

Nairobi 1

Nairobi Bureau  
K-12 World View

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Angola	Congo	Guinea	Mauritius	Sierra Leone	Zambia
Benin	Cote d'Ivoire	Guinea-Bissau	Morocco	Somalia	Zimbabwe
Botswana	Democratic Republic of the Congo	Kenya	Mozambique	South Africa	
Burkina Faso	Djibouti	Lesotho	Namibia	South Sudan	
Burundi	Equatorial Guinea	Liberia	Niger	Sudan	
Cameroon	Eritrea	Libya	Nigeria	Swaziland	
Cape Verde	Ethiopia	Madagascar	Rwanda	Togo	
Central African Republic	Gabon	Malawi	Sao Tome and Principe	Tunisia	
Chad	Gambia	Mali	Senegal	Uganda	

The Price of Education.....Yelena Lyudmilova

Educational Technology Interventions in Sub-Saharan Africa.....Matthew Farber

The Digital Divide in South Africa.....October Hudley

Arab Spring.....Heather Nydam

The history of the African continent is as synonymous with conflict as it is with re-invention and rebirth. Recent history, particularly the post-colonial era, paints a gruesome picture of revolution, bloodshed and the unwavering clash of cultures. Whether one is talking about the Rwandan genocide (Genocide Archive Rwanda, 2013), during which Tutsis were violently executed by the hands of their fellow countrymen, or the plight of the Sudanese families marching through merciless deserts into neighboring Chad (UNICEF, 2005), and most recently the fiery and passionate riots of the Arab Spring (UPI, 2012). The people of the African continent are subject to some of the most punishing environmental and man-made living conditions on earth (Le Billon, 2001), a testament to the strength and perseverance of its people.

As the violence subsides and rebirth ensues, the children of Africa become the vessels of its future. Presently, Africa is experiencing a commodities war, the collision of dogma (Tetlock, 2005) juxtaposed to the definition of economic growth by Western Standards. A negotiation between the existing heavily patriarchal cultures, a common factor in the social consciousness of nations and tribes throughout most of the African continent, and the heavily westernized international commerce community (Kambarami, 2006). In its attempt to embrace growth, the various tribes and countries of Africa must delicately negotiate the elements of culture, religion and the effects of widespread poverty (Irobi, 2005). South Africa, as an example, is a nation readily recognized by the international community as embracing modernity. However, despite relative progress, South Africa is representative of the significant cultural struggles and disparities developing in the clashing of the Western and traditional cultures. Emerging through the convoluted tides of war, peace, and recovery is the economic conflict of educating marriage-age girls.

### The Price of Education

The United Nations Millennium Goals, published in September during the annual UN Global Compact Leaders Summit 2013, renewed the commitment to eight global millennial goals to be achieved by 2015. Two of the eight goals are “Promote Gender Equality and Empower Women” and “Achieve Universal Primary Education” (United Nations). Gordon Brown, former British Prime Minister, said that religious fanatic groups, such as Boko Haram, want to stop children from being educated by Western Standards. Recently, Boko Haram, whose name translates to “Western Education is Sinful”, murdered 50 college students in Nigeria (WNYC, 2013). Gordon Brown did state the despite the challenges faced by boys and girls of Africa, young people are demanding there right to education. This revolution in attitude comes on the coat tails of political transformation, much like that of the Arab Spring (WNYC, 2013). Gordon Brown cited the change of fanatic dogmatic attitudes as the key to achieving the goal of educating young girls.

Abu, an immigrant from Ghana, was interviewed to provide an understanding of traditional views. He represents a perspective of a man who had grown up in a traditional tribe, yet ventured to the West (Turkey and the United States) to pursue an education, and employment. He has been in the United States for 12 years.

Interviewer: *“I would like to speak with you about education policy in Africa for twelve to fifteen year old girls.”*

Abu chuckles, hiding a grin with his hand as he bows his head out of modesty. “ There is much to say, I will tell you what I know.” Abu described how “things were” in his tribe in northern Ghana. He made sure to reinforce that all tribes are different, and countries are different, but the general idea was the same. Girls may be assigned to a husband as early as eight (8) years of age. Marriage and dowry, as it were, is a significant channel of trade for many families, often resulting in a large acquisition of livestock for the bride’s family. Livestock is considered to be a significant representation of wealth for a man. For each bride, a man can receive four cows. Abu smiled, “If a man has four daughters, he can have sixteen cows. He is a very rich man.”

Interviewer: “*What would happen if the girl was educated, would she still be worth four cows?*”

Abu grins again, but now, rather than bowing in modesty, he leans back against a desk. He explains that a girl’s primary goal, particularly between the ages of 14 and 18, is to be married. If she is not married after the age of 18, it is deemed that something is wrong with her and she becomes a burden to her family. If a girl continues to pursue her education during this age, she may not be considered fit for marriage because exposure to foreign ideas would spoil her as an obedient wife and learning in the same school as teenage boys would compromise her purity and reputation in the community. The girl would study in the “white devils schools” – a euphemism Abu was cautious to use.

The cultural clash facing nations of the African continent is quite similar in nature to the cultural clash which occurred during the second feminist movement in the United States. History documents second-wave feminism as a movement headed by privileged women, often

reaching back to Betty Friedan's *The Feminine Mystique* as a catalyst for change (Thompson, 2002). A backlash to the movement by feminists of color, the likes of Michelle Wallace, Patricia Hill Collins, Gloria Hull, Patricia Bell-Scott, and Bell Hooks, led to the inclusion of race-related subjects in the national social movements within the US during the 1990's, and later paved the road to a more inclusive and transformative feminist movement (Fudge, 2005).

Similarly, as individuals of nations and tribes across the African Continent are re-defining their identities, the transformation is influenced by the dissemination of Western Culture through altruistic entities such as religious missions, non-profits, and private philanthropists. A general sentiment in the nations and tribes across Africa is that the decision to educate a daughter comes at a social and economic price, whereas in the West, education is deemed to be the salvation out of poverty (Kim, 2005). The potential consequences of branding educated girls as "not marriage material" brings forth a conflict between established traditional practices, and the dedication to a Western vision of success. Emerging technologies have the potential to bridge the gap between traditional views on the social roles girls' play and new demands placed on African nations as members of the global marketplace.

### Educational Technology Interventions in Sub-Saharan Africa

In late August 2013, the troubled east African nation of Liberia stunned the world with an alarming story. Unlike the civil wars that recently marked its tumultuous past, this tragedy concerned the country's faltering educational system. Shockingly, every single secondary school applicant failed the entrance examination for admission to the University of Liberia (Davidson, 2013). Only a marginal number of students passed the mathematics portion of the test; no one

passed the English language section (Davidson, 2013). Even more startling was the fact that English is Liberia's official language ("The World Factbook," n.d.).

Liberia, like many sub-Saharan Africa nations, struggles to create a literate population. Although English is the nation's official language, only 20% of the population, mainly in urban districts, speak it regularly ("The World Factbook," n.d.). According to Jacob Madehdou, Executive Director of the Liberia Education Project (LEP), in rural areas, the first language children speak is typically one of sixteen different tribal dialects (personal communication, September 12, 2013). Many children from rural districts are not exposed to even English until they enter elementary school (J. Madehdou, personal communication, September 12, 2013). Learning the nation's "official language" as a second language creates a formidable obstacle to literacy; students begin school reading below grade-level. Educational technology is a possible solution to Liberia's literacy problems. Mr. Madehdou believes that "any technology for reading would be a major step forward" (personal communication, September 12, 2013).

School-aged girls in sub-Saharan Africa, like their male counterparts, often begin formal education below grade-level expectations. In some countries, like Somalia, the tradition dictates that girls receive no formal schooling at all (Kristof & WuDunn, 2009, p. 212). As girls are destined to become wives and mothers, it is common for female children to attend traditional "bush schools." It is here that girls are taught domestic responsibilities and female servitude, and often undergo genital circumcision (Azango, 2013). The coming of age rituals associated with traditions secure a girl's future and the family's economic status, in the context of the traditional definition of wealth and success.

Many schools in rural, sub-Saharan Africa lack basic items such as books, desks, chairs, and electricity. To that end, UNICEF Innovation recently unveiled the Mobistation project, or

the “digital school in a box” (“Mobistation,” n.d.). Each Mobistation is projected to serve 100 – 200 students, “built around a solar-powered laptop with Internet connectivity, a projector, a speaker, and a document camera” (“Mobistation,” n.d.). Mobistations will be first deployed in Uganda this year. It is projected to spread across eastern Africa, perhaps for use in medical clinics. In a similar initiative, UNICEF also designed a solar-powered computer, fashioned from reclaimed steel drums, nicknamed the “digital drum” (“UNICEF-developed Computer Kiosk Aims,” 2012). This type of mobile and independent technology allows for school-age girls to comply with existing cultural standards of purity (not mixing with males), while pursuing fundamental education.

The digital divide of those with Internet access and those without is still extremely pronounced in African countries. Only one in ten citizens in Uganda have access to the Internet (“UNICEF-developed computer kiosk,” 2012). Many people in urban centers depend on Internet cafés to check email and to make financial arrangements (J. Madehdou, personal communication, September 12, 2013). Manual and electric typewriters are still commonly used for formal and business communications (J. Madehdou, personal communication, September 12, 2013). Cell phone towers have become increasingly common in Africa, while the basic infrastructure problems of stable electrical power, clean water, and accessible roads persist. As a result, many sub-Saharan African countries have skipped landline telephones and the wired Internet and have adopted the mobile web instead (“OLPC to VC: Africa leapfrogs the digital divide,” 2011).

A stable Internet infrastructure can enable students to utilize web-based learning tools. Non-government organizations (NGOs) such as One Laptop per Child and Worldreader have introduced low-cost computers to African children. The goal of the U.S.-based One Laptop per

Child (OLPC) initiative, is to see if “illiterate kids with no previous exposure to written words can learn how to read all by themselves, by experimenting with the tablet and its preloaded alphabet-training games, e-books, movies, cartoons, paintings, and other programs” (Talbot, 2012). OLPC’s computers include the XO laptop and tablet, which is pre-packaged with software, such as a word processor, an encyclopedia, and a variety of educational games (“One Laptop per Child,” 2013). The XO has a custom-built operating system, known as Sugar. The OLPC program includes solar panels to charge the devices.

In Rwanda, President Paul Kagame, a former rebel leader, embraced outside assistance from NGOs. Rwanda had lost a generation of trained teachers because of recent civil wars and genocide; a creative educational solution was needed (Wadhams, 2010). As a result, Rwanda was one of the first sub-Saharan African nations to adopt OLPC, which was originally planned to “distribute laptops to half of Rwanda’s 2.5 million schoolchildren” (Wadhams, 2010). Due to lack of funds from the Rwandan government, in conjunction with little data to support the plan’s immediate benefit, the initial order was cut down to a fraction of its original number (Shah, 2011). As of 2013, only 110,000 devices, or one tenth of the original goal, were deployed (“One Laptop per Child”). Nonetheless, reports show that OLPC students attended school more often and that they shared their skills with family members (“One Laptop per Child,” 2013).

Deploying educational technology in sub-Saharan Africa is not without significant obstacles. According to the *Wall Street Journal*, programs in Africa “fail because devices don’t get used, fall into the wrong hands, or just can’t find enough power to run” (Fowler & Bariyo, 2012). The lack of widespread adoption appears to be rooted in cultural, rather than economic or political, differences. Rural tribal traditions tend to stifle individualism (Shah, 2011). As a result, many citizens may not desire to own a personal device. It was also possible that no effort

was made from Western institutions to explain why someone would want a device of his or her own. One study suggested that the shortcoming in the OLPC adoption resulted from the fact that people were given a technology that they did not necessarily want (Shah, 2011). Furthermore, the OLPC devices were not manufactured in the continent of Africa. Worldreader, an organization that distributes e-readers worldwide, posited a possible solution: donating Kindle e-readers to students preloaded with African folktales and literature (Fowler & Bariyo, 2012). Based on editorial articles from Rwanda, perhaps the OLPC program would have been more effective if hardware was assembled locally and if the devices included applications relevant to children's daily lives in Africa (Asiimwe, 2012).

Liberia, like many sub-Saharan countries, welcomes faith-based, mission schools. One example is the Christian-based Liberia Education Project (LEP) ("Liberia Education Project," n.d.). LEP is a "small NGO, small nonprofit, with \$100,000 after four years, that built a six-classroom schoolhouse for 180 students and six teachers" (D. Fisher, personal communication, September 12, 2013). The ratio of boys to girls in the LEP's school is equal" (J. Madehdou, personal communication, September 12, 2013). According to LEP Board Chairperson Dennis Fisher, there was "motivation for a lot of folks to offer girls something other than bush schools" (personal communication, September 12, 2013). The mission school option eventually led to the closing of the nearby bush school.

Last summer, the Liberian Education Project hosted two professors from the University of Texas. The report that was filed suggested that the school's classrooms, similar to schools throughout the continent, needed to be restructured to focus on teaching reading and writing (D. Fisher, personal communication, September 12, 2013). Educational technology solutions in rural Africa do not necessarily mean that one needs e-readers or laptops to boost literacy. LEP's

school received a donation of solar-powered reading lamps. Unite to Light is an example of an organization that distributes solar-powered reading lights in developing African nations (“Unite to Light,” n.d.). This low-technology idea provides a simple, low-cost solution to a persistent problem: reading at night.

There are future plans for LEP’s school to work with a partner group to build a computer lab. The primary intention is to “have students be introduced to the world of computers” (J. Madehdou, personal communication, September 12, 2013). Connecting students from rural areas to their peers globally is promising to the builders of LEP’s school. Although the school lacks running water, it does have cell towers nearby, making Internet accessibility a reality. Mr. Madehdou pointed out that technology implementation “goes faster through NGOs and mission schools than through the government” (personal communication, September 12, 2013). There can be rampant corruption and unexpected fees involved. According to Mr. Madehdou, “If you have the means, you can have your own Internet; the financial aspect is lacking for ordinary people” (personal communication, September 12, 2013). Mr. Fisher continued that it was best to “first act, then beg government forgiveness later” (personal communication, September 12, 2013).

Students failed the University of Liberia entrance tests for a myriad of social, cultural, and economic reasons. The literacy problem in Liberia serves a wake-up call for all of sub-Saharan Africa. NGO programs, such as OLPC, Worldreader, and Unite to Light, along with UNICEF initiatives, such as Mobistation, are making inroads. Once established, the collective goal should be creating a literate, sub-Saharan population (“One Laptop per Child,” 2013).

### The Digital Divide in South Africa

The development of a reliable electric and data infrastructure is a small step towards providing the people of Sub-Saharan Africa a consistent form of primary education. Despite a functional infrastructure, the country of South Africa is subject to the digital divide. This is due to an extensive history of segregation, oppression, and clash of Western and native peoples. The residual cultural artifacts of racism and prejudice are evident in modern day South African primary education. As the field of education evolves to include digital literacy, students impacted by poverty are exponentially disenfranchised through lack of resources.

In the early 1900's, racial segregation was prevalent in South Africa. The majority of black inhabitants from South Africa were ruled by the white supremacy. During the apartheid, black and white children went to separate schools. There were differences between the schools in wealthy areas than in the less fortunate areas. The schools in the wealthy areas were private school. These schools had bright lighting. Computers were available for the students to utilize. The students were given textbook and taught by highly trained teachers (Clark, 2000).

In the poor areas of South Africa, students did not have enough books or teachers for all the grade levels. The age's children started school varied. In areas where public transportation was either unavailable or too expensive to ride, student would walk to school. The young students who lived too far to walk did not attend school. There were children who stayed home for a few years in order to assist their parents on the farm. There were students who started school around the age of thirteen (Clark, 2000).

South Africa policies, laws and programs, introduced by the Ministry of Education, focused on transforming the national system of education and training. The Ministry of Education states, "Our vision is of a South Africa in which all our people will have access to

lifelong learning, as well as education and training which will in turn contribute towards improving the quality of life and building a peaceful, prosperous and democratic South Africa” (World Data, 2010/2011).

The digital divide exists within the urban and rural areas in South Africa. This gap has the ability to reinforce and repeat the historical, political, social cultural and economic legacy practice of denial of rights and opportunities of the disadvantage sectors of the population (Langer, 2012). It is in this area that education technology may intervene, and broaden the grasp and scope of content and practice, without imposing on the resources managed by poorer communities.

In a personal communication, Mr. Haupt shared his experience as a teacher South Africa schools:

As far as technology is concerned, some schools in South Africa have it and others do not. One of the schools I worked at received some money from Oprah and had a few decent desktops. The computers were outdated by American standards, but workable enough and good to get the students used to using them and looking for information on the Internet. Sadly, most students were not allowed to use them, and they were just for the high performers.

Another school I worked at had a radio in the teachers' break room and that was it for technology. Even if they could afford a computer, it'd be looted in under a day as most of the surrounding area is controlled by a pretty rough gang known as, “The Americans.” Those are urban schools, and at least they have teachers that can at least act competent every now and again and a few teachers who put a lot of work in. Things are really different at the Ugandan and Rwandan rural schools I visited, where teachers don't really have access to books and don't really speak English all that well, passing on bad lessons to their students who are often already checked out anyways. This problem is compounded in Rwanda, as Kagame changed the official language of instruction from French to English and most of the schools are too poor to buy new books in English. As teachers can't teach in the language they are supposed to, it is pretty much a lost generation of learning for many communities (Haupt, September 10, 2013).

Thousands of students in rural South Africa are unable to receive adequate education. In 1996 the national policies mandate contracts between the state and farm owner for all schools within six months. The government failed to negotiate contract with farmers. The farm owners in retaliation would hinder learners and teachers from getting in the school by locking the schools or blocking the entrance because they lacked contractual agreement with the government (South Africa 2004).

In 2007, Oprah Winfrey invested \$40 million of her own money to build the Leadership Academy for Girls School. The school was located in Henley on Klip, South Africa, south of Johannesburg. The South African flag sits at half-mast in respect for those killed in acts of violence. Police opened fire and killed 34 striking workers at platinum mine. The girls daily bow their head for a moment of silence and pray for those who were murdered. The girls are faces with people dying from violence or AIDS.

In 1990, just before the end of Apartheid people were officially divided into four population groups. African, Whites, Coloreds, and Indians were the population groups and each attended separate schools. The South African government neglected public schools in poor and rural areas where classrooms are overcrowded and inadequately funded. There are high levels of violence; teenage pregnancy and drug abuse are examples of poor standards of education. Oprah Winfrey was proud to say her school does not waste time on discipline or bringing order to the classroom. Every girl understands the value of attending the school. Most of the girls who attend the school were born the year apartheid, which ended in 1994. The school campus was equipped with state-of-the-art equipment and laboratories with flat screen computers, a beauty salon, and a well-stocked library. According to an interview with Oprah Winfrey, she was filled

with emotions at her school's first graduation when all 72 of the girls who started graduated from the academy.

In a NTDTV (2012) interview, Oprah said, "All the money and work involved been worth the effort. This has been harder than I've ever imagine, cost more money than I've ever imagined 10 times more than I was told that it would, 10 times more work than I was told that it would, 10 times more commitment, and 10 times more devotion, yet every single sacrifice was worth it" (ABN Digital 2012).

Geographically apart in the continent, the differences between the haves and the have-nots continue. Where children in Central and Southern Africa are coping with the lack of basic infrastructure and suffering from the digital divide, the youth of northern Africa are revolting against the political and economic structures through the use of social media and modern communication technology.

### Arab Spring

The revolt of the people in several Arab nations/countries to have more rights has led to a phenomenon known as the Arab Spring. The people in these Arab nations want better working conditions, better financial means, and the freedom for economic growth. The freedoms that are being sought by the youth of these nations include education for all. "Arguably, the Arab Spring ranks among the most significant informal ICT (information and communication technology)-assisted 'learning' phenomena in 2011, whereby thousands youth used social media-as a space for self-identification, self-assertion, contestation, and mobilization around democracy, human rights, and civil liberties" (UNESCO, 2012).

The Arab Spring, coined by Western media, began its uprising against dictator and monarchy governments in 2011. The first Arab government to fall was in Tunisia. The peoples in this country had growing resentment toward the brutality that occurred by the military, unemployment, rising prices, and the corruption that followed privatization of state assets. Following Tunisia's success in removing their leader, less than ten days later, Egyptians began their revolt and were successful in removing their leader within a month's time. Libya was the next country to follow suit in their protests, while the leader fell from power this country was the first to escalate to Civil War. Yemen and Bahrain also emboldened by the events in Tunisia began to revolt. Morocco and Jordan joined on the Arab Spring, as well. However, both leaders of these countries suspecting/expecting an up rise/revolt were proactive. They offered to step back and allow for constitutional reform and reshuffling of the government. During this political strife the leaders and revolutionaries overlooked the importance of providing children an uninterrupted education.

There is strong belief that the wide and quick spread of these 2011 revolts were because of the increase of social media. The first mass protest was announced on Facebook by anonymous activists. This caused the mobilization of tens of thousands of people. "For example, while the recent 'Innocence of Muslims' video served as a catalyst for the dissatisfaction felt toward the lack of Western support toward the Arab world, the protests and riots would not have occurred without YouTube and Vimeo" (Srinivasan, 2012).

While there is a great debate about whether the Arab Spring has done more for social media than vice versa, the role of social media should not be negated. Social media empowered everyone -- activists, such as the Muslim Brotherhood to military generals and leaders -- to coordinate and communicate actions that would start a revolt. In these countries social media is

a tool for not only the liberal youth but also the choice of political parties to map their agendas. There is a significant relationship between “digital actions” and “physical actions” as they work in tandem to reach the diverse audiences. Social media has been embraced by both activists and politicians in Egypt to not only create political capital but also to subvert the competition.

All of the countries involved in the Arab Spring were successful in eliminating or changing their government’s tactics but the overall outcome, a few years later remains, to be seen. Most of the countries are still in turmoil with uncertain governments. In Egypt, the military is governing the people and the parliament cannot agree on a constitution. Islamists believe that the ratified constitutions do not serve their religion while other parties believe the government should be free of religion within its laws. The Human Rights Watch says the draft provides for basic protections against arbitrary detention and torture, but fails to end military trials of civilians to protect freedom of expression and religion (News, 2012).

So what remains of the Arab Spring countries fight towards economic liberation? Unfortunately, jobs and economics continue to be significantly low. It is estimated that 100 million jobs will need to be created to rectify the unemployment challenge that remains (Malik, 2012). The development of businesses, which does not sacrifice the dependence on natural resources such as oil and petroleum, is needed to make lasting prosperity. Mutual trade between Arab economies remains at a minimal and yet this would greatly make this area more prosperous.

One reason why economic failures have continued to ensue is because of the lack of connections between larger markets. “Without larger market caps the potential for growth and reinforces the dependence of state patronage and denies private sector an opportunity for independent growth” (Malik, 2012). The fragmentation of the Arab economies has prevented

growth and caused adverse business environments that only reinforce economic inequalities. Several other factors that lead to poor economic growth after the revolutions are the focus of most of these Arab governments to pour their money into military and defense, and public goods are underprovided along with a lack of a connective infrastructure for providing these goods.

The most puzzling of this economic fragmentation is all of these Arab nations are in favorable geographical locations not only serving as crossroads for trade but also rich coastlines for emerging markets. “Additionally, the Middle East has a geographical advantage to urbanize since a least 50% of the total population is within this area excluding Yemen (Malik, 2012).” Urbanization would deliver benefits that would affect the trade, the economic status, and the infrastructures. To achieve this success the man-made barriers would need to be destroyed, restrictions on trade across borders would need to be lessened, and the steep tariffs would need to be slashed drastically.

When considering the emphasis on education in these countries it is not on the front burner even though technology has played a significant role in the revolutions that took place. Now these countries exert their energies on developing constitutions, reexamining their laws, and engaging in civil disputes or wars. While education is important to the people, it is not the focus of these unstable governments. Therefore, technology in formal education is not the most important use of technology in these countries; yet, it is a significant means of communication for political groups that cannot otherwise gather in public forums to discuss their political views without persecution. Additionally, as religion has a stronghold and males are still predominantly in the decision-making seats, in these areas there is still a cultural adherence to the role of the woman as a homemaker and formal education beyond puberty is not warranted.

## **Visions**

South Africa, President Jocab Zuma stated, “We have a long road to travel to prosperity. We have a plan to get us to that distance – the comprehensive National Development Plan. The plan outlines the type of society we should be in 2030 where all will have water, electricity, good health, libraries, good schools, roads, good hospitals and clinics, safety and security, recreational facilities, a growing economy, and jobs. Government alone cannot build that type of society, but will need to work with people from all walks of life to find solutions (Education 2013).

The vision for the nations of the African Continent is to establish economic success, while developing cultural identities relevant to the citizens of nations and tribes. In 30 years, the girls of today’s Africa will be its women. As the women before them, hopefully these future women will engage in the economy, but not as a commodity of trade, but as an agent of commerce; free from violence and abuse.

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