

ICT-ENABLED EDUCATION TO EMPOWER GIRLS: POTENTIALS FOR THE VULNERABLE GROUPS

Sadia Afroze Sultana
Bangladesh Open University
sadia_afroze@yahoo.com

Abstract:

Financial constraints, coupled with socio-cultural construct induce vulnerability among girls in Bangladesh. This leads to them entering the labor market without skills; thus, their career becomes constricted while their potential remains unexplored. For a worthwhile life they should be empowered, which can best be done by educating them without hindering their work life. Open and Distance Learning (ODL) with the use of Information and Communication Technology (ICT) can provide such a flexible learning arrangement to working women and girls. A wide range of electronic devices at different purchasing levels can provide flexibility in the use of ICT. A retrospection of COL's Gender initiative's virtual workshop, 'Upskilling Girls in ICT through Mobile Application Development', facilitated by the author in 2020 evoked ideas and generated interest for following up with the participants regarding their use of ICT. This endeavor helped conceptualize the idea that girls of the vulnerable groups can potentially be empowered by engaging them with ICT-enabled education which can transform their lives. This study has been conducted based on both primary and secondary sources of data. Secondary sources are research materials, scholarly articles, statistics from governmental websites and official publications. Primary data were collected in two stages. Firstly, data were collected from 74 girls through structured questionnaires and focus group discussions (FGDs), who represented nine rural areas of Bangladesh. Secondly, in light of the experience and findings of these data, a follow up study of the author's previously conducted research among girl workers of six garment factories in Dhaka Metropolitan City was carried out through questionnaire survey and FGDs. The findings of this research can lead towards further educational explorations and help develop actionable plans to significantly empower girls of the vulnerable groups.

Keywords: Empowerment of girls, Open and Distance Learning, ICT enabled education

ICT-ENABLED EDUCATION TO EMPOWER GIRLS: POTENTIALS FOR THE VULNERABLE GROUPS

INTRODUCTION

Background

Of Bangladesh's total population of 169.81 million, 84.86 million are female¹. About 2.5 million (2020)² females work in the industrial sector as unskilled and semi-skilled workers. Of them, 94% are within 30 years³ with majority of them at very tender ages. This is the age when most of these girls should undergo conventional education. Instead, their entry into labor market indicates that they are either dropped out or somehow disturbed in continuing with their education. The reasons for their entry into labor market, mostly as full-time workers, are largely identified as financial constraints, burden of household responsibility and the social construct.

Statement of the Problem

Rapid automation, wage hikes and complex production processes in the garment sector and marriages have narrowed the female workers' participation in the apparel industry, in Bangladesh⁴. In fact, this is otherwise the overall scenario of female laborers in Bangladesh. When girls enter the labor market as full-time workers without skills, they remain unskilled for the rest of their life. Because the conditions for which they enter labor market improve a little for the time-being, but do not improve for good altogether as they grow in age their financial responsibility continue to rise over time. As a result, the initial vulnerability that draws them into the labor market gets compounded due to growing financial requirements and increasing household responsibilities. Upskilling them can resolve the problem, and educating them, using high flexibility technology like ICT, could be the best way out.

Significance of the Study

Females being a half of the total population is the driving force for economic emancipation of Bangladesh. They equally participate in various sectors alongside men. The development of their skills would accelerate the overall national growth by absorbing them in diverse industrial sectors with better work efficiency. Educating the female workers would enable them to keep pace with rapidly changing world, support the static economic growth of Bangladesh and help achieve SDG Goal 4 by minimizing disparities along the lines of gender. In small scale, this will help the mass population of female workers who are less educated and belong to low-income group be empowered to face the challenges of life.

Objective

The objective of this research is to study the potential of empowering girls of the vulnerable groups through ICT-enabled education.

Research Methodology

This study has been conducted based on both primary and secondary sources of data. Secondary sources are research materials, scholarly articles, statistics from governmental websites and official publications. Primary data were collected in two stages. Firstly, data were collected from 74 girls through a structured questionnaire and focus group discussions (FGDs), who represented nine rural areas of Bangladesh. Secondly, in view of experience and findings of these data, a follow up study of the author's previously conducted research among girl workers of six garment factories in Dhaka Metropolitan City was carried out through questionnaire survey and FGDs.

EMPOWERING VULNERABLE GIRLS: LESSONS FROM COL'S VIRTUAL WORKSHOP ON 'UPSKILLING GIRLS IN ICT THROUGH MOBILE APPLICATION DEVELOPMENT'

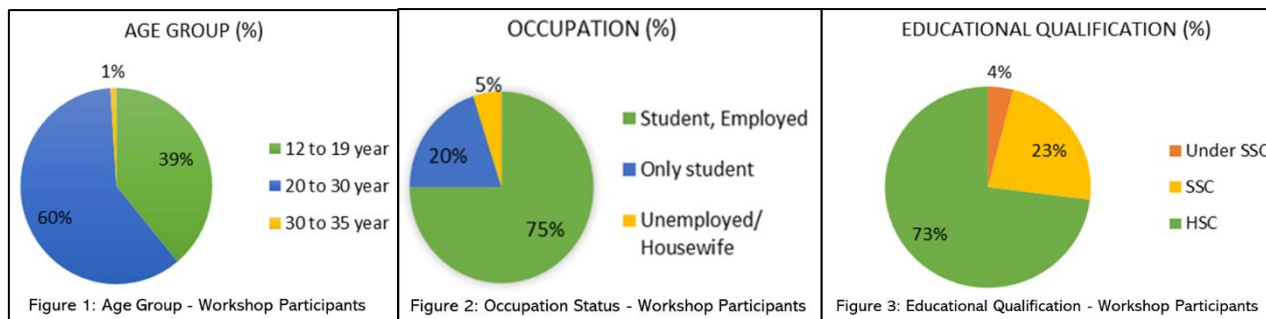
The workshop, 'Upskilling Girls in ICT through Mobile Application Development', was conducted online in June 2020. This was one of the Commonwealth of Learning's gender projects implemented by Centre for Mass Education in Science (CMES), a Non-governmental Organization (NGO) in Bangladesh that holds excellent reputation for the empowerment of socially disadvantaged girls.

Purpose of Workshop

COL's transition from 'Learning for Development' to 'Learning for Sustainable Development' to align itself with post-2015 Sustainable Development Goals created new pathways for training girls in a variety of skills. Technology offered an opportunity to upskill them in ICT related courses so that their acquired skills could support them to attain 'Learning for Sustainable Development'. The main objective of the workshop was to upskill the capability of the hard-to-reach girls in developing Mobile Apps on the MIT App Platform and subsequently publishing it on Google Play.

Participants' Background

The workshop was attended by 74 girls aged between 12 to 35 years (Figure 1) who hailed from nine rural areas of Bangladesh and had humble economic background. 95% of them were students. Of them, 75% were working in NGOs alongside their studies and the remaining 20% were only students (Figure 2). Those not studying were either dropped out at pre-secondary or at-secondary level (Figure 3). Owing to their humble economic background, they needed extra earnings to bear their household responsibility. The students needed additional money to bear their education expenditure as their mean monthly income of BDT 15,000 was insufficient.

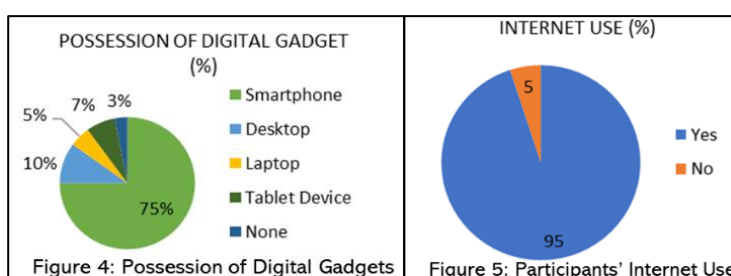


Most of the participants (97%) possessed digital gadgets (Figure 4). 95% used internet regularly (Figure 5), though mostly for emailing and using social media. They had no prior experience of learning using ICT gadgets.

Conduct of the Workshop

The workshop, in three 3-day segments dividing

the participants in three groups, was originally scheduled face-to-face to facilitate hands on training. However, sudden surge of Covid-19 prohibited getting them together. The only alternative was going online, which became a challenging venture. The planned 3-day workshop was inadequate, for the participants had no knowledge and experience of ICT-enabled distance learning. Thus, the duration of each segment was increased to 5 days. The participants joined from their respective or nearby workplaces. The workshop was conducted online via virtual platform ZOOM. Instructional videos were uploaded on YouTube with handouts sent to workplaces prior to conducting the workshop. WhatsApp connectivity was ensured to facilitate communication between and amongst them.



Workshop Performance Evaluation

Analysis of pre-workshop and post-workshop survey reflects that the workshop objectives were attained successfully, though it appeared initially that a workshop which requires hands-on practice and technology-based engagement would be difficult to conduct online. At the beginning, the participants found it difficult to build the app. But, at the end of the workshop, the scenario reversed. Only a few (6%) still faced problems in comprehending the whole process, but the majority found it easy to build the app. 93% were quite confident in using AI2 platform. They expressed that their efficiency had improved to a level that they could now develop the app independently. Most satisfyingly, 88% asserted their capability to publish the app on google play store.

The participants were followed up for a year. Their responses were obtained through FGDs and questionnaire survey. They reflected that the workshop had encouraged them to use internet-based applications. 63% said that they used the AI2 platform for app development. Most of them could derive some financial benefit out of ICT knowledge they had acquired during the workshop. The remaining 37% said that they could not utilize their acquired knowledge, but they were willing to do it in future. The scenario sounds quite encouraging.

Based on facilitation and following up of the workshop, the author's take is as under:

- Workshop participants had no prior experience of ICT-enabled education. ICT facilities had to be arranged and they had to be first trained on using Zoom, YouTube and WhatsApp for learning. So, given the right environment ICT can be inherently flexible in reaching out to learners across all segments of the society, regardless of age and educational backgrounds, by eliminating barriers of distance.
- With a wide variety of technological gadgets and mediums of transmission, ICT enables flexible and effective pedagogical approach to teaching and learning and allows progression through confirmation.
- ICT responds efficiently to personalized learning needs befitting to differences in knowledge and experience, and ICT-enabled education can be applied to meet personalized learning agenda.

- ICT-enabled education is potentially applicable for empowering girls of the vulnerable groups.

A CLOSER LOOK INTO THE VULNERABILITY

Vulnerability is the state of being powerless or defenseless caused by different situations, the risk of which one cannot afford to accept. High population density, disaster prone low topography, social norms and practices, poverty and lack of proper education are the most common causes that induce vulnerability among girls in Bangladesh. Vulnerability occurs simultaneously among both rural and urban population. The degree of vulnerability differs among different vulnerable groups. Thus, measures to eradicate vulnerability also vary depending on the cause, area, and target population. This paper focuses on vulnerable girls who for different reasons enter the labor market as unskilled workforce but given the scope and the right environment have potentials to transform their lives.

The NGO girls as discussed above are disadvantaged and vulnerable for their rural background and financial condition, the latter affecting the continuity of education as well. Girls in other sectors are comparatively more vulnerable since they bear similar characteristics with even lesser educational qualifications. The experience of upskilling the NGO girls generated author's interests to venture into the vulnerability of girls in other sectors too. The idea that evoked was to see whether ICT-enabled education could be implemented to transform their lives.

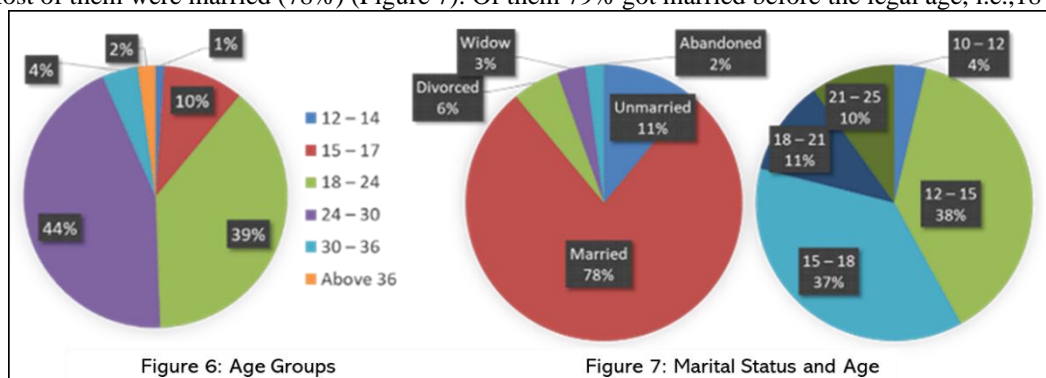
Readymade Garments (RMG) is currently the most thriving manufacturing sector in Bangladesh. It holds 12.26 % (2017-2018)⁵ of GDP by earning 84% (2020)⁶ of foreign currency from export. Of the total 4.22 million (2020)² employees in RMG sector, 2.5 million (2020)² are females, a bold 59 %⁵ that amply signifies the contribution of the female workforce. The statistics equally demands due attention as regards their work environment and well-being. Hence, for digging deeper into the vulnerability of girls, RMG sector will be discussed as a case in this paper.

Below is a case study on vulnerability of girls in RMG sector based on research carried out by the author titled 'Supporting Empowerment of Female Garment Workers in Bangladesh through Lifelong Distance Learning Approach'³ in 2019. In addition, they have also been followed up recently to check their sustainability at workplace.

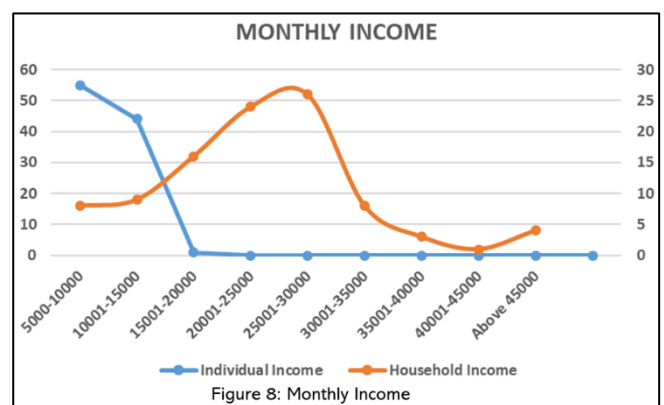
Case Study: Vulnerability of Girls in Readymade Garments Sector

Survey³ carried out among 182 female workers covering six garment factories in Dhaka Metropolitan City gives a clear understanding of their background and dire financial condition. The findings are:

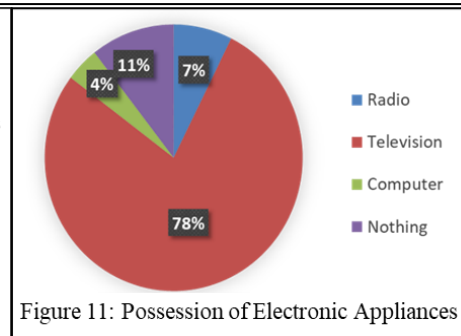
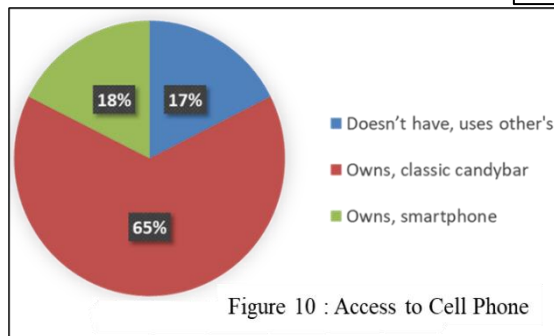
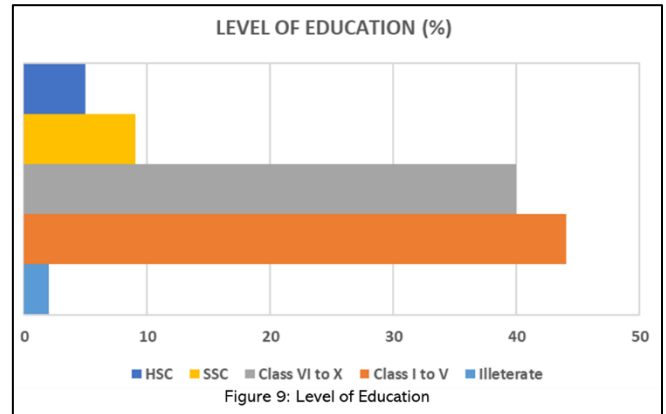
- The female workforce comprised of different age groups (Figure 6). 94% of them were within 30 years and 50% were within 24 years of age.
- Most of them were married (78%) (Figure 7). Of them 79% got married before the legal age, i.e., 18 years.



- Most of them had individual monthly income of less than BDT 15000 (Figure 8). Half of them had monthly household income worth BDT 20000–30000 (Figure 8).
- 84% were school dropped outs. Of them, 44% were dropped out at primary and 40% at secondary level (Figure 9). Poverty (55%) and marriage (25%) were the most prominent causes of drop out.



- 56% skilled-based education, but almost all of them (95%) did not have any certification.
- Interestingly, almost 93% expressed eagerness to pursue education. Most of them wanted to pursue skilled-based education, not general education. The majority assured that they would somehow manage their education expenses.



- Maximum (65%) were in possession of classic (candy-bar type) cell phones and 18% had smartphones (Figure 10). Rest 17% otherwise used other's phones. 76% did not use internet. They owned other electronic appliances, of which television was the most possessed item (78%) (Figure 11). 95% had leisure time to devote for learning. They preferred holidays as most suitable with nighttime as the next best time for learning.

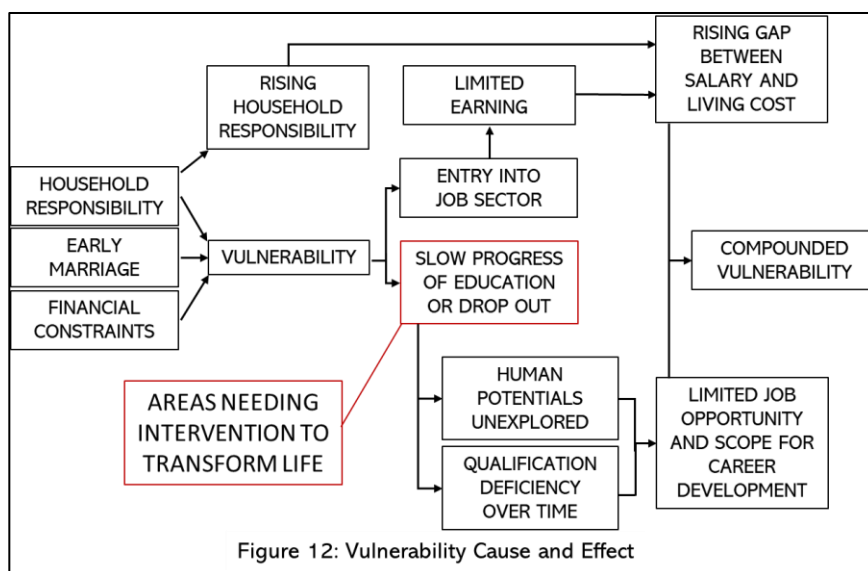
These girls were followed up later. Their responses were collected through FGDs and questionnaire. The findings are quite disappointing. Only 8% of them can live a solvent life. Others have become burdened with more household responsibilities. Their overall situation of lifestyle and livelihood have rather deteriorated. According to a survey⁴, the current ratio of male-female workers in the garment sector (41.7:58.3) challenges previously established data that women accounted for up to 80% of the apparel industry's total workforce. Research indicates that women's share of 65% of the garment sector's workforce for the last few years has dropped to 58.3% now. This is really a matter of concern that stands in the way of sustainable woman empowerment.

Analysis

Poverty and early marriage are the two most evident causes that induce vulnerability among girls. Both are interrelated. They put burden of household responsibility and require, either singly or combinedly, to find ways for earning, ultimately forcing to abandon education and enter job market at early stage. This is what happened in the case of female garment workers. But the point here is how long these girls remain labeled as vulnerable and, if so, then what can be done to eradicate this. Under current circumstances their earnings are humble, educational qualifications are meagre, workplace engagements are fulltime, but their household responsibilities are potentially mounting over time. These are the vividly observed direct consequences. There are other associated issues that have serious bearing on their life and livelihood. For instance, low educational qualification limits acquiring essential life skills, renders ignorance in knowing workplace rights and privileges, and makes them unfit in the pursuit of career. They need to gear up their qualifications and they are otherwise willing to do so.

Impact of Vulnerability

In view of above discussion and inferences drawn in it, to have a clearer view of the girls' vulnerability and its impact, a vulnerability cause and effect diagram is created as in Figure 12. The diagram shows that household responsibility, early marriage and financial constraints cause vulnerability, which then causes someone to enter job market while destabilizing the continuity of education. Lack of required education limits career opportunities or career progression and limited earning cannot cope up with rising household responsibility. Their struggle for earning the livelihood intensifies. They face difficulty to manage time and money to support attainment of educational qualification. The initial vulnerability for which someone goes for work rather worsens over time or gets compounded. In fact, they get trapped in a vicious cycle.



The initial vulnerability for which someone goes for work rather worsens over time or gets compounded. In fact, they get trapped in a vicious cycle.

OVERCOMING VULNERABILITY: THE WAY FORWARD

As shown in Figure 12, vulnerability of girls is induced by certain root causes. However, this paper addresses the issue of eradicating vulnerability once it is already induced. It is the lack of qualification or education that bars career opportunities, and hence this area needs intervention to eradicate the vulnerability. From the survey it is seen that the girls have varied educational backgrounds, thus their nature of vulnerability also varies. Prior to making need assessment of their educational requirements, it is necessary to assess their vulnerability to identify what types of education are suitable for them.

Assessing the Vulnerability

Those dropped out at primary level lack the basic life skills education. They even lack the basic education required to read and understand their workplace rights and privileges. It is practically difficult for them to go back to conventional education due to long break of study. They are also most likely to be afraid of restarting long years of study. Those who were dropped out at secondary level are likely to be slightly better as regards the basic and life skills education. Restarting education also may not be a very difficult issue for them. Those dropped out after secondary level should be able to comfortably undertake education.

Struggle for earning livelihood keeps them committed for long hours making time management for education a big deal. Conventional path for general education thus becomes nonviable. They need flexible learning arrangement, which can be done through distance education utilizing advantages of technology. But their exposure to ICT gadgets is also not adequately befitting to support educational needs. Especially, exposure to internet is not very encouraging.

The Educational Need Assessment

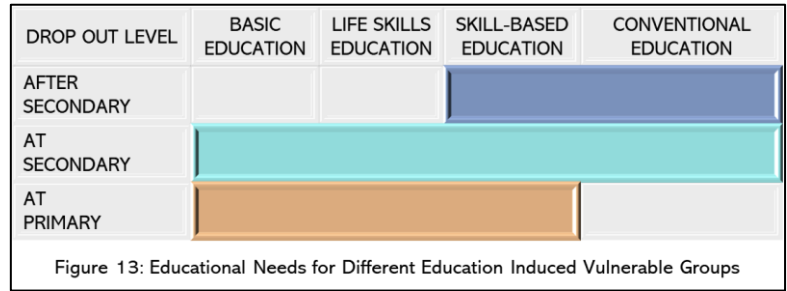
The survey finds girls with different educational qualifications. Based on drop out levels, they can be grouped as under:

- Dropped out at primary level
- Dropped out at secondary level
- Dropped out after secondary level

Based on above, the educational needs of female workers should be as under:

- **Basic Education:** Considering the dropouts at different levels, it is necessary to put them through some basic educational curricula so that they can be brought in similar platform for being put through subsequent education. Basic education is required for those who were dropped out at primary and early secondary levels.
- **Life Skills Education:** Only education may not empower them sufficiently. For example, one may make a good amount of monthly earning but in absence of her basic required knowledge on family planning, health and hygiene, household management, banking, etc. she might not be able to live up to the standard as per the earnings. Unplanned childbirth, prevalence of continuous diseases, etc. would lead to extra expenditure, thus require more earnings. So, life skills education is required to empower them in the management of daily life activities.

- **Skill-based Education:** The female garment workers have opted for different skill-based education like tailoring, beauty parlor, computer operator, etc. Separate educational curricula, combining both theory and practical, are required for skill-based education.
- **General Education:** Those dropped out at secondary level have attained certain yardstick of qualification from where they can make fresh start. Depending on their ability to cope up, they can be put through general education to acquire higher educational certificates.



The educational needs matching for different vulnerable groups based on drop out levels are summarized in Figure 13.

ICT-ENABLED EDUCATION: POTENTIALS FOR TRANSFORMING VULNERABILITY INTO EMPOWERMENT

Feasibility for the Vulnerable Groups

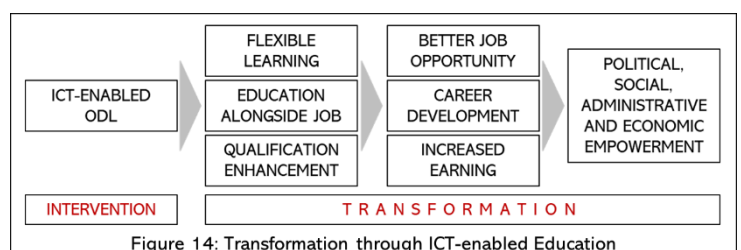
ICT is a broad term that covers all available communication gadgets such as television sets, cell phones, personal computers, tablets, etc. The ICT includes both Internet-connected devices and mobile ones supported by wireless technology. It is used to create, collect, process, and manage information. ICT makes communication faster and helps in studies because it helps to find the study materials very easily. It also provides flexibility to learners as regards time and space.

Having assessed the vulnerability of girls and their educational needs ante, the succeeding discussion focuses on whether ICT-enabled education does meet those criteria and requirements. The following characteristics makes ICT-enabled education feasible for the vulnerable groups:

- **Easy Availability:** ICT gadgets are easily available all over the country at affordable costs. For example, cellular phones come in wide varieties and in different price ranges. They are being used as an essential tool of social communication. Likewise, radio and television are common possession in almost every household.
- **Flexible Technology:** ICT uses both wireless and internet technology to communicate. While traditionally radio, television and candy bar type cellular phones used wireless technology, computers used internet technology. But smartphones and smart TVs are now using both technologies as means of communication. This brings more flexibility in the use of technology.
- **Easy Student-Teacher Communication:** ICT makes both one-way and two-way communication easier in both asynchronous and synchronous ways. It eliminates barrier in learning imposed by time and helps better time management of the learners.
- **Learning Made Easy:** Learning is made easier using different technological tools and internet-based applications. Various audio, video and simulation tools and techniques can make learning experience more satisfying and rewarding.

ICT-enabled Education as Driver of Transformation

Drop out or slow progress of education has been identified as the main area of intervention to reduce or eliminate the vulnerability of girls (Figure 12). Previous discussion also identifies that ICT-enabled education in ODL mode is the appropriate and feasible option to educate the girls. It can be applied to address all types of vulnerability due to its inherent flexible options. ICT can facilitate education at own times while allowing to maintain their jobs and the routine activities, thus enhancing their qualifications. Enhanced qualifications then widen job opportunities and help better career management. This results in increased earnings. With better qualification they become more aware of their workplace rights and privileges. They can better understand their roles and responsibilities in the family and society. They can represent others and provide leadership to those who are still lagging behind. With better earning they enjoy more financial freedom and be more powerful in the family. They become countable in their household decision-making processes. The summation of all these impact political, social, administrative, and economic empowerments of the vulnerable girls. ICT-enabled education thus works as a driver of transformation from vulnerability to empowerment, which is graphically shown in Figure 14.



CONCLUSION

Poverty, early marriage, unequal treatment and biases induce vulnerability to girls in Bangladesh forcing them to enter job market to fight for survival. Once in the workplace they find temporary solace, but their vulnerability gets compounded due to one main reason – education or lack of qualification. While imparting education through traditional methods becomes a far cry, ICT-enabled education in the form of ODL shows the silver lining. It provides ample scopes for education meeting the needs in extremely flexible ways. ICT-enabled education help enhance qualifications, thereby opening opportunities and increasing the earnings. It transforms from vulnerability to empowerment. Exploring the potentials of ICT-enabled education for the vulnerable groups should thus be considered profoundly as we work through minimizing the margins of gender inequality. In achieving the SDGs, the prime focus of the Ministry of Women and Children on ‘incorporating women in the mainstream development agenda and empowering them’ is indeed in consonance with the spirit of our present work. What is needed is raising of general awareness and holistic approach towards addressing the vulnerability of our working class. And the sooner is the better.

RECOMMENDATIONS

In this paper RMG has been discussed due to its largest share of female workforce in the industrial sector of Bangladesh. The vulnerability of girls is not a sectoral issue, rather it is all-pervasive. The concern raised in this paper is nothing new, but the measures to resolve attempt to explore the potentials of a whole new pedagogical approach that is not yet in practice in Bangladesh. It requires high level coordination and top-down approach to initiate. As such, following recommendations are made:

- The Ministry of Women and Children may take the lead role in generating mass awareness and making policy framework involving other concerned stakeholders like ministries of industry, education, information, law, and finance.
- Incentive packages for working women/girls may be introduced in the form of student loan, concession on buying ICT gadgets, etc to attract them towards acquiring education and skill.
- ICT-enabled certification courses on different skills may be nationally recognized so that both the course designers and students are encouraged to develop curriculum and undergo courses respectively.
- Educating the vulnerable girls may be considered as one of the compliance terms in the labor law of Bangladesh.

References:

1. Statistical Pocketbook 2020 (Chapter 1, Paragraph 15b), Bangladesh Bureau of Statistics and Informatics Division Ministry of Planning, Government of the People's Republic of Bangladesh. [2021-06-30-09-25-67bbe4c5c15d7773d82c86adbd26bba9.pdf \(portal.gov.bd\)](https://portal.gov.bd/2021-06-30-09-25-67bbe4c5c15d7773d82c86adbd26bba9.pdf).
2. A Survey Report on the Garment Workers of Bangladesh 2020. (9) (PDF) [A Survey Report on the Garment Workers of Bangladesh 2020 \(researchgate.net\)](https://www.researchgate.net/publication/351111111)
3. S. A. Sultana and A. Laboni, Supporting Empowerment of Female Readymade Garment Workers in Bangladesh through Lifelong Distance Learning Approach. 9th Pan-Commonwealth Conference, Scotland, 2019. <http://oasis.col.org/handle/11599/3316>.
4. Women garment workers on the decline. [Women garment workers on the decline | The Daily Star](https://www.dailystar.com.bd/news/115993316).
5. Md. Shahajada Mia, Ready-Made Garments Sector of Bangladesh: Its Growth, Contribution and Challenges, February 2019. (12) (PDF) [Ready-Made Garments Sector of Bangladesh: Its Growth, Contribution and Challenges \(researchgate.net\)](https://www.researchgate.net/publication/351111111).
6. RMG export earnings contribution to national export declined in 2020. <https://www.textiletoday.com.bd/rmg-export-earnings-contribution-national-export-declined-2020/>