

DIGITAL MUSIC PIRACY IN INDIA: ISSUES AND CHALLENGES

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Abstract

For decades, the Indian movie industry has derived tunes from Western proprietary works and created unauthorized derivatives. Because the music industries within the United States started taking notice of this infringement of copyright, thus too did Indian music administrators as domestic infringers profited from repeating. Despite the existence of an enacted copyright statute in India, and also the nation's membership with numerous international property treaties and conventions, enforcement continues to be poor. This lack of protection permits rampant violations of copyright in the area of Music. This text proposes that India should improve its copyright enforcement regime, reprimand infringers, and work with the United States or other developed nations to foster creative and protective atmosphere for domestic and foreign proprietary works.

Keyword – Indian Copyright Act, 1957, Music Piracy, Infringement, Music Industry, Online Piracy, Copyright Amendment 2012.

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I. Introduction

Music piracy is the repeating and distributing of recordings of a part or whole of music for which the rights owners (composer, recording creator, or copyright-holding record company) have failed to provide consent. Within the modern legal atmosphere, it's a variety of infringement of copyright, which can be either a wrongful conduct or a criminal offense depending on jurisdiction. With the digital technology and its boom the transmission of content over the digital platform has become extremely easy and convenient. Hence the problem of online piracy of music has assumed importance like never before. The ethics of distribution and redistribution of content in the digital space have undergone a lot of transformation. Cases concerning piracy of music have become an utmost priority.

The Indian music business has been pro-active in confronting the menace of piracy. The Indian Music¹ business (IMI) has ensured over 4000 convictions under the Indian Copyright Act 1957 with fines ranging up to Rs three lacs and punishments up to three years imprisonment. More than three hundred cases have been settled through plea bargaining with compensation ranging up to Rs. 20,000.¹

However, the business of music consumption has changed, music is currently being consumed and listed on the web and different digital devices and also the success of this business currently depends on certainty within the legal atmosphere and on copyright law. This is often a continuing and ever-evolving challenge - the music market internationally continues to be distorted by unfair competition from unaccredited services.

Digital piracy is the single biggest threat to the authorized music sector and to investment in artists. A study by IPSOS in 2017 estimated that over 94 percent of web users accessed unlicensed music content. The supply of pirated content discourages users from paying for music through unauthorized means like audio streaming and direct downloads. A recent study commissioned by IFPI on Music Consumer Insights² highlights that a lot of users in India use

¹Music Piracy, Available on <https://www.indianmi.org/?id=10573&t=Music%20Piracy> (last accessed on April 22, 2019)

²IFPI 2018 Music Consumer Insight Report available at <https://www.ifpi.org/news/IFPI-releases-2018-music-consumer-insight-report> (last accessed on 20th April, 2019)

piracy to download music than in the other country within the study. Thus, despite a excessiveness of audio streaming services which provide quick access to musical content, piracy continues to possess an enormous impact on the recorded music business in India.

Digital Piracy undermines the authorized music business across several forms and channels - Unaccredited Streaming Websites, Peer-To-Peer (P2P) File-Sharing Networks, Cyber Lockers and Aggregators, Unaccredited Streaming, Stream Cacophonous and Mobile Applications. Advertising may be a major source of financial gain for unaccredited services and to add to this, the pirated websites have also added crypto currency mining malware scripts to their revenue model.

II. Actions taken by the Indian Music Industry

The Indian Music industry is responding with a comprehensive, multi-pronged approach. a number of IMI's efforts cover:³

1. Fair price for Content owners from Broadcasters.
2. Anti-Piracy, a multi-pronged initiative via effective public electronic messaging driving customers to legit sites wherever the content is obtainable at no value, amendment to that Act section 69A wherever concern on obstruction pirated sites area unit on the ISP's and dealing aboard international forums like ICANN.
3. Moving the customers to a subscription primarily based model bringing a couple of change in behavior towards paying for content.
4. Functioning Collective Governance and Society with higher use of technology resulting in larger transparency
5. Export Incentives
6. Innovation atmosphere partnering with Digital India to search out solutions specifically for the Indian market

The industry believes all parties within the digital economy have a responsibility to support legitimate digital commerce and facilitate tackle piracy altogether its forms. Record corporations are trying to work with all stake holders like advertisers, domain registrars, and internet service providers (ISPs), payment suppliers and search engines to attain this goal. Indian Courts have issued orders for larger compliance from on-line intermediaries.

³*Supra* Note 1

III. *Decoding the Reason for Music Piracy in India*

There are various reasons why Indians prefer pirated music instead of the original. Here are some causes of piracy:⁴

1. *End consumer not willing to pay*⁵

Production houses and software corporations charging cash for his or her creation is the commonest reason why people do piracy, and it fuels the largest torrent websites within the world. People simply need the flicks and television shows without charge. And that they are fast enough to grab the chance expedited by the torrent websites and different on-line platforms. This causes monetary harm to the content creators.

2. *Unaffordable value*⁶

Not all the web pirates out there do it simply because they don't need to pay cash for the content they need to consume. A number of them might not be within the position to get it. A substantial example is of Adobe Photoshop, a name substitutable to image editing, rather like the iPod was for each music player within the past. Photoshop doesn't come low cost, so, some individuals like getting it from elsewhere.

The defenders of infringement of copyright would say, leave it if you can't afford it. One has got to consider that, you can't simply transfer a premium computer code for complimentary simply because you can't afford it. Wouldn't it be wise for someone to steal a Rolls Royce? He won't be ready to save that a lot of cash in his entire life.

People won't do such thing in concern of reaching to jail. Even, piracy may lead individuals to jail, however the probabilities of obtaining a strict penalization are quite less. A substantiating argument may be created that a number of the pirates would possibly become Photoshop specialists and eventually continue to get it in the future.

3. *Delayed Launch in a Country*⁷

Some production studios and software corporations delay the supply instead of blocking the access thereto. Some individuals don't have the patience to wait until the content really arrives in their region. So, they end up pirating the programme or flick on from torrent websites.

⁴Why People Pirate And Illegally Download Movies, Songs, Fossbytes, available on <https://fossbytes.com/10-reasons-why-people-do-piracy-and-download-movies-shows-albums-software/> (last accessed on April 22, 2019)

⁵*Ibid*

⁶*Ibid*

⁷*Ibid*

A workaround would be nearly teleporting to the region wherever the content is obtainable. You would possibly have detected about individuals exploiting VPN connections to watch Netflix U.S. Sadly, Netflix started obstruction users who were making an attempt to faux their locations. But still, it's much better than pirating their content. There are various different reasons given by user for pirating that are vital to taken care of by the creator of the content.

IV. *Alternative Strategies to Stop Piracy*

It is no secret that the online music streaming platforms have taken the globe. in line with the Digital Music Study 2018, a report⁸ released by the Indian Music industry and also the International Federation of the Phonographic business, India, too, has recorded over a hundred million active music streaming users.

The growth of the streaming business in India has been positive with digital sales accounting for seventy eight of the entire sales revenue. But the conversion rate from free users to paying users may be very less. Blame it on the wide accessibility of free music on services like YouTube and also the large-scale consumption of pirated content.

According to the Digital Music Study, over fifty two of the respondents, who took the survey, cited that the supply of music on YouTube is what prevents customers from paying for streaming services, whereas some (38%) mentioned downloading free music. Respondents, who denied paying for streaming subscriptions, would decide on authorized alternatives just in case of absence of pirate services and free content on YouTube. It has become imperative to require steps to curb this loss of revenue because of piracy. The report⁹ read,

“Industry experts are optimistic that music consumers in India will pay for content if sufficiently incentivised, but clearly more needs to be done to facilitate this change. The threat of digital piracy to a thriving music economy is obvious. There’s a pressing need for effective anti-piracy policies and measures with a focus on converting piracy users into legitimate music consumers. More users in India use piracy to download music than in any other country in the study. Stream-ripping is the most popular form of music piracy in the country.”

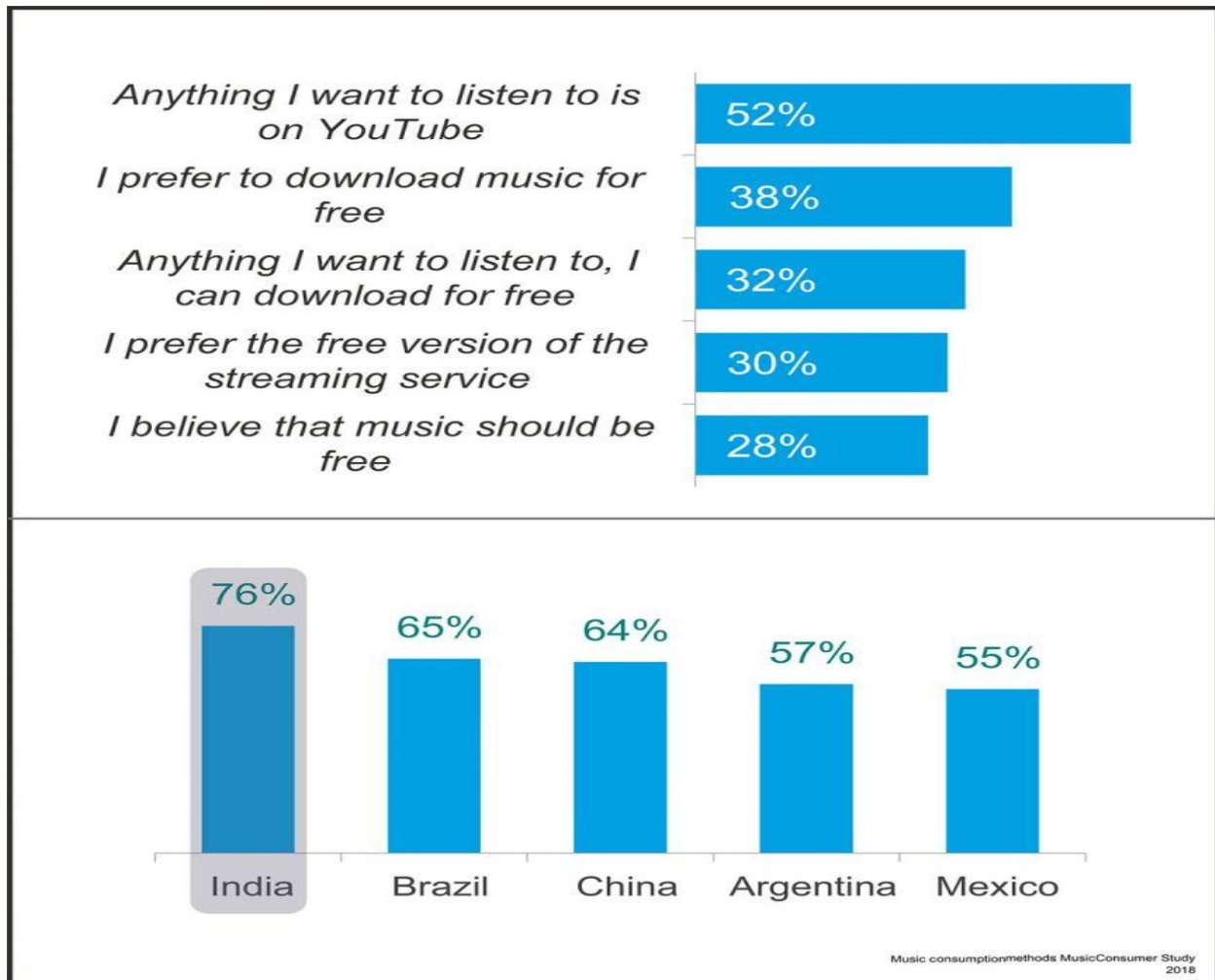
The music business in India encompasses a potential of being one amongst the largest music markets in the world. However, it faces dire problems with stream cacophonous that is one in all

⁸Digital Music Study 2018, Available at <http://indianmi.org/be/wp-content/uploads/2018/10/Digital-Music-Study-2018.pdf> (last accessed on April 22, 2019)

⁹*Ibid*

the foremost common technique for pirating music in India. As per the study, seventy two of respondents use stream cacophonous to get free downloads of music. YouTube is that the main supply for stream cacophonous, generally through websites like Convert2mp3 and Flvto.biz.

Diagram 1 – Prime Reason for Piracy & Piracy stats in numerous countries (Source: Music Consumer Study, 2018)



It can be ascertained by the above diagram that the top reasons for piracy are that people prefer to download their choice of song. Also, that the free version are easily available. We can also learn that India is one of the top pirates among the top 5 pirating countries.

The epidemic of piracy has to be contained by implementing certain legislative mechanisms which is able to stop steam cacophonous and different styles of piracy. The study suggests handiness of swift remedies, together with blocking orders, to tackle these pirate services that is crucial to protective the Indian music business and different inventive industries. Also, numerous

app stores and also the ISPs that host such services got to be proactive in recognizing this type of infringement and work with trade bodies like IMI and IFPI in curb stream ripping.

The report¹⁰ points out, *“One of the most successful anti-piracy methods is website blocking. In some areas of India, orders have occasionally been made against ISPs to prevent their users from accessing certain sites such as the 2012 Calcutta High Court ruling ordering hundreds of ISPs to block access to 104 copyright infringing websites. IMI, in association with IFPI, has made several attempts to take down major infringing sites, such as those shown below.”*

Even with such measures, there are hurdles once it involves confronting piracy-related problems. In line with the report, ISPs primarily based outside of Indian territories refuse to act despite clear and large-scale infringements, citing their domestic protection towards user generated or user uploaded content, usually claiming the protection of the Safe Harbor privileges within the U.S. law. This makes the case for web site obstruction more important: if infringing sites primarily based outside India refuse to work with rights holders, then the foremost effective technique of relief is to block access to those sites from among India.

Piracy isn't the sole threat to the long run sustainability of the music industry at large, price gap may be a major drawback moving the industry's revenue stream, specifies the study. Price gap refers to the growing twin between the values that user-uploading services like YouTube extract from music and also the revenue came back to the music community – people who are creating and investing in music.

Internet users in India pay nearly as much time listening to music on video streaming services like YouTube as on audio streaming services. The IFPI study states:

“Video streaming took up 45% of all hours spent listening to on-demand streaming services, with YouTube alone responsible for 36%. However, video streaming services only generated 29.8% (₹169 Cr.) of the industry's streaming revenue (₹850 Cr.) in 2017, or 19.9% of total Indian recorded music revenues. Given the fact that 97% of the users use YouTube for music, the

¹⁰*Ibid*

fact that video streaming generates less than 20% of the industry's revenue is still a drop in the bucket."

To uproot threats like piracy and price gap, a tighter legal framework should be placed so services that are to blame for the distribution of music may be held in charge of their wrongdoings. This move can profit creators, producers, customers and innovative digital services alike, and it'll stimulate growth and aggressiveness within the digital economy, the study opined.

V. *Issues with the Indian Copyright Act*

Copyright infringement in India occurs in spite of legislation that grants protection to copyright holders and provides damages for infringement of copyrighted works.¹¹ Despite amendments made to the Indian Copyright Act in 1983 and 1994, India still finds itself on the "priority watch list" year after year because of ineffective enforcement of its copyright laws.¹² In 2010, an amendment to the Indian Copyright Act, titled The Copyright Amendment Bill 2010 was submitted to the Indian Parliament.¹³ The same was finally amended in 2012. The Copyright (Amendment) Act, 2012 aimed primarily to offer authors and music lyricists royalties and other benefits from commercial exploitation of their work.¹⁴ The Indian Copyright Act, prior to the Copyright (Amendment) Act, 2012 allowed the royalties to vest with music firms and film producers.¹⁵ Despite such an amendment and attempts to enforce the law, India still does not meet the criteria established by authorities such as the International Intellectual Property Alliance ("IPA") and the Special 301 Report.¹⁶

VI. *The Positive Effects of India's Copyright Laws*

¹¹Indian Copyright Act Sec 14, 54, 57.

¹²OFFICE OF THE U.S. TRADE REP., 2019 SPECIAL 301 REPORT 51 (2019) [hereinafter 2019 SPECIAL 301 REPORT], available at https://ustr.gov/sites/default/files/2019_Special_301_Report.pdf. (Last Accessed on April 30, 2019)

¹³*Government Aims to Align Indian Copyright Laws to Global Standards*, RADIO & MUSIC (Oct. 18, 2010), <http://www.radioandmusic.com/content/editorial/news/govt-aims-align-indiancopyright-laws-with-global-standards> (Last Accessed on April 22, 2019)

¹⁴Manish Ranjan & Santosh K. Joy, *Draft Copyright Bill Introduced, Could Transform Film*, Music Biz, MINT (Apr. 19, 2010), <http://www.livemint.com/2010/04/19221428/Draft-copyright-Billintroduce.html>.

¹⁵*Ibid*

¹⁶2019 SPECIAL 301 REPORT, Supra Note 12 at 51

India is home to a booming entertainment industry.¹⁷ Within this industry are composers and lyricists who work on the many songs that make up an Indian film.¹⁸ Until the Copyright (Amendment) Act, 2012, composers and lyricists received a small share of royalties for the work they did for Indian films.¹⁹ In addition to increasing the royalty rate for authors, composers and lyricists, the Copyright (Amendment) Act, 2012 conforms to international treaties so that Indian copyright will be protected abroad.²⁰ The Indian government has amended the Indian Copyright Act on previous occasions to keep up with technological changes.²¹ Additionally, big names in the Indian film and music industry have voiced their opposition to music copyright infringement.²² Awareness among the top names in the Indian film and music industry of copying previously copyrighted songs has grown, and peers are not afraid to speak up about the violations. When film composers notice their collaborators infringing existing works, it reflects poorly on the creative output of Indian composers and projects the view that profit is more important than producing a truly original, creative piece.²³ The increasing knowledge that the Indian film industry infringes copyright has awakened a desire to foster originality in Indian film music.²⁴

VII. *Shortcomings and Challenges with the Indian Copyright Act*

Even with a growing awareness of copyright infringement in the Indian film and music industries,²⁵ law enforcement officials and agencies do not completely perceive the importance

¹⁷PriyaJaikumar, *Bollywood Spectacular*, 77 WORLD LITERATURE TODAY 24, 24 (2003), available at <http://www.jstor.org/stable/40158170> (Last Accessed on April 23, 2019)

¹⁸Jonaki Ray, *Who is Lord of the Rings?*, TIMES INDIA, Sept. 9, 2005, available at <http://timesofindia.indiatimes.com/city/ahmedabad-times/Who-is-lord-of-therings/articleshow/1224998.cms> (Last accessed on April 23, 2019)

¹⁹Avinash Celestine, *Lyricists, Composers Get a Boost in Royalty Battle*, ECON. TIMES, Nov. 26, 2010, available at http://articles.economictimes.indiatimes.com/2010-11-26/news/27592919_1_lyricists-royalties-composers (Last Accessed on April 23, 2019)

²⁰NandiniVaish, *Wronging a Right*, INDIA TODAY, <http://indiatoday.intoday.in/site/story/wronging-a-right/1/103029.html> (Last Accessed on April 23, 2019)

²¹Pradip N. Thomas, *Copyright and Emerging Knowledge Economy in India*, 36 ECON. & POL. WKLY. 2147, 2152 (2001) (Last accessed on April 24, 2019)

²²Diksha Sahni, *The Partners in Copyright Crime*, WALL ST. J., Feb. 10, 2011, available at <http://blogs.wsj.com/indiarealtime/2011/02/10/the-partners-in-copyright-crime/> (Last Accessed on April 24, 2019)

²³ShivliTyagi, *ChuraLiya*, TIMES OF INDIA, Feb. 20, 2006, available at <http://timesofindia.indiatimes.com/city/ahmedabad-times/Chura-liya/articleshow/1420152.cms> (Last Accessed on April 24, 2019)

²⁴*Ibid*

²⁵Divya Kumar, *Tracking Copycats*, HINDU (India), Mar. 17, 2007, at 3

of copyright protection.²⁶ Further, many persons, particularly the producers, in the Indian film industry do not support the Copyright (Amendment) Act, 2012.²⁷ Although the Copyright (Amendment) Act, 2012 resulted in positive effects for creative artists and will align more with international standards, the proposed amendment is vague about definitions of "equal rights" to lyricists and composers"²⁸ and with respect to royalties when ownership of the work is owned by different people.²⁹

Apart from the problems associated with the Copyright (Amendment) Act, 2012, the Indian legal structure only weakly enforces the copyright laws.³⁰ Copyright infringement is not well monitored by criminal enforcement and IPR cases are considered low-priority offenses in the courts.³¹ The Indian government gives its entertainment industry freedom to do business as it wishes, which hampers the government's ability to enforce intellectual property rights.³² The Indian Copyright Act establishes copyright infringement as a criminal offense, but ineffective enforcement of copyright infringement and other IPR suits halts the process and also disregards the copyright holder's right to have her day in court.³³ While the Indian entertainment industry profits from creating unauthorized derivatives of copyrighted works,³⁴ the United States stands to lose from such actions.³⁵ Further, if protection of copyrighted works continues to be careless, then India will deter foreign investments by multinational corporations.³⁶ Companies across different sectors remain concerned about narrow patentability standards, the potential threat of

²⁶*Supra* Note 22

²⁷*The Indian Copyright (Amendment) Act, 2012 And Its Functioning So Far*, available at <https://www.ip-watch.org/2014/10/23/the-indian-copyright-amendment-act-2012-and-its-functioning-so-far/> (Last Accessed on April 30, 2019)

²⁸*Supra* Note 19

²⁹Bhusha Nagpal, *IBF Protests Proposed Amendments to Copyright Act*, RADIO & MUSIC (Nov. 26, 2009), <http://www.radioandmusic.com/content/editorial/news/ibf-protests-proposed-amendmentscopyright-act> (Last Accessed on April 24, 2019)

³⁰*Supra* Note 20

³¹Vijay Pal Dalmia and Pavit Singh Katoch, *Enforcement Of Intellectual Property Laws In India*, Mondaq, available at <http://www.mondaq.com/india/x/406950/Trademark/Enforcement+Of+Intellectual+Property+Laws+In+India> (Last Accessed on April 30, 2019)

³²*Ibid*

³³Neelam Verjee, *India Plans: Hollywood Looks to Safeguard Interests, Curb Piracy*, MINT (Mar. 4, 2009), <http://www.livemint.com/2009/03/04001151/India-plans-Hollywood-looks-t.html>. (Last Accessed on April 24, 2019)

³⁴*Supra* Note 31

³⁵*Partners in Plagiarism*, FIN. EXPRESS (Aug. 10, 2007), <http://www.financialexpress.com/news/partners-in-plagiarism/209513/> (Last Accessed on April 24, 2019)

³⁶*Supra* Note 31

compulsory licensing and patent revocations, as well as overly broad criteria for issuing such licenses and revocations under the India Patents Act.³⁷

VIII. *Suggestions & Proposal Vis-À-Vis USA Model*

India, like the United States, established a copyright law to protect artists and performers creative outputs.³⁸ Unlike the United States, however, India suffers from an inability to enforce the laws efficiently and effectively, particularly copyright and other intellectual property laws and remains one of the world's most challenging major economies with respect to protection and enforcement of IP.³⁹ As a result of ineffectual enforcement, copyright infringement runs rampant in the forms of piracy and unauthorized derivatives of copyrighted musical works.

India has taken measures to amend the Indian Copyright Act with the Copyright (Amendment) Act, 2012, which provides royalties for music composers and lyricists and also works better with international standards.⁴⁰ Despite various amendments to the Indian Copyright Act and gradual progress towards stronger enforcement measures, India continues to place on the Special 301 "priority watch list" year after year.⁴¹ In order to be eliminated from the list, India must tighten enforcement measures for IP protection and give deference to copyright and other IP infringement cases in court.⁴²

There are various methods which must be adopted to gradually decrease music copyright infringement and increase enforcement in India. Firstly India should place tougher sanctions on high-profile domestic copyright infringers in an effort to stop unauthorized copying. Secondly it should be considered as to how the United States can work with India, beyond mere advising, to take steps to prevent further infringement of American as well as Indian copyrighted works.

³⁷2019 SPECIAL 301 REPORT, *Supra* Note 12 at 51

³⁸Indian Copyright Act Sec 14

³⁹2019 SPECIAL 301 REPORT, *Supra* Note 12 at 51

⁴⁰2019 SPECIAL 301 REPORT, *Supra* Note 12 at 51

⁴¹2019 SPECIAL 301 REPORT, *Supra* Note 12 at 51

⁴²AnuradhaSalhotra& Rahul Chaudhry, *Decoding The Good From the Bad in the Copyright Amendment Bill, 2009*, LEGALLY INDIA (Feb. 9, 2011), <http://www.legallyindia.com/201102091785/Intellectual-property-IP/decoding-the-good-from-the-badin-the-copyright-amendment-bill-2009> (Last Accessed on April 24, 2019)

IX. *India Should Impose Strict Penalties On High-Profile Infringers*

India's problem with rampant copyright infringement can be credited to its poor enforcement of the Indian Copyright Act. The trouble lies with courts' enormous backlog of cases and, significantly, with the lack of importance given to copyright and other intellectual property court cases.⁴³ Further, Indian film producers and music directors have taken advantage of Bollywood and other regional Indian film industries relative anonymity for years by copying foreign copyrighted works.⁴⁴

With the advent of globalization, the original copyright owners as well as the listeners of the unauthorized derivative works now can make connections with the original and the copy.⁴⁵ One way to help curb the frequent instances of copying by Bollywood and other regional film music directors would be for India to impose harsher and more stringent penalties to those who commit such crimes. If the authorities went after the popular musicians who generate the most profits from unauthorized derivatives, the public would understand the wrongs being committed.⁴⁶

The Copyright Enforcement Advisory Council should make use of public information and discussion of famous musicians who copy from outside sources. The general public is to be made aware of infringement and it should criticize the big name music directors who commit this wrong.⁴⁷ Public awareness and recognition that hit music is copied from an existing work, will hopefully create a desire for original, creative music from talented artists.

The problem begins with popular music directors who routinely create hit songs by copying exiting copyrighted works. Popular music directors create hit songs by taking the easy route and copying off copyrighted works.⁴⁸ If the copyright enforcement authorities take the step to punish the most popular or prolific copycats, the necessity for original creativity will become obvious.

⁴³2019 SPECIAL 301 REPORT, *Supra* Note 12, at 52

⁴⁴Santosh Mehrotra, The Indian Film Industry is Missing Out On 'Make In India', *The Wire*, available at <https://thewire.in/business/the-indian-film-industry-is-missing-out-on-make-in-india> (Last Accessed on April 30, 2019)

⁴⁵*Ibid*

⁴⁶Afsana Ahmed, *I Lift Tunes Like Any Other Composer Does*, *TIMES INDIA*, Feb. 13, 2003, available at 2003 WLNR 9034252 (Last Accessed on April 25, 2019)

⁴⁷Shamnad Basheer, INDIAN MUSIC COMPOSERS: "INSPIRATION" OR "COPYING"?, *SpicyIP*, available at <https://spicyip.com/2007/04/indian-music-composers-inspiration-or.html> (Last Accessed on April 30, 2019)

⁴⁸Kumar, *Supra* Note 25, at 3

Stronger penalties will also help push India out of the Special 301 "priority watch list."⁴⁹ Additionally, India will be honouring its obligations under various international intellectual property treaties by providing stringent copyright protection to foreign works, just as for domestic works.⁵⁰

Awareness of copycats within the music-loving Indian public as well as in the international music community will gradually ensure that frequent copying desists. Just as the Malaysian and Taiwanese governments took the reins in targeting infringers, the Indian government should commit to reducing copyright infringement by penalizing high-profile violators.

X. *Conclusion*

India still has a long way to go before its film and music industries cease making unauthorized reproductions without permission or credit. Nevertheless, authors within the Indian entertainment industries are slowly recognizing the need to protect copyrighted works, whether such works belong to them or to foreign authors.⁵¹ If India follows the lead of other developing countries that have increased IPR protection and enforcement, India can move itself off the United States' Special 301 "priority watch list." India should use the examples set by Malaysia and Taiwan and impose penalties on high-profile copyright infringers in the Indian music industry. Finally, by working together with the United States and learning from its enforcement of copyright laws, India can ensure that copying and infringement decreases and the level of creativity rises.

⁴⁹*Ibid*

⁵⁰PratapRavindran, *Hey! That's My Track, Bus.* HINDU BUSINESSLINE (India) (Nov. 13, 2002), http://www.thehindubusinessline.in/ew/202/1_1/13/stories/200211_1300070100.htm (Last Accessed on April 25, 2019)

⁵¹COPYRIGHT IN THE DIGITAL ERA: COUNTRY STUDIES, OPEC Study, Chapter 5, pp 221, Available at <https://www.oecd.org/sti/ieconomy/Chapter5-KBC2-IP.pdf> (Last Accessed on April 30, 2019)