From the Field

Gender Development in the Digital Age: ICT Training for Tanzanian Schoolgirls

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This article examines efforts to empower young Tanzanian women by leveraging opportunities in information and communication technology.

Industrial Revolution

The mechanization of the textile industry in Britain in the late 18th century marked the first industrial revolution. Two centuries later, the second industrial revolution arrived with the age of mass production and automated manufacturing. Since the mid-20th century, humankind has been experiencing a groundbreaking transformation in how we produce and consume, in a third industrial revolution described as an intersection where the lines between physical, digital, and biological technologies are blurred.[1]

History suggests that industrial and technological advancement constitute key vehicles of economic growth, improved standards of living, and material affluence, which contribute to development. However, if previous industrial revolutions are measured by global economic and social inequality, it remains unclear how much progress has actually been achieved. Nonetheless, many still cling to the expectation that developing countries will seize this opportunity to eradicate existing inequality and contribute to economic, social, and environmental development in a sustainable manner.

Internet Penetration and the Gender Gap in Tech

According to the International Telecommunications Union, as of 2016 there was a 12 percent gender gap in Internet usage across the globe. When it comes to the least developed countries, this number is up almost 30 percent. This statistic is also suggestive of women's participation, achievement, and continuation in science, technology, engineering, and mathematics (STEM) education as well as in the information and communication technology (ICT) sector. In Tanzania, the ICT sector has particular potential to empower women; the World Bank reports that Internet penetration in the country remains relatively low at 13 percent, while women make up almost half of the labor force – mainly in the informal economy. Recognizing this potential, there have been many initiatives from both the public and private sectors in Tanzania. I have had the privilege to take part in one of these initiatives – Apps and Girls.[2]

Apps and Girls

Considering young girls as agents of change and future leaders, Apps and Girls strives to provide young girls aged 13-19 with entrepreneurship skills and technical tools so that they can solve problems within their communities by leveraging technology, creating sustainable social enterprises, and bridging the gender gap in the ICT sector. To achieve this, Apps and Girls offers young girls a wide range of support, including technical training

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1   Klaus Schwab, "The Fourth Industrial Revolution: what it means, how to respond," World Economic Forum, https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/.

2   For more information, see www.appsandgirls.com.

Picture by Thu-Phung Banh, Tanazania

courses (coding and web development), soft skills workshops (entrepreneurship, presentation, and design thinking), hack-a-thons, boot camps, local and international competitions, and internship opportunities. In addition to this, the organization accommodates and mentors its beneficiaries through a three-year incubator program. As part of the mentorship program, the girls also get the opportunity to visit companies, organizations, and public offices in order to learn how they operate and explore their areas of interest.

Personal Experience – Lack of Access

Working with young girls from public secondary schools in Dar es Salaam, I saw first-hand their passion for learning beyond what their schools could offer. Lack of access to ICT knowledge and guidance is the main obstacle in empowering these girls. I visited three school labs where the IT infrastructure was not advanced enough, but the students were eager to gain as much knowledge as possible from their technical training sessions. I met Asha and Fatma Abbas, who travel at least four hours back and forth just to get more knowledge and guidance. There is something about coding that attracts these young girls, many of whom code with pen and paper since access to a computer is not a given. I asked myself many times: What can the public and private sectors do to improve these girls' access to the world of information on the Internet?

Personal Experience – Disparity Between Public and Private Educational Institutions

Another thing that I came across was the disparity between public and private educational institutions in Tanzania. While the recent establishment of free primary education has increased the number of enrolments, the quality of education has decreased drastically due to lack of resources. Private schooling has become the ideal option for those who are in search of better education and who can afford it. Perceiving public education as lacking quality and existing only for disadvantaged children, Tanzania's middle and upper classes prefer to enroll their children in private schools.[3] Based on my observation, the low-quality education has direct impact on students' motivation, achievement, and confidence. I met several female managers with private school backgrounds who expressed different attitudes and perceptions compared to others who were educated in public schools. Empowerment goes together with self-confidence; I was told that the girls do not lack ideas to change the world. However, there are few initiatives to help young girls build the confidence in themselves to pursue them.

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3   "Low quality of public schools drives parents towards private education in Tanzania," (ActionAid, 2017), 2, http://www.actionaid.org/sites/files/actionaid/tanzania_policy_paper.pdf

Personal Experience - Public Sector's Involvement

During my time in Tanzania, I met so many inspiring girls who hold ideas or leverage technology in order to solve societal problems, such as offering sexual health education to teenagers or creating employment opportunities for housewives. I had the pleasure to mentor some of them, and to make sure that their ideas received sufficient support to materialize. Some of these ideas have received international attention. For instance, one of the projects consisted of developing an app to detect fake or expired medicine. My mentee and I met with the Ministry of Health and received interest, enthusiasm, and support to develop the project further. This is a good sign that organizations within the public sector are interested in supporting these young change-makers.

Personal Experience – Private Sector's Involvement

Needless to say, it is important to mention the crucial role of the private sector in the field of ICT for development (ICT4D). As part of my work with Apps and Girls, I reached out to many tech corporations for potential partnerships. Surprisingly, most of them expressed interest in supporting the initiative and agreed that it is important to empower more girls to pursue education and careers in the ICT sector. While corporate social responsibility (CSR) is still a relatively recent concept among local companies, the initiative has received both in-kind and financial support as part of CSR efforts by multinational tech corporations that operate in Tanzania.

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Closing

Tanzania still has considerable work to do to empower more women to participate in the formal economy – especially in the ICT industry. However, observing the many initiatives to equip girls with technical skills and ignite their confidence, can-do attitude, and creativity, I can see that Tanzania is equipping itself in order to be part of the ongoing socio-technological changes. The future looks promising, and I believe in the many bright young girls in Tanzania as the next generation of leaders who will play a central role in their country's development.

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Picture by Thu-Phung Banh, Tanazania