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## Visually Impaired Persons and Access to Copyrighted Works: The Indian Roadmap

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## VISUALLY IMPAIRED PERSONS AND ACCESS TO COPYRIGHTED WORKS: THE INDIAN ROADMAP

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### Abstract

*The copyright regime poses challenges to visually impaired persons, such as the inability to access books written in a format suitable for their reading needs. Therefore, in 2013, the Marrakesh Treaty to Facilitate Access to Published Works for Blind Persons, Visually Impaired, or Otherwise Print Disabled was carried out to resolve these challenges. India has adopted certain exceptions in its copyright regime, which facilitate access to the visually impaired. However, the beneficial effects of these provisions remain debatable. This research is based on an empirical study conducted on the effectiveness of the provisions of the Indian Copyright Act on facilitating access to copyrighted works to visually impaired persons. It argues that although India has hit the mark in drafting suitable legislation, there are deficiencies in its implementation. Therefore, as the first country to ratify the Marrakesh Treaty, effective implementation of the provisions is needed to make it an illustrious example to the world.*

**Keywords** : *access to information copyright, Kerala, Marrakesh Treaty, visually impaired.*

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## I. INTRODUCTION

It is important for visually impaired persons to read just like normal people for several reasons, such as educational activities, leisure, or acquiring information.<sup>1</sup> This category of people are only able to use copyrights only when converted into an accessible format.<sup>2</sup> The cost of printing a single accessible format copy is quite expensive.<sup>3</sup> Further, printing duplicate copies incurs additional costs, which poses as a burden on visually impaired persons.

As a means to resolve some of the challenges faced by such persons, the World Intellectual Property Organization (WIPO) on June 23, 2013 adopted the Marrakesh Treaty to Facilitate Access to Published Works for Persons That

<sup>1</sup> Standing Committee on copyright and Related Rights, "Study on Copyright Limitations and Exceptions for the Visually Impaired," World Intellectual Property Organization, accessed 25 January 2020, [https://www.wipo.int/edocs/mdocs/copyright/en/scrr\\_15/scrr\\_15\\_7.pdf](https://www.wipo.int/edocs/mdocs/copyright/en/scrr_15/scrr_15_7.pdf).

<sup>2</sup> Rahul Cherian Jacob, Sam Taraporevala, and Shamnad Basheer, "The Disability Exception and the Triumph of New Rights Advocacy," *NUJS Law Review* 5 (2012): 607.

<sup>3</sup> Aaron Scheinwald, "Who Could Possibly be Against a Treaty for the Blind?" *Fordham Intellectual Property, Media & Entertainment Law Journal* 22, no.2 (2012): 481.

Are Blind, Visually Impaired, or Otherwise Print Disabled (the Treaty).<sup>4</sup> The primary objective is to obligate the Member States to address these problems, access, and make certain exceptions in their national copyright laws.<sup>5</sup> India was the first country to ratify the treaty on June 24, 2014.<sup>6</sup> Even prior to its conclusion<sup>7</sup>, certain exceptions were incorporated into the Indian Copyright Act to facilitate access to visually impaired persons. Accordingly, through the Copyright Amendment Act, 2012, Sections 31B<sup>8</sup> and 52(1) (zb)<sup>9</sup> were

<sup>4</sup> Marrakesh Treaty to Facilitate Access to Published Works for Persons Who Are Blind, Visually Impaired or Otherwise Print Disabled TRT/MARRAKESH/001 (opened for signature 27 June 2013, entered into force 30 September 2016)

<sup>5</sup> Hope Lewis, "Introductory Note to Marrakesh Treaty to Facilitate Access to Published Works for Persons Who are Blind, Visually Impaired, or Otherwise Print Disabled," *International Legal Materials* 52, no.6 (2013): 1312. See also Abbe Brown & Charlotte Waelde, "Human Rights, Persons with Disabilities and Copyright" in *Research Handbook on Human Rights and Intellectual Property* in C. Geiger, eds. (Cheltenham: Edward Elgar Publishing, 2015); See also Marketa Trimble, "The Marrakesh Puzzle," *International Review of Intellectual Property and Competition Law* 45, (2014): 790.

<sup>6</sup> "Marrakesh Notification No 1: Ratification by the Republic of India," WIPO, accessed 6 March 2020, <[https://www.wipo.int/treaties/en/notifications/marrakesh/treaty\\_marrakesh\\_1.html](https://www.wipo.int/treaties/en/notifications/marrakesh/treaty_marrakesh_1.html)>

<sup>7</sup> The treaty was signed on 27 June 2013.

<sup>8</sup> India, *The Copyright Act, 1957*, No. 14 of 1957, available at <<https://copyright.gov.in/Documents/CopyrightRules1957.pdf>>

Section 31B of the Copyright Act deals with compulsory licence for the benefit of disabled. The provision reads as follows:

Section 31B. Compulsory licence for benefit of disabled.— (1) Any person working for the benefit of persons with disability on a profit basis or for business may apply to the Appellate Board, in such form and manner and accompanied by such fee as may be prescribed, for a compulsory licence to publish any work in which copyright subsists for the benefit of such persons, in a case to which clause (zb) of sub-section (1) of section 52 does not apply, and the Appellate Board shall dispose of such application as expeditiously as possible and endeavour shall be made to dispose of such application within a period of two months from the date of receipt of the application.

(2) The Appellate Board may, on receipt of an application under sub-section (1), inquire, or direct such inquiry as it considers necessary to establish the credentials of the applicant and satisfy itself that the application has been made in good faith.

(3) If the Appellate Board is satisfied, after giving to the owners of rights in the work a reasonable opportunity of being heard and after holding such inquiry as it may deem necessary, that a compulsory licence needs to be issued to make the work available to the disabled, it may direct the Registrar of Copyrights to grant to the applicant such a licence to publish the work.

(4) Every compulsory licence issued under this section shall specify the means and format of publication, the period during which the compulsory licence may be exercised and, in the case of issue of copies, the number of copies that may be issued including the rate or royalty: Provided that where the Appellate Board has issued such a compulsory licence it may, on a further application and after giving reasonable opportunity to the owners of rights, extend the period of such compulsory licence and allow the issue of more copies as it may deem fit.

<sup>9</sup> Ibid.

Section 52 (1) (ZB) of the Copyright Act, 1957, as amended in 2012 reads as follows: "The adaptation, reproduction, issue of copies or communication to the public of any work in any accessible format, by—

- (i) any person to facilitate persons with disability to access to works including sharing with any person with disability of such accessible format for private or personal use, educational purpose or research; or
- (ii) any organization working for the benefit of the persons with disabilities in case the normal format prevents the enjoyment of such works by such persons:  
Provided that the copies of the works in such accessible format are made available to the persons with disabilities on a non-profit basis but to recover only the cost of production:

incorporated.

However, despite having incorporated these provisions in the Indian Copyright Act of 1957, three issues are yet to be analyzed, namely

- 1) whether these provisions have been effectively used for the benefit of the visually impaired persons in India,
- 2) whether there are any pertinent issues in the implementation of the earlier mentioned provisions,
- 3) whether these amendments offer any ideal benefit to the disabled community, such as bringing them closer to the copyrighted material.

It is against this backdrop that this recent research was conducted. The pilot study becomes relevant in the context of the analysis carried out by the WIPO Standing Committee on Copyright and Related Rights in 2019<sup>10</sup>, wherein the provisions implemented by the Member States, are exhaustively covered. However, due to the geographical limitations, this study focused on the earlier-mentioned issues with respect to only the State of Kerala in India.

This research is divided into 8, the second section analyses the copyright law exceptions to facilitate access to works to visually impaired persons, as is stipulated in the Treaty contained in the Indian Copyright Act of 1957. The third section explains the objectives and research methodology. Consequently, the fourth section is based on the availability of technological tools to improve access to reading materials used by the visually impaired in the state of Kerala. Fifth section analyzes the impact of copyright law on reading materials. The sixth section reflects on the key findings, while the seventh part recommends the relevant steps that need to be adopted. The eighth section is the concluding part of this study.

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Provided further that the organization shall ensure that the copies of works in such accessible format are used only by persons with disabilities and takes reasonable steps to prevent its entry into ordinary channels of business.

Explanation.— For the purposes of this sub-clause, “any organization” includes an organization registered under section 12A of the Income-tax Act, 1961 (43 of 1961) and working for the benefit of persons with disability or recognised under Chapter X of the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995 (1 of 1996) or receiving grants from the Government for facilitating access to persons with disabilities or an educational institution or library or archives recognised by the Government.

<sup>10</sup> Blake E. Reid and Caroline B. Ncube, “Revised Scoping Study on Access to Copyright Protected Works by Persons with Disabilities,” WIPO Standing Committee on Copyright and Related Rights, accessed 6 March 2020, [https://www.wipo.int/edocs/mdocs/copyright/en/sccr\\_38/sccr\\_38\\_3.pdf](https://www.wipo.int/edocs/mdocs/copyright/en/sccr_38/sccr_38_3.pdf); See also Caroline Ncube, Blake E. Reid, and Desmond O. Oriakhogba, “Beyond the Marrakesh VIP Treaty: Typology of Copyright Access-Enabling Provisions for Persons with Disabilities” *Journal of World Intellectual Property* 23, (2020): 162.

## II. POTENTIAL OF COPYRIGHT LAW TO FACILITATE ACCESS TO WORKS TO VISUALLY IMPAIRED PERSONS

Copyright is perceived as a hindrance to the free flow of information<sup>11</sup> for example, the conversion of books into accessible format copies requires the owners' permission, which is otherwise regarded as an infringement. The main reason copyright owners are reluctant to print accessible format copies for the disabled persons is because they feel that the market that caters for visually impaired persons' needs is unprofitable.<sup>12</sup> Therefore, they were not considered by the publishers as a "commercially viable customer group".<sup>13</sup> The copyright owners' further realized that the converted books is also used by persons that are not visually impaired, thereby leading to a loss in the market, was also another concern raised by the publishers. This concern was mainly with respect to audiobooks.

The demand by developing countries for a binding international instrument incorporating mandatory exceptions for the visually impaired persons, to be included in the national copyright laws, was finally granted in 2013, by member nations. The Treaty was enforced on September 30, 2016, with the accession of Canada as its twentieth country. Besides, it has been described as a 'human rights treaty by some commentators. This is because it is the first time human rights principles are enshrined in an international copyright treaty.<sup>14</sup> It is specifically for the visually impaired persons which has attempted to its fullest extent, to recognize their human rights.<sup>15</sup>

The Treaty obliges the contracting parties to implement in their

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<sup>11</sup> Laurence R. Helfer, Molly K. Land, Ruth L. Okediji, et. al., *The World Blind Union Guide to the Marrakesh Treaty-Facilitating Access to Books for Print-Disabled Individuals* (New York: Oxford University Press, 2017), 21.

<sup>12</sup> Shae Fitzpatrick, "Setting its Sights on the Marrakesh Treaty: The U.S. Role in Alleviating the Book Famine for Persons with Print Disabilities," *Boston College International & Comparative Law Review* 37, no. 1 (2014): 143. 139-172

<sup>13</sup> "From Better to Full Access To Works For Print-Disabled Persons," Directorate-General for Internal Policies Policy Department C: Citizens' Rights and Constitutional Affairs European Parliament, accessed 3 June 2020, [https://www.europarl.europa.eu/RegData/etudes/divers/join/2009/419610/IPOLJURI\\_DV\(2009\)419610\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/divers/join/2009/419610/IPOLJURI_DV(2009)419610_EN.pdf). See also Lida Ayoubi, "The Marrakesh Treaty: Fixing International Copyright Law for the Benefit of the Visually Impaired Persons," *New Zealand Journal of Public and International Law* 13 (2015): 266. 255-276.

<sup>14</sup> Laurence R. Helfer, Molly K. Land, Ruth L. Okediji, et al., "Commentary to the Marrakesh Treaty on Accessible Format Copies for the Visually Impaired," Copyright See-Saw, accessed 10 February 2020, [http://www.copyrightseesaw.net/uploads/fajlok/M\\_Ficsor\\_Commentary%20to%20the%20Marrakesh%20Treaty%20on%20accessible%20format%20copies%20for%20the%20visually%20impaired.doc](http://www.copyrightseesaw.net/uploads/fajlok/M_Ficsor_Commentary%20to%20the%20Marrakesh%20Treaty%20on%20accessible%20format%20copies%20for%20the%20visually%20impaired.doc)>0.

<sup>15</sup> The incorporation of the human rights principles of non-discrimination, equal opportunity, accessibility and full and effective participation and inclusion in society, as enshrined in the Universal Declaration of Human Rights and Convention on Rights of Persons with Disabilities, which are enumerated in the Preamble of the Treaty, gives an insight into the nature of the Treaty. See the Preamble to the Treaty; See also Helfer, Land, Okediji & Reichman, *The World Blind Union Guide to The Marrakesh Treaty Facilitating Access to Books for Print-Disabled Individuals*, 33.

national copyright laws “exceptions or limitations to the reproduction, and distribution rights, public performance towards facilitating the availability to accessible format copies for the benefit of visually impaired persons”. These exceptions are applicable to authorized entities working on a non-profit basis, beneficiaries or persons acting on their behalf. Another major highlight is that the treaty facilitates cross-border exchange of accessible format copies, supposing it is enacted under a certain limitation or exception pursuant to the operatives of the law.<sup>16</sup> The outcome of such a provision is that unnecessary expenses arising from the duplication of similar copies tend to be reduced to a larger extent. An accessible format published by the contracting party is distributed or made available to the beneficiaries, without the fear of copyright infringement. Furthermore, the treaty provides exemption, particularly in the case of circumvention associated with technological protective measures for the interest of visually impaired persons, considering the copyright issues that arise in the digital context.<sup>17</sup>

India being a signatory to the Treaty and the first Member State to ratify this issue, it is pertinent to analyze the provisions in the Copyright Act, 1957, which is beneficial to the disabled persons, mainly from the perspective of the implemented policies. These provisions were introduced into the Indian law before the treaty was concluded. Section 52 (1) (ZB) of the Copyright Act stipulates that adaptation, reproduction, issues associated with the access to format copies by the disabled persons or organizations working for their benefit tend not to be an infringement of copyright.<sup>18</sup> This provision is applicable to activities undertaken on a non-profit basis. Since the scope extends to “private or personal use, educational purpose or research” on disabled persons, this exception contained in the copyright law paves the way for the effective realization of human rights to education and participation in cultural activities. The activities tend to be undertaken by any person to facilitate access to the beneficiaries or non-profit organizations for the disabled peoples’ interest. Effective implementation of this copyright provision is of great benefit to the visually impaired persons in India, as it has several advantages such as enabling the reduction of unwanted duplication costs of accessible format copies by sharing it among themselves. Section 31-B of the Copyright Act 1957, which deals with the issuance of a compulsory license to the disabled, is applicable to persons working for their benefit on a profit basis. These provisions apply

<sup>16</sup> Article 5, Marrakesh Treaty to Facilitate Access to Published Works for Persons Who are Blind, Visually Impaired or Otherwise Print Disabled (opened for signature 27 June 2013, entered into force 30 September 2016).

<sup>17</sup> Article 7, Marrakesh Treaty to Facilitate Access to Published Works for Persons Who are Blind, Visually Impaired or Otherwise Print Disabled (opened for signature 27 June 2013, entered into force 30 September 2016).

<sup>18</sup> India, *The Copyright Act*, No. 14 of 1957.

not only to the visually impaired persons however it is also applicable to the disabled in general. In India, the incorporation of these provisions in the national copyright law alone does not aid in improving visually impaired persons' access to copyright works. Therefore, it is inevitable to study the impact of these provisions on access to copyright works by such persons.

The broad objectives of this study are to recognize the organizations and educational institutions working towards the benefit of visually impaired persons in the State of Kerala, identify the social welfare schemes initiated by the Social Welfare Department of Government of this state, study the practical difficulties faced by the identified organizations in facilitating access to works, analyze the practical difficulties faced by the educational institutions and to examine the extent the Indian Copyright Act provisions have been effectively used by the earlier-mentioned entities in Kerala to mitigating the practical difficulties encountered.

A pilot assessment was carried out wherein the organizations and educational institutions in the State of Kerala were identified. Further schemes initiated by the Government for the benefit of visually impaired persons have been identified. In doing so, this study primarily assessed the organizational actors' awareness of the provisions under the Copyright Act. In addition, the steps adopted by these organizations were also examined. Recommendations to improve access to copyright works, in the light of the observations made through the study period were suggested.

The qualitative approach and the purposive sampling method were adopted to acquire information about the research topic. In terms of sample collection, Kerala was divided into 3 regions, namely Central, South, and North. The snowball sampling technique was employed to identify the stakeholders in these regions. The data was collected by carrying out 2 sets of semi-structured interviews. Based on the evidence obtained, this study explores the extent the provisions contained in the Indian Copyright Act is beneficial to visually impaired persons and has facilitated their access to copyright works in the State of Kerala. The interviews which were conducted in person lasted for an hour, and have provided a first-hand account of the influence of the law on access to copyright works in Kerala from the perspective of a variety of stakeholders.

The questions were mainly related to the challenges faced by the respective schools for the blind and organizations in sourcing for materials, the awareness of the copyright law created by the beneficiaries, and whether the provisions has had any effect in improving access to materials for the visually impaired persons in the State of Kerala.



This study reported the results realized after analyzing 16 samples in total. However, 8 samples comprises of special schools (both government and private aided), 6 from organizations responsible for the welfare of visually impaired persons and the remaining 2 from individual stakeholders. The secondary data (academic literature, policy documents, websites, and media reports) provides an additional perspective as well as adds more insight.

### **III. AVAILABILITY OF TECHNOLOGICAL TOOLS FOR THE BENEFIT OF THE VISUALLY IMPAIRED PERSONS**

With the advancement of technology, there are various tools used to assist visually impaired persons. They include computer technology, tactile and auditory tools.

It was reported that these tools are being used to aid the visually impaired persons in the state of Kerala. Furthermore, the practical difficulties faced by the samples obtained, are also examined in this section.

#### **A. COMPUTER TECHNOLOGIES**

Presently, there are assistive technological devices which enable visually impaired individuals to contribute in the society. These improvements are specifically designed to help visually impaired persons and even those with other disabilities. They include

##### **1. Screen Readers for Blind Individuals**

These are software programs that allows visually impaired people to read texts displayed on the screen with a speech synthesizer. It is the interface between the computer's operating system, its applications, and the user.<sup>19</sup> A screen reader is a software application that identifies and interprets the words displayed on a screen and then represents it through text-to-speech, sound icons, or Braille output device.<sup>20</sup> These are potentially helpful for those with visual limitations, learning disabilities and illiterates. Screen reader is the primary means of accessing the internet by visually impaired persons.

The popular screen readers used in Kerala are Job Access with Speech (JAWS), Non-Visual Desktop Access (NVDA) and Occupational Researcher's Computer Assistant (ORCA). JAWS is developed by Microsoft, whereas

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<sup>19</sup> "Screen Readers," American Foundation for the Blind, accessed 06 March 2020, <https://www.afb.org/blindness-and-low-vision/using-technology/assistive-technology-products/screen-readers>.

<sup>20</sup> "List of Computer Screen Readers for Visually Impaired," Disabled World, accessed 16 November 2019, <https://www.disabled-world.com/assistivedevices/computer/screen-readers.php>.



ORCA and NVDA are open-source software. However, among the 6 selected organizations, it was discovered that 3 of the institutes actively utilize and offer trainings related to the usage of JAWS and NVDA software.

Further, the usage of screen readers is not limited to computers. Presently, smart phones have inbuilt screen readers, thereby making it accessible. Android as well as Apple devices have text-to-speech programs. One of the interviewed organizations provided smartphone trainings to visually impaired persons in Kerala. An IT trainer in one of the interviewed organizations reported that,

*“In the increasingly connected world with growing number of disabled-friendly applications on smartphones, they also offer trainings on the use of Android smartphones so that the visually impaired are also able to take advantage of the improved technology.”*

A notable organization that was interviewed in the Kerala Federation of the Blind, which was discovered to emphatically endorse the use of free and open software for the benefit of visually impaired persons. The interviewee was the State Coordinator of a project named ‘Insight’. It was started in 2007 under the Kerala State IT Mission. The initial objective was to provide an alternative channel for visually impaired people to access technology. The interviewee conceded that before the project was initiated, only the proprietary software<sup>21</sup> was available in the State. For the past three and half years, it was implemented under the wing of the Social Justice and Welfare Department of Kerala. Since the availability was limited to proprietary software, the only 2 available options for the visually impaired people were either to be absolutely rich to avail themselves of the benefit of such software or to choose unauthorized ways to find a solution to the inaccessibility situation. Therefore the primary objective of Project Insight was to illustrate a legitimate means of accessing materials using free and open-source software.

Among the schools interviewed, it was discovered that 3 of the Government Blind and private aided institutes were offering trainings related to the use of basic computer functions and assistive software. Only one of the private aided schools was found without a computer lab and teacher specialized in that area. Furthermore, 2 Government Blind Schools were found to be using both JAWS and ORCA reading assistance software. Conversely, 1 of the private aided schools was discovered to be making use of JAWS software. Another was reported to be using only ORCA software. In addition, there

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<sup>21</sup> Proprietary software is the software protected by either copyright or patent, and the right holders have exclusive rights for the use of their software.

was this private aided school that used only NVDA software alone and the interviewee lamented that the cost of purchasing a copy of JAWS amounted to INR 70,000/- (approx. 976 USD), which is quite expensive and unaffordable. Also, another disadvantage of the JAWS software as pointed out was that it is only used on one system. The interviewee claimed to discontinue usage of the software owing to its incompatibility without updating. Therefore, the school had to use NVDA which is free software. It was also pointed out that schools are making use of free software irrespective of its limitations. The interviewee further opined that the unavailability of the technology, is not the challenge, rather it was the affordability of the available one.

## 2. Screen Magnifiers for Low-vision Computer Users

A screen magnifier enlarges the texts and graphics on a computer screen.<sup>22</sup> However, a screen magnification system is loaded into the computer's memory.<sup>23</sup> Its functions are similar to a magnifying glass moved over a page, following the cursor and magnified area.<sup>24</sup> The results of the study suggest that this tool is not being used in the state of Kerala.

### B. TACTILE TOOLS

Braille system is considered to be the primary means of reading print for the visually impaired.<sup>25</sup> There are tools which utilize this system, and they include the following.

#### 1. Braille books

Braille books are the primary source of reading for the visually impaired community. In Kerala, they are highly used, especially by students in special schools and other educational institutions. It was discovered that during study, the Kerala Government provides all the visually impaired students with course textbooks, through the Kerala Federation for the Blind.

The study highlights the high requirement of braille books in Kerala. One interviewee from an organization claimed that the ability to read and write braille books leads to satisfaction. This makes them believe that they possess the ability to read and write like a sighted person. One government school was discovered to have a computerized braille press. In addition, another private

<sup>22</sup> "Screen Readers and Screen Magnifiers," American Foundation for The Blind, accessed 3 June 2020, <https://www.afb.org/blindness-and-low-vision/using-technology/using-computer/part-ii-experienced-computer-user-new-0>.

<sup>23</sup> *Ibid.*

<sup>24</sup> *Ibid.*

<sup>25</sup> "Braille: Writing System," Britannica, accessed 6 March 2020, <https://www.britannica.com/topic/Braille-writing-system>.

aided institute was also discovered to have computers with brailers attached.<sup>26</sup>

However, it was further discovered that the usage of braille has several disadvantages. One of the organizations interviewed was of the view that Braille books are extremely costly to produce. It was also discovered that during the course of this research that it is feasible to study the usage of Braille from an early age. Studying it at a later point in life tends to be extremely cumbersome. Therefore, audiobooks are found to be a preferable alternative among these organizations.

They are of the view that despite all the technological advancements, it is completely impossible to do away with braille books. Furthermore, 2 of the aided schools were discovered to freely receive these books from American Braille Press as per their long-standing collaborations. There are also some Christian organizations such as the Bible Society of India in Kottayam, Kerala, which provides copies of the Bible in Braille for the visually impaired students in one of the aided schools interviewed.

However, it was discovered that these collaborations are of little use. The books provided to these educational institutions are hardly used by the students. The reasons range from their inability to understand complex English, the use of contraction braille, and utility of the books. Besides, these usually adopt contracted braille, which is a complex and advanced form of writing that is not taught to primary school children. One interviewee raised concern that not all reading materials are available in Braille and that the available books lacks varieties. It was also opined that Braille books are limited to textbooks and some literature studied in universities. The students desire to have access to books which has regional stories and folklores. In addition, copies of the bible do not serve any utility purposes in the larger picture. One private aided school claimed that they have books written in English, Hindi, Arabic and Malayalam, which are generally read in braille. However, one of the limitations is based on the fact that these books were unavailable in large prints. According to the interviewee, supposing they are made available in large prints, it is bound to be highly beneficial for persons with residual vision. Consequently, one of the private aided schools was discovered to have a brailer. This was used to convert materials into braille, thereby producing 2 or 3 copies of some storybooks and other articles. However, the interviewee from that school stated that though they are able to reproduce copies from the masterpiece, the unavailability of thermostat paper which serves as a braille material is another burden. However, even though there are works which are available in accessible formats, its utility is relatively zero. Therefore, there

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<sup>26</sup> The brailer use a braille translation software to produce a braille copy of the input text.

is a gap between the materials required in accessible format and the available ones.

## 2. Large Printed Materials

These are documents printed in large fonts for use by partially sighted users. There is a scarcity of large-print reading materials in Kerala. These are of use to those that are partially blind. Presently, in Kerala, where there is no available source of materials in large fonts, even such persons are forced to resort to braille.

## 3. Braille Translation Software and Embossers

Braille translation software is a program that converts printed material in electronic format into Braille.<sup>27</sup> These programs have to be used with a braille embosser to produce materials in hard copy braille.<sup>28</sup> The device resembles a printer, and is used to produce materials in braille rather than ink.<sup>29</sup>

Many organizations and educational institutes have braille embossers in their respective institutions. The facility is used to produce materials for the students. However, its circulation is limited, for example, some private special schools and organizations are converting these materials into accessible formats which are being circulated only within their premises. Its restricted accessibility shows that the accessible format copies are not being shared, as the law has intended.

One major highlight is the use of Sharada braille software, developed by Mr. K. Satyaseelan that is presently the Headmaster of Government Blind School in Kunnankulam, Thrissur district, Kerala, with the support of the son Nalin Satyan. This software provides a 6-key approach using the keyboard. Unlike the braille script, this software aids, visually impaired persons to write on their own, which is properly understood by sighted persons. This is an open-source software that is freely downloaded. It is also a game-changer, especially when used in schools. The software aids visually impaired students to be able to write their exams without depending on scribes as stated by the interviewees from 2 private aided schools.

However, many respondents emphasized on the limitation that Sharada braille software is incompatible with all other operating systems, including

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<sup>27</sup> Carmen Willings, "Braille Technology for Students Who are Blind or Visually Impaired," Teaching Students with Visual Impairments, accessed 3 June 2020, <https://www.teachingvisuallyimpaired.com/braille-technology.html>

<sup>28</sup> *Ibid.*

<sup>29</sup> *Ibid.*

Windows. It is only compatible with the accessible coconut operating system on Ubuntu. Moreover, the Sharada braille uses ORCA screen reader, although an older version. However, the new ORCA version is not free. An interviewee from a private aided school stated that assuming the Sharada braille works only on Ubuntu, with some customization, then something needs to be done. Since it has been branded as an accessible coconut, a direct license from ORCA is required in order to use this software. Furthermore, due to the fact that since Mr. K. Satyaseelan has not bought the new version, only the old tends to be utilized. Since Sharada is incompatible with Windows, which is a widely used, it is therefore impossible to train visually impaired persons on ways to use this operating system.

## C. AUDITORY TOOLS

In accordance with technological advancement, presently, there are a wide number of auditory tools for reading printed material. These includes

### 1. Talking Books

These are audio versions of books recorded on cassettes, CD-ROM, and DVD. They are also made available on the internet as e-books. Talking books are increasingly gaining popularity among the visually impaired community in Kerala. However, with the use of smart phones and Digital Accessible Information System (DAISY)<sup>30</sup> devices, these auditory tools are becoming a preferred alternative to bulky braille books.

In addition, four of the interviewed organizations raised concerns over the usage of Braille books. However, they advocate the usage of audiobooks. Printing of Braille books was not feasible due to high costs and the unavailability of its printing press and human resources. Therefore most organizations prefer publishing easily accessible books by converting them into audio texts. It was discovered that one of the organizations had an audio library containing various talking books. Another organization was discovered to have a recording studio. However, it is pertinent to note that audio libraries in these organizations are accessible to mostly visually impaired persons as they are open to all, whereas those in schools are exclusive to the students.

A Government Blind School was discovered to have an audiobook library. They also publish audiobooks for their students, which are conversions of novels, magazines, and other literature texts. The interviewees from two Government Blind Schools were concerned about the predicament of the

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<sup>30</sup> DAISY stands for Digital Accessible Information System. The DAISY Consortium is an international association that develops, maintains, and promotes international DAISY standards. It was formed in 1996 by talking book libraries to lead the worldwide transition from analog to Digital Talking Books.

substantial and sizeable volumes of braille books. An interviewee from a private aided school opined that textbooks made available in audio format, tend to be cost-effective. Therefore, it was suggested that public libraries need to be equipped with audio versions of these books. An interviewee from another private aided school reported that the major advantage of audiobooks is that it is not limited to one copy. However, one book is shared among multiple people at a given time as there are extremely few copies. However, the interviewee was also concerned about the fact that the availability of audiobooks is still exceptionally low. Another interview from 1 of the private aided school in Aluva, Kerala stated that they get some books from charitable organizations such as Third Eye Charitable Foundation. It was also further reported that audio CDs are available for students after the tenth standard. Majority has audio players and voice recorders. These CDs are played in these devices and are listened to at their convenience.

## 2. Talking Newspapers

These are audio recordings of news articles in newspapers, with the increase in awareness highlighted by an individual stakeholder during the interview. The interviewee operates WhatsApp groups, which upload recordings of newspapers as audio files. These are then accessed by the visually impaired persons in the group. Therefore, talking newspapers highlights technological usage in facilitating reading materials in accessible formats.

Additionally, another Malayalam weekly magazine adopted a Quick Response (QR) code system on its articles.<sup>31</sup> Immediately, the QR code is scanned on a smartphone, the person is able to hear the story or article in the magazine.

## IV. AWARENESS OF COPYRIGHT LAW AMONG THE SAMPLES

Since the study focused on the impact of the provisions in the Indian Copyright Act on visually impaired persons, it is pertinent to discuss the awareness of this law among the samples interviewed. It emphasizes on poor awareness among the samples. However, the interviewee from the Kerala Federation of the Blind was discovered to be completely aware of the copyright law. It was believed that the law boosts the flow of content in the form of audiobooks. The interviewee further reported that,

“when visually impaired persons are young, everyone around them is enthusiastic and sensitive to their needs. Books were read to them during

<sup>31</sup> Malayalam Manorama Weekly is a magazine published by the Malayala Manorama Group in Kottayam District, Kerala.

leisure, thereby keeping the flow of the content intact. However, as they grow up, they are sometimes viewed as a liability and start fending for themselves, which the flow of content. Advanced technology also aided such persons to easily accessing content. Initially, they had access only to what was being read to them. Presently, technological advancement coupled with this law, makes it easier for these category of people to access any content of their choice anywhere and at any time.”

The interviewee also stated that the proper implementation of the Copyright Amendment Act 2012 serves as a great step towards providing access to visually impaired persons. The usage of the term “reasonable steps” mentioned in Section 52 (1) (ZB) of the Indian Copyright Act, needs to be emphasized. The interviewee further reported that asking for a disability certificate is a good example of a reasonable step under the aforementioned-mentioned provision. This is to ensure that the accessible format copies are used only by the disabled persons. The need for the creation of more content was further suggested rather than having to convert it into accessible formats.

An individual stakeholder also suggested the need for a mandatory directive to be issued to publishers in respect to printing multiple accessible formats like in the United States. This suggestion was also put forward by an interviewee from a private aided school.

One of the interviewed individual stakeholders stated that presently books are converted into audios which are readable in DAISY format. It was further reported that these books also has a disclaimer wherein the copyright provision earlier mentioned, is a means of creating awareness about the law for visually impaired persons. However, it is highly doubtful as to whether everyone is paying adequate attention to this policy. The interviewee further suggested that websites need to be designed with a World Wide Web Consortium (W3C) format, which makes every content available to visually impaired persons.<sup>32</sup>

All interviewed schools had unanimously criticized the measures taken by the Government to improve accessibility to visually impaired persons in the State. An interviewee from one of the private aided schools stated that the copyright provisions lacked awareness on the part of the Government as well.

Conversely, 4 of the schools interviewed suggested that Government Press activities need to be revamped. An interviewee from a private aided school reported that their activities were under-utilized. Therefore, assuming Government Presses are active, then the provisions of the Copyright law,

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<sup>32</sup> W3C, through its Web Accessibility initiative brings together various stakeholders in order to improve accessibility of the web to persons with auditory, cognitive, and visual disabilities, etc.



ensures many books are converted into accessible formats at less costs and are easily made available to the visually impaired community.

The interviewees from two of the private aided schools opined that the Government need to adopt the universal access policy as enshrined in the United Nations Convention on Rights of Persons with Disabilities (UNCRPD)<sup>33</sup>. Subsequently, the UNCRPD mandates that every State needs to adopt all possible measures to ensure that persons with disabilities have equal access to information.<sup>34</sup> It also requires that such measures include identification and elimination of any obstacles and barriers affecting accessibility.<sup>35</sup> The two interviewees also stated that even the government websites are not accessible to the visually impaired persons. Additionally, both further cited the Kerala State Government website used for the payment of employees' salaries, and SPARK, which is inaccessible to the visually impaired persons as it is not compatible with the screen reading assisting software as examples.

An organization and two of the schools suggested that supposing the books are published with Unicode, it tends to be easily converted to braille. According to the interviewee from the Government Blind School in Trivandrum, Kerala, another limitation is that there is no optical character reader support for the local language, Malayalam.

## V. IMPACT OF COPYRIGHT LAW VIS-A-VIS IMPROVING ACCESS TO WORKS

This study attempted to analyze the impact of the exceptions incorporated in the Indian Copyright Act in facilitating access to the visually impaired persons in the State of Kerala. The analysis reveals poor utilization of the provisions in the Copyright Act, 1957, as incorporated by the Amendment Act, 2012, related to the benefits enjoyed by the visually impaired persons. Furthermore, supposing the exceptions provided in the Copyright Act are utilized effectively, it tends to lead to a significant improvement in the availability of books for the beneficiaries. Moreover, proper utilization of Section 52 (1) (ZB) results in the sharing of the copyright works among the beneficiaries, as the provision covers the copies issued, for a wide range of purposes such as personal or private use.

It was discovered that there was no trend in the State of Kerala as to the

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<sup>33</sup> Article 9, Convention on the Rights of Persons with Disabilities, and its Optional Protocol, opened for signatures on 30 March 2007, 2515 UNTS 3 (entered into force 3 May 2008).

<sup>34</sup> *Ibid.*

<sup>35</sup> *Ibid.*

sharing of the resources even among the functional organizations in this area. One of the main advantages of the Treaty was its provision to facilitate cross-border exchange of accessible format copies.<sup>36</sup> Conversely, supposing an accessible format copy is published under a certain limitation or exception in the national copyright law pursuant to this Treaty, the same tends to be distributed to a beneficiary or authorized entity in another contracting State. However, it is unfortunate that no such activity is undertaken under the exceptions provided in the copyright law implemented for the benefit of visually impaired persons in the State of Kerala. In addition, the underutilization of these provisions tends to be attributed to 2 main reasons, namely poor awareness of copyright law among the selected samples and lack of proper steps for its implementation by the State Government.

Based on the analyzed data collected during the course of this study, changes need not be made to the provisions contained in the Indian Copyright Act. However, the issue was discovered to be associated with the proper implementation of these provisions. It was discovered that even after the incorporation of the provisions in the Indian Copyright Act, access to these works is still poor.

Effectual implementation of the provisions by the State Government is in the form of databases consisting of books exclusively for the visually impaired persons in Kerala. Establishing a database comprising of audiobooks is an ideal beginning to the implementation of the copyright exceptions initiated by the State Government. In this case, a large number of issues associated with the assessment of copyrighted works tend to be reduced. Furthermore, supposing the exceptions are effectively implemented in Kerala, the lack of books published in their native language, Malayalam, tend not to have been an issue, as observed in the study. However, such effective implementation of Section 52 (1) (ZB) paves the way for the realization of visually impaired persons' human rights to education as well as to participate in cultural activities.

## **VI. KEY FINDINGS OF THE STUDY**

The study reflects a negative effect of the beneficial provisions available under the Indian copyright. It was discovered that the incorporation of the provisions beneficial to the visually impaired persons has not aided in improving their access to copyright works in the State of Kerala. The limited

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<sup>36</sup> Article 5, Marrakesh Treaty to Facilitate Access to Published Works for Persons Who are Blind, Visually Impaired or Otherwise Print Disabled (opened for signature 27 June 2013, entered into force 30 September 2016).

initiatives undertaken by the stakeholders were appreciated by the authors. The following broad findings were discovered in this research.

The study does not show the need for any changes to be made to the provisions under the Indian Copyright Act, rather it is required in the execution and implementation to facilitate better access to works for visually impaired persons. Besides, it clearly highlights the lack of initiatives by the State of Kerala to effectively utilize these provisions. The poor awareness of the copyright law and its beneficial provisions among the stakeholders in the major impediment in facilitating access. Even the State Government functionaries are unaware of this policy per se and the beneficial provisions therein. Therefore, it is pertinent that awareness is created on the copyright law, its pros and cons posted on visually impaired persons in the State. An ideal awareness creates a positive change and attracts more beneficiaries to use the exceptions within the copyright law for the purpose of at least sharing the accessible format copies among themselves.

As regards the role played by the organizations, the major activities undertaken include the provision of general trainings in life, and vocational skills, etc. Besides, only a limited number of the interviewed organizations are aware of the copyright law and have improved it with regards to facilitating access, mainly in the form of converting these books to an accessible format. Some of them are of the opinion that owing to the high cost and unavailability of braille printing press, audiobooks are increasingly becoming the most widely used technology by visually impaired persons. However, even its conversion rate is dismal and does not solve the accessibility needs.

In accordance with the interviewed schools, the main issue is the availability of books in adequate numbers. The Kerala Government provides textbooks for all special schools, both public and private aided, through the Kerala Federation. It is a notable fact that the Government Blind School in Trivandrum is the only institute identified to have a computerized braille press and 2 libraries. This includes a talking book and a braille library. However, as aforementioned, the utility of such books procured is limited. Poor availability of books in accessible formats is also attributed to limited funds, especially in private aided schools.

Another challenge faced by these schools is difficulty in the conversion of printed books to accessible format because they do not use Unicode characters. However, supposing the reverse was the case, such books are easier to be converted into braille and also scanned and read through screen readers on computers. Therefore, conversion of books into braille remains costly and time-consuming, resulting in delay. Consequently, audiobooks remain a major reliance for the students. One school opined that apart from Braille and

audiobooks, those in large prints are also a necessity, as some of the students suffer from residual vision. Furthermore, only academic textbooks are regularly available in accessible formats. Lack of adequate materials written in Malayalam is also a major issue, since most of the books, is only available in English. The availability of storybooks for leisure and other activities in accessible formats is even more limited.

The role played by the Social Justice Department, Government of Kerala in facilitating access to works for visually impaired persons, is extremely limited. The most notable initiative is a project named 'Insight', which was earlier mentioned. The initial objective was to provide an alternative channel for visually impaired people to access technology. It was aimed at accessing materials using free and open software. Other than Project Insight, this study was unable to identify other initiatives undertaken by the Social Justice Department of the Government towards facilitating access to works for the visually impaired persons. Therefore, lack of implementation initiatives is also evident on the part of the Government.

The broad challenges faced by the stakeholders in improving access are identified as follows

- 1) Poor awareness of the law,
- 2) Limited financial help or capacity,
- 3) Lack of clarity of the law leading to fear among volunteers,
- 4) Poor awareness at the Governmental level,
- 5) Limited technical capacity,
- 6) Limited communication with authorities in respect to the implementation and grievance redressal, and
- 7) Lack of volunteers to convert literature texts to audiobooks.

## **VII. CONCLUSION**

This study proves that the hypothesis relating to the formulated provisions in the Indian Copyright Act to facilitate access to works for the visually impaired persons, in Kerala is still low. The underlying problem is mainly due to lack of effective implementation.

Based on the findings of this study, adequate attention from the Government needs to be paid during the implementation of these provisions. However, supposing the Government effectively implements these policies, it tends to lead

to improvement as well as the betterment of their social lives.

The suggested recommendations are based on the fact that assuming sincere and serious considerations are adopted by the concerned stakeholders, it is bound to mitigate the highlighted challenges. Furthermore, by taking these measures, the State of Kerala becomes a leading example in the sphere of improving accessibility for the visually impaired community. Besides, such measures also encourage other States to follow suit.

## VIII. RECOMMENDATIONS

Some matters that needed improvement were recommended. Awareness programs on the copyright provisions relating to visually impaired persons needs to be conducted for the beneficiaries, at least for the blind schools and organizations working for the benefit of visually impaired persons. These individuals are unlikely to reproduce works in accessible format copies. Therefore, raising the level of awareness among the blind schools and organizations is ideal for the effective implementation of the copyright provisions relating to the visually impaired persons. Perhaps, collaborating with organizations working for the welfare of visually impaired community and government functionaries tends to be fruitful in conducting successful awareness drives. The involvement of government functionaries also ensures better reach among the visually impaired society as that of the organizations remains limited in comparison.

Furthermore, Malayalam language is widely used in Kerala. Therefore, it is indispensable that the visually impaired community has access to works published in this language as well. However, since most of the books in accessible formats are only available in English, certain steps need to be taken to ensure that the accessible format copies are available in Malayalam as well. The non-availability of materials published in this language is not only an impediment in access, rather it also creates a barrier in the holistic development of the visually impaired community.

Some leading magazines in India have started publishing their works with Quick Response Code (QR Code) for the purpose of facilitating its availability for visually impaired persons. It is basically a system for utilizing QR codes which are affixed to an object and scanned using a camera phone equipped with the reader software. In addition, the reader decodes the URL barcode and directs the phone's browser to fetch an audio file from the website which contains a verbal description of the object. This is perceived as an effective mode of facilitating access to works for visually impaired persons. This

enables them to be able to access these works at any time when scanned with their phones. Other publishers need to take a cue from such initiatives and make their works available in QR code, which is extremely beneficial to this category of persons.

It is recommended that public libraries have to devote space for visually impaired persons. A section of it needs to accommodate the works in accessible format copies, and audiobooks also have to be made available. In addition, books with large fonts also need to be made available in public libraries. The computers available have to be installed with a screen reading software which helps visually impaired persons to independently make use of the systems.

Initiatives such as Sharada braille needs to be noted. The State IT Mission has to collaborate with the software developers and work on making it compatible with various operating systems. Such a step is a landmark that facilitates access to the visually impaired community. This step also tends to be a learning precedent for other states to adopt.

In cases involving textbooks used in such schools, the role of private publishers is minimal as these are published by the Kerala Federation of the Blind. This organization converts other literature texts (such as storybooks) to accessible formats copies. In the latter case, the production cost is levied as is mandated in Section 52 (1)(ZB) of the Copyright Act initially examined.

## BIBLIOGRAPHY

### Journal Articles

- Ayoubi, Lida. "The Marrakesh Treaty: Fixing International Copyright Law for the Benefit of the Visually Impaired Persons." *New Zealand Journal of Public and International Law* 13 (2015): 254-276.
- Fitzpatrick, Shae. "Setting its Sights on the Marrakesh Treaty: the U.S. role in Alleviating the Book Famine for Persons with Print Disabilities." *Boston College International & Comparative Law Review* 37, no. 1 (2014): 139-172.
- Jacob, Rahul Cherian, Sam Taraporevala, and Shamnad Basheer. "The Disability Exception and the Triumph of New Rights Advocacy." *NUJS Law Review* 5, (2012): 603-634.
- Lewis, Hope. "Introductory Note to Marrakesh Treaty to Facilitate Access to Published Works for Persons Who are Blind, Visually Impaired, or Otherwise Print Disabled." *International Legal Materials* 52, no. 6 (2013): 1309-1320.
- Ncube, Caroline, Blake E. Reid, and Desmond O. Oriakhogba. "Beyond the Marrakesh VIP Treaty: Typology of Copyright Access-Enabling Provisions for Persons with Disabilities" *Journal of World Intellectual Property* 23, (2020): 149-165.
- Scheinwald, Aaron. "Who Could Possibly be Against a Treaty for the Blind?" *Fordham Intellectual Property, Media & Entertainment Law Journal* 22, no.2 (2012): 448-511.
- Trimble, Marketa. "The Marrakesh Puzzle." *International Review of Intellectual Property and Competition Law* 45, (2014): 768-795. DOI: 10.1007/s40319-014-0252-5.

### Books and Book Chapters

- Brown, Abbe and Charlotte Waelde. "Human Rights, Persons with Disabilities and Copyright." in *Research Handbook on Human Rights and Intellectual Property*, edited by C. Geiger, 577-602. Cheltenham: Edward Elgar Publishing, 2015.
- R. Helfer, Laurence, Molly K. Land, Ruth L. Okediji, et. al. *The World Blind Union Guide to the Marrakesh Treaty-Facilitating Access to Books for Print-Disabled Individuals*. New York: Oxford University Press, 2017.

### Legal Documents

- Convention on the Rights of Persons with Disabilities and its Optional Protocol. 2515 UNTS 3 (opened for signatures on 30 March 2007, entered into force 3 May 2008).
- India. *The Copyright Act*. No. 14 of 1947. Available at <https://copyright.gov.in/Documents/CopyrightRules1957.pdf>.
- Marrakesh Treaty to Facilitate Access to Published Works for Persons Who are Blind, Visually Impaired or Otherwise Print Disabled (opened for signature 27 June 2013, entered into force 30 September 2016).

### Internet References

- American Foundation for The Blind. "Screen Readers and Screen Magnifiers." Accessed 3 June 2020, <https://www.afb.org/blindness-and-low-vision/using-technology/using-computer/part-ii-experienced-computer-user-new-0>.



- Britannica. "Braille: Writing System." Accessed 6 March 2020, <https://www.britannica.com/topic/Braille-writing-system>.
- Directorate-General for Internal Policies Policy Department C: Citizens' Rights and Constitutional Affairs European Parliament. "From Better to Full Access to Works For Print-Disabled Persons." Accessed 3 June 2020, [https://www.europarl.europa.eu/RegData/etudes/divers/join/2009/419610/IPOLJURI\\_DV\(2009\)419610\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/divers/join/2009/419610/IPOLJURI_DV(2009)419610_EN.pdf).
- Disabled World. "List of Computer Screen Readers for Visually Impaired." Accessed 16 November 2019, <https://www.disabled-world.com/assistivedevices/computer/screen-readers.php>.
- R. Helfer, Laurence, Molly K. Land, Ruth L. Okediji, et al. "Commentary to the Marrakesh Treaty on Accessible Format Copies for the Visually Impaired." Copyright See-Saw. Accessed 10 February 2020, [http://www.copyrightseesaw.net/uploads/fajlok/M\\_Ficsor\\_Commentary%20to%20the%20Marrakesh%20Treaty%20on%20accessible%20format%20copies%20for%20the%20visually%20impaired.doc](http://www.copyrightseesaw.net/uploads/fajlok/M_Ficsor_Commentary%20to%20the%20Marrakesh%20Treaty%20on%20accessible%20format%20copies%20for%20the%20visually%20impaired.doc)>0.
- Standing Committee on Copyright and Related Rights. "Revised Scoping Study on Access to Copyright Protected Works by Persons with Disabilities." Accessed 6 March 2020, [https://www.wipo.int/edocs/mdocs/copyright/en/sccr\\_38/sccr\\_38\\_3.pdf](https://www.wipo.int/edocs/mdocs/copyright/en/sccr_38/sccr_38_3.pdf)
- Standing Committee on copyright and Related Rights. "Study on Copyright Limitations and Exceptions for the Visually Impaired." World Intellectual Property Organization. Accessed 25 January 2020, [https://www.wipo.int/edocs/mdocs/copyright/en/sccr\\_15/sccr\\_15\\_7.pdf](https://www.wipo.int/edocs/mdocs/copyright/en/sccr_15/sccr_15_7.pdf).
- Willings, Carmen. "Braille Technology for Students Who are Blind or Visually Impaired." Teaching Students with Visual Impairments. Accessed 3 June 2020, <https://www.teachingvisuallyimpaired.com/braille-technology.html>
- WIPO. "Marrakesh Notification No 1: Ratification by the Republic of India." Accessed 6 March 2020, <[https://www.wipo.int/treaties/en/notifications/marrakesh/treaty\\_marrakesh\\_1.html](https://www.wipo.int/treaties/en/notifications/marrakesh/treaty_marrakesh_1.html).