progress on gender equality and some had data gaps in this area.

Eight countries (Equatorial Guinea, Djibouti, Eritrea, Somalia, South Sudan, Comoros, Sao Tome and Principe, and Seychelles) had significant data gaps and were not included in the Gender Gap Report nor the GSMA Mobile Connectivity Index. In-depth research and stakeholder interviews for twelve countries from the different clusters (Cameroon, Côte d'Ivoire, Democratic Republic of Congo, Kenya, Mozambique, Niger, Nigeria, Rwanda, Sudan, Sierra Leone, Uganda, and Zambia) were carried out.

Challenges and opportunities

Across most countries in Sub-Saharan Africa, there are a number of cross-cutting challenges to addressing the gender digital divide. Deeply entrenched **sociocultural factors hinder women's access to digital** through prohibiting access to mobile phones, use of internet, or developing digital literacy. Furthermore, there is a lack of cybersecurity and gender-sensitive frameworks and policies to protect women and girls online. Finally, gender and digital data is often incomplete and unavailable therefore not able to inform decision-making.

When looking at the D4D priority areas, there are a number of critical constraints. In terms of **connectivity and infrastructure**, there is limited availability and reach of basic infrastructure (only 58% of Africa has internet exchange points[11]) and challenges in mobile phone ownership due to prohibitive costs in purchasing handsets (with the highest gender gap in mobile phone ownership of 17% in Mozambique and Uganda[12]). Furthermore, affordability of access, even when infrastructure is in place is prohibitive for many.

Digital skills and literacy also present major challenges, particularly for women who lack knowledge and awareness about internet and technology. Similarly, they are often fearful of the risks associated with internet use and lack trust in internet and technology. Social norms also discourage women and girls from accessing education especially in the areas of Science, Technology, Engineering and Mathematics (STEM).

Whilst digital technology can be a key driver for **job creation and entrepreneurship** there are also barriers to entry for many as a result of the lack of skills and knowledge and sociocultural norms. The main challenges faced by women include structural regulatory and social barriers, limited access to capital and assets, lower levels of education and skills than men, as well as lack of representation in decision-making and leadership positions across public and private sectors. Furthermore, there is a distinct lack of investment in women-led businesses, and those focusing on digital technologies. Finally, whilst **digital is a key enabler for sustainable development**, many solutions are not designed to target women and as a result often women are left behind or not able to access such services.

In considering these challenges, there are a number of opportunities, such as that addressing the "mobile phone access gender gap" will help to address the internet access gender gap; addressing the gender gap in digital literacy and skills to bridge the "gender digital divide" and investing in female entrepreneurs to lead to job creation and social outcomes. Such as the case with Ride, Ethiopia's number one taxi transportation system, founded by a young woman entrepreneur. Other examples of these opportunities are presented in the country case studies annex.

[11] 'Digital Development: Africa's Connectivity gap can map tell story', World Bank Group, 2019.
[12] 'Mobile Gender Gap', GSMA, 2020.

Good practices and lessons learnt

Looking at good practices and lessons learnt from previous programmes, initiatives and innovations to **increase women's access and connectivity**, an enhanced focus is important on areas being left behind, namely rural areas where women face a "triple digital, rural and gender divide"**.** Strategic partnerships such as SMART Africa and Programme for Infrastructure Development in Africa (PIDA) can help to bring affordable broadband to these key populations across the continent. Furthermore, the promotion of creative solutions such as the development of offline products that would benefit women given their lower level of connectivity, such as eGranary's Digital Library to access offline educational materials.

In terms of skills development for women and girls, implementing policies to incorporate **digital skills** into secondary education should be complemented by alternative and creative digital training programmes tailored to existing skill gaps and considering the specific barriers faced by women. Tying in private sector support through tech hubs to provide more diverse education options as well as through a community approach with women mobilizers has demonstrated success in increasing women and girls' participation and access to digital skills and opportunities. Examples of alternative ways of breaking down barriers to STEM and digital skills for women and girls include WiderNet in Ethiopia with the Girls can Code Project and AkiraChix NGO based in the slums of Nairobi, Kenya. Yet, sustainable funding for these types of initiatives remains an issue.

Good practices on digital entrepreneurship for women and girls point towards the promotion of **social and regulatory frameworks that are conducive to women's economic empowerment**, **enhancing women's access to financial assets** and **providing gender-sensitive entrepreneurship training**. Venture capital funds oriented towards to women such as the female-led Janngo in Côte d'Ivoire and the Affirmative Finance Action for Women in Africa (AFAWA) help to level the playing field for women entrepreneurs. Furthermore, encouraging **representation of and collaboration between women** in the tech sector has shown to encourage other women to participate in the sector.

Finally, as a 'mobile first' continent, both African businesses and consumers are quick to embrace and exploit the potential of the mobile internet. **Mobile connectivity has catalysed the development and uptake of a wide variety of e-services** across Africa, including mobile money payments, e-health, EdTech, AgriTech, and insurance companies some of which target women users. E-services can be particularly effective because of their ability to bring information and services to women in remote, rural areas. Apps like Giftedmom in Cameroon provide alerts for maternal and child health appointments and mAgric in Ghana facilitate mobile cacao farmer registration (25% women), which help empower women, making them more connected and safer. E-services whether through apps or online platforms provide access to information, services and life-enhancing opportunities, such as health information and guidance, financial services and employment.

Overview of European Commission initiatives

A review of active or past (10 years) EC projects in Sub-Saharan Africa with components on digital and gender equality revealed a varying degree of focus for both components. Certain project documents included explicit references to digital/ICT and/or gender/women, with these being core components of the project design. In others, there was little or, in some cases, no specific reference to digital/ICT and/or gender/women. There were a high number of projects in the Southern Africa region in addition to four regional SSA programmes. In terms of the gender component, countries in South and East Africa presented projects with a greater focus on gender.

Proportionally, EC initiatives are more present in 'medium-scoring' countries and less present in 'high-scoring countries'. The vast majority of country-specific projects undertaken in low and medium scoring countries fall under the 'digital technologies as an enabler for sustainable development" pillar. **The absence of 'connectivity and infrastructure'**

projects in 'low-scoring' countries, for which connectivity remains a structural challenge, is notable. It is worth noting, that **despite representing the lowest number of countries, the 'high-scoring' clusters (namely South Africa and Ghana) present the most diverse project portfolio, covering three out of four D4D pillars.** Finally, DEVCO is not present in any countries with significant data gaps in both digital and gender).

Within the portfolio, there were no projects with a specific focus on **digital skills and literacy**. Whilst multiple projects may have a small component related to digital skills and literacy, it was usually included as a minor activity, and the core focus was the technology, system or database development (rather than enhancing the skills and capacity-building to make use of the technology). Similarly, there are no projects to date aiming to develop and deliver data literacy training specifically for women and/or girls. Seven projects from the sample fell under the **"digital entrepreneurship and job creation"** pillar and targeted agriculture or cross-cutting sectors related to entrepreneurship and job creation.

Among the projects analysed, there were 46 of the 55 projects that fell under the pillar on **digital technologies as an enabler for sustainable development**. The main sectors targeted by these projects are: agriculture (most predominant), health and nutrition, environment, energy, governance, private sector development and education.

Policy recommendations

The policy recommendations structured around the four D4D priority areas suggest how digital tools and technologies can be leveraged appropriately and adequately to support the advancement of gender equality and the empowerment of women and girls. **As such, the recommendations aim to ensure that an explicit focus on gender equality is integrated effectively in all digital strategies, policies, plans and budgets (within and outside the EU), and that these policies and strategies effectively meet women's and girls' needs, circumstances, capabilities and preferences.**

First off, there is the need to **advance "digital for women" policy and regulatory frameworks**. DEVCO has an important role to play in advocacy and diplomatic efforts to enhance technical support to governments and visibility for designing policy strategies and mainstreaming gender in digital strategies. As the development of the digital economy and the adoption of e-services continue to rise, it is increasingly urgent to develop strategies and regulation to tackle the risks associated with data protection, privacy and gender bias.

Specific recommendations on policy and regulatory frameworks
Conduct and support diplomatic efforts to advance the "digital for gender" agenda and accelerate the adoption of specific "digital for gender" policy frameworks (strategies, action plans, multi-stakeholder initiatives etc.) at the national and regional levels.
Advocate for and provide technical support to advance gender-sensitive regulatory reforms and policies about cyber security and artificial intelligence. Ensure that specific security challenges faced by women online, and the risks of gender (and racial) bias in artificial intelligence algorithms are taken into account.
Advocate for mainstreaming gender equality in all government, private sector and civil society strategies, policies, action plans and budgets related to the digital sector. Provide the necessary technical support and capacity-building to do so and promote cross-sector collaboration.
Advocate for the inclusion of women in the policymaking process by collaborating with government and its partners to demonstrate the importance of inclusive and participatory approaches, for instance by using examples from countries with similar contexts.
Support initiatives, both governmental and CSOs, which help to strengthen legal protection of the online rights and privacy of women and men, including through stronger data protection laws and digital literacy. Ensure that local rules and regulations about data privacy and security are understood and taken into account in all digital interventions, i.e. existing legal and regulatory framework regarding online harassment and violence (consider for example if women and girls are able to take legal action against perpetrators of online violence).
Conduct system analyses to understand the multidirectional impacts that gender inequalities have and how they impact different aspects of digitalisation.

As highlighted throughout the report, it is particularly important to invest in infrastructure to prevent barriers to access as well as focus on the connectivity gaps in rural areas, which is indicated in the recommendations below.

Specific recommendations on infrastructure and connectivity
Address the lack of infrastructure across the region by expanding fiber optic cables through multi-stakeholder partnerships. Prioritize rural and remote areas.
Overcome gender gaps in device ownership through creative approaches, such as promoting and supporting the use of communal devices.
Address the gender gap in mobile-phone ownership as a strategy to enhance women's access to connectivity. Establish partnerships with the private sector as needed.
Develop and/or support gender-sensitive "digital safe spaces" or ICT hubs for accessing digital technologies and/or e-services. In addition to women-only spaces, support mixed spaces through a community-based approach and ensure both women and men are engaged.
In all digital projects, undertake activities/modules (amongst women, girls, men and boys) that deconstruct traditional gender roles in order to lift sociocultural barriers hindering women's access to digital technologies.

A collaborative approach is needed to improve women's **digital literacy and skills,** which has an insufficient focus and resources in existing programmes. In collaboration with the relevant stakeholders (i.e. public, private, CSOs, etc.), DEVCO should increase the number of digital literacy activities and/or projects to ensure that women and girls gain the skills needed to navigate the 4th Industrial Revolution safely and effectively.

Specific recommendations on digital skills and literacy
Promote the topic of digital literacy and skills as a core aspect of DEVCO's 'digital for women' approach, highlighting its multiplier effect for women and girls, with the goal to increase the EC's focus and funding towards digital literacy and skills activities, projects and programmes.
Support governments and other partners within the education sector in developing digital literacy modules for school curriculum across different levels. The goal is to promote a better understanding of the multiple technologies available, their implications and applications, as well as basic knowledge about privacy and protection of personal data and information.
Directly or indirectly develop and/or fund digital literacy projects and/or programmes, adapted to the literacy levels and digital use of the population subgroups (defined by gender, age, socioeconomic background, rural/urban etc.). Participants should learn basic skills to navigate the 4th Industrial Revolution era, targeted to their needs.
Where applicable, fund and/or support the work of CSOs, community groups or local channels that are already promoting women and girls' digital and/or data literacy.
Combine both public education on digital with private sector education initiatives such as tech hubs and incubators to provide alternative training on digital basics and tools.

Unlocking the **potential growth of women's participation in digital labour and/or entrepreneurship markets** requires a comprehensive set of actions to promote a conducive regulatory framework and inclusion through adapted services (e.g. financial) addressing their needs and bridging knowledge gaps (i.e. digital literacy and skills).

Furthermore, there is a need for **solutions to be market-driven** and for projects to have greater focus on the sustainability of the supply-chain beyond the life of the project through an improved market systems approach.

Specific recommendations on growth, entrepreneurship and job creation
Advance and support regulatory reforms and policies relating to financial inclusion. Promote the design and implementation of conducive regulatory frameworks to unleash women's digital entrepreneurship potential, for e.g. supporting regulatory and policy reforms to tackle discriminatory laws that require a husband's permission for activities such as obtaining a loan or limit women's ability to travel internationally, as well as tackling customary laws that hinder women's access to assets/collaterals.

Pursue efforts to expand the offer and adoption of mobile-based digital financial services (FinTech) to increase the financial inclusion of women entrepreneurs in Africa (i.e. facilitating access to financing, technical assistance and regulatory support). It is vital to collaborate with service providers and user centered designers to ensure that technology works for those who are most excluded.
Develop specific projects to support women entrepreneurs (such as capacity building programmes, investment funds, and mentoring schemes) tailored to their specific needs, time and resource availability, i.e. gender-sensitive entrepreneurship training, supporting tech hubs in providing mentoring programmes, etc.
Address the underrepresentation of women as leaders and entrepreneurs, across the innovation and digital ecosystem, i.e. by promoting and supporting female only networking avenues; identifying, supporting and rewarding existing female innovators and champions (in particular those embedding gender, inclusion and innovation in their products and services) etc.
Partner with the private sector to enhance the offer of services and solutions targeting women's needs, i.e. through inclusive marketing and/or awareness raising campaigns, tailored services, such as targeted financial services and products etc.

The multiplication of mobile-based e-services across Sub Saharan Africa has been embraced by both African businesses, governments, consumers and citizens. To ensure gender equality, existing initiatives should be supported and leveraged to identify and address critical gender barriers throughout the lifecycles of products, services or programmes with a holistic approach and collaboration. **By better defining innovation, beyond technology itself, donors may have more meaningful and effective guidance for project design or innovation fund windows.**

Specific recommendations for digital as an enabler for sustainable development and e-services
Identify mobile-based e-services 'niche' sectors that can particularly benefit women and develop 'digital for women' projects by design, leveraging the EC's sectoral expertise (e.g. e-health, financial digital services etc.).
Identify, partner and/or channel support towards existing systems, platforms and/or stakeholders advancing the digital for gender agenda. This is all the more important, as often communities and stakeholders are overwhelmed with development pilots and projects and may not be eager to participate in new initiatives.
Leverage the local ecosystem (i.e. online and offline networks, citizens, etc.) and their knowledge production (i.e. technological landscape, politics etc.) to inform needs and situational analysis, including understanding about the existing e-services, whether there is internet access or reliable power, government policies in place that support the use of technology etc.
Consider multiple forms of innovation and avoid assumptions that innovation requires the most advanced technologies. Consider low-tech and offline gender-sensitive solutions when appropriate (for e.g. developing offline solutions in remote and rural areas that lack the relevant infrastructure such as electricity or the internet).

In addition to the D4D structured recommendations, three **cross-cutting recommendations** are suggested. The first is the need to **transform institutional culture and knowledge to systematically promote and support 'digital for gender'** through the development of processes and internal mechanisms to track and measure gender equality. In particular, the importance of building internal expertise and capacities at the intersection of gender and digital that can then provide capacity building support. Secondly, **effectively mainstream 'digital for gender' throughout the project cycle,** adopt participatory approaches to project design and monitor to ensure women and girls are part of the process. Finally, **channel funding to support the implementation of 'digital for gender' programmes and data collection** could help to leverage other funds through improved visibility and informed decision-making.