ISSN 2226-6771

VOLUME 11 June 2022 NUMBER 1

GRADUATE INSTITUTE OF INTELLECTUAL PROPERTY, NATIONAL TAIPEI UNIVERSITY OF TECHNOLOGY

NTUT Journal of Intellectual Property Law and Management

The NTUT Journal of Intellectual Property Law and Management is published twice a year by the National Taipei University of Technology ("Taipei Tech."), a national university located in Taipei City, Taiwan. The Journal is run by the Graduate Institute of Intellectual Property, an educational organization of Taipei Tech. The address of Taipei Tech. is No. 1, Sec. 3, Chung-hsiao E. Rd., Taipei City 10608, Taiwan.

EDITORIAL TEAM

The **NTUT Journal of Intellectual Property Law and Management** is published twice a year by the National Taipei University of Technology ("Taipei Tech."), a national university located in Taipei City, Taiwan. The Journal is run by the Graduate Institute of Intellectual Property, an educational organization of Taipei Tech. The address of Taipei Tech. is No. 1, Sec. 3, Chung-hsiao E. Rd., Taipei City 10608, Taiwan.

EDITORIAL NOTE ON THE VOLUME 11, NUMBER 1, 2022

Editorial Note

Dr. Chih-Yuan Chen

Associate Professor,

Graduate Institute of Intellectual Property,

National Taipei University of Technology (Taiwan).

Being the Executive Editor of this issue, we would like to express our appreciation to all the authors, reviewers, editors, and advisors who have helped to maintain the academic quality of this journal.

The selected articles in this issue of the journal cover all kinds of IP issues, including IP management, IP comparative law, trade secrets, patent, trademark, and copyright. This indicates that submissions from legal, managerial, or interdisciplinary areas related to IP issues from all over the world are welcome. We hope that our readers will be pleased and benefit from the publication of this issue.

Executive Editor

Dr. Chih-Yuan Chen

Associate Professor

Graduate Institute of Intellectual Property

National Taipei University of Technology (Taiwan)

CALL FOR PAPERS

NTUT Intellectual Property Law and Management is a multidisciplinary journal which concerned with legal, economic and social aspects of IP issues. This journal is included in the SCOPUS, WESTLAW, WESTLAW HK, LAWDATA, AIRITI

LIBRARY citation databases, and it welcomes contributions to address IP topics at national, regional and international level.

Submission:

1. A manuscript has to follow the citation format of The Bluebook: A Uniform System of Citation. If the citation format for a particular reference is not provided, please give a citation in a form: [Author], [article title], [volume number] [Journal Title] [first page] (publication year), for instance, Zvi Griliches, Patent Statistics as Economic Indicators: A Survey, 8 Journal of Economic Lirerurure 1661, 1661- 707 (1990). If your article relates to management or business, pin-point citation is not required. For all manuscripts, a list of references is not required.

2. A regular manuscript is expected to be 6000-8000 words in length, including the main text and footnotes. Potential authors are encouraged to contact editor team, i.e. iipjournal@ntut.edu.tw, for a manuscript template.

3. A regular manuscript has to include an abstract of at most 300 words and at most five keywords.

4. The authors are responsible for the factual or legal accuracy of their papers. No payment is for contribution. Two copies of the journal will be supplied to the authors free of charge.

5. Manuscripts must be typewritten in English. Electronic submissions are preferred. Please provide Microsoft Word files and email to iipjournal@ntut.edu.tw.

Review:

In general, all submissions will be subject to a peer-review process.

Copyrights:

By submitting manuscripts, all authors shall grant to the National Taipei University of Technology a non-exclusive license to disseminate their papers through the instruments of the National Taipei University of Technology or other affiliating entities.

Publication Ethics and Malpractice Statement:

This journal is committed to maintain ethics and quality standard of publication. Authors, editors, reviewers, and staff are required to follow general standards of ethical behaviors. Authors shall submit their original works without infringing intellectual property rights of others. Editors and reviewers shall evaluate manuscripts according to their academic values. Reviewers shall not take advantage of the original ideas drawn from the reviewed manuscripts. Reviewers shall keep the reviewed content confidential until it is published.

TABLE OF CONTENTS

[2022] Vol.11, No. 1 NTUT J. of Intell. Prop. L. & Mgmt

Issues of Authorship and Ownership in Work created by Artificial Intelligence - Indian Copyright Law Perspective

Paarth Naithani *
Assistant Lecturer
Jindal Global Law School, O.P. Jindal Global University, India

ABSTRACT

The fact that Artificial Intelligence (AI) is creating literary, artistic, and musical work raises important questions concerning copyrightability and authorship and ownership of such work under Copyright Law. A question that arises is whether AI can be considered the author and owner of work? Further, as per the Copyright Act, 1957, the "*author means... in relation to... work which is computer-generated, the person who causes the work to be created*". Thus, who should be considered to have caused work to be created when work is created by AI? Alternatively, can it be said that no person has caused the work to be created? This paper answers these questions from the perspective of Indian Copyright Law and copyright law justifications, while briefly looking at the position in other jurisdictions such as the US and UK. It also provides possible solutions to the issue of authorship and ownership in work created by AI which include - the work entering into the public domain, compulsory licenses being sought to make use of the work, recognition of limited personhood for AI, joint authorship for the persons involved or recognizing a sui generis right in work created by AI.

Keywords: Artificial Intelligence, Copyright Law, Ownership, Computer-generated work, Copyright Act, 1957

* Contact Email : pnaithani@jgu.edu.in

I. Introduction

Until now, Copyright Law has looked at technology merely as a tool in the hands of humans to create work.[1] It is the human and not the technology which is considered the author of such work. For example, when a photographer clicks a photograph using a camera, it is the photographer and not the camera that is considered the author of the work.[2] But unlike technology such as a camera, AI operates autonomously. The autonomous functioning of AI challenges the basic assumption that technology is merely a tool in the hands of humans.

AI, by operating independently of human creative input, is creating work that, if created by humans alone, would qualify for copyright. This is because the work created by AI is largely indistinguishable from work created by humans. There are plenty of examples of such work created by AI which include literary works such as novels and news articles, artistic works such as paintings and portraits, and musical works, among others.[3] These examples of human-like work created by AI raise important questions under Copyright Law. Can the work created by AI be considered original? Can AI be considered the author of the work? Under Copyright Law, usually, the author of a work is also considered the first owner of a work.[4] In case the AI is considered the author of the work, can AI be considered the owner of the work? Alternatively, if AI is not considered the author or owner of work, who should be the author and owner of the work? Should it be the user, programmer, or data supplier of the AI? This paper contributes to the existing debate by making a detailed analysis of the issue from the perspective of different kinds of AI. The paper makes suggestions for possible solutions under the Indian Copyright Law, while critically analysing Section 2(d)(vi) of the Copyright Act, 1957. It also analyses the question of copyright ownership of the programmer and user of the AI from the point of view of Copyright Law justifications.

II. Artificial intelligence

AI are machines that perform tasks requiring intelligence.[5] Intelligence is defined in various ways[6], one of which is human intelligence. Thus, machines can be considered artificially intelligent if they perform tasks that humans perform using intelligence such as perception, conversation, and decision making.[7] AI is categorised as weak if it simply performs programmed functions through simulation, and AI is categorised as strong if it goes beyond these functions by thinking autonomously.[8] AI is categorised as Artificial Narrow Intelligence when it cannot perform varied tasks and is intelligent in a narrow domain.[9] Artificial General Intelligence, in contrast to Artificial Narrow Intelligence, can perform varied tasks across domains but it is hypothetical.[10] Super Intelligent AI, which is also hypothetical, would surpass human intelligence across domains.[11] Today AI is being used in

---

1 Avishek Chakraborty, *Authorship of AI Generated Works under the Copyright Act, 1957: An Analytical Study*, 8 NIRMA U. L.J. 37 (2019).

2 Copyright Act, 1957, s 2(d)(iv).

3 Bernard Marr, *Can Machines And Artificial Intelligence Be Creative?* (Oct 30, 2021), https://www.forbes.com/sites/bernardmarr/2020/02/28/can-machines-and-artificial-intelligence-be creative/?sh=7afccf0e4580

4 Copyright Act, 1957, s 17.

5 Paul Scharre, et al., *What is Artificial Intelligence? In ARTIFICIAL INTELLIGENCE: What Every Policymaker Needs to Know*, Center for a New American Security (2018).

6 Shane Legg & Marcus Hutter, *A Collection of Definitions of Intelligence* (2021), (Oct 30, 2021), https://arxiv.org/abs/0706.3639

7 Defense Science Board, *Report of the Defense Science Board Summer Study on Autonomy*, (Oct 30, 2021), https://www.hsdl.org/?view&did=794641

8 Rex Martinez, *Artificial Intelligence: Distinguishing between Types & Definitions*, 19 NEV. L.J. 1015 (2019).

9 Paul Scharre et al., supra note 5.

10 Ibid.

11 Stephan De Spiegeleire, Matthijs Maas and Tim Sweijs, *ARTIFICIAL INTELLIGENCE AND THE FUTURE OF DEFENSE: STRATEGIC IMPLICATIONS FOR SMALL- AND MEDIUM-SIZED FORCE PROVIDERS*, Hague Centre for Strategic Studies (2017).

applications across sectors. AI is creating literary, artistic, and musical work.[12] AI is being used to create journalistic content. AI is writing novels and poems. AI is being used to create music. AI is also creating portraits and paintings.

III. AI distinguished from technology like camera

Is AI different from other technological tools such as a camera? In the case of a photograph clicked using a camera, there is a creative contribution by the human behind the camera in making choices concerning the angle, setting, and lighting of the photograph. The photograph clicked by the photographer is considered copyrightable and the photographer is considered the author of the photograph.[13] In the case of Artificial Intelligence, there is little or no creative input from a human. At most, the human chooses the data with which to feed the AI. The AI autonomously processes the data to generate an output. Further, although the AI is programmed by the programmer, the working of AI is largely unknown and there is a lack of predictability concerning the exact output of the AI. Thus, it cannot be said that human is producing the output of AI like the human can be considered to click a photograph using a camera. The human is merely programming and supplying data to the AI, and unlike in the case of a photograph clicked by a camera, there is no direct role of creative human input in the output of AI.

IV. Copyright-ability of work created by AI

One of the conditions of copyrightability is originality[14]. Thus, work made by AI can be tested for originality to determine if the work is copyrightable. Section 13 of the Indian Copyright Act says that copyright shall subsist in "original" dramatic, musical, literary, and artistic works. But the Indian Copyright Act does not define originality. To understand originality, one can look at the divergent doctrines of originality in different jurisdictions such as the UK, US and Canada. The requirements in these jurisdictions include "sweat of the brow", "creativity", "modicum of creativity" and "independently created". While the "sweat of the brow" standard is considered a low standard, "modicum of creativity" is considered a high standard.[15] The Indian standard of originality is balanced[16]. The Indian standard is neither "sweat of the brow" nor "creativity". A work is original as per Indian law if there is "skill and judgement" and "minimum degree of creativity".[17] The requirement is not that of creativity as novelty or non-obviousness.[18] The requirement is also not satisfied by supplying mere capital or labour.[19] The requirement is that of exercise of skill and judgment. [20] The following sub-section analyses whether work created by AI fulfils the test of originality.

A. Originality of work created by AI

1. *Copying from other work*

One of the basic conditions for a work to be original is that it is "not copied from other work".[21] Can it be said that AI creates its output without copying? In this respect, the popular saying is that

[12] Bernard Marr, supra note 3.
[13] Copyright Act, 1957, s 2(d)(iv), Burrow-Giles Lithographic Co. v. Sarony 111 U.S. 53 (1884).
[14] Copyright Act, 1957, s 13(a).
[15] Eastern Book Company vs D. B. Modak (2008) 1 SCC 1.
[16] Ibid.
[17] Ibid.
[18] Ibid.
[19] Ibid.
[20] Ibid.
[21] Rupendra Kashyap v Jiwan Publishing House 1996 PTC 439 Del.

"there is nothing new under the sun".[22] Everything is created based on something. Humans rely on past work to create new work.[23] It cannot thereby be said that work created by humans is copied as per Copyright Law. There is a need to distinguish between mere copying and relying on past work to create work. In the case of work generated by AI, although the AI relies on other work, it cannot be said that the AI copies the work. Just like a human cannot create work in complete isolation without drawing on work previously done, the AI also needs to rely on work to generate output. AI relies on the data input into it, which it processes through complex algorithms, to create work. Hence, work created by AI is original to the extent that it is not copied from other work.

2. *Minimum Degree of Creativity*

Can it be said that the work created by AI fulfils the condition of "minimum degree of creativity"? It has been argued in an article that creativity in a work can be assessed in two ways – by looking at the final output alone or by looking at the process of creation.[24] By looking at the final output, it can be objectively assessed if the work has a "minimum degree of creativity". By looking at the process of creation, it has to be assessed subjectively if the work was created with a "minimum degree of creativity". Looking at creativity objectively, work made by AI would qualify the condition of "minimum degree of creativity" as the threshold of creativity is quite low[25] and work created by AI, being indistinguishable from work made by humans, would fulfil this criterion. Looking at creativity subjectively, it has to be assessed whether creativity is involved in the creation of the work. In this regard, a comparison can be made between human creativity and the way AI operates.[26] It is believed that humans are creative. Can the same be said for AI?

The father of AI, the late Marvin Minsky had said that human is nothing but a meat machine.[27] This is a way of looking at human thinking as computational.[28] If it can be said that human thinking is computational, it would be comparable to the processing of AI which is also computational. The work created by AI should then fulfil the subjective criteria of creativity. On the other hand, if creativity is thought of as uniquely human, AI would not fulfil the subjective criteria of creativity.[29] However, if it is considered that AI is creative, it can be said that the criteria of creativity would be fulfilled. In this regard, a distinction should be made between Machine Learning and other AI which work on algorithms based on pre-generated templates.[30] The latter may not be creative but Machine Learning which learns to make its own decisions could be considered creative. Judging creativity from objective criteria, work created by AI would be original. Judging creativity from subjective criteria, the assessment would vary depending on the kind of AI and the perspective taken towards the question of whether AI is creative.

B. *Originality in other jurisdictions*

Originality has been interpreted in different jurisdictions. A work is original as per US law if the

---

[22] What has been will be again, what has been done will be done again; there is nothing new under the sun. 'Ecclesiastes 1:9

[23] Daniel J. Gifford, *Innovation and Creativity in the Fine Arts: The Relevance and Irrelevance of Copyright,* 18 CARDOZO Arts & ENT. L.J. 569 (2000).

[24] Edward Lee, *Digital Originality*, 14 VAND. J. ENT. & TECH. L. 919 (2012).

[25] Eva E. Subotnik, *Originality Proxies: Toward a Theory of Copyright and Creativity*, 76 BROOK. L. REV. 1487 (2011).

[26] Anna Shtefan, *Creativity and artificial intelligence: a view from the perspective of copyright,* 16 Journal of Intellectual Property Law & Practice 7 (2021).

[27] Condé Nast, *Marvin Minsky's Marvelous Meat Machine* (2021). (Oct 30, 2021). https://www.wired.com/2016/01/marvin-minskys-marvelous-meat-machine/

[28] Annemarie Bridy, *Coding Creativity: Copyright and the Artificially Intelligent Author*, 2012 Stan. TECH. L. REV. 5 (2012).

[29] Anna Shtefan, supra note 26.

[30] Russ Pearlman, *Recognizing Artificial Intelligence (AI) as Authors and Investors under U.S. Intellectual Property Law*, 24 RICH. J.L. & TECH. i (2018).

work is "independently created" and has a "minimum degree of creativity".[31] A work is original as per UK law if it involves "authorial intellectual creation" or "skill, labour and judgement."[32] The analysis made in the previous sub-sections of whether work created by AI is copied from other work and whether work created by AI can be said to have a "minimum degree of creativity", would equally apply to these jurisdictions.

V. AI as the author of work

A. *Inadequacy of Section 2(d)(vi)*

As per Section 2(d)(vi) of the Copyright Act, 1957, the "*author means.. in relation to any literary, dramatic, musical or artistic work which is computer-generated, the person who causes the work to be created*".[33] A similar provision is contained in the Copyright, Designs and Patents Act (CDPA), UK which states that "*In the case of a literary, dramatic, musical or artistic work which is computer-generated, the author shall be taken to be the person by whom the arrangements necessary for the creation of the work are undertaken.*"[34] Further, computer-generated work is defined in the CDPA as being "*generated by computer in circumstances such that there is no human author of the work.*"[35] Work created by AI squarely falls under the definition of "computer-generated work" under CDPA as there is "no human author of the work" when work is created by AI. Unlike the CDPA, UK which defines "computer-generated work", the Indian Copyright Act, 1957 does not define this term. Further, the phrase "*person by whom the arrangements necessary for the creation of the work are undertaken"* in CDPA, UK should be contrasted with the phrase, *"person who causes the work to be created"* in Section 2(d)(vi) of Indian Copyright Act. While CDPA addresses the issue of authorship in work created by AI, Section 2(d)(vi) of the Copyright Act, 1957 is inadequate to deal with the issue for two reasons.

Firstly, no person can be said to have caused the work to be created as per Section 2(d)(vi) as AI works autonomously. It is the AI that creates the work and not the human. Moreover, unlike the requirement under UK law of "*making arrangements necessary for creating the work*", the requirement of "*causing the creation of the work*" in India presents a higher threshold. The person supplying the data or programmer or user cannot be said to be "*causing the creation of the work*" by merely supplying the programming and data to the AI. Secondly, there may be cases where there would be no human who would have caused the creation of the work where the AI creates its own AI which creates work. In a situation where an AI creates another AI which then creates work, no person can be said to have "*caused the work to be created*" or "*undertook the arrangements necessary for creation of the work*".[36] An example of an AI creating its own AI is the AI AutoML, which was developed by Google Brain.[37]

---

[31] Feist Publications, Inc. v. Rural Tel. Serv. Co. 499 U.S. 340, 345 (1991).

[32] Goold P, *The Curious Case of Computer-Generated Works under the Copyright, Designs and Patents Act 1988*, City Law School Research Paper 2021/03 (2021).

[33] Copyright Act, 1957, s 2(d)(vi).

[34] Copyright, Designs and Patents Act, UK, s 9(3).

[35] Copyright, Designs and Patents Act, UK, s 178.

[36] Alston Asquith, *Artificial Intelligence and Copyright Law: Who (or What) Owns What?* (last visited Oct 30, 2021), https://www.alstonasquith.com/artificial-intelligence-copyright-law/

[37] Dom Galeon & Kristin Houser, *Google's AI Built Its Own AI That Outperforms Any Made by Humans* (last visited Oct 30, 2021), https://www.sciencealert.com/google-s-ai-built-it-s-own-ai-that-outperforms-any-made-by-humans#:~:text=In%20May%202017%2C%20researchers%20at,of%20generating%20its%20own%20AIs.

B. *AI as Author under Section 2(d)(i)*

Reliance can be placed on Section 2(d)(i) of the Copyright Act, 1957, which says that the "*author means in relation to literary or dramatic work, the author of the work.*"[38] As "author" is defined as the author, the term "author" cannot be said to be limited in application to humans alone and AI may be covered under this definition.

C. *AI as Author in other jurisdictions*

In the UK, the term "author" is understood as the "*person who creates the work*".[39] Similarly, in the US, the case of *Community for Creative Non-Violence v. Reid* defines "author" as someone "*who actually creates the work".*[40] AI can qualify as an "author" as per this understanding of the term "author" as AI is the entity that autonomously creates the work. But AI cannot be an "author"[41] under US law because the US has a "*human authorship requirement*" and does not protect "*works produced by a machine or mere mechanical process that operates randomly or automatically without any creative input or intervention from a human author*."[42] Further, the US cases of *Burrow-Giles Lithographic Co. v. Sarony*[43] and *Trade-Mark Cases*[44] define "author" using terms that indicate that only humans can be the "author". Moreover, there is the famous *Monkey Selfie Case*[45] in the US which dealt with the question of whether a Monkey could be considered the "author" of a photograph. The Court rejected the copyright claim of the monkey because of a lack of legal standing of the monkey.[46] AI cannot be considered an "author" in the US because of a lack of legal standing. Along with the explicit "human authorship requirement" and questions over the legal standing of AI, questions concerning the adequacy of enforcement of copyright[47] and remedies provided by copyright law also unsettle the proposition of the AI being considered the author.[48] Another question that unsettles the position of AI as the author is a lack of legal personhood.[49] In the US, the "human authorship" requirement would have to be done away with to recognise AI authorship.[50] But unlike in the US[51], there is no explicit requirement of human authorship under Indian law.

VI. *Entities other than AI as the author and owner of work*

If the AI is not considered the author and owner of work, who then should be considered the author and owner of such work? As per Section 2(d)(vi) of the Copyright Act, 1957, the "*author means ... in relation to any literary, dramatic, musical or artistic work which is computer-generated, the person who causes the work to be created*". As per this definition, the person who causes the creation of work would be the author.

---

38 Copyright Act, 1957, s 2(d)(i).
39 Copyright, Designs and Patents Act, UK, s 9(1).
40 Community for Creative Non-Violence v. Reid 490 U.S. 730 (1989).
41 Patrick Zurth, *Artificial Creativity? A Case against Copyright Protection for AI-Generated Works,* 25 UCLA J.L. & TECH. i (2020).
42 Third Edition of the Compendium of U.S. Copyright Office Practices, 2017.
43 Burrow-Giles Lithographic Co. v. Sarony 111 U.S. 53, 58 (1884).
44 Trade-Mark Cases 100 U.S. 82, 94 (1879).
45 Naruto, et al v. David John Slater Case No 3:15-cv-04324-WHO.
46 Russ Pearlman, supra note 30.
47 Niloufer Selvadurai & Rita Matulionyte, *Reconsidering creativity: copyright protection for works generated using artificial intelligence*, 15 Journal of Intellectual Property Law & Practice 7 (2020).
48 Victor M. Palace, *What If Artificial Intelligence Wrote This: Artificial Intelligence and Copyright Law,* 71 FLA. L. REV. 217 (2019).
49 Zack Naqvi, *Artificial Intelligence, Copyright, and Copyright Infringement,* 24 MARQ. INTELL. PROP. L. REV. 15 (2020).
50 Wenqing Zhao, *AI Art, Machine Authorship, and Copyright Laws,* 12 AM. U. INTELL. PROP. BRIEF 1 (2020).
51 Third Edition of the Compendium of U.S. Copyright Office Practices, 2017.

As discussed above, AI works autonomously and without any human creative input. Humans provide only programming and data to the AI which then autonomously produces output. In this limited sense, no person can be said to cause the creation of the work as the AI is the entity that is creating the work. Hence, no human can be said to be the author of the work. On the other hand, it can be argued that there is a creative input by the programmer in programming the AI, without which AI would not be able to create work. Similarly, it can be argued in favour of the human behind the AI that AI is merely a tool in the hands of the human, although a highly sophisticated one.

A. *Programmer as author*

The role of the programmer in laying the rules for the working of AI and in supervising the working of AI favours the programmer being considered the person who causes the creation of the work under Section 2(d)(vi). The programmer of the AI makes a contribution to the working of the AI and creation of work by coding the AI, training it on data, and reconfiguring and recoding the AI based on the output of the training data so that the AI functions optimally. The argument against the programmer being considered the author is that the output of AI is often unpredictable and not under the control of the programmer, and hence the programmer may not be the person who could be said to have "caused the work to be created"[52] under Section 2(d)(vi).

B. *User as author*

From the point of view of causing the creation of work, the user could be considered to have caused the work to be created only in the limited sense that the user engaged with the AI. Moreover, from the point of view of contributing to the creation of work like in the case of choosing the lighting and other aspects in taking a photograph, the user does not make such creative choices in using AI which directly reflect in the output of the AI. Hence, the user should not be considered the author. Further, a practical problem with making the user of AI the author of work would be to choose the author amongst different users who may use the same AI to generate the same output.[53]

C. *Programmer and User as the author in other jurisdictions*

In the UK, Section 9(3) CDPA read with Section 178 CDPA applies to work created by AI, and the author of the work is the "*person by whom the arrangements necessary for the creation of the work are undertaken".*[54] *Nova Productions Ltd v Mazooma Games Ltd & Ors* is a UK case where the Court did not consider players of a video game to be the author of frames of video games as they did not contribute the requisite "skill or labour", and merely played the game.[55] This case lends support to the view that the user would not have a claim to authorship as he does not contribute "skill and labour" to the output of the AI. Instead, the Whitford Committee report of the UK can be cited in favour of the programmer as the author - "*the author of the output can be none other than the person, or persons, who devised the instructions and originated the data used to control and condition a computer to produce a particular result*."[56] A Chinese case, *Shenzhen Tencent v Yinxun* can also be cited in favour of the programmer as the author. The case recognised a relationship between the humans supervising the AI and the output of the AI. The judgment recognised that there was a direct connection between the intellectual activity of the persons operating the AI and the output produced by the AI.[57] It further

---

[52] Samantha Fink Hedrick, I Think, *Therefore I Create: Claiming Copyright in the Outputs of Algorithms,* 8 NYU J. INTELL. PROP. & ENT. L. 324 (2019).

[53] Ibid.

[54] Goold P, supra note 32.

[55] Nova Productions Ltd v Mazooma Games Ltd & Ors [2007] EWCA Civ 219.

[56] Report of the Whitford Committee to Consider the Law on Copyright and Designs.

[57] Kan He, *Another decision on AI-generated work in China: Is it a Work of Legal Entities?* (2021), https://ipkitten.blogspot.com/2020/01/another-decision-on-ai-generated-work.html (last visited Oct 30, 2021).

recognised that humans intervened in the creative process of the AI and because the operating group of Tencent selected and supervised the data input into the AI, Tencent was considered the author of the work.[58]

VII. Ownership from the point of view of Copyright Law justifications

A. *Incentive theory*

The incentive theory, which grants copyright as an incentive for the creation of work, does not require granting copyright to AI.[59] Since AI is not sentient and does not work on its own as it is externally programmed, incentives of copyright do not affect the working of AI. Programmers of AI may be incentivised by copyright protection to develop AI which produces work.[60] In fact, not recognising copyright in favour of the programmer of the AI in the output of AI may act as a disincentive to develop AI which produces work.[61] For example, it has been said regarding the famous monkey selfie case that Mr Slater would not have been incentivised to leave his camera for a monkey to click a photograph if he knew that he wouldn't own the copyright in the photograph.[62] Thus, there are strong arguments in favour of the programmer having the copyright.[63] The argument against the programmer being granted copyright as per the incentive theory would be the presence of incentives other than copyright to develop AI.[64] Further, giving the programmer copyright over the output of AI may lead to the "problem of double-dipping" whereby the programmer would have copyright over both AI and its output.[65]

B. *Personality theory*

The personality theory, which protects the reflection of the personality of a person in a work, does not require granting copyright to AI. This is because AI cannot be said to have a personality like the personality of a human which was envisaged to be protected by the personality theory.[66] To the extent that the programmer cannot be said to have contributed creatively to the output of AI and to the extent that AI works like a black box and produces unpredictable results, the personality of the programmer cannot be said to be reflected in the output of AI. Thus, the programmer does not need to be granted copyright as per the personality theory. Given the limited role of the user in making creative inputs to the AI, the output of AI cannot be said to reflect the personality of the user so the user would need to be granted copyright as per the personality theory.

C. *Labour theory*

The labour theory, which protects the "fruits of one's labour", does not require granting copyright to AI.[67] Though AI processes data to generate output, it cannot be said that AI puts "labour" into the work in the sense that John Locke used the term "labour" when contemplating the protection of labour.

---

[58] Ibid.

[59] Narayani Anand, *Artificial Intelligence As the New Creator - Changing Dimensions in Copyright Law*, 6 CMET 103 (2019).

[60] Samantha Fink Hedrick, supra note 52.

[61] Kalin Hristov, *Artificial Intelligence and the Copyright Dilemma*, 57 IDEA 431 (2017).

[62] Nina I. Brown, *Artificial Authors: A Case for Copyright in Computer-Generated Works*, 20 COLUM. Sci. & TECH. L. REV. 1 (2018).

[63] Samantha Fink Hedrick, supra note 52.

[64] Victor M. Palace, supra note 48.

[65] Robert Yu, *The Machine Author: What Level of Copyright Protection is Appropriate for Fully Independent Computer Generated Works*, 165 U. PA. L. REV. 1245 (2017).

[66] Narayani Anand, supra note 59.

[67] Fenna Hornman, *A robot's right to copyright*, (last visited Oct 30, 2021). http://arno.uvt.nl/show.cgi?fid=145318

The labour sought to be protected is human labour[68] and thus, AI would not be granted copyright as per this theory. The programmer can be said to have put labour into programming and training the AI, but it remains questionable if the programmer has put labour into the creation of the work. Moreover, the labour of the programmer in programming the AI can be recognised by granting copyright in the program of the AI. The user of AI cannot be considered to have contributed labour to the output of the AI, and hence does not need to be granted copyright in the output of the AI as per this theory.

D. *Moral Rights*

Moral rights should not be recognised in AI.[69] Since AI is not sentient and is not conscious of how its output is used once it is generated, it would not make sense to recognise moral rights in the AI as the AI cannot exercise its rights such as the "right to integrity" or the "right to paternity". Further, it would not be right to recognise the output of the AI as that of the programmer or user through the "right to attribution" as it cannot be said that the output of AI is the creation of the programmer or user. The output of AI is created autonomously and it is unpredictable to the user and programmer. Thus, it would not be right to grant moral rights to the programmer or user, moral rights being granted to protect the dignity of the author who creates the work.

E. *Utilitarian Theory*

Utilitarianism warrants more creative work to be produced for the public to access.[70] Thus, the public would be benefitted when more work reaches them by recognition of copyright in the output of AI. Thus, a case is made for copyright to be granted as per this theory.

VIII. Possible Solutions

A. *Work enters the Public domain*

As per copyright justifications such as the labour theory and personality theory, if the programmer and user cannot be considered to have contributed their personality or labour to the output of the AI and if AI is not anthropomorphised to consider it to be the author, it would be a plausible solution to have the work enter into the public domain. The fact that there exist incentives other than copyright for developing AI which creates work[71] weighs in favour of having the work directly enter into the public domain. The AI itself does not need any incentive to create work and can create an infinite number of works at no extra cost.[72] However, not granting authorship in the output of AI would imply treating work created by AI differently from work created by humans whereas work created by AI cannot on its own be distinguished from work created by humans. This raises the question of whether the work created by AI should be treated differently. The work created by AI and work created by humans should not be treated differently in absence of utility of treating the works differently and to avoid spending resources to confirm if the work was created by a human alone and not AI when such a claim is made.

---

[68] Margot E. Kaminski, *Authorship, Disrupted: AI Authors in Copyright and First Amendment Law,* 51 U.C.D. L. REV. 589 (2017).

[69] Martin Miernicki and Irene Ng (Huang Ying), *Artificial intelligence and moral rights,* 36 AI & SOCIETY 319 (2021).

[70] Narayani Anand, supra note 59.

[71] Robert Yu, supra note 65.

[72] Ayush Pokhriyal & Vasu Gupta, *Artificial Intelligence Generated works under Copyright Law,* 6(2) NLUJ Law Review 93 (2020).

B. *Compulsory license for the work under Section 31A*

One possible solution is for the provision of Section 31A, Copyright Act, which deals with compulsory licensing of published or unpublished work, to be flexibly interpreted. Section 31A could cover the output of AI in case nobody is considered the author or owner of the work created by AI. This may be the case when the programmer or user is not considered to have caused the work to be created and even the AI is not considered the author. Section 31A reads, "*Compulsory licence in unpublished or published works - (1) Where, in the case of any unpublished work or any work published or communicated to the public and ... the author is dead or unknown or cannot be traced, or the owner of the copyright in such work cannot be found, any person may apply ... for a licence to publish or communicate to the public such work ...*". Through a flexible interpretation of Section 31A, work created by AI can be considered work where the "*author is ... unknown and the owner ... cannot be found*", thereby allowing the user or programmer to then apply for making use of the work.

C. *Recognising limited personhood for AI*

Another solution could be to consider AI as the author and owner of work by recognising limited personhood for AI and having a person behind the AI exercise copyright on its behalf. For instance, in India, Hindu idols have been considered juristic persons.[73] As per *Pramatha Nath Mullick v Pradyumna Kumar Mullick,* the rights of Hindu idols would be exercised by the manager of the Hindu idol who could exercise powers just like the manager of an infant heirs' estate exercises powers.[74] Similarly, AI can also be considered a juristic person and the programmer or user may be allowed to exercise the copyright in the output of the AI, on behalf of the AI.

D. *Programmer, user, or data supplier as "author" under Section 2(d)(vi)*

As per Section 2(d)(vi) of the Copyright Act, 1957, the "*author means .. in relation to any literary, dramatic, musical or artistic work which is computer-generated, the person who causes the work to be created*". If Section 2(d)(vi) were to be interpreted to consider output produced by AI to be computer-generated work, and if humans, and not AI alone, could be said to have "*caused the creation of the work*", the human who is considered to "*cause the creation of work*" would be considered the author.

As compared to the user who does not make a creative input that directly shapes the output of the AI, the programmer who programs and trains the AI can be considered, although in a limited sense, to have "*caused the work to be created*" and would have a better claim than the user under Section 2(d)(vi). This supplier of data to AI would have a weak claim to authorship because of the principle of Copyright Law that copyright protects not ideas, but persons who give expression to ideas. The supplier of data to the AI would have a weak claim because he does not contribute to the expression of the output of AI. Moreover, the supplier of data to the AI merely supplies the data to the AI which alone does not "*cause the work to be created*" as per Section 2(d)(vi).

E. *Joint authorship*

Another solution could be to grant joint authorship of the work to the programmer, user, data supplier, and AI itself. The output generated by AI, along with being a result of AI processing the data, is also a result of the contribution made by the programmer in programming and training the AI, the contribution of the supplier of data to the AI in providing the very fuel which makes the AI work and contribution of the user in interacting with the AI through his inputs. Providing joint authorship to the

[73] Pramatha Nath Mullick v. Pradyumna Kumar Mullick (1925) 27 497 BOMLR 1064.
[74] Ibid.

programmer, user, data supplier and AI itself would be a way of recognising the contributions of each of them in the entire process of creation seen as one, from programming the AI to the output that AI generates.

F. *Sui Generis Right for work created by AI*

It has been suggested that there could be a sui generis right to protect work created by AI.[75] It would do away with the need to accommodate work created by AI into the traditional Copyright Law concepts of originality, minimum degree of creativity, authorship, and ownership. Further, the duration of the enjoyment of the right should be such that work created by AI must not lead to crowding out from the market of work created by humans.[76]

IX. Analysis of different kinds of AI

The analysis made above would vary for the different categories of AI. When it comes to assessing originality as per the subjective criteria of originality by looking at whether the process of creation involved creativity, Artificial General Intelligence, and Super-Intelligent AI could be said to fulfil the criteria as they would contribute "creatively" to producing an output. This is so because Artificial General Intelligence can perform varied tasks across domains and Super-Intelligent AI surpasses human intelligence, and hence both can be said to act "creatively". Similarly, Strong AI would pass the subjective criteria of originality as it functions by thinking autonomously rather than through simulation and hence could be said to act "creatively". In contrast, Weak AI and Artificial Narrow Intelligence would have a lesser claim than Artificial General Intelligence, Super-Intelligent AI, and Strong AI when it comes to assessing originality as per the subjective criteria. Weak AI performs programmed functions through simulation and Artificial Narrow Intelligence performs tasks only in a single domain, and thus neither of them can be said to act "creatively". Further, Machine Learning (ML) and formulaic AI must be distinguished when assessing originality.[77] ML learns to learn on its own and hence can be said to act "creatively". On the other hand, AI which works on pre-generated templates may not qualify the subjective criteria of originality.

When assessing whether AI should be granted copyright as per the personality theory, a claim can be made that Artificial General Intelligence, Super-Intelligent AI, and Strong AI should be granted copyright as these kinds of AI can be said to have a personality. Artificial General Intelligence is intelligent across domains, Super-Intelligent AI surpasses human intelligence and Strong AI thinks autonomously, thereby giving them a strong claim to copyright as they could be said to possess personality as per the personality theory. On the other hand, Weak AI and Artificial Narrow Intelligence cannot be said to have a personality that needs to be protected as per the personality theory, as Artificial Narrow Intelligence performs tasks only in a single domain and Weak AI performs programmed functions through simulation. A case exists for according personhood to Artificial General Intelligence, Super-Intelligent AI, and Strong AI, which would enable them to be granted ownership. On the other hand, Weak AI and Artificial Narrow Intelligence would have a weak claim to personhood as these AI are limited to a single domain and are mere simulations.

X. Conclusion

This paper has analysed the issue of authorship and ownership in work created by AI through the lens of Indian Copyright Law and copyright law justifications. Firstly, AI is different from other

[75] Dilan Thampapillai, *The Gatekeeper Doctrines: Originality and Authorship in Australia in the Age of Artificial Intelligence*, WIPO-WTO Colloquium Papers (2019).
[76] V.K. Ahuja., *Artificial Intelligence and Copyright: Issues and Challenges*, ILI Law Review Winter Issue (2020).
[77] Russ Pearlman, supra note 30.

technological tools such as a camera because AI creates work autonomously. Such work would qualify the test of originality to the extent that it is not copied from other work. It would also qualify "minimum degree of creativity" when assessed objectively. While AGI, Super-intelligent AI, and Strong AI would qualify the subjective criteria of "minimum degree of creativity", the same cannot be said of ANI and Weak AI. Section 2(d)(vi) of the Indian Copyright Act is inadequate to deal with work created by AI. Instead, AI can be considered an author under Section 2(d)(i) of the Copyright Act. In addition to being considered the author, AI would be considered the owner of work if it is granted legal personhood.[78] Under Section 2(d)(vi), the programmer of AI can be considered the author of the work and would have a better claim to authorship than the user or data supplier of AI. Neither the incentive theory, personality theory, or labour theory requires granting copyright to AI. But as per the utilitarian theory, the copyright must be granted. Thus, the possible solutions to the issue of authorship and ownership in work created by AI are that the work enters into the public domain, compulsory licenses are sought to make use of the work, recognising limited personhood for AI, joint authorship for the persons involved or recognising a sui generis right for work created by AI.

[78] Andres Guadamuz, *Do androids dream of electric copyright? Comparative analysis of originality in artificial intelligence generated works*, 2 Intellectual Property Quarterly 169 (2017).

[2022] Vol.11, Number 1 NTUT J. of Intell. Porp. L. & Mgmt

The Copyright and Her History

Dr. Khalid Shamim*
LL.B.; LL.M. from Aligarh Muslim University (AMU), Aligarh, India; Ph.D. in Law from National Law Institute University (NLIU), Bhopal, India
Professor of Law
Shibli National P.G. College, Azamgarh, Uttar Pradesh, 276 001 India

Aqa Raza**
B.A., LL.B. (Hons.); LL.M. *(Gold Medalist)* from AMU; Ph.D. in Law (Pursuing) from NLIU
Assistant Lecturer
Jindal Global Law School, O.P. Jindal Global University, Sonipat, Haryana, 131 001 India

Abstract

The remit of the history of copyright law, among all the reasons, has been the technological developments, inventions, innovations, and advancements. The review of literature on copyright reveals that the need for the protection of authors' rights was firmly realized only after Guttenberg's invention of the printing press in 1451. This paper aims to fill some void in the intellectual property literature, particularly relating to the history and generations of copyright law. Paper classifies the generations of copyright into three and seeks to examine the historical development of copyright law through these three classified generations of evolution. Every generation of copyright had its own peculiarity and it not only protected the authors alone but also different stakeholders involved in the publication industry. It has been argued that the technological developments and advancements, and the journey from wheel to pulley; diode, triode to transistors; and transistors to chips have been the substantial reasons in the determination of subject-matter of protection and the rights of authors under the copyright law. Paper also makes an attempt to discuss the: (i) journey of copyright law from a positive right to a negative right; (ii) factors that led to the recognition of the author's economic and moral rights under the copyright law; and (iii) historical development of copyright law in pre-independent and post-independent India.

Keywords: Copyright History, Copyright Generations, Positive Right, Negative Right, Indian Copyright Law

* Contact Email: khalidshamim1967@gmail.com.

** Corresponding author. Contact Email: aqaraza@outlook.com.

I. Introduction

The history of copyright on the one hand is the history of a right and rights in the legal sense, and on the other hand, a history of its struggle with technology to create a balance as technology has always remained ahead of it. The advancements in technology posed two challenges: firstly, the protection accorded to the authors; and secondly, new dimensions brought to the existing rights of the authors. The generation of technology from wheel to pulley, from diode, triode to transistors, and from transistors to chips changed the gear of development and made possible which was not possible before. The history of copyright begins with Johannes Guttenberg's printing press in the year 1451[1] and revolves around technological advancements. The generational changes in technology gave further shape to it. The notion that an author should have 'exclusive copyright' in his creation took firm shape at the beginning of the 18th century.[2] But it is derived from a confusion of earlier strains that there was still a major evolutionary conflict to come before its modern form was finally fixed.

A review of articles published in the 'NTUT Journal of Intellectual Property Law and Management'[3] from 1(1) (2012) to 10(2) (2021); the 'Journal of Intellectual Property Rights'[4] from 1(1) (1996) to 27(1) (2022); and the 'International Journal of Intellectual Property Management'[5] from 1(1) (2006) to 12(1) (2022), reveals that no article relating to the history of copyright law or copyright generations has been published. Hence, this study on the history of copyright law — classifying the generations of copyright.

The history of copyright law may properly be classified into three major generations. First Generation: the generation that started with the invention of the printing press and came to an end in England with the enactment of the Statute of Anne of 1710[6] and in much of Europe with the end of the 18th century. It was the period when individual privileges were granted to publishers and authors.

Second Generation: the generation that started with the first legislative enactment in the world to protect the authors' rights and is represented by: (i) the Statute of Anne of 1710 in England; (ii) the Federal Copyright Act of 1790[7] in the United States of America; and (iii) the Literary and Artistic

---

[1] *See generally* Shelton A. Gururatne, *Paper, Printing and the Printing Press: A Horizontally Integrative Macrohistory Analysis*, 63(6) INT. COMMUNICATION GAZETTE 459–479 (2001); Christopher McFadden, *The Invention and History of the Printing Press*, INTERESTING ENGINNERING (Sep. 12, 2018), (last visited Apr. 4, 2022) https://interestingengineering.com/the-invention-and-history-of-the-printing-press.

[2] Peter Jaszi, *Toward a Theory of Copyright: The Metamorphoses of "Authorship"*, 41(2) DUKE L. J. 455–502 (1991).

[3] Articles published in the NTUT Journal of Intellectual Property Law and Management, (last visited Apr. 5, 2022) https://iip.ntut.edu.tw/p/412-1092-12387.php?Lang=en Only 6 articles related to copyright have been published in the journal but they don't relate to the history of copyright or the generations of copyright. These 6 articles are: Ping-Hsun Chen, *Rethinking the "Access" Element in Copyright Infringement Cases about Popular Music*, 1(1) NTUT J. OF INTELL. PROP. L. & MGMT 189–199 (2012); Ping-Hsun Chen, *Choice of Law—An Unresolved Question in the First Adult Video Copyright Case of the Taiwan Intellectual Property Court*, 3(1) NTUT J. OF INTELL. PROP. L. & MGMT 56–71 (2014); Rofi Aulia Rahman, Akhmad Al-Farouqi & Shu-Mei, Tang, *Should Indonesian Copyright Law be Amended Due to Artificial Intelligence Development?: Lesson Learned from Japan*, 9(1) NTUT J. OF INTELL. PROP. L. & MGMT. 34–57 (2020); Vaibhav Chadha, *Analysing the "Education Exception" clause in Copyright law with special reference to Delhi University Photocopy Case*, 10(1) NTUT J. OF INTELL. PROP. L. & MGMT. 1–18 (2021); Ranti Fauza Mayana, Rika Ratna Permata, Tasya Safiranita & Ahmad M. Ramli, *The Needs for a Comprehensive Copyright Legislation on Over-The-Top Platform in Breaking Covid-19 Cycle*, 10(1) NTUT J. OF INTELL. PROP. L. & MGMT. 67–79 (2021); Nadya Prita Gemala, Rahmi Jened & Henry Sulistyo Budi, *Indonesian Copyright Protection for Animation and its Role in Supporting Creative Economy: Doctrinal, Normative, Practical Constrain and its Solution*, 10(1) NTUT J. OF INTELL. PROP. L. & MGMT. 80–102 (2021).

[4] Articles published in the Journal of Intellectual Property Rights, (last visited Apr. 6, 2022). http://nopr.niscair.res.in/handle/123456789/45

[5] Articles published in the International Journal of Intellectual Property Management, (last visited Apr. 7, 2022). https://www.inderscience.com/jhome.php?jcode=ijipm

[6] 8 Anne c. 19.

[7] 1 US Statute At Large, 124.

Property Act of 1793[8] in France[9] — owes its legislative history to the French Decree of 28–30 March 1852.[10] The Statute of Anne of 1710 didn't make any distinction between the 'citizens' and 'foreigners' for publishing in England. Whereas, the Literary and Artistic Property Act of 1793 in France extended the legal protection to 'foreigners' as well as 'nationals'. It was the generation when authors' rights were first protected by general legislation and also marked the beginning of conventions and treaties between various countries.

Third Generation: the generation that started in the late 19th century and paved the way for formalizing and uniformizing the copyright statutes at the international level. The demand for the fuller protection of authors in this generation led to significant developments in the history of copyright law which are of fundamental importance even today. From the International Copyright Convention of 1886 to the Marrakesh Treaty of 2013, this generation has addressed the issues relating to copyright law from molar to molecular. In this generation, independent India enacted its first Intellectual Property (IP) statute — the Copyright Act of 1957 which came into effect in January 1958. Since its enactment, the copyright statute and rules have been amended several times to meet the demands of the time and further protect the interest and rights of the authors.

This paper examines the historical development of copyright law with reference to the above three classified generations of evolution and aims to fill some voids in the Intellectual Property literature. For the purposes of convenience, this paper is divided into five more parts. Part II examines the First Generation of Copyright. Part III examines the Second Generation of Copyright. Part IV examines the Third Generation of Copyright. Part V examines copyright protection in pre-independent and post-independent India. Part VI concludes.

II. First Generation Copyright

The evolution of copyright has attracted scholars of formidable polish. The First Generation of copyright surfaced with the introduction of the printing press in the 15th century.[11] It is believed that no recognition of the legal rights of authors existed before that time. Speculation over the existence of such recognition in ancient Greece and Rome seems idle. There is no trace of any legal provision against copying a literary or artistic work, although plagiarism was undoubtedly condemned by "public opinion".[12] Rather than law, social control was the only agency for the interests of authors at that time. The conditions of literary and artistic creations with the long and costly work were necessary for the production of each copy at that time. The lack of economic value in the work did not bring about the pressure of interests for recognition and protection which is the prerequisite of the creation of a legal right. Authors were more conscious of the honour accruing to them by the circulation of their writings than of the possibility of profit through their sales. Their only solicitude was about the accuracy of the copies made by the transcribers. This does not mean, however, that large numbers of copies were not produced.

---

[8] French Decree of July 19, 1793.

[9] Frédéric Rideau, *Nineteenth Century Controversies Relating to the Protection of Artistic Property in France*, in PRIVILEGE AND PROPERTY: ESSAYS ON THE HISTORY OF COPYRIGHT, pp.241–254, 243–245 (Ronan Deazley et al., eds., Cambridge Open Book Publishers, 2010).

[10] Jane C. Ginsburg, *A Tale of Two Copyrights: Literary Property in Revolutionary France and America*, 64(5) TULANE L. R. 991–1031, 1022. (1990).

[11] *See generally* T. E. SCRUTTON, THE LAW OF COPYRIGHT 70–90 (William Cloves & Sons, 1893); A. BIRRELL, SEVEN LECTURES ON THE LAW AND HISTORY OF COPYRIGHT IN BOOKS (Fred B. Rothman & Co., 1971); W. S. HOLDSWORTH, HISTORY OF ENGLISH LAW, Vol. 6 (Sweet & Maxwell, 1937).

[12] STEPHEN P. LADAS, THE INTERNATIONAL PROTECTION OF LITERARY AND ARTISTIC PROPERTY 16 (Macmillan, 1938).

In this generation, Roman booksellers did a flourishing business, and slave labours were employed to furnish the copies promptly and cheaply on a large scale.[13] It seems strange that the idea of property in literary works, as distinguished from that in the manuscript, had not been developed in this generation.[14] With the discovery of the printing press in 1451, the work of reproduction of literary works became easier.[15] Economic value was attached to a book, since it may be reproduced in great numbers and distributed by the ordinary channels of trade.

Authors had an economic interest that was to be secured in the form of an exclusive right of making or causing to be made copies of their work.[16] The authors found themselves confronted with a situation in which they lost the actual physical control of the vehicle of their work which they had maintained by possession of the original manuscript. Now, the power to make copies (of one of the printed copies), was in the hands of any possessor. Yet the pressure of the interests of authors was not strong enough to obtain general recognition and protection. Personal privileges were alone granted. Original authors were rare during this time. Most of the books published were printings of the works of ancient authors and of the Fathers of the Church — which required much expense and work of scholarship comparing manuscripts and revising the texts. Printers employed the services of learned men and their work was a pioneer which made them the first to obtain privileges and patents for a limited period of time. Even when the published work was one of the new writers, the stake of the publisher appeared greater than that of the author. Thus, the protection was granted in the name of the former.[17] Another reason behind this was that the printers and the publishers from an early time had formed guilds and corporations. These guilds and corporations, by their regulations, provided for the protection of the interests of their members. In England, Mary & Philip granted the Stationer's Company a Charter in 1556.[18] The Charter gave the company powers in addition to the usual supervisory authority over the craft to search out and destroy books printed in contravention of statute or proclamation. The company was thus enabled to organize which was in effect a licensing system by requiring lawfully printed books to be entered into its register. These printed books were entered on the register of the company as the property of particular printers.

At Common Law, 'competition and monopoly were born together. The Statute of Monopolies of 1623 enacted in England sought to curb monopolies but recognized the grant of patents for inventions as an exception to competition. It is believed that the monopoly in the form of IP is in furtherance to competition, *i.e.*, the monopoly in the form of IP promotes rather than stifling competition by enforcing exclusive rights to encourage creativity'.[19] In England, the royal grants of privilege to print certain books were not copyrights.[20] They were not granted to encourage learning or for the benefit of authors. They were commercial monopolies and licenses to tradesmen to follow their calling. As gradually monopolies became unpopular, the printers sought to base their claims on other grounds and called the

---

[13] LUDWIG FRIEDLANDER, *ROMAN LIFE AND MANNERS UNDER THE EARLY EMPIRE*, Vol. 3 (Sagwan Press, 2015).

[14] THE ENACTMENTS OF JUSTINIAN, *THE INSTITUTES' THE CIVIL LAW*, Vol. 2, (S. P. Scott, ed., Central Trust Company, 1932).

[15] BENJAMIN KAPLAN, *AN UNHURRIED VIEW OF COPYRIGHT 1–5* (Columbia University Press, 1967).

[16] Martin Kretschmer & Friedemann Kawhol, *The History and Philosophy of Copyright,* in MUSIC AND COPYRIGHT, 21–53 (Simon Frith & Lee Marshall, eds., Edinburgh University Press, 2004). (last visited Apr. 5, 2022). URL: https://www.researchgate.net/publication/265287021_The_History_and_Philosophy_of_Copyright_i

[17] Joanna Kostylo, *From Gunpowder to Print: The Common Origins of Copyright and Patent*, in PRIVILEGE AND PROPERTY: ESSAYS ON THE HISTORY OF COPYRIGHT, 21–50, 31 (Ronan Deazley et al., eds., Cambridge Open Book Publishers, 2010).

[18] Himali Sylvester, *The Exordium of Copyright System in UK*, ENHELION BLOGS (May 10, 2003), (last visited Apr. 3, 2022). https://enhelion.com/blogs/2021/05/10/the-exordium-of-copyright-system-in-uk/; Ian Gadd, *A Companion to Blayney*, THE PAPERS OF THE BIBLIOGRAPHICAL SOCIETY OF AMERICA, 111(3) 379–406 (2017).

[19] Aqa Raza, *Theoretical Underpinnings of Copyright and Design Laws: Decisions of the Supreme Court of India*, J. OF INTELL. PROP. RIGHTS, 26(4) 220–234, 221 (2021), (last visited Apr. 14, 2022). URL: http://nopr.niscair.res.in/bitstream/123456789/58372/1/JIPR%2026%284%29%20220-234.pdf

[20] WILLIAM F. PATRY, COPYRIGHT LAW AND PRACTICE (1st ed., BNA Books, 1994).

"right of copy" not a monopoly, but a "property right". The Stationers' Company had a register in which its members entered the titles of their works that they were privileged to print. Gradually, a custom developed by which members refrained from printing the books withstood on the register, in the name of the author. Thus, members respected each other's "copy" — as it was called, and there grew up trade recognition of the "right of copy" or "copyright".[21] This right was subsequently embodied in a bye-law of the stationers' company. The entry in the register was regarded as a record of the rights of the individual named and it was assumed that possession of a manuscript carried with it the right to print copies.

In this generation, copyright was in the form of individual and personal privileges or licenses based on the principle that 'right comes straight from the "public authority"'. There was no question of international protection of the authors' rights for the reason that the Pope, King, or the Princes were the authorities who granted these privileges. But in absence of any international protection of the authors' rights, privileges were granted to foreigners whose work was published within the country. Hugo Grotius's famous treatise *'De Jure Belli ac Pacis (The Rights of War and Peace)'* published in Paris in 1625 is an example, which obtained a privilege for 15 years.[22] But, as a general rule, foreign privileges were not recognized. The advantage of the law in this stage can be said to be in the form of "incentives" provided to the stationers who invested in the printing press. This generation specifically talked about the stationers and their rights and by not addressing the authors and the authors' rights, gave the reasons and scope of its consideration and resolution by the subsequent generation.

III. Second Generation Copyright

The First Generation of Copyright which was in the form of personal privileges granted by the Sovereign to the individual authors and publishers started fading with the restoration of the freedom of the press. In England, a demand to protect the interests of authors and publishers arose much earlier than in any other country. The Licensing of the Press Act 1662[23] was passed to prevent the 'frequent abuses in printing seditious treasonable and unlicensed books and pamphlets and for regulating of printing and printing presses' but it lapsed in 1694.[24] Repeated attempts were made to renew it as the proprietors of copyright felt that they had no adequate protection under the common law without the summary measures provided in the Licensing Act. Numerous petitions were presented to the Parliament in 1703, 1706, and 1709. This finally led to the enactment of the Statute of Anne of 1710[25] which provided 'for the encouragement of learning, by vesting of the copies, during the times therein mentioned'.[26]

The Statute of Anne of 1710 was the first general legislative enactment in any country designed to protect the rights of authors. It gave authors of books the sole right and liberty of printing them for a term of 21 years from April 10, 1710, and of books not then printed, the sole right of printing for 14 years (Section I) with a *proviso* that after the expiry of the said term of 14 years, the sole right of

---

[21] Martin Kretschmer, et al., *Introduction. The History of Copyright History: Notes from an Emerging Discipline*, in PRIVILEGE AND PROPERTY: ESSAYS ON THE HISTORY OF COPYRIGHT, 1–20 (Ronan Deazley et al., eds., Cambridge Open Book Publishers, 2010).

[22] Tony Volpe & Joachim Schöpfel, *Dissemination of Knowledge and Copyright: An Historical Case Study*, J. OF INFORMATION, COMMUNICATION & ETHICS IN SOCIETY 11(3) 144–155 (2013).

[23] 14 Car. II. c. 33.

[24] Karen Nipps, *Cum Privilegio: Licensing of the Press Act of 1662*, THE LIB. QUAR. INFO. COMMUNITY, POLICY 84 (4) 494–500 (2014).

[25] Ibid. Statute of Anne, supra note 6.

[26] W. Cornish, *The Statute of Anne 1709-10: Its Historical Setting*, in GLOBAL COPYRIGHT: THREE HUNDRED YEARS SINCE THE STATUTE OF ANNE, FROM 1709 TO CYBERSPACE 23 (Lionel Bently, et al., eds., Edward Elgar Publishing, 2010).

printing or disposing of copies should return to the authors thereof for another term of 14 years, if they were then living. The titles of the books had to be registered in the register book of the stationers' company (Section V) and 9 copies had to be delivered to certain libraries.[27] The Statute of Anne was passed with a view to give greater protection to copyright but it had the unexpected result of curtailing it. In the case of Donaldson v Beckett,[28] the House of Lords finally decided that the effect of the Statute of Anne was to extinguish the common law copyright in published works, though leaving the common law copyright in unpublished works unaffected.[29]

With regard to the rights of foreigners, the Statute of Anne of 1710 provided that the work be published within the country and did not make any distinction between "citizens" and "foreigners". In Gurichard v Mori,[30] it was held that anyone had the right to publish in England a work that had been first published in a foreign country. This situation was remedied in England by the passing of the International Copyright Act of 1838.[31] In England, this Act granted protection to the authors of books first published in foreign countries on conditions of reciprocity, namely, on the conditions that in such foreign countries authors of books first published in England were protected.

After their independence, the United States of America (*hereinafter*, the USA), was not long in adapting copyright legislation. In the meantime, Connecticut on 8 January 1783, passed the 'Act for the Encouragement of Literature and Genius, 1783';[32] and Massachusetts on March 17, 1783, enacted the 'Act for the purpose of securing to authors the exclusive right and benefit of publishing their literary productions for twenty-one years' that provided for depositing two copies in the library of the Harvard University.[33] Congress in the same year had recommended to the various states to grant copyright protection to authors and publishers who were a citizen of the USA.[34]

In 1789, the Constitution of the USA provided that Congress was authorized 'to promote the progress of science and useful arts by securing for a limited time to authors and inventors, the exclusive right to their respective writings and discoveries' (Article I, Section 8, Clause 8 of the USA Constitution).[35] Consequently, the Federal Copyright Act of 1790[36] was passed on May 31, 1790, in accordance with the provisions of the USA Constitution.

In France, the Literary and Artistic Property Act of 1793[37] referred generally to "authors", and it might seem that foreigners, as well as nationals, were covered by its provisions. This seemed to be

---

[27] E.P. SKONE JAMES, et al., COPINGER AND SKONE JAMES ON COPYRIGHT 16 (12th ed., Sweet & Maxwell, 1980).

[28] (1774) 2 Bro PC 129.

[29] Ibid. Kretschmer et al., supra note 21.

[30] (1831) 9 L.J. Ch. 227.

[31] 1 & 2 Vict. c. 59.

[32] Conn. Acts 133.

[33] Benjamin W. Rudd, *Notable Dates in American Copyright 1783—1969*, 28(2) THE QUAR. J. OF THE LIBRARY OF CONGRESS 137–143 (1971); Oren Bracha, *Early American Printing Privileges. The Ambivalent Origins of Authors' Copyright in America*, in PRIVILEGE AND PROPERTY: ESSAYS ON THE HISTORY OF COPYRIGHT, 89–114, 110 (Ronan Deazley, et al., eds., Cambridge Open Book Publishers, 2010).

[34] Los Angeles Copyright Society (LACS) & UCLA School of Law, Copyright and Related Topics: A Choice of Articles, 77 (2006).

[35] *See* M.C. Miller, *Copyrighting the "Useful Art" of Couture: Expanding Intellectual Property Protection for Fashion Designs* 55(4) WILLIAM & MARY L. REV. 1617, 1637. (last visited Apr. 8, 2022). URL: https://scholarship.law.wm.edu/cgi/viewcontent.cgi?article=3529&context=wmlr; Lionel Bently, & Jane C. Ginsburg, *The Sole Right ... Shall Return to the Authors": Anglo-American Authors' Reversion Rights from the Statute of Anne to Contemporary U.S. Copyright*, 25 BERKELEY TECH. L. J., 1475–1600, 1549. (last visited Apr. 8, 2022). URL: https://scholarship.law.columbia.edu/cgi/viewcontent.cgi?article=1549&context=faculty_scholarship

[36] Ibid. The Federal Copyright Act, *supra* note 7.

[37] Ibid. French Decree, *supra* note 8.

confirmed by a Decree of February 5, 1810.[38] Article 40 of the Act provided that 'Authors, not only nationals but also foreign authors, of any printed or engraved work may sell, their rights, etc.'

In other words, the authors, both nationals and foreigners were permitted to assign their rights to a publisher or any other person.[39] But the dominant opinion in France as well as judicial decisions upheld the view that works of foreigners were protected only if first published in French territory.[40]

The freedom of the press played a significant role in this generation and its expanding horizons paved the way for the recognition of works of the authors and their rights. It may be said that the restoration of freedom of the press led to the enactment of statutes in these countries based on reciprocal promises giving consideration to the works of the foreign authors. Further to this, the USA Constitution explicitly provided for the exclusive rights of the authors in the text of the Constitution. The advantages of law in this generation were in the form of recognition of the authors' labour and work, restoration of authors' dignity, and also his economic rights.

In this generation, authors' rights received exclusive recognition. Moreover, it seems that this generation somehow recognized and moved further to the proposition that the real fruit should go to the tiller of the land. Further to this, the economic, moral, and neighbouring rights of the authors were recognized — giving due consideration to the integrity and paternity of the works of the authors. But the limitation in the form of monopoly creating hindrance in the dissemination of knowledge/information was not fully addressed in this generation and was the issue to be dealt with in the Third Generation.

IV. Third Generation Copyright

The 19th-century brought profound changes in the conditions upon which the rights of authors were based. In the political field, the liberty of the press, destruction of the division of social classes, dissemination of education, and reinforcement of national unity by the use of national languages instead of separate dialects created new conditions for the works of authors and artists. Whereas, in the social and economic fields, new processes of reproduction of literary and artistic works, expansion of the press, creation of new universities, development of bookselling and wider circulation of books, learning of foreign languages, and more frequent traveling of people from one country to another created new conditions for the works of authors and artists. As a result, authors began to demand fuller protection of their rights and raised much outcry against the injustice done to them — pirating of their works in foreign countries.

The treatment afforded by law to a bale of cotton shipped to St. Petersburg was compared with the fate of an author's creation, of which he was robbed as soon as crossed the boundary of his home state. But at the same time, conflicting interests appeared. On the one hand, some people who had no literature of their own lived at the expense of those with rich and prosperous literature. National industries had developed supplying the domestic market and they were reluctant to yield their interests to those of foreign authors and foreign publishers. On the other hand, foreign works were badly adapted and mutilated for the domestic market, and another group of persons interested in art and literature

[38] Stef van Gompel, *Copyright Formalities and the Reasons for their Decline in Nineteenth Century Europe*, in PRIVILEGE AND PROPERTY: ESSAYS ON THE HISTORY OF COPYRIGHT 157–206, 194 (R. Deazley, et al., eds., Cambridge Open Book Publishers, 2010).

[39] Lionel Bently & Martin Kretschmer, eds., *French International Copyright Act, Paris (1852)*, PRIMARY SOURCES ON COPYRIGHT (1450–1900). (last visited Apr. 8, 2022).
URL: https://www.copyrighthistory.org/cam/tools/request/showRecord.php?id=record_f_1852

[40] CARLA HESSE, *RES PUBLICATA: THE PRINTED WORD IN PARIS* ,1789–1810 (Ph.D. Thesis, Princeton University, 1986).

organized and demanded that the social interests in the production and publication of the genuine works of foreign authors be secured and protected. Furthermore, national writers and artists found that their interests were prejudiced by the abundant publication and sale of unauthorized foreign works at cheap prices. It is from the conflict of these interests and the attempt to harmonize them that the international protection of foreigners slowly evolved. It has been noted above that in the previous period many countries provided in their law for the protection of foreign author's rights on the condition of reciprocity or attempted to negotiate treaties for the reciprocal protection of their citizens in this field. However, very few treaties were entered into up to 1852. Certain countries remained outside this effort. Belgium and the USA constituted an outstanding illustration of this exception by refusing protection to foreign authors.

In the USA, the Copyright Act of 1790[41] as further amended by the Act of February 3, 1831, protected only citizens and residents of the USA and explicitly allowed piracy of works written, exposed, or made by persons who were neither citizens nor residents of the USA.[42] Given this, systematic piracy was committed in the USA of works published in all foreign countries, especially in England. Since immigrants came to the USA from all countries, piratical reprints of books in all languages were made. English books were most commonly pirated. Any work that was considered likely to sell and of which the cost of reproduction was moderate was reprinted in the USA without any hesitation whatsoever — the very enterprising re-printings, such as the cabling from England of a book published by Queen Victoria so that it was put on sale in the USA twelve hours after the receipt of the last words of the cable. American printers used to set up the type of English works on the steamers from England to New York so that the books were published in America within a week of their appearance in England. Committees of writers were set up in England and in the USA to put an end to this situation. However, gradually there grew up vested interests in the reprinting of books, which could not be easily destroyed. The so-called "courtesy copyright" among American publishers, protecting the first American reprinter did not last long.[43] The competition which ensued resulted in the publication of English novels on bad paper and with bad print at a cheap price — ten, fifteen, or twenty-five percent. For this reason, the important publishers in the USA took their place at the head of the movement to secure protection for foreign authors. George Haven Putnam was an outstanding leader of this movement, having issued his first pamphlet for international copyright in 1879 and having continued his fight up to the passage of the International Copyright Act of 1891[44] and thereafter.[45] They were joined by those American authors who could not find a publisher or a market for their books due to the disastrous prices of cheap reprints. This movement which started with Henry Clay's Report of February 6, 1837,[46] did not achieve success until 1891.[47] After a tremendous amount of educational work and strong pressure from the publishers of American books and American authors, the International Copyright Act of 1891[48] was passed — popularly called the 'Chace Act'. The reason for enacting the Chace Act was to extend copyright protection to foreign works in the US to avoid literary piracy.

The enactment of the Chace Act proved only partially successful. It did away with the requirement that the author has to be a citizen or resident of the USA, but it qualified the protection of foreign authors by the stipulation that all books must be set up in the USA to acquire copyright and by the requirement for reciprocity on the part of the state to which the author belonged. The Amending Act of

41 Ibid. The Federal Copyright Act, supra note 7.
42 Ibid. Section 5.
43 Robert Spoo, *Courtesy Paratexts: Informal Publishing Norms and the Copyright Vacuum in Nineteenth Century America,* 69 STANFORD L. REV. 637–710, 653 (2017).
44 The International Copyright Act of 1891 (Chace Act) (26 Statute At Large, 1106).
45 GEORGE HAVEN PUTNAM, com., THE QUESTION OF COPYRIGHT: COMPRISING THE TEXT OF THE COPYRIGHT LAW OF THE UNITED STATES, A SUMMARY OF THE COPYRIGHT LAWS AT PRESENT IN FORCE IN THE CHIEF COUNTRIES OF THE WORLD (2nd ed., G.P. Putnam's Sons, 1896).
46 Ibid.
47 Ibid. International Copyright Act, supra note 44.
48 Ibid.

March 3, 1905,[49] allowed the authors of works first published abroad in any language other than English, to gain an interim protection for 12 months upon complying with certain conditions.

During the decades 1852–1862, France was able to conclude 23 treaties for the reciprocal protection of authors' rights, using to the best advantage of the initiative taken by her in promulgating the French International Copyright Act 1852.[50] Finally, in 1858, the First Congress of Authors and Artists was held in Brussels on September 27–30, 1858.[51] By its resolutions, the principle of international recognition of authors' rights without the condition of reciprocity was proclaimed. Further, uniform legislation on literary and artistic property by all countries was demanded. That is how Congress started the movement which brought about the International Copyright Union of 1886 and finally gave birth to the third generation of copyright. Though the third-generation copyright became universal in character but it did not come in a day. The first attempt was made in 1886 at the International Copyright Conference. This generation urged the need for uniform legislation at the international level to specifically address the problems faced by the authors and include the literary, dramatic, film, and cinematographic works within the statutory ambit of copyright, and further protect the performers and broadcasting rights of the authors by general legislation.

A. The International Copyright Convention 1886

The Swiss Government communicated the Draft Convention to 55 countries and invited them to sign the Convention at a new conference.[52] This Conference was convened at Berne on September 6, 1886. All the countries that signed the Draft Convention in 1885 were represented at this new Conference except Honduras, Netherlands, Sweden, and Norway. In addition, Belgium, Liberia, Japan, and the USA sent delegates, and the last two attended as observers (*ad audiendum*).[53] The Conference was bound by the understanding reached at the previous Conference that it would not in any way change the draft Convention and so had practically nothing to do except to sign the Convention, an Additional Article, and a Final Protocol. France and Spain declared that their accession included that of all their colonies. Great Britain's accession meant the inclusion of all its colonies and possessions, subject to an understanding that the British Government could denounce the Convention subsequently for any or all of its possession including India. The Conference also received declarations from the signatory countries with regard to the class in which they desired to be placed from the point of view of contributions towards the expenses of the International Bureau established by the Convention. France, Germany, Great Britain, and Italy were placed in the first class; Spain in the second; Belgium, Switzerland in the third, Haiti in the fourth; and Tunis in the fifth. One year later, on September 5, 1887, delegates of the signatory countries met at Berne and exchanged ratifications of the Convention. Only Liberia was absent and failed to deposit its ratification. But later, Liberia acceded to the Union on October 16, 1908.[54] According to *tis* Article 20, the Convention entered into effect three months later, *viz.,* on December 5, 1887 — the envisaged amendment of the Treaty to introduce improvements to

---

[49] 33 Statute At Large, 1000.

[50] Ibid. Bently & Kretschmer, supra note 39.

[51] SAM RICKETSON & JANE C. GINSBURG, *INTERNATIONAL COPYRIGHT AND NEIGHBOURING RIGHTS: THE BERNE CONVENTION AND BEYOND,* Vol. 1, 340 (2nd ed., Oxford University Press, 2006).

[52] *Copyright: Monthly Review of the World Intellectual Property Organization,* WORLD INTELLECTUAL PROPERTY ORGANIZATION,23(2),(1987),(last visited Apr. 4, 2022).
URL: https://www.wipo.int/edocs/pubdocs/en/copyright/120/wipo_pub_120_1987_02.pdf

[53] Akiko Sonoda, *Historical Overview of Formation of International Copyright Agreements in the Process of Development of International Copyright Law from the 1830s to 1960s,* (2007). (last visited Apr. 5, 2022).
URL: https://www.iip.or.jp/e/summary/pdf/detail2006/e18_22.pdf

[54] Thorvald Solberg, *The International Copyright Union,* 36(1) Yale L. J. 68–111 (1926).

'perfect' the system — 'Berne Convention'.[55]

B. The Berne Copyright Convention 1886

The purpose of the Berne Convention as indicated in its preamble was '…to protect, in as effective and uniform manner as far as possible, the rights of authors in their literary and artistic works.'[56] Article 1 of the Convention provided that the countries to which the Convention applied constitute a Union for the protection of the rights of authors in their literary and artistic works. The fundamental principle of the Convention was "national treatment", *i.e.,* persons entitled shall enjoy in each country of the Union the advantages accorded by the law of such country to its nationals. This was however subject to the limitation that the duration of copyright in any country of the Union shall not exceed the term provided for in the country of origin.[57] Another important feature of this Convention was the principle of automatic protection, according to which such national treatment was not dependent on any formality of registration, notice, or deposit.[58]

The Convention laid the foundation for the codification of copyright law by providing common legislation for the Union. Thus, translation rights formed the subject of the compromise solution by the fixation of the term of 10 years from the date of publication of the original work.[59] Other provisions of the Convention dealt with the reproduction of articles published in newspapers and periodicals[60] and the reproduction of copyrighted works in publications intended for instructional activities, works of a scientific character, and chrematistics.[61] It was provided that articles of newspapers or periodicals might be reproduced, provided the authors or editors had not explicitly forbidden reproduction. The reproduction of articles of political discussion in daily news was unrestricted.[62] Article 9 dealt with the right of public presentation of dramatic or dramatical musical works, whether published or not. The national treatment principle of Article 2 was made applicable in this matter. No compliance with any formalities was required except those prescribed in the country of origin. Authors were also protected against the presentation of a translation of such works during the term of protection of other translation rights accorded by the Convention. Article 2 also applied to the public execution of unpublished musical works as well as of published musical works the author of which had explicitly forbidden public execution.

Further, provisions of the Convention dealt with: (i) indirect appropriations of literary or artistic works, such as adaptations, musical arrangements, etc., (ii) the presumption of authorship of works protected by the convention, (iii) the seizure of pirated reproductions upon attempted importation, (iv) the measure which might be taken by the various countries to control the circulation, representation or exhibition of works, and (v) the application of the Convention to works already created. The contracting countries were permitted to enter into special agreements among themselves, provided they confer to authors larger advantages than those granted by the Convention.

---

[55] Rebecca Giblin, *A Future of International Copyright? Berne and the Front Door Out: An Essay in Honour of Sam Ricketson,* SSRN (Apr. 8, 2019), (last visited Apr. 12, 2022). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3351460

[56] Berne Convention for the Protection of Literary and Artistic Works, 1886. (last visited Nov. 24, 2021). URL: https://www.wipo.int/treaties/en/ip/berne/

[57] Article 7, Berne Convention.

[58] Articles 2–3, Berne Convention.

[59] Article 5, Berne Convention.

[60] Ibid. Article 7, supra note 57

[61] Articles 8–9, Berne Convention.

[62] Articles 10–14, Berne Convention.

An International Bureau was established for the Union at Berne,[63] and provisions were made for periodical revisions of the Convention,[64] for the accession of new countries and of colonies to the Union,[65] and for the indefinite duration of the Convention, subject to denunciation.[66] In addition to the Convention, an Additional Article and a Final Protocol were signed and ratified. The former retained in effect the existing bipartite treaties which granted to authors broader rights than those secured by the Convention. The latter contained explanations of various provisions in the Convention. The Convention was an achievement when compared with the text now in force after the latest Revision in Paris in 1971.

The original Convention will appear inadequate. But when the state of the municipal law in the various countries in 1885 is taken into consideration, and the discussions in the Conferences of 1884 and 1885 are studied, it must be admitted that the Berne Convention was a great step ahead in securing more complete protection to authors and artists than they ever enjoyed up to that time. The Convention has been revised 5 times with two separate additions but the Preamble of the Convention has remained unamended.[67] The Convention is considered a milestone in the statutory history of copyright but had flaws that led to the Berlin Revision in 1908.

C. The Berlin Conference Revision 1908

It was the view of the delegates of Paris that a new Conference of revision should meet after a period of between 6–10 years. It was proposed at the Conference that the protection of the rights of authors be simplified and extended. Berlin was chosen as the place for that Conference. Four new countries were added to the Union before the convening of the new Conference for revision — Denmark on July 1, 1903, Japan on July 15, 1899, Liberia on October 16, 1908, and Sweden on August 1, 1904. Montenegro had in the meantime denounced the Convention on April 1, 1899. The New Conference, postponed by a common agreement, was called together on October 14, 1908. It was a long Conference, lasting till November 14, 1908. All the Members of the Union were represented at the Conference with exception of Haiti. In addition, delegates from many countries attended the Conference including the USA.

With the objectives of simplification and extension of authors' rights, it was proposed to extend the protection of the Convention to: (i) works of art applied to industry, (ii) extend to photographs, architectural works, and choreographic works the same protection as to other artistic and literary works, (iii) assimilate translation to other forms of reproductions and to grant translation rights for the whole term of copyright, (iv) deal with newspaper articles involving political discussion as with other literary articles, (v) recognize the exclusive right of musical works as residing in their composers without the formality of their reserving their rights upon publication, and (vi) provide for the composer's right to authorize the adaptation and execution of his works by mechanical instruments. [68]

The objective of simplification was sought by abolishing the reference to the conditions of the 'law in the country of origin' in Article 2. The Convention was signed on November 13, 1908. The most important amendments adopted in Berlin were that the Convention defined more fully the expressions 'literary and artistic works' for its protection. Convention also made it clear that the

---

63 Article 24, Berne Convention.
64 Article 27, Berne Convention.
65 Article 29, Berne Convention.
66 Article 35, Berne Convention.
67 World Intellectual Property Organization, *Guide to the Berne Convention for the Protection of Literary and Artistic Works (Paris Act, 1971)* (615 (E) 1978),
(last visited Apr. 3, 2022). URL: https://www.wipo.int/edocs/pubdocs/en/copyright/615/wipo_pub_615.pdf
68 Ibid. Kretschmer & Kawhol, supra note 16.

contracting countries were bound to afford protection by their law for all of these works.[69] Photographic works were explicitly included.[70] Protection was made subject to no formality whatsoever and independent of the existence of protection in the country of origin.[71] The Convention provided that protection under it endured for the life of the author and 50 years after his death, subject, however, to different regulations by the law of each country.[72] Translation rights were now recognized for the entire term of copyright without any restriction.[73] Recognition was given to the right of authors of musical works to authorize the adaptation of their works to mechanical instruments and the public execution of such works by such instruments.[74] This principle was subject to the provision that the legislation of the contracting countries might determine the reservations and conditions relative to its application. Likewise, the Convention recognized the exclusive right of authors to authorize the reproduction and public presentation of their works by cinematograph.[75]

D. The Additional Protocol 1914

On March 20, 1914, delegates of the 18 Member countries of the Union signed at Berne an Additional Protocol to the Revised Convention of 1908. The circumstances under which it came about were that the Revised Convention of 1908 granted to the authors belonging to Non-Member countries (where their work was first published), a unionist treatment in the other member countries. Thus, every Member country was bound under the Convention to treat works of such authors published in its territory as if they were works of national authors, without any regard to the existence of reciprocity in the country to which the author belonged. Specifically, Great Britain and the British dominions were bound to protect works of American authors published in their territory as works of national authors published in their territory. Further, they were also bound to extend to them Unionist protection if they were published in another country of the Union.

Under the Chace Act of 1891, for the first time, copyright protection was extended to foreign authors. With this protection, an onerous condition of manufacturing in the USA was also imposed. In the case of a book, photograph, chrome, or lithograph, it was necessary, as a requisite condition for protection that copies offered for sale in the USA be printed from typeset, or from plates or negatives or drawings on stone, made within the limits of the USA. Thus, a foreign author was prevented from following the natural and convenient course of having his work set up in his own country. The effect of this clause was to prohibit the foreign author from offering for sale in the USA a work printed outside the USA.

The U.S. Copyright Act of March 4, 1909, relieved foreign authors in general from the effects of this clause, but they were preserved as to works written in the English language.[76] This amounted to discrimination against Great Britain and its dominions and colonies. On May 18, 1910, an Imperial Copyright Conference met in London to discuss the question of ratification of the Revised Convention of 1908 and to consider the elaboration of an Empire Law on copyright. It terminated its work on July

---

[69] Lionel Bently, *Copyright, Translations, and Relations between Britain and India in the Nineteenth and Early Twentieth Centuries*, 82(3) CHICAGO-KENT L. REV. 1219–1220, 1232 (2007). (last visited Apr. 3, 2022). URL: https://scholarship.kentlaw.iit.edu/cgi/viewcontent.cgi?article=3616&context=cklawreview

[70] Article 3, Revised Berne Convention.

[71] Article 4, Revised Berne Convention.

[72] Article 7, Revised Berne Convention.

[73] Article 8, Revised Berne Convention.

[74] Article 13, Revised Berne Convention.

[75] Article 14, Revised Berne Convention.

[76] Daniel Gervais, *The 1909 Copyright Act in International Context*, 26(2) SANTA CLARA HIGH TECH. L. J. 185–214 (2010). (last visited Apr. 5, 2022).URL: https://core.ac.uk/download/pdf/149256612.pdf

10, 1910, with the adoption of a memorandum containing various resolutions (Report of the Imperial Copyright Conference 1910).

Subsequently, Great Britain passed the new Copyright Act in 1911, in conformity with the Revised Convention of 1908. This Act protected American authors without regard to any formality whatsoever, provided their works were first published in Great Britain or any other Union country. However, Section 23 of the Act enabled the Government by Order in Council to direct that protection shall be refused to non-resident citizens of a country that does not give adequate protection to works of British authors. Great Britain ratified the Convention of 1908 without any reservation. However, it proposed to the member countries of the Union the adoption of an Additional Protocol granting to each Member country the right to restrict, within its territory, the benefits of the Convention concerning authors of a non-member country. As a result, all the Member countries of the Union accepted the text of an Additional Protocol by Great Britain and signed it at Berne on March 20, 1914.

The Protocol constitutes a restriction of the regime of the Union by granting power to a Member country to limit the protection of the works of authors, nationals of a Non-Member country, who at the time of publication were not domiciled in a country of the Union.[77] This power could be exercised when the non-member country did not sufficiently protect the works of authors belonging to the member country. The latter is free to determine the absence of "sufficient" protection for works of its authors in a non-member country. It may then retaliate but such a Member country is bound to notify the Government of the Swiss Confederation by a written declaration of the restrictive measures taken. The government will then communicate the declaration to the Member countries.[78]

E. The Rome Conference Revision 1928

At the Berlin Conference of 1908, it was agreed that the next Conference of Revision could be held in Rome Between 1914 and 1918. The World War necessitated a postponement. In 1927, it was arranged to convene the Conference on May 7, 1928. The International Bureau Communicated to the Member countries, as well as to Non-Members. At the time Conference was convened on 7 May 1928, the Union was comprised of 36 countries, 19 more than in 1914. All the 36 members of the Union were represented at the Rome Conference except Haiti and Liberia. 21 Non-Member countries including the USA also attended. The programme of the Conference as prepared by the International Bureau and the Italian government, proposed amendments both in form and substance. At the Conference, it was first proposed to abolish the liberty given by Articles 25 and 27 of the 1908 Convention to Member countries and new acceding countries of making a reservation about the application of certain provisions of the Convention. It was pointed out that the situation created thereby was very confusing, and contravened the object of the Convention.[79]

It was further proposed to make the period of copyright of 50 years *post mortem auctoris* compulsorily uniform for all countries of the Union, to extend the protection of the Convention to works of art applied to industry, to secure to authors and artists the exclusive right of authorizing the communication or execution of their works by radio and analogous means; and to perfect the provisions on mechanical musical instruments and movies. The Italian government submitted a proposition for the recognition of the moral right of authors.

The Conference created a plenary committee, an editing committee, and sub-committees on the

[77] Paragraph 1, Additional Protocol.
[78] Paragraph 4, Additional Protocol.
[79] GRAHAM DUTFIELD & UMA SUTHERSANEN, DUTFIELD AND SUTHERSANEN ON GLOBAL INTELLECTUAL PROPERTY LAW (2nd ed., Edward Elgar Publishing, 2020).

moral right of authors, radio, cinematography and photographs, and mechanical reproduction of musical works. The Rome Conference did not rewrite the Convention as its predecessor had done. The amendments were drafted on the existing text or inserted in additional articles under *bis* or *ter* without disturbing the existing numeration of the Convention. The most important amendments adopted were that oral literary works, such as lectures, addresses, and sermons, were included among the works to be protected under Article 2 of the Convention. Additional Article *bis* reserved the liberty of each country to exclude totally or partially from protection, political discourses, and discourses made in judicial debates and to determine the conditions under which lectures, addresses, and sermons might be reproduced by the Press. The valiant efforts of France to have works of art applied to industry protected as artistic works, in general, failed again. Upon the proposal of Great Britain, the text of the Additional Act of Berne 1914 was inserted in Article 6 of the Convention. The Italian proposal for recognition of the *moral rights* of authors formed Article 6*bis* of the New Convention. This provided that independently of the proprietary rights and even after the assignment of these rights, authors possess the right to claim authorship of their work and to object to any deformation, mutilation, or modification thereof prejudicial to their honour or reputation. The legislation of each country was left free to determine the conditions for the exercise of these rights of authors.

The proposition that the duration of copyright be made compulsorily uniform in all countries of the Union for 50 years *post mortem auctoris* or that at least dependency upon the duration in the country of origin be abolished, was not approved by the Conference. A new Article 7*bis* was adopted regulating the period of protection of works of joint authorship. Minor amendments were made to Articles 13 and 14 dealing with musical and cinematographic works, giving them the retroactive application. Aside from the recognition of the moral rights of authors, the only important amendment to the Convention consisted in the insertion of a new Article 11*bis,* recognizing the exclusive right of authors to authorize the communication of their work to the public by the radio. On the whole, the results of the Rome Conference were mediocre. Many of the objectives of the Conference were not accomplished. After lengthy and laborious discussions, the amendments were adopted. Apart from the recognition of the moral rights of the authors, the exclusive right authorizing public communication of works by radio was of limited significance.

F. The Brussels Convention 1948

Most of the countries that were party to the International Copyright Union were at war during World War II (*hereinafter*, WWII). There has been no contention either in this war or that of the First World War on any side that the Convention was to be deemed abrogated. Since the Convention was of a juristic rather than a political nature, it intended to establish a more or less permanent condition of things that need not pressure a state of peace, and it concerned the interests of private persons and not of the states directly. After WWII was over, it was thought proper to take the long-due revision of the Convention. Thus, the Brussels Conference of 1948.

The main features of the Brussels Convention are: (i) Article 4 provided that first publication in a Non-Union country would mean loss of protection. Further protection is to be afforded to nationals of Non-Union countries habitually resident in a Union country. It was also open to any country of the Union to restrict the protection of works whose authors are nationals of Non-Union country which does not give reciprocal rights and are not habitually resident in a country of the Union; (ii) The Brussels Convention omitted the provision of Article 7(2) of the Rome Convention which entitled countries of the Union to provide a shorter period of protection than those laid down in Article 7. This was a big achievement; (iii) The Rome Convention added, for the first time, provided the minimum term of copyright in works of joint authorship, namely one expiring with the death of the author who dies last. However, the Brussels Convention dropped this provision and instead provided that in case of work of

joint authorship, the term of protection was to be calculated from the date of the death of the last surviving author;[80] (iv) Convention provided that the protection of the Convention was not to apply to news of the day nor miscellaneous information having the character of mere items of news. Thus, no copyright protection is afforded by the Convention to news or facts constituting press information;[81] (v) The Rome Convention, for the first time, introduced provisions intended to extend an author's rights beyond those generally comprehended in the term copyright. These provisions comprehended what is known as the author's *droit moral*.[82] These provisions were extended by the Brussels Convention which provided first that, even after the assignment of his copyright, the author should have the right during his lifetime to claim authorship of the work and to object to any 'distortion, mutilation or other alteration thereof or any other action in relation to the said work which would be prejudicial to his honour or reputation'. Secondly, it was provided that the right granted to the author as aforesaid should, after his death, be maintained at least until the expiry of the copyright. Thirdly, the means of redress was left to the national law;[83] and (vi) a new right, which was introduced for the first time by the Brussels Convention, deals with what is known, on the continent, as the *driot de state.* It provided that the author, or after his death, the persons or institutions authorized by national legislation with respect to original work of art and original manuscripts, enjoy the inalienable right to an interest in any sale of the work subsequent to the first transfer thereof by the author thereof. This matter, however, was left to the legislation of individual members but was provided that it can be claimed in any country which does not have such legislation.[84]

G. The Universal Copyright Convention (UCC) 1952

The desire to bring the USA within a general network of international copyright relations and to create a bridge between the Berne Union on the one hand, and that of Pan-American countries, on the other hand, was truly strong. So was also the wish to maintain the basic tenets of the Berne Convention. Indeed, the Brussels Revision was directed towards this aim only. After the Brussels Revision, UNESCO took the initiative by promoting the Universal Copyright Convention which was signed in Geneva on September 6, 1952.[85] India also participated in this Conference. Recommendations were made for the holding of a Revision Conference in 1971 to revise this Convention, like the Berne Convention, which was revised in Paris in 1971. The effect of the revised Convention was that each Contracting State undertakes to give to the unpublished works of the nationals of all other contracting states the same protection as it gives to the unpublished works of its nationals as well as the protection specially granted by the Convention.[86] Convention further provided the right to restrict the public performance of the broadcast at the receiving end. UCC further provided that permission to broadcast does not imply the permission to record the broadcast, but then there is a confusing and ambiguous kind of paragraph.[87] It shall, however, be a matter of legislation in the countries of the Union to determine the regulations for ephemeral recordings made by a broadcasting organization by means of its own facilities and used for its own broadcast. The preservation of these recordings in official archives may, on the ground of their exceptional documentary character, be authorized by such

[80] Article 7*bis*, Brussels Convention.
[81] Article 9(3), Brussels Convention.
[82] World Intellectual Property Organization, *Brussels Act, 1948* (TRT/BERNE/004 1978). URL: https://wipolex.wipo.int/en/text/278722 (last visited Apr. 3, 2022).
[83] Article 6*bis*, Brussels Convention.
[84] Article 14*bis*, Brussels Convention.
[85] E. Schwartz, *An Overview of the International Treatment of Exceptions*, 2 PIJIP RESEARCH PAPER (2014). URL: https://digitalcommons.wcl.american.edu/cgi/viewcontent.cgi?article=1043&context=research (last visited Apr. 10, 2022).
[86] Article 2(4), UCC.
[87] Article 11*bis* (3), UCC.

legislation. Then the notion of *droit moral* and that of *droit de suite* has been repeated with amendments.[88]

India participated in this Convention and signed the Final Act on November 10, 1973. It made a declaration under Articles 22–26 of the Stockholm Act (which related to administrative matters). By a note dated October 7, 1974, India deposited its instrument of ratification with the declaration that the said ratification does not apply to Articles 1–21 and the Appendix thereto with a further declaration that India does not consider itself bound by Article 33(i) of the Paris Revision. It shall be entitled to calculate the term of protection from the date of the 'first publication' of the work or its registration prior to publication, provided the term of protection is not to be less than 25 years from the date of its first publication or registration.[89] 'Publication' as used in this Convention, means the reproduction in intangible form and the general distribution to the public of copies of a work from which it can be read or otherwise visually perceived.[90] But the Convention shall not apply to works or rights in works which, at the effective date of this Convention in the contracting state where protection is claimed, are permanently in the public domain in the said contracting state.

As to the nature of the protection to be afforded, the Convention provided that each contracting state shall give adequate and effective protection to the right of authors and other copyright proprietors in literary, scientific, and artistic works, including writings, musical, dramatic, and cinematographic works, and paintings, engraving, and sculpture.[91] It is further provided that these rights are to include the basic rights protecting the author's economic interests, to give to the published works of nationals of the other contracting states wherever first published, and to published works of the nationals of any country if first published in one of the contracting states' rights it gives to works first published in one of the contracting states' rights it gives to works first published in its own territory as well as the protection specially granted by Convention.[92] Authors are to enjoy such protection without any formality of registration or deposit of copies etc, subject to the condition that from the time of first publication, all copies published bear the symbol accompanied by the name of the copyright proprietor and the year of first publication, placed in such manner as to give reasonable notice of claim of copyright.[93]

The Convention provided for copyright to endure the lifetime of the author and 25 years after his death. It is to be noted that the duration of the term is binding and obligatory upon all the contracting states.[94] In case of any contracting state which, upon the effective date of the Convention in that state, does not compute that date of protection based on including the exclusive right to authorize reproductions by any means, public performance, and broadcasting and are to extend to the work either in original form or in any form recognizably derived from the original. But any contracting state may make exceptions that do not conflict with the spirit and provisions of the Convention, to such rights but shall nevertheless accord a reasonable degree of effective protection to each of the rights to which an exception has been made.[95]

It is clear from the above provisions that while promising general copyright protection, the Convention does not describe the details of the protection that are to be afforded by the contracting states and substantially leaves the mode and extent of protection to the separate legislation of each state. It only extended further than the Berne Convention in requiring protection to be given to published works, not only if first published in a contracting state but if first published anywhere, if the author is

---

[88] Joseph S. Dubin, *The Universal Copyright Convention*, 42 DUKE L. J. 89–119, 95, 101 (1954).
[89] Article 4(2)(b), UCC.
[90] Article 6, UCC.
[91] Article 1, UCC.
[92] Article 2(1), UCC.
[93] Article 3(1), UCC; *see also X UNESCO Copyright Bulletin* 225 & 248 (No. 2, 1957).
[94] Article 4(2)(a), UCC.
[95] Article 4*bis*, UCC.

a national of a contracting state.[96] The Convention came into force on July 10, 1974 — three months after the deposit of 12 Instruments of Ratification.

H. The Stockholm Convention 1967

The Berne Convention was further revised at a Conference held in Stockholm on July 11, 1967, which closed on July 14, 1967.[97] The Convention introduced a protocol regarding developing countries to satisfy the wishes and needs of some developing countries who considered the protection provided by the Berne Convention beyond their scope of interests.[98] The Protocol provided that any country regarded as a developing country in conformity with the established practice of the General Assembly of the United Nations which ratified and acceded to the Convention might make reservations in respect of certain matters which would have the effect of giving less protection in that country than what was afforded in other countries of the Berne Union.

The adoption of the Protocol, despite opposition, led to a serious situation in the international copyright field. Thus, although Article 21 made the Protocol an integral part of the Berne Convention, Article 28 provided that any country ratifying or acceding to the Convention may declare that its ratification or accession is not to apply to the substantive provisions of the Convention and the Protocol. Thus, none of the major developed countries ratified or acceded to the substantive provisions of the Convention as also the Protocol with the result that Stockholm Revision became a dead letter.[99]

I. The Paris Revision 1971

The disagreement with the Stockholm Conference led to its revision at the Revision Conference held in Paris during the period from July 5–14, 1971. India also participated in this Conference and signed the Convention. The Convention entered into force on October 10, 1974.[100] The situation created by Stockholm Conference was particularly unfortunate since it had been hoped that one of the results of the Stockholm Revision would be that the USA would join the Berne Convention after undertaking a revision of its national law.[101] Thus, the Paris Convention assumed added importance.

In view of this situation, the very first change which Paris Revision brought in was the dropping of Article 21 of the Stockholm Convention relating to the 'Protocol Regarding Developing Countries' which provided for acceptable special provisions in favour of developing countries. As a result, many countries including some of the major countries like the USA[102] adhered to the Paris Convention.[103] As to the USA, there is still difficulty, notwithstanding the United States Copyright Act 1976,[104] in the

---

[96] Article 3, Paris Revision.

[97] Dorthy M. Schrader, *Analysis of the Protocol Regarding Developing Countries*, 17(3) BULLETIN OF THE COPYR. SOC. OF THE U.S.A. 160 (1970).

[98] Royce Fredrick Whale, *Protocol Regarding the Developing Countries*, BRITISH COPYR. COUNCIL (1986).

[99] Alan Story, *Burn Berne: Why the Leading International Copyright Convention Must be Repealed*, HOUSTON L. REV. 40(3) (2003), (last visited Apr. 3, 2022). URL: http://copysouth.org/portal/node/36

[100] Ibid. Guide to the Berne Convention, supra note 67.

[101] A. B. Ringer, *A New Horizon for International Copyright*, 17(2) BULLETIN OF THE COPYR. SOC. OF THE U.S.A. 81 (1969).

[102] M. Gabay, *The United States Copyright System and the Berne Convention*, 26 BULLETIN OF THE COPYR. SOC. OF THE U.S.A. 202 (1979).

[103] *Report of Committees—The Whitford Committee Report on Copyright and Designs Law,* Cmnd. 6732 (1977), paras 50–60, 85. (last visited Nov. 24, 2021). https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1468-2230.1977.tb02453.x

[104] 90 US Statute At Large, 2541.

sense that there are possible areas of conflict between the Convention and the Act. Similarly United Kingdom's Copyright Act 1956[105] is to be amended before the UK can adhere to Paris Revision. The Copyright Committee of 1977 in England recommended that England should ratify the Paris Convention.

Two systems are possible for an International Copyright Convention. Theoretically, the most satisfactory system would be a complete copyright code to be applied in each country of the Union both for nationals and subjects of other countries. A less satisfactory system is one that merely requires each Member State to give to the nationals of other member states the same protection as it gives to its own nationals with the result that the measure of protection will vary from state to state. The system, in fact, adopted in the Berne Convention represented a compromise of the two systems and the revisions of the Convention alluded to above have tended to extend the principle of the common code. In fact, the Paris Act embodies a reasonably complete code but, as will be seen, specifically reserves to members the right to deal with certain matters by their own legislation.[106]

Thus, Article 3 of the Berne Convention (Paris Revision) which contained the general criteria for eligibility for protection provided as follows:

'(1) The protection of this Convention shall apply to:

Authors who are nationals of one of the countries of the Union, for their works, whether published or not; Authors who are not nationals of one of the countries of the Union, for their works first published in one of those countries, or simultaneously in a country outside the Union and in a country of the Union. Authors who are not nationals of one of the countries of the Union but who have their habitual residence in one of them shall, for the purpose of this convention, be assimilated to nationals of that country…'

This Article is certainly wider in scope than the Brussels Convention since works of nationals of Union countries are to be protected, even if the first publication takes place in a Non-Union country. But even the Paris Act provided, in a similar way to the Brussels Convention, that it is open to any country of the Union to restrict the protection of works whose authors are nationals of a Non-Union country which does not give reciprocal rights and are no habitually resident in a country of the Union.[107]

Article 3 (3) provided that the expression 'published works' is to mean works published with the consent of their authors, whatever may be the means of manufacture of the copies, provided that the availability of such copies had been such as to satisfy the reasonable requirement of the public, having regard to nature of work. But the performance of dramatic or musical work, the exhibition of a work of art, and the construction of a work of architecture do not constitute publication. How then can such works be published? In the case of a dramatic work and a musical work, by printing and publishing the text or score. In the case of a work of art, such as a picture, presumably by publishing sketches, photographs, and so on of the work.[108]

Article 4 of the Paris Revision contained the special criteria of eligibility for protection in respect of cinematographic works and works of architecture: 'The protection of this Convention shall apply, even if the conditions of Article 3 are not fulfilled, to: Authors of cinematographic work the maker of which has his headquarters or habitual residence in one of the countries of the Union; Authors of works of architecture erected in a country of the Union or of other structure located in a country of the Union.'

Article 5 of the Convention deals with the extent of protection:

---

[105] 1956 c. 74.
[106] Ibid. JAMES et al., supra note 27.
[107] Article 6, Paris Revision.
[108] Ibid. JAMES et al., supra note 27.

'Authors shall enjoy, in respect of works for which they are protected under this Convention, in countries of the Union other than the country of origin, the rights which their respective laws do now or may hereafter grant to their nationals, as well as the rights specially granted by this convention. Protection in the country of origin is governed by domestic law. However, when the author is not a national of the country of origin of the work for which he is protected under this Convention, he shall enjoy in that country same rights as national authors.' It is interesting to note that there may be a disparity in the extent of protection in the country of origin and in other countries of the Union since protection in the country of origin is governed by the domestic law, but in countries other than the country of origin, the author is given, not only the rights which are given under their domestic laws but also the rights granted by the Convention. Thus, an author can be worse off in the country of origin than in other countries of the Union. As to the term of protection, the basic term of protection is still to be the life of the author and 50 years after his death.[109] However, unlike the Brussels Convention, minimum terms of protection have now been laid down for cinematographic works, photographic works, and works of applied art. Thus, in the case of cinematographic works, the countries of the Union may provide that the term of protection is to expire 50 years after the work has been available to the public with the consent of the author, or failing such an event within 50 years from the making of such a work, 50 years after the making.[110] In the case of photographic works and works of applied art in so far as they are protected as artistic works, it is to be a matter for legislation in the countries of the Union to determine the term of protection thereof, however, this term is to last at least until the end of a period of 25 years from the making of such a work.[111] In the case of anonymous or pseudonymous works where the identity of the author remains undisclosed, the period is 50 years after the work has been lawfully made available to the public.[112] But the Convention also provided that the countries of the Union are not required to protect anonymous or pseudonymous works in respect of which it is reasonable to presume that their author has been dead for 50 years.[113]

The Paris Act further provided that the countries of the Union may grant a term of protection in excess of those provided by the article. The provisions of Article 2 as to adaptations must be read in conjunction with Article 12, which lays down that the authors of literary or artistic works are to enjoy the exclusive right of authorizing adaptations, arrangements, and other alterations of their work. It is a matter of domestic legislation as to how far works of applied art and industrial designs and models are protected, subject to, of course, Article 7(4) which provided for a minimum term of protection of 25 years from the making of a work of applied art.

With regard to broadcasting rights, the Paris Revision under Article 7(6) has conferred distinct rights upon authors: (i) the right to restrict the original broadcasting; and (ii) the right to restrict any diffusion of the broadcasting by an independent receiving authority. This was the revision of the Berne Convention. The Preamble of the Berne Convention remained unamended but two paragraphs were added 'to mark the link with the preceding revision carried out in Stockholm in 1967'.[114] As mentioned in the 'Guide to the Berne Convention for the Protection of Literary and Artistic Works (Paris Act, 1971)' published by WIPO in 1978, the 'purpose was to pay tribute to the merits of this last revision as regards the substantive provisions[115] and the administrative clauses[116] which were left completely unchanged by the Paris Conference, and to the preparatory work done by the Stockholm Conference in seeking solutions to the problems of developing countries'.[117]

---

[109] Article 7(1), Paris Revision.
[110] Article 7(2), Paris Revision.
[111] Article 7(4), Paris Revision.
[112] Article 7(3), Paris Revision.
[113] Ibid.
[114] Ibid. Guide to the Berne Convention, supra note 67.
[115] Articles 1 to 20, Paris Revision.
[116] Articles 22–26, Paris Revision.
[117] Ibid. Guide to the Berne Convention, supra note 67.

J. The WIPO Copyright Treaty (WCT) 1996

WCT is a 'special agreement under the Berne Convention' that entered into force in the year 2002. WCT deals with the protection of the rights of the authors in the digital environment.[118] In total, Treaty contained a Preamble and 25 Articles that provided new international rules and clarified the interpretation of certain existing rules. Not only did it bring effectiveness and uniformity but also provided an adequate solution to the question raised by new economic, social, cultural, and technological developments.

K. The Marrakesh Treaty 2013

On June 27, 2013, at Marrakesh, a treaty to facilitate access to published works for persons who are blind, visually impaired, or otherwise print disabled was adopted by the Diplomatic Conference. The Treaty came into force on September 30, 2016. Although the Intellectual Property Rights and Human Rights movements are apparently different and are also distinct in their very origin, concept, and principles. Sometimes they criticize one another and sometimes try to accommodate each other. But Marrakesh Treaty is an attempt to accommodate and create a balance between the two.[119] It allowed the production and distribution of copyrighted printed and published work without the authorization of the copyright owner for the persons who are blind, visually impaired, or otherwise print disabled in an accessible format.[120]

The issues that arose with time or didn't receive the attention of the international community were thoroughly addressed in a normative order from the International Copyright Convention in 1886 to the conclusion of the Marrakesh Treat in 2013. This generation has played a pivotal role in the development of copyright law. Copyright has been subject to severe criticism because of its historical background that it creates a monopoly. And this monopoly creates a hindrance in the dissemination of knowledge. This generation addressed this issue throughout. The Marrakesh Treaty of 2013 has provided the molar to molecular treatment and has also considered the addressed the problems arising with time.

The advantages of the law in every stage can be said to be in the form of 'incentives' that it provided in different forms. In the First Generation, stationers who invested in the printing press were the real beneficiaries. In the Second Generation, incentives were in the form of recognition of the authors' labour and work, restoration of authors' dignity, and also his economic rights. These incentives gave impetus to the authors. In the Third Generation, these were no longer confined to only moral and economic rights, rather altruistic and philanthropist aspects were also given due consideration.

V. Copyright Protection in India

The question of whether or not, India prior to the colonization had any notions or institutions for

---

[118] World Intellectual Property Organization, *WIPO Copyright Treaty (WCT) (1996)* (226 (E) 1996). (last visited Apr. 3, 2022). URL: https://www.wipo.int/edocs/pubdocs/en/wipo_pub_226.pdf

[119] World Intellectual Property Organization, *Main Provisions and Benefits of the Marrakesh Treaty 2013* (2016). (last visited Apr. 3, 2022). URL: https://www.wipo.int/edocs/pubdocs/en/wipo_pub_marrakesh_flyer.pdf

[120] *Creative Commons*, (last visited Nov. 24, 2021). http://creativecommons.org/licenses/by/3.0/

legal protection of creative artists has not been asked. It has not been asked as this makes even tentative approaches to answers quite ambitious at this stage. Legal and social historians of ancient and medieval India have yet to attend to this aspect. This part will discuss the copyright protection in the period when India was a British colony and the period after her independence.

A. Pre-Independence

From the middle of the 18th-century up to the time of the enactment of the Literary Copyright Act 1842[121] (*hereinafter*, the Act of 1842), copyright protection in India, if at all afforded, was by the common law of England or by virtue of the principles of equity and good conscience. After the enactment of the Act of 1842, copyright in published books could be enforced in British India. "Books", under the Act of 1842, included every volume, pamphlet, letter, and press sheet music-sheet, map, chart, and plan. It directed the registration of every book at the Stationer's Hall in London.[122] Musical and dramatic compositions were held to be books and protected by copyright statutes relating to literary works.[123] The Act of 1842 also afforded protection under Section 20 to performing rights in both dramatic and musical works.[124]

In order to consider the question of ratification by England of the Berlin Revision of Berne Convention 1908, a departmental Committee chaired by Lord Gorell was appointed by the Board of Trade in 1909.[125] The Committee came to the conclusion that Berlin Convention should be accepted by Britain with few reservations as possible. Subsequently, in 1910, an Imperial Copyright Conference was convened in London to consider the recommendations of the said Board of Trade Committee.[126] Representatives of self-governing dominions of the Board of Trade Committee recommended that: (a) an Act dealing with the essentials of the Imperial Copyright Law should be passed by the Imperial Parliament, and (b) this Act should be expressed to extend to all British possessions subject to rights of self-governing dominions and possessions to modify or add to its provisions by legislation certain cases affecting only procedure and remedies.

A bill giving effect to these recommendations was prepared and introduced in both the Houses of Parliament and after several modifications, was eventually passed into law which came to be known as the Copyright Act of 1911[127] (*hereinafter*, the Act of 1911). It came into operation in the UK on 1 July 1912. The Government of India considered that the early introduction of the Imperial Act of 1911 into India was desirable and consulted various local governments regarding modifications and alterations that might be necessary to make it suitable for the local conditions of India. In view of difficulties that were experienced in Great Britain because of the non-application of the Act of 1911 to India and having regard to serious hardship and loss which might be inflicted on English authors thereby, the Act of 1911 was brought into force in India by a proclamation in Gazette of India on October 31, 1912. In the meantime, the question of modification or additions to the Act of 1911 was postponed for subsequent consideration on receipt of views of various local Governments. Later, the Government of India, after

---

[121] 5 & 6 Vict. c. 45.

[122] CATHERINE SEVILLE, *LITERARY COPYRIGHT REFORM IN EARLY VICTORIAN ENGLAND: THE FRAMING OF THE 1842 COPYRIGHT ACT 10*, 13–14 (Cambridge University Press, 2003).

[123] Ibid.

[124] Upendra Baxi, *Copyright Law and Justice in India*, 28(4) J. OF THE INDIAN L. INSTITUTE 497–450, 498, 502 (1986).

[125] CHAMILA S. TALAGALA, COPYRIGHT LAW AND TRANSLATION: ACCESS TO KNOWLEDGE IN DEVELOPING COUNTRIES (1st ed., Routledge, 2021).

[126] BENEDICT ATKINSON, *THE TRUE HISTORY OF COPYRIGHT: THE AUSTRALIAN EXPERIENCE*, 1905–2005 (Sydney University Press, 2010).

[127] 1 & 2 Geo. 5 c. 46.

the receipt of the views of local governments, concurred with them and by virtue of powers conferred by Section 27 of the Act of 1911, prepared a Draft Bill embodying modifications and additions to the Act of 1911 which were considered desirable together with certain formal and necessary alterations due to the difference between English and Indian administration and procedure. This bill was eventually passed into law which came to be known as the Indian Copyright Act 1914.[128]

The Indian Copyright Act of 1914 (*hereinafter*, the Act of 1914) was a short Act in the sense that it had only 14 Sections which annexed the whole of the Act of 1911 as its First Schedule.[129] The Act of 1914 introduced two major changes: Firstly, it introduced criminal sanctions for copyright infringement under Sections 7–12, and secondly, it modified the scope of the term copyright.[130] Under Section 4, the "sole right" of the author to 'produce, reproduce, perform or publish a translation of the work shall subsist only for a period of ten years from the date of publication of the work'.[131] The author, however, retained his "sole right" if within the period of 10 years he published or authorized publication of his work a translation in any language in respect of the language.[132]

The modification in the term of copyright for translation rights can't be explained by any reference to the dominant characteristics of colonial policy. The language of the Act might suggest a laudable policy of promoting wider diffusion of Indian works from one language to other Indian languages, a consideration which might have appeared distinctive to India as compared with the UK.[133] There might also have been the desire to promote the growth of the publication industry in numerous Indian languages.[134] The Governor-General of India on December 18, 1847, passed the Indian Copyright Act[135] for 'the encouragement of learning in the territories subject to the government of the East India Company by defining and providing for the enforcement of copyright therein'. Its preamble speaks of doubts which exist or which may exist concerning recognition and enforcement of copyright as a part of the common law or administration of justice based on "justice, equity and good conscience" or as regards the application of British Statutes to territories then administered by the East India Company.[136]

B. Post-Independence

1. The Copyright Act 1957 and the Copyright Rules 1958

The Act of 1914 had become outdated and thus a bill to revise the copyright law in India was introduced in the Council of States on October 1, 1955. Bill was passed in about 18 months which also included its processing by the Joint Select Committee of the Parliament.[137] It was a remarkable achievement of independent India's legislature that it attached so much of importance to Intellectual

[128] Ibid. Act III of 1914; *see also* Bently, supra note 69.
[129] T.G. Agitha & N.S. Gopalakrishnan, *The Imperial Copyright and the Indian Copyright Law*, 117 (2013). https://www.researchgate.net/publication/296930462_The_imperial_Copyright_Act_1911_and_the_Indian_copyright_law (last visited Apr. 3, 2022).
[130] Ibid. Baxi, supra note 124.
[131] Ibid.
[132] Ibid. Bently, supra note 69.
[133] Ibid. Agitha & Gopalakrishnan, supra note 129.
[134] Ibid. Baxi, supra note 124.
[135] The Indian Copyright Act, 1947 (Act XX of 1947).
[136] Ibid. Baxi, supra note 124.
[137] *Report of the Joint Committee, The Gazette of India Extraordinary* (14 November 1956). (last visited April 3, 2022). URL: https://spicyip.com/wp-content/uploads/2020/04/Report-of-the-JPC-on-the-Copyright-Bill-1955-Nov.-14-1956.pdf

Property Rights in general and copyright in particular. In fact, there were a number of factors that necessitated the early revision of the copyright law. Firstly, it was clear that the continued existence of the Act of 1911 through the Act of 1914 was unbecoming of the changed constitutional status of India. Secondly, the Act of 1914 did not accord with the 1948 Brussels Act of the Berne Convention and the 1952 Universal Copyright Convention. Thirdly, the new and advanced methods of communication rendered modernization of the law necessary.

The need for an 'independent self-contained law' was also felt in the light of the experience of the 'working' of the Act of 1911 and more important of 'growing public consciousness of the rights and obligations of the authors'.[138] Reports of many committees and deliberations of International Copyright Conventions were taken into account while considering the Draft of the 1957 Bill. The Joint Select Committee was also benefitted from the evidence of many Indian and foreign organizations such as the Indian Institute of Education and Cultural Freedom, All India Centre – PEN International,[139] Indian Council for Cultural Freedom, All India Hindi Publishers Association, Indian Phonographic Industry, All India Radio, British Copyright Council, International Confederation of Societies of Authors and Composers (Paris), Performing Right Society (London) and Columbia Gramophone Company Ltd. Interestingly, the Satsangis of Radhaswami faith, a purely religious organization also came with its suggestions and gave evidence before the Joint Select Committee. In total, the Committee held 13 sittings. But despite such a lengthy deliberation, the Report of the Joint Select Committee was a brief in just 7 pages (excluding 2 pages containing the names of the composition of the Committee) of the majority report and 7 pages of dissent by six members.[140] All the major recommendations of the Joint Select Committee were ultimately accepted such as its definitions of 'authors', 'artistic works', 'dramatic works'. Its recommendations as to the enhanced prison sentences, and independence of the Copyright Board, were also accepted. It also defined civil jurisdiction for the infringement proceedings and the same was approved by the Parliament while enacting the Act. The original proposal to reduce the term of copyright for the life of the author and 25 years post-mortem was not accepted by the Joint Select Committee on the ground that India must fall in line with International Conventions. The Joint Select Committee also negatived Bill's proposal on similar grounds making the formality of registration a pre-condition for infringement.[141] Perhaps the only significant matter on which the Committee's proposals were not accepted in view of powerful dissents pertained to a 10 years term of copyright for translations.[142]

IP Law, like most of the other Indian laws, is a colonial legacy. The genesis of IP Law in India may be traced to the time of Transfer of Power from the East India Company to the British Crown in the year 1858 AD.[143] The Copyright Act 1957[144] (*hereinafter*, the Copyright Act), as it was finally

[138] Ibid. Baxi, supra note 124.
[139] PEN International, (last visited Apr. 29, 2022). https://pen-international.org/centres/all-india-centre
[140] Ibid. Report of the Joint Committee, supra note 137.
[141] *See generally* Misra Bandhu v. Koshal, AIR 1970 MP 261, 267. Decision of the High Court of Madhya Pradesh, India.
[142] Ibid. Report of the Joint Committee, supra note 137.
[143] Ibid. Raza, supra note 19.
[144] Act 14 of 1957.

passed, was not in any sense a replication of the English legislation proposals. In this sense, the Copyright Act was the first truly Indian legislation after more than 200 years of subjection to Imperial law. The Copyright Act is divided into 15 chapters and contains 79 sections. In addition to this, the government has been empowered to enact copyright rules by virtue of Section 78 of the Copyright Act. The Government thus enacted the Copyright Rules 1958 which deals with matters of procedure for application of licences for translations, performing rights societies, relinquishment and registration of copyright, and related matters. The Copyright Rules 1958 was later repealed by the Copyright Rules 2013.

2. The Copyright Amendment Acts of 1983 and 1984

Despite the leading role which India played in the revision of the Berne Convention and Universal Copyright Convention leading to the Paris Act of 1971, it was not until 1983 that the Indian Legislature could take up the revision of the Copyright Act. The Copyright (Amendment) Act 1983[145] inserted Sections 32A and 32B which provided for "compulsory licences" for publication of copyrighted foreign works in any Indian language for the purposes of systematic structural activities at a low price with the permission of the copyright Board on certain conditions. Another significant change that the amendment brought in was the insertion of a new provision Section 19A which empowered the Copyright Board, upon a complaint, to order revocation of the assigned copyright where either the terms are "harsh" or where the publication of the work is unduly delayed. The Board has been given the power to publish unpublished Indian works and for the protection of "oral works". The Copyright (Amendment) Act 1984[146] also provided for stringent punishments for piracy and effective procedures to inhibit it under Section 9.

3. The Copyright Amendment Acts of 1992, 1994, 1999 and 2012; the Copyright Rules 2013 and the Copyright (Amendment) Rules 2021

Amendment to the Copyright Act 1957 was introduced by the Copyright (Amendment) Act 1992.[147] The 1992 Amendment Act removed the doubt by declaring that 'copyright shall not subsist by virtue of this Act in any work in which copyright did not subsist immediately before the commencement of this Act.'[148] To cope with the new challenges of technology, the revision of the Copyright Act 1957 was necessary. With this object, a bill to amend the Copyright Act was introduced in 1992 in the Lok Sabha (Lower House) along with Copyright Cess Bill. The Bills had become necessary because it has become much easier for anyone to copy sound recordings, films, and printed works through photocopy than in past. The Bill was referred to Joint Select Committee and was finally passed and assented in 1994. The important feature of the Copyright (Amendment) Act 1994[149] (*hereinafter*, the 1994 Amendment Act) under the present law is that a "musical work" has to be written in a notation (as used in western music). This requirement is being done away with as in practice it denied any protection to most of the Indian composers. The 1994 Amendment Act protected making films, videotapes, or audiotapes of a performance without the performer's permission with few

[145] Act 23 of 1983.
[146] Act 65 of 1984.
[147] Act 13 of 1992.
[148] *See* Section 3 of the Copyright (Amendment) Act, 1992 [Act 13 of 1992].
[149] Act 38 of 1994.

exceptions where the recording is for private use or for news reporting.[150] These rights will be enjoyed not only by singers and actors but also by jugglers and snake charmers. The law will also regulate the hire or resale of any copies of films including videotapes or sound recordings or computer programs. Under this law, a video shop will have to take permission before hiring out any tape to consumers from owners of the same. It was proposed that the Copyright Society will be responsible for the collective administration of copyrights in line with the performing rights society. The 1994 Amendment Act has also enlarged the scope of protection of computer programs.[151] Prior to the amendment, the copyright holder enjoyed the exclusive right to reproduce the work, issue copies, perform the work in public, make any cinematograph film or sound recording in respect of the work, make any translation of the work, or to make any adaptation of the work. The Amendment Act confers the copyright holder with the additional exclusive right to sell, give on hire any copy of the computer program regardless of whether such copy has been sold or given on hire on earlier occasions. In other words, even the legitimate owner (*e.g.,* a purchaser) of a copyrighted work cannot sell or rent his copy of the work. The Amendment effectively eliminates the "first sale" doctrine, developed in American jurisprudence under which a legitimate owner of a copyrighted work could further sell, transfer, lease, or rent the work to another. Taking advantage of the "First Sale" doctrine, many rental companies used to purchase software programs and offer them for short-term rentals — a practice that resulted in widespread reproduction of copyrighted works.[152] Another significant aspect of the 1994 Amendment Act is narrowing down of author's moral right. Now, an author may restrain or claim damages in respect of any distortion, mutilation, or modification of the work if it is done before the expiration of the term of copyright and if such acts would be prejudicial to his honour or reputation. However, an exception has been carved out in the law for the adaptation of computer programs for the purposes of debugging.

According to the Statement of Objects and Reasons of the 1994 Amendment Act, moral rights have been narrowed down because the prior provisions whereby even distortion, mutilation, and modification of the work which are not the pre-judicial to the author's moral rights were in excess of the requirements of the Berne Convention. It should be noted, however, that the provision of moral rights under Indian law goes well beyond the requirements of the TRIPS Agreement which exempts countries from any rights or obligations arising from the provisions of the Berne Convention on moral rights. In fact, the exclusion of moral rights from the purview of the TRIPS Agreement reflects the lack of moral rights under American Copyright jurisprudence.

The penalty for copyright infringement is imprisonment for a minimum of six months and a maximum of three years and a fine ranging from INR 50,000 to INR 2 lakh. The 1994 Amendment Act creates a new *de minimus* punishment of imprisonment for less than six months or a fine of less than INR 50,000 where the infringement has not been made for gain in the course of trade or business. The Amendment also creates a *de minimus* punishment for second and subsequent convictions of imprisonment for less than one year or a fine of less than one lakh rupees where infringement has actually not been made for gain in the course of trade on business. A radical new penalty has been devised which punishes even the users of an infringing computer program. Any person who knowingly makes use of a computer or an infringing copy of a computer program shall be punishable with imprisonment of at least seven days which may extend to three years and with a fine which shall not be less than INR 50,000 but which may extend to INR 2 lakh.[153]

After the 1994 Amendment Act, once again the advancement of the technology compelled the Indian Parliament to bring amendments to the Copyright Act. Accordingly, the Copyright (Amendment) Act 1999[154] provided that the 'performer's right shall subsist until fifty years from the beginning of

[150] Sections 12, 14–15, 1994 Amendment Act.
[151] Sections 14, 17, 20 & 23, 1994 Amendment Act.
[152] Aparna Vishwanathan, *Beware of the New Copyright Act,* 2(123) COMPUTER TODAY 116 (1995).
[153] *See* Section 23 of the 1994 Amendment Act and Section 63B of the principal Act *i.e.,* the Copyright Act 1957.
[154] Act 49 of 1999.

the calendar year next following the year in which the performance is made.'[155] Before this amendment, the period was 25 years. The Amending Act further provided for the rights of the performers and the broadcasting organisations.[156] Further, the Copyright (Amendment) Act 2012[157] amended Sections 2, 11, 12, 14, 15, 17, 18, 19, 19A, 21, 22, 25, 30, 31, 31A, 31B, 31C, 31D, 33, 33A, 34, 34A, 35, 36A, 37, 38, 38A, 38B, 39A, 40, 40A, 45, 52, omitting Section 52B and substituting of Section 53, 55, 57, 65B, 66, 78 of the principal Copyright Act of 1957. But ambiguities are still there.

To note the recent statutory developments in the Indian Copyright Law are the ones that happened almost 8 years back in 2013, and the latest about six months back in March 2021. The Copyright Rules passed in the year 1958 have now been repealed by the Copyright Rules 2013.[158] The Copyright Rules 2013 has restructured, empowered, and strengthened the Board. The Copyright Rules 2013 have been further amended by the Copyright (Amendment) Rules 2021[159] which provides that the publications of the Copyright Journal[160] be made available on the official website of the Copyright Office.[161] So far, 10 Copyright journals have been published and made available on the website of the Copyright Office. The first Journal 'Copyright Journal No. 001' was published in April 2021 and the latest is 'Copyright Journal No. 10' published in January 2022.[162]

VI. Conclusion

The history of copyright law is a history of technological developments which led to the evolution of copyright law through the three generations of evolutions of copyright. The analysis in Part II reveals that in the First Generation, the protection was in the form of "monopoly", a monopoly which was an issue throughout all the generations and is even being criticized in the twenty-first century for the same reason that it creates hindrance in the dissemination of knowledge. The prevalent approach of the First Generation can be well understood by understanding the history of sea voyages as they were granted protection by the Sovereign to roam around the world and to come with some artisan or/and knowledge that was not there — thus, creating a monopoly. In this generation, authors seem to be like an alien notion as everything speaks about stationers and their rights. Analysis in Part III reveals that the authors' economic, moral and neighbouring rights were exclusively recognized. In this generation, the fruits of the labour of the authors received recognition. Analysis in Part IV reveals that sincere efforts were made to address the direct and related problems and challenges that were not addressed by the past two generations. Continuous and diligent efforts were taken to provide molar to molecular treatment to copyright at the international level which is speaking in itself. Analysis in Part V reveals that the first IP legislation enacted in independent India is the Copyright Act of 1957 (a decade after the independence), and before her independence, being a colony, the laws of the United Kingdom prevailed. Within 65 years of the coming into force of the Copyright Act, it has been amended 6 times to meet the standards of international law, cope with technological advancements, and protect the rights and interests of the authors. With every passing decade, more and more countries are realizing the danger of not giving adequate protection to creators of IP and are thus joining the Copyright Union and bringing

---

155 *See* Section 4 of the Amending Act which amended Section 38 of the Copyright Act 1957.

156 *See* Sections 5 and 6 of the Amending Act which inserted Sections 40A and 42A to the Copyright Act 1957.

157 Act 27 of 2012.

158 *The Copyright Rules 2013*, G.S.R 172(E) dated 14 March 2013 published in the Gazette of India, Extraordinary, dated 14 March 2013. (last visited Apr. 3, 2022). URL: https://copyright.gov.in/Documents/Copy-Right-Rules-2013.pdf

159 *The Copyright (Amendment) Rules 2021*, G.S.R 225(E) dated 30 March 2021 published in the Gazette of India, Extraordinary, dated 30 March 2021, (last visited Apr. 3, 2022). URL: https://copyright.gov.in/Documents/Notification/Copyright-Rules_Amendment_2021.pdf

160 Rule 2(1)(da), Copyright Rules 2013.

161 Indian Copyright Office, (last visited Apr. 29, 2022). https://copyright.gov.in/CopyrightJournal.aspx

162 *Copyright Journal No. 001, April 2021*, INDIAN COPYRIGHT OFFICE, (last visited Apr. 29, 2022). https://copyright.gov.in/CopyrightJournal.aspx

changes in their national copyright laws. The Indian copyright law after the Amendment Acts of 1994 and 2012 is an excellent piece of example in this context. Whereas, it cannot be denied that in certain aspects, under the USA's influence and to comply with the TRIPS Agreement, the Amendments have an effect of narrowing down copyright protection as well.

The three generations of copyright have played a significant role in developing and reforming the copyright law. History of copyright reveals that each generation got the (identified) problems on or relating to copyright law and also the reasons to address them amicably. The significant contributions of the historical development of law in shaping the current copyright are immense. In the first instance, copyright was recognized only in a literary sense but the historical development of law shows that the copyright protection was extended to the dramatic, artistic, cinematographic works. Moreover, in addition to the exclusive rights of the authors, performers, and broadcasting rights were brought within the statutory protection. From the analysis in Parts II–V, the two propositions that: (i) 'only after the invention of the printing press, the need for protection of authors' rights was firmly realized'; and (ii) 'the journey of copyright law has been a journey from a positive right to a negative right, and technological developments have been the reasons for the change in the subject-matter and number of rights under the copyright law' stands verified. IP is not a positive right. Copyright as an IP is a negative-private property to exclude or prevent others.[163]

It may also be said that the copyright law, as we understand it, is of relatively recent origin. Though the concept of the existence of property cannot be doubted (Social Contract Theory), but the sheer creation of human efforts as a "property" is of recent origin—traceable to the Industrial Revolution. The history of copyright shows that copyright has seen many ups and downs since the invention of the printing press. Unlike other IPs (Patents, Trademarks, etc.), the copyright's struggle is like that of the Cinderella sisters. It received stepmotherly treatment but when it got the recognition, it also got the highest pedestal under the IP umbrella.

[163] Ibid. Raza, supra note 19.

Roadmaps of G.I Tags in India vis-à-vis Legal Implications and International Position of G.I Tag

Tripti Bhushan *
Lecturer
Jindal Global Law School, O.P Jindal Global University, Sonipat, Haryana, India.

Dr. Amit Anand **
Assistant Professor
School of Legal Studies, REVA University,
Bengaluru, India.

ABSTRACT

This article examined GI as an Intellectual Property Right (IPR) in India. In doing this, the author will mention about the concept of GI and other concepts and terminologies related with GI. The research paper will discuss about the implications and non-legal implications of G.I Tag as an IPR. To give legal rights to the people whose trade or craft come available only due to their geographical factors, the government provides Geographical Indications or GI Tag. The author also put forth that the G.I holders must rethink and work on their strategies to get the desired success and further development .The paper will also focus on the evolution of G.I in India and its importance as well. The paper will then examine the existing approaches required for protection of G.I as well as the existing legal framework for GI protection in India, its procedure for Registration and other proposed bills meant to aid the development of IP in India. It then critically appraised India's traditional cultural expressions/traditional knowledge and agricultural produce as the subject matter of GI protection. More so, the article analyzed the challenges facing developing countries with regards to GI protection. In keeping with the tradition of legal writing, the researchers adopt the doctrinal approach for the purpose of this research.

Keywords: Geographical Indication, Tag, Tradition, Implications, legal

* Contact Email: tbhushan@jgu.edu.in
** Contact Email: amit.anand@reva.edu.in

Introduction

We live in a world that keeps on changing every now and then and because of this it becomes really tedious to actually find out about the origin of a specific food or any sort of item even if its clothing or any magnificent art craft or handicraft work., Even there are various food items such as clothing or artwork that actually originates from a particular place but sometimes, people tend to copy these work of others unethically and passing those goods. or items from another region to exploit popularity from the quality of those goods or items.

"From Pashmina shawls to Darjeeling Tea "It's generally quoted that the idea of Geographical Indication has been around for many years, but still, the French were the first to develop a proper system transformed to catalogue and literally identified different sorts of articles/foods that beared individual properties and were linked or found or produced only at a particular region. Later, this new system they worked and developed was the 'appellation origin controlee' which is in use in modern-day and today it is called the Appellations of Origin.

A Geographical Indication (GI) label is a form of intellectual property or a sort of protection given to some goods or products belonging from a particular area or state, or country that's unique to a particular geographical region. India, as a member of the World Trade Organization (WTO), legislated the Geographical Indications of Goods (Registration and Protection) Act, 1999 from 15th September 2003.

Geographical Indication is a non-physical asset that composes a legal claim to future benefits through the special rights and privileges attached to it. The GI products are generally agricultural or natural or manufactured items like handicrafts etc. It is an indication or symbol to identify a particular product. A geographical indication is a sign used on products that has a specific geographic origin and includes the qualities or reputation of that origin. A geographical indication is given mainly to agricultural, natural, manufactured, handicraft arising from a certain geographical area.

G.I. is a kind of sign used for goods that have a specific geographical origin and possess qualities or a reputation that are due to that particular place of origin. Basmati rice and Darjeeling tea are examples of G.I. from India. Article 22 of the TRIPS Agreements define a geographical indication as "signs that originate in a member or identify a good location in an area or locality where a given quality, reputation, or specialty is assigned to its geographical location Is given Is essentially acceptable".

Also, technically if a GI is protected and used throughout then it can be considered as perfect marketing strategy and a tool, as it brings to the consumers of goods and services a certified level of quality, reputation and special characteristics of those goods and services. And If protection is not given, then any person can use any geographical indication to any goods or services which may not be at par with the standards of the original goods and services and can cause confusion among the consumers and deceive them. Lack of awareness among the stakeholders of GIs, non -existence of quality control mechanisms are the reasons for the failure in achieving the objectives. Moreover, the Act which is formulated at par with the trademarks law tends to be more trader-centric than producer-centric.

Evolution of G.I Tags in India

States are safeguarding business trademarks and brand names utilized in setting to food items distinguished from a specific district, which until the late nineteenth century, regulations were utilized or passed against wrong exchange portrayals, which Usually safeguard against ideas that have a specific beginning, quality, of the item., or affiliation when it doesn't. In such cases, the serious opportunity that emerges from the award of a syndication of utilization on a geographic sign is advocated by legislatures for customer assurance advantages or maker security benefits.

One of the main G.I. frameworks utilized in France since the early piece of the 20th century is known as the Appellate d'Orgine Controloli (AOC). Things which meet geographic beginning and quality principles can be endorsed with a stamp of government that fills in as the authority accreditation of the item's starting point and guidelines to the customer. Instances of items that have such 'label of beginning' incorporate Gruyère cheddar (from Switzerland) and a few French wines. Among the significant creating economies, India has a fast and productive G I label system.

Need for Geographical indications

Given its business potential, G.I.'s. legitimate security expects incredible significance. Without appropriate lawful assurance, contenders who have no genuine authority over the G.I. can ride free on its standing. Such unjustifiable exchange rehearses lead to loss of income for G.I. right holders and furthermore befuddle purchasers. Besides, such practices may at last upset the generosity and notoriety related with a geological sign.

Intellectual Property Rights

The term Intellectual Property (IP) alludes comprehensively to the formation of the human psyche. A licensed innovation right safeguards the interests of makers by giving them property freedoms over their manifestations. Protected innovation connects with the data or information, which can be consolidated in unmistakable articles in a limitless number of duplicates at various areas anyplace on the planet. The property isn't in those duplicates yet in the data or information reflected in them. Licensed innovation freedoms are additionally portrayed by specific limits, like restricted length in copyrights and licenses. The significance of protected innovation was first perceived in the Paris Convention in 1883 and the Bern Convention for the Protection of Literary and Artistic Works in 1886. The World Intellectual Property Organization (WIPO) directs both treaties. According to the TRIPS Agreement 35, Geographical Indications is a kind of Intellectual Property Right for Food and Wines and additionally social articulations.

Unfair Competition and Passing off

It is very well seen that nations have laid out some sort of defence against unjustifiable strategic policies. Article 10 of the Paris Convention gives that '… the nations of the association will undoubtedly guarantee to a public of such nations compelling security against out of unfair competition… '

The above article of the Paris Convention requiring all state party thereto to give powerful assurance against unjustifiable contest, lays out the global security against uncalled for rivalry. Be that as it may, its goal is to give those in exchange a compelling cure against unlawful and exploitative strategic approaches and satisfy buyer insurance. The pronouncement of commercial act or action as being in opposition to legitimate practices in modern or business matters should be made in application to public regulation. Notwithstanding, it is settled past peradventure that any deceptive business act or movement equipped for deceiving general society as far as the geological beginning of an item presented by a venture establish a demonstration of unjustifiable contest.

How is a GI tag granted in India?

The Geographical Indication tag is conceded according to the Geographical Indications of Goods (Registration and Protection) Act, 1999. The application for GI is available to every one of the makers of products or an association. The application should incorporate the geographical map of the domain or district in the nation where the products are fabricated and the class of merchandise to which it will apply. It ought to be in the recommended structure and a specific charge should be submitted with a mark.

The application will be investigated and analysed by gatherings of specialists. It is necessary to get GI enlisted to guarantee any privileges in regard of such sign. An item having a GI tag forestalls unapproved utilization of items and redesigns monetary benefit to the makers by sending out the items. A GI item cost expansions in the worldwide market as the products increment. Section 21 of the GI Act expresses that enlistment gives an option to document a suit for encroachment. Section 23 ensures that there is at first sight proof of possession and legitimacy of GI.

Geographical Indication & its Legal Framework

The TRIPS Agreement endorses least norm of security for geological signs (GIs) and extra insurance for wines and spirits. Article 23 of the TRIPS Agreement, which awards higher status just to wines and spirits and rejects different merchandise and items out of its domain, has created impressive disdain. This segregation or unevenness in security has prompted requests for extra insurance to different merchandise and items from various nations including India. The Indian legal executive has assumed a huge part, especially without any implemented regulation, in safeguarding GIs. They have engaged petitions in instances of encroachment of GIs that misdirects the buyer regarding the spot of beginning or comprises unjustifiable contest. India has additionally gone to official lengths by sanctioning the Geographical Indications of Goods (Registration and Protection) Act, 1999 alongside the Geographical Indications of Goods (Registration and Protection) Rules, 2002 which on execution would go far to safeguard GIs and give a model to different nations to follow.

Registration of Geographical Indications

An application for the registration of a GI is to be made to the Registrar of Geographical Indications in the form prescribed under the Geographical Indications of Goods (Registration and Protection) Act, 1999 (the GI Act) read with the Geographical Indications (Registration and Protection) Rules, 2002 (the GI Rules).

Duration of Protection

A Geographical Indication is registered for a period of 10 years and the registration may be renewed from time to time for a period of 10 years at a time.

Cases

Banganapalle Mango

'Ruler of Fruits' means mangoes from Banganapalle got G.I. tag in the year 2017. The public authority fixed logo includes a yellow-hued gleaming organic product around which the slogan says "Banglapple Mango from Andhra Pradesh," showing ranchers with pictures of a man and a lady. From now into the foreseeable future anybody needs to apply to turn into the main approved client to sell or deliver and this will require a No Objection Certificate (NOC) from the Commissioner of Horticulture Development Agency, Government of Andhra Pradesh, Department of Horticulture.

The organic product is likewise known by many kinds of sages like Beneshan, Banahan, Benishan, Chapati, Safeda, Banganapalli, Banginapalli, Banganapalle, and so forth the primary fascination of the natural product is that it can keep up with its quality in cool stockpiling for quite some time. Archives submitted to the Registry expressed that 'the noticeable element of Banganapel mangoes is that they have exceptionally light spots on their skin, stones are corner to corner in shape and have extremely dainty seeds, which have scanty and delicate filaments.

The public authority likewise called the first focal point of Kurnool area, which remembers

Nandyal Mandal for Banganapalle, Penman and Telangana and Khammam, Mahbubnagar, Rangareddy, Medak, Adilabad areas. As per an affirmation outfitted in 2011, the then Commissioner of Andhra Pradesh, Rani Kumudini said that regarding 7,68,250 families were associated with the creation of Banganapalle mangoes. An expected 24.35 lakh metric huge loads of mangoes were filled each year in Andhra Pradesh, and around 5,500 tons of Banganpal mangoes were traded yearly to nations like the U.S., U.K., Japan, and the Gulf nations.

Registration process of Geographical Indications

Step 1: Application filing

Please check if the Indication falls within the definition of Section 2(1)(e) of Gl Act. The association of individuals or producers or any association or authority should represent the interest of the producers of the goods concerned and file an affidavit as to how the Applicant claims to represent their respective interests. Applications must be made in triplicate. The Application must be signed by the Applicant or his agent and must be accompanied by a description of the case. Describe the special features and how those standards are maintained. Three certified copies of GI-related field maps. Description of the inspection structure if there is an area for regulating the use of G.I. Provide details of all applicants with the address. If there are a large number of manufacturers, then collective reference applications for all producers of goods and G.I. should be made. If registered, it should be indicated accordingly in the register. The Application must be sent in a respective address in India.

Step 2 and 3: Preliminary Examination and Examination

The examiner will check the Application for any deficiencies. The Applicant should take measures in this regard within one month of communication. The content of the case description is evaluated by an advisory group of experts who will master the subject. Furnished will ascertain the correctness of the description. After that, an examination report will be issued.

Step 4: Show cause notice

If the Registrar has any objection to the Application, he shall file such objection. Applicant must reply within two months or apply for a hearing. The decision will be duly communicated. If the Applicant wants to appeal, he can request it within a month. The Registrar also has the right to withdraw an application, if it is mistakenly accepted, after giving it on the occasion of a hearing.

Step 5: Publication in Geographical Indication Journal

Every Application, within three months of acceptance, will be published in the Geographical Indications Journal.

Step 6: Resist Registration

Any person opposing the G.I. application, published in the journal, can file a notice of protest within three months (another month upon request which is to be filed before three months). The Registrar will provide a copy of the notice to the Applicant. Within two months, the Applicant will send a copy of the counter statement. If he does not do so, he is believed to have dropped his application. Where a counterclaim has been filed, the Registrar will serve a copy on the person giving notice of the protest. Thereafter, both parties will lead their respective evidence through affidavits and supporting documents. After this, the date of hearing of the case will be fixed.

Step 7: Registration of Application

Where an application for G.I. has been accepted, the Registrar will register the Geographical Indication. If the date of filing the Application after being registered will be considered as the date of registration. The Registrar will issue a certificate to the Applicant with the seal of the Geographical Indicators Registry.

Step 8: Renewal of Application

A registered G.I. will be valid for 10 years and can be renewed on payment of a renewal fee.

Step 9: Additional Security for Notified Goods

An application can be made to the Registrar for respective goods which are notified by the Central Government for additional protection for the registration of geographical Indication in Form GI-9, there will be three copies of the case details and three copies of issued notification. The Application will be made jointly by the registered owner of Geographical Indication in India and jointly by all the producers of Geographical Indication.

Step 10: Appeal

Any person who is aggrieved by an order or decision which may prefer an appeal to the Intellectual Property Appellate Board (IPAB) within three months.

Success in Getting G.I Tag in India

At all its constraints, expressing that the demonstration has helped no item/item would be nothing under an unmitigated untruth. Taking the case of two significant contextual investigations in India, which have introduced flourishing for both the native laborers and the exporters, subsequently cutting a specialty for themselves in the market, we look to examine a few main considerations that drove these to turn into the examples of overcoming adversity which they are today.

Darjeeling Tea

Darjeeling tea, with its flower fragrance and an unmistakable flavour has won the support of quite a large number of shoppers, across the globe. Regularly named as the Champagne of teas, its experts have liked it for a really long time. Tea development in these precarious, sloping regions have brought monetary development and prosperity through improvement in the nearby occupants' work circumstance. Another, significant social viewpoint to be noted here is that most representatives on Darjeeling's tea bequests are ladies. More than 70% of the absolute produce is sent out abroad. The significant part of the yearly creation of Darjeeling tea is sent out, the key purchasers being Japan, Russia, the United States, and the United Kingdom and other European Union (EU) nations like France, Germany, and the Netherlands.[1]

Chanderi Saree

Chanderi is a town located near Betwa river in District Ashok Nagar (Madhya Pradesh), India. With a population of about 30,000, approximately 10,000 to 12,000 are estimated to be involved in weaving of chanderi sarees/ fabrics. There are 4,000 looms functioning here, thereby leading to the development of a business worth Rs 65 crore every year, as per a 2012 industry report. The uniqueness of Chanderi lies in its fabric- it is transparent, shiny and has a sheer texture; a close weaving style is

[1] Ravindran, S. & Mathew, A., *The Protection of Geographical Indication in India – Case Study on 'Darjeeling Tea'*. International Property Rights Index 2009 Report. (2009)

involved, and it has individual woven booties – single and double pick (motifs).

Threats to legitimacy of chanderi saree and its weavers

The authentic Chanderi items, which were handwoven by skillful weavers of Chanderi confronted extreme contest from counterfeit power loom items made in Varanasi and Surat, which could be sold at a lot less expensive rate. They are either woven with Zari or woven plain and shipped off Jaipur for block printing and are not engaged with Chanderi or its weavers.

The completed items look so like the first one that it is hard to make out any contrast between the impersonation power loom and the first handloom ones. In this manner, there was a decrease popular, prompting cutback of paid positions and pay for the native weavers. Another result of this adventure is the movement of another age to metropolitan regions consequently representing a danger to its endurance.

Products Unsuccessful in Getting G.I Tag in India

The advantages of GI are plentiful and whenever used appropriately, they can assume a significant part in helping the economy of a district and leading the way for development and improvement in the native local area. Particularly for non-industrial nations like India, GI behaves like a protection or then again security, for the assembling occurring in country regions where the makers can't contribute in marking attributable to an absence of advertising abilities, foundation, legitimate mindfulness, and so on The GI tag assumes a vital part in making brand value for these native makers. Like it has on account of tequila makers in Tequila (Mexico). Tequila, the most seasoned GI external Europe is a seriously compelling case, perceived as one of the most financially effective non-European GIs. In any case, it is basic to comprehend that the Act has not finished without a hitch when it comes to its examination. Its disappointments have been supposedly trio. Some battle that its failure to limit the extent of genericide as referenced in Section 9 goes to be tricky. Others are discontent with its approach suggestions, for it doesn't accommodate severe after creation control as well as help. The third relates to the absence of logical force that should not be related with the GI-labelling of horticultural item.

Banarsi Saree

The Banarasi saree has been very much a design explanation among superstars of late. Yet, behind this shroud of joy and custom, lies an obviously bleak truth of the makers of this GI-labelled item. There has been inescapable destitution and hunger all through the conventional weaver local area. Such dejection and sadness among the weavers have constrained them to submit self-destruction or has accelerated work shifts, as confirmed by MGNREGA benefits. The vast majority of the talented laborers have now gone to incompetent work.

Since the Mughal period, Banarasi sarees have partaken in a recognized standing in view of record of their fine silk, gold or silver brocade or Zari, and extravagant weaving. To safeguard this very genuineness, a few associations had documented an application for GI enlistment in 2007. They at last got the GI in 2009.

The candidate bunch had recognized five investigation bodies in their application to the GI library. These examination bodies are the Department of Handlooms (Government of Uttar Pradesh), the Advancement Commissioner (Handlooms), the Weavers' administration place, Master Weavers' Self-Regulation, and the Textiles Committee.

As of now, the Banarasi Saree works with a large number of accreditation stamps like the Silk mark and the Handloom mark. The Silk Mark Organization of India (SMOI), the enlisted proprietor of the SILK mark, had presented a high-security nano molecule inserted combination name as a

characteristic of virtue for Banarasi silk to empower clients to confirm the realness of the wellspring of the silk. Ground-breaking thoughts have arisen in the endeavours to advocate Banarasi sarees as 'green items' to catch more up to date showcases abroad.

The Venkatagiri Saree

The Venkatagiri Handloom Sarees Apex Society of Andhra Pradesh is the enlistment holder of the Venkatagiri Saree. This saree is woven in Venkatagiri, a modest community which is arranged about 60 kms from Nellore in Andhra Pradesh. It is woven with fine 100's cotton yarn in both twist and weft. The saree is ornamented with Zari in pillow and line. Jacquards are utilized to weave additional weft plans. By and large, delicate and pastel tones are utilized in the saree. It is woven on a customary fly transport pit loom. Its specialty lies in estimating of its twist and weft yarns. It turned into the eighteenth Indian saree to get the GI tag. Regardless, even the Venkatagiri saree couldn't save itself from confronting the brunt of abuse also replication because of the laxity of rules concerning quality control. Power looms in Tamil Nadu are accounted for to have duplicated the plans of these sarees. The absence of support from government wings combined with the weavers' absence of consciousness of financial action has ended up being disadvantageous. It has been accounted for that the Department of Handicrafts under Ministry of Textiles, Government of India, offers help to these craftsman's and welcomes them to presentations and other business exercises in the country. Yet, the division is restricted to giving personality cards overlooking postproduction support. While it is being focused on that the public authority needs to supply silk yarns at sponsored costs to safeguard weavers from prize unpredictability; it is additionally a fact that the weavers are not considering legitimate activity against the copyists of their plans. This is on the grounds that they feel purchasers would have the option to recognize handloom and power loom items. The weavers additionally fault absence of appropriate exposure for their defeat. It is likely the anxiety toward extended prosecution that mitigates the makers from taking any lawful activity. In this manner, the requirement for setting up or permitting elective components or method for debate goal stands featured once more.

Pashmina Silk

The Pashmina Silk is yet another GI-tagged product which has been facing adversity from the power loom industry imitating its designs and selling fake Pashmina products. A lot of such fake products can be sourced to Amritsar (located in Punjab). The locals lament that this mechanization is threatening their livelihood as well as bringing disrepute to handcrafted Kashmir pashmina This indigenous fabric is said to have been presented by Napoleon Bonaparte to his lady love, Josephine. The Kashmir Pashmina refers to the extremely soft woolen fabric with fibers spun out of 'Capra Hiracus', also known as the Pashmina goat. The Craft Development Institute (CDI) was responsible for facilitating the GI Registration of the Pashmina Silk. However, it only acted as a temporary registered proprietor since the GI was assigned to TAHFAUZ, an association that comprises a diverse group of Kashmir artisans. Unfortunately, when the application for the GI was filed, the identification of an inspection body was suspended until a later time. "The establishment of a testing center is basically useless as it was never started (became operational). The only thing there is a building with a bunch of fancy equipment inside, but it was never put to work, no quality checking has ever taken place there, it's a wastage of resources." The Pashmina Testing and Quality Certification Centre (PTQCC) was sanctioned under the Assistance to State for Infrastructure Development of Exports (ASIDE) scheme by the Union Commerce Ministry and Rs. 4.40 crore was provided for its establishment. The authorities claim that they have fined a lot of traders for selling fake Pashmina products.35 Procedurally, authentic Kashmiri Pashmina[2] shawls will receive the Kashmir Pashmina Mark (GI) by the PTQCC after verification of the weaving technology, the spinning method and the genuineness of the raw materials.

[2] Press Trust of India, Kashmir's famed pashmina threatened by cheap imitations (Jul. 28, 2015), https://www.freepressjournal.in/india/kashmirs-famed-pashmina-threatened-by-cheap-imitations

In order to ensure greater authenticity, a microchip known as the Secure Fusion Authentic Label (SFAL) would be attached to the product with a unique number that could be read under infrared light. To date, the effectiveness of the PTQCC in guaranteeing the quality of the GI-denominated products still needs to be proven, as the system is in a nascent stage.

Despite the above provisions, the artisans claim no relief and allege that the traders are mixing some other fabric to it so that it could survive power loom vibrations. The Pashmina Silk, too, has become a victim of the non-regularization of inspection bodies. It is because there is no legal provision that governs how inspection bodies function which leads to the denigration of the quality of such products and fails to incentivize the artisans.

Position of Geographical Indication (GI) labels in India

As we probably are aware, a Geographical Indication (GI) is a name or sign which is utilized on items to separate them from others, since they have a specific quality, use of any conventional strategies in their creation, or partake in a standing because of their topographical beginning.

GI has dated its first use in France in the mid twentieth century known as label d'origine controlee (AOC), yet it has spread to different nations including India who are individuals from the World Trade Organization (WTO) by the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) which got closed in 1994[3]

The GI labels in India are given according to the arrangements of the Geographical Indications of Goods (Registration and Protection) Act,1999[4] which came into power with impact from 15 September 2003, by the Geographical Indication Registry under the Department of Industry Promotion and Internal Trade, Ministry of Commerce and Industry.

Any singular maker, a relationship of people, any association, or authority laid out by or under the law can apply to get a GI tag and the application moved in such a possibility ought to be written in the appropriate organization alongside a recommended charge to the concerned power. A GI tag is substantial just for 10 years in spite of the fact that it very well may be recharged now and again for a further time of 10 years each through each resulting restoration.

Darjeeling Tea turned into the first GI label gave item in Quite a while, which was given to it from 2004 to 2005 and from that point forward, the quantity of enlistments, as well as applications, has expanded quickly.[5]

As per the Indian Government, around 370 GI labels have been doled out to different products according to Section 2(f) of the Geographical Indications of Goods (Registration and Protection) Act, 1999.

Recommendations and take away

As seen on account of Venkatagiri Saree, the public authority needs to implement after creation control even after the item gets GI enlisted. Another suitable arrangement could be connecting a CPU to the genuine item; a thought considered on account of the Pashmina silk, however with little execution to be seen. Defilement, helpless worth-based valuing, buyers getting deluded from fake items would've prompted monstrous harm to the standing of Darjeeling Tea. A significant perception which is very

[3] Dr.Ruppal W Sharma & Ms. Shraddha Kulhari, *Marketing of GI Products: Unlocking their Commercial Potential*, Centre for WTO Studies IIFT 10, 52 (2015)

[4] The Geographical Indications of Goods (Registration and Protection) Act, 1999, § 9

[5] Kaushik Basu, *Darjeeling Tea -A Geographical Indication (GI)*, World Intellectual Property Organization, (Nov. 27,2021), https://www.wipo.int/edocs/mdocs/geoind/en/wipo_geo_lim_11/wipo_geo_lim_11_11.pdf

commendable is that much before the coming of GI in a nation like India, where Intellectual Property Rights stayed a covered idea during the 1980s, Tea Board of India acted way forward thinking by making a logo, enlisting something similar in different areas of the planet. Obviously, this was a positive development and has taken care of all around well. An effective execution of GI tag has brought about fruitful insurance of the maker's business and lawful interests, subsequently uplifting the buyers to see Darjeeling Tea as a extravagance tea, which would legitimately determine a premium and guarantee financial success for all partners. Assuming different makers of GI Tagged items additionally utilize the administrations of current innovation (like Compumark) it will empower them to save a severe legitimate watchfulness for fake items and keep them from flooding the market. The makers ought to likewise take the endeavours like the makers of Darjeeling Tea to get their IPR Tags enlisted in different nations also to guarantee a compelling insurance. On account of Chanderi texture, it is seen that in the underlying stages; compelling intercession by the government, with the help got from UNIDO, assumed a significant part in laying out SHGs, furthermore in later stages, a more proper affiliation. What at first started as an undertaking of neediness mitigation, brought about an effective undertaking, with the weavers presently having a more coordinated agent body. A significant highlight be noted is that the endeavours of the Chanderi Advancement Foundation (CDF), prompted the GI Registration. Accordingly, it very well may be effortlessly deduced that when the laborers got together and shaped an organized aggregate, they, when all is said and done, took the fitting lawful positive development. In addition, the expenses engaged with the plan, control and oversight of brands are monstrous. The examination and oversight framework for quality control and encroachment is either non-existent or non-working on account of most GI Tagged items. Most makers of GI labelled items are in the chaotic area and a few degrees of hand holding as far as financing for mindfulness, brand building and contribution of partners will go quite far in fortifying the market networks in the underlying stages. Besides giving infrastructural support at the underlying level, the Government ought to likewise work with the production of free legal bodies, liable for examinations and quality control. As seen in the ineffective contextual analyses, there exist various Governmental review bodies which facilitates the disarray prompting absence of responsibility and abandonment of obligations. It is proposed that a solitary autonomous legal body delegated by an assemblage of prominent people be made, which would be answerable for adjusting the interests of the credible GI libeled item makers (for the most part having a place with the disorderly area), and the quality cognizant shoppers going from the homegrown to worldwide level. One more surprisingly intriguing point with regards to the Chanderi Case Study, is that even after the GI Enrolment, the CDF kept assuming a functioning part in the advertising and advancement of their item. Drives, such as laying out internet business site, being dynamic via online media stages, working together with computerized stages have all prompted the item being seen around the world, to such an extent that they were utilized broadly as keepsakes in the Commonwealth Games. It is said that higher risk can result in bigger rewards, and fortune favoured Chanderi with the inescapable exposure it got from the 2010 Commonwealth Games as well as big name visits to the town. This prompted soaring requests, spreading the word about Chanderi locally as one of India's trustworthy legacy handlooms, and building an outlandish, impeccable brand for itself on the worldwide front.

Provincial the travel industry of Rampur has been utilized in a viable way to feature the Chanderi texture, consequently bringing about its advancement. The Chanderi GI example of overcoming adversity is a seriously healthy one, as it has prompted advancement of the economy as well as has prompted improvement of the general public as a entirety. With an increment in the ways of life, and the weavers acquiring a lot higher sum than previously, the general public has advanced. While the Case Study of Chanderi Fabric is one of the couple of cases, which has ended up being all around well, post GI enlistment, it can fill in as a galvanizer for other GI Registered items, and the social orders behind them.

Conclusion

It is right to say that the Geographical Indication Act, 1999 is as yet advancing and its underlying foundations are as yet not extremely amazing to safeguard its encroachment. GI regulations are new to India and need a severe understanding to give full insurance against encroachment. The spot of beginning or assembling of any item is given due significance under GI in light of the fact that such a spot is particularly recognized in view of its environment, area, and so on Prior to enlisting a GI every one of the models should be remembered for its qualification. According to the business perspective, each business visionary needs to procure increasingly more benefit by selling the items which buyers request and each client needs standard quality unique item, yet dealers deceitfully sell imitated merchandise for benefit. Each nation has an alternate assortment of merchandise which are a remarkable mix of its rich culture, climatic conditions and India being a different country in each term has an alternate state which is wealthy in their separate culture so it should be remembered those items addressing the core of spot should be safeguarded and given full insurance from any sort of encroachment.

References

Art 22.1 of the TRIPS Agreement defines GI as 'indication, which identify a good as originating in the territory of a Member, or a region or a locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin.

Bagade, S.B. and Metha, D.B. (2014). Geographical Indications in India: Hitherto and Challenges. *Re-search Journal of Pharmaceutical, Biologicaland Chemical Sciences,* 5(2): 1225-1239.

Bentley, Intellectual Property Law. *Oxford University Press 2001, 192.* https://blog.ipleaders.in/geographic-indication-law-in-india/

Das, A. (2008). Integrating Intellectual Property Rightsand Development Policy, *London: Commission on Intellectual Property Rights the Geographical Indications of Goods (Registration and Protection) Act,* 1999 - Section 22

Delphine Marie-Vivien (2015). The Protection of Geographical Indications in India: A New Perspective on the French and European Experience, *SAGE Law xviii.*

Dr.Ruppal W Sharma & Ms. Shraddha Kulhari (2015). Marketing of GI Products: Unlocking their Commercial Potential, *Centre for WTO Studies IIFT 10,* 52.

Irene Calboli & Ng-Loy Wee Loon (Eds.) (2017). *Geographical Indications at the Crossroads of Trade, Development and Culture: Focus on Asia-Pacific*. Cambridge University Press

Gilbert, Justice & Pam, Adamu Audu (2021), Geographical Indications as an Intellectual Property Right in Nigeria: A Tool for the Protection of Traditional Knowledge and Agriculture Produce. Available at SSRN: https://ssrn.com/abstract=3954951 or http://dx.doi.org/10.2139/ssrn.3954951

http://www.newstrackindia.com/newsdetails/2014/02/28/335--Now Geographical-Indication-rights-for-Tirupati-laddu-.html

J Adithya Reddy & Siladitya Chatterjee (2007). A Critique of the Indian Law and Approach towards Protection of Geographical Indications with Specific Reference to Genericide, *JIPR Vol. 12 (6)* 553,573.

Kasturi Das (2010). Prospects and Challenges of Geographical Indications in India, *The Journal of World Intellectual Property 13,* 148 – 201.

Kaushik Basu, Darjeeling Tea -A Geographical Indication (GI), World Intellectual Property Organization, (Nov 27 ,2021), https://www.wipo.int/edocs/mdocs/geoind/en/wipo_geo_lim_11/wipo_geo_lim_11_11.pdf (*last visited*

Maheshwari, Shruti & Kumar, Pankaj (2016). Geographical Indication (GI) & the Foodstuffs - Indian Perspective. *National Conference on Intellectual Property Rights: Current and Future Prospects, 2012, Available at SSR*N:https://ssrn.com/abstract=2836419 or http://dx.doi.org/10.2139/ssrn.2836419

Malini Nair, Cloning the Chanderi, Times of India, (June 21, 2015). https://timesofindia.indiatimes.com/topic/Cloning-the-Chanderi/news

Ministry of Textiles (2017). *Government of India, A Compendium of Indian Handicrafts & Handlooms covered under Geographical Indications (GI)* 159.

Parag Shel& Suchismita Das, Indian Tea Industry in *The Context of Intellectual Property Right (Ipr)*

And Geographical Indication (GI), APJMMR, Vol.1 No. 2, October 2012 IRJC.

Press Trust of India, Kashmir's famed pashmina threatened by cheap imitations *(Jul. 28, 2015*), https://www.freepressjournal.in/india/kashmirs-famed-pashmina-threatened-by-cheap-imitations.

PV Prasad, GI tag fails to help Venkatagiri Saree (Jun. 29, 2015), https://www.thehansindia.com/posts/index/Andhra-Pradesh/2015-06-29/GI-tag-fails-to-help-Venkatagirisari/160174

Ravindran, S. & Mathew, A. (2009). The Protection of Geographical Indication in India – Case Studyon 'Darjeeling Tea'. *International Property Rights Index 2009 Report.*

Sarah Bowen & Ana Valenzuela Zapata (2009), Geographical indications, terroir, and socioeconomic and ecological sustainability: *The case of tequila, 25, J. Rural Stud. 108,* 108.

SK Soam & M Hussain, Commercialization of Indigenous Health Drinks as Geographical Indications, *JIPR Vol. 16(2)* 69, 173-174 (2011).

Sutanuka Ghosal, Brand Darjeeling is up, running now, *The Economic Times (Jan 10,2007)*. https://economictimes.indiatimes.com/industry/cons-products/food/brand-darjeeling-is-up-runningnow/articleshow/1115909.cms?from=mdr

The Geographical Indications of Goods (Registration and Protection) Act, 1999, § 9

The Lisbon Agreement for the Protection of Appellations of Origin and their *International Registration of 1958 and the 1967 Act.*

Urgency of Deposit Microorganism for Patent Biotechnology Protection in Indonesia

Angga Wijaya Holman Fasa *
Directorate of Strategic Research
Ministry of Tourism and Creative Economy/Tourism and Creative Economy Agency

Tommy Hendrix **
Research Center for Industrial, Service and Trade Economics
National Research and Innovation Agency

ABSTRACT

Depository of microorganisms today is a mandatory principle which shall be comply in order to maintain the value of living things. This function is also the procedural requirement for patent application procedures. The procedure for depository of microorganisms has been enforced in the Budapest Treaty, which requires every invention related to microorganisms to be deposited in a depository authority that has facilities and management of international standards. This study outlines the depository management patterns of microorganisms and information related to their current development and urgency. This research uses comparative legal methods to determine the characteristics of the depository of microorganisms for patent application purposes between the Indonesian Patent Law, the Budapest Treaty, and Nagoya Protocols. It was later discovered that this preparation procedure was correlated with fulfilling patent registration obligations within the framework of legal protection and had the function to protect genetic resources and comply with the provisions of the Nagoya Protocol, which the Government of Indonesia has ratified. Therefore, besides being supported by international standard management and depository infrastructure, this mechanism also requires legal protection by ratifying the Budapest Treaty.

Keywords: Deposit Microorganism, Genetic Resources, Budapest Treaty, Patent Biotechnology Protection, Urgency.

* Contact Email: awijayahf@gmail.com
** Contact Email: tommy.hendrix@gmail.com

I. Introduction

Indonesia is the second country in the world after Brazil which has the most extensive biodiversity. With an area of land reaching 1.3% of the world's landmass consisting of tropical forests, volcanoes, and oceans (including its vastness and depth), Indonesia is a tropical country that has no less than 42 eco-natural land systems and five ocean ecosystems. It is also illustrated that although Indonesia occupies only 1.3% of the earth's plains, Indonesia owns 17% of all species in the world.[1] Positioning Indonesian in Microorganism depository is still developing, and these conditions encourage all stakeholders to interfere with optimizing potential resources connected to produce high economic value products. Microorganism storage management's current management still needs to be recorded and explored further to enrich the diversity of research and development results.

The development of technology today becomes a necessity in creating opportunities for change by utilizing results that can support problem-solving and stimulate new commercial utility inventions. Inseparable from the emergence of several technology applications that can generally be applied in creating a new opportunity through the development of a process or product. One of them is in the field of biotechnology patents related to the deposit of Microorganism. After their discovery, Microorganism was used to elucidate basic life processes such as photosynthesis, respiration, metabolism, reproduction and genetics because they can be cultured under controlled conditions to obtain genetically and uniform populations. In biotechnology and molecular biology, including genetic engineering, Microorganism is used as tools of genetic exchange.[2]

The description relates to the disclosure of inventions. The disclosure of inventions in biotechnology is a written description because of the degree of difficulty or complexity of science's field described, especially if the invention proposed is an invention about or using the Microorganism in it.[3] In addition, patent granted protection will accommodate requirements based on the application that contains a description of the invention, with a complete description of how to carry out the invention. Therefore, the patent application also requires evidence of the relevant Microorganism's depository at a deposit institution recognized by the patent office. The samples are stored in a collection of cultures that can be recognized as deposits, and others can take examples.[4]

The Microorganism depository system is regulated under an international convention, the Budapest Treaty on the International Recognition of the Deposit of Microorganism. The Budapest treaty determines that the depository of the remains concerns an invention in an official institution. These are institutions located in countries that have signed the Budapest Treaty, which in the Budapest Treaty is called the International Depository Authority (IDA).[5] Provisions in the Budapest Treaty on the requirements for proof of depository have also been implemented in Indonesia, stipulated in Article 5, Article 25, Article 26, and Article 45 of PERMENKUMHAM No. 38 Year 2018 concerning Patent Applications.[6]

---

[1] Atit Kanti, Muhammad Ilyas, et al., *Panduan Pengelolaan Koleksi Mikroorganisme Indonesian Culture Collection*, Jakarta: LIPI Press, 10. (2018)

[2] Kulasooriya, S. A. *The amazing world of microorganisms*. Review Article. Ceylon Journal of Science 48(4) 2019: 303-310 DOI: http://doi.org/10.4038/cjs.v48i4.7669.

[3] Debra K. Leith, *"Biological Deposits Necessary for Patent Protection: An Expansion of Permissible Procedure-In Re Lundak, 773 F.2 D 1216, 227 U.S.P.Q. (BNA) 90 (FED.CIR.1985)",* 61 *Wash. L. Rev.* 1519, (1986).

[4] Helianti Hilman & Ahdiar Romadoni, *Pengelolaan dan Perlindungan Aset Kekayaan Intelektual: Panduan Bagi Peneliti Bioteknologi*, Jakarta: The British Council, 2001, 182.

[5] *Budapest Treaty on the International Recognition of the Deposit of Microorganisms for Purposes of Patent Procedure.* WIPO. 2020.

[6] PERMENKUMHAM No. 38 Year 2018 concerning Patent Applications..(Errata: adjusting to previous review from reviewers regarding the latest regulatory changes

However, until the present time, Indonesia has not signed and become a member of the Budapest Treaty. There is also none of Indonesia's institutions has become the authority to store the Microorganism that can be recognized as IDA. Consequently, Indonesian inventors who intend to apply for patents for their biotechnology inventions related to the Microorganism must store their samples to one of the IDA abroad, resulting in high costs that the inventor must incur.[7] On the one hand, there are efforts to foster innovation, while on the other hand, there are obstacles related to patent application procedures as the basis for granting patent protection. An innovation requires IPRs protection at the ideal level because innovation can arise if IPRs protection is incentive for research and innovation.[8] Therefore, patent protection in biotechnology is essential to bring about innovations that can alleviate community problems. Based on the background described above, this paper elaborates on two issues: the urgency of storing Microorganism for patent application procedures in biotechnology in Indonesia and the Budapest Treaty's ratification on the depository Microorganism for the protection of biotechnology patents in Indonesia.

II. Methods

To elaborate data, examine, and answer the problems above, comparative legal methods were employed.[9] The comparison emphasizes the legal materials such as the Indonesian Patent Law, the Budapest Treaty, and Nagoya Protocols. The provisions are compared between these three legal materials, especially regarding the terms of the depository of microorganisms for patent application procedures. This comparison is helpful in order to analyze the urgency of deposit microorganisms for patent biotechnology protection in Indonesia, and the urgency of the ratification of the Budapest Treaty. From this explanation, it can be known clearly and comprehensively whether the patent biotechnology in Indonesia were compatible or not to the international legal instruments and its legal enactment for patent application procedures.

III. Results and Discussions

III.1 Deposit Microorganism for Patent Biotechnology Protection

A. Biotechnology Invention Patents

Biotechnology is one of the areas that solves the problems surrounding human life, especially related to basic needs, namely food and health issues. There is even a presumption that biotechnology products dominate humankind's future, such as discovering DNA technology (deoxyribonucleic acid) recombinant scientist's ability to utilizing the raw material, especially gene.[10] This technology gives hope of improving existing processes and products. It is also expected to develop new products at all, which were previously thought to be impossible to make and facilitate the fixation of other new processes.[11] Modern biotechnology is applying science and principles of molecular biology, microbiology, bionomic, and genetics which are generally characterized by processing—using

[7] M. Ahkam Subroto & Suprapedi, *Eksplorasi Konsep Kekayaan Intelektual untuk Penumbuhan Inovasi*, Jakarta: LIPI Press, 2005, 108.

[8] Christine Greenhalgh & Mark Rogers, Innovation, Intellectual Property, and Economic Growth, Princeton University Press, 2010, https://doi.org/10.2307/j.ctt1zgwjjb.

[9] Sidharta BA. *Refleksi Tentang Struktur Ilmu Hukum: Sebuah Penelitian Tentang Fondasi Kefilsafatan Dan Sifat Keilmuan Ilmu Hukum Sebagai Landasan Pembangunan Ilmu Hukum Nasional Indonesia*. Bandung: Mandar Maju (2009).

[10] Wildan Yatim, *Kata Pengantar*, in Revolusi Bioteknologi Xi, Terj. Wildan Yatim, Jakarta: Yayasan Obor Indonesia (dalam Jean L. Marx ed., 1991).

[11] Sardjoko, *Bioteknologi: Latar Belakang dan Beberapa Penerapannya*, Jakarta: PT Gramedia Pustaka Utama, 1991, 3.

biological materials or changing biological materials by using biological agents.[12]

The Organization for Economic Cooperation and Development (OECD) states that such conditions, where there is a significant contribution of biotechnology to the economy, are bioeconomics.[13] One of the driving factors of bioeconomics is IPRs protection.[14] IPRs are an incentive for scientists or researchers to continue innovating to bring about inventions, especially biotechnology. In general, the form of IPRs protection against inventions in biotechnology patents.[15] Biotechnology invention patents include biotechnology products, e.g. seeds, medicines, and others; methods and processes related to the utilization of biological matter, such as fermentation methods, pest control methods, and other biological matter, such as enzymes, microbes, and DNA molecules.[16]

B. Defining the Budapest Treaty

1) Implications of Microorganism Depository

The implication of the provision for the depository of Microorganism for patent application procedures for member states of the Budapest Treaty is that member states must apply to IDA. Each member state recognizes that each Microorganism depository in one of the IDA implies the sufficient to be carried out on one of the IDA only, as stipulated in Article 3 (1) (a), as it is also stipulated in Article 9 (1).

2) International Depository Authority (IDA)

Regarding the international depository authorities (IDA) arrangement, the Budapest Treaty stipulates that IDA is located in a member state where it is intended to determine the status qualification of the IDA, as stipulated in Article 6 (1). The legal status of the IDA is that it can be a government institution or a private institution.[17] IDA institutional status is a research institution (scientific institution) in the form of a culture collection. To obtain IDA status, an IDA Microorganism depository agency, the way taken is by submission by member states where the microorganism samples institution is located, based on a WIPO letter.[18] While the contents of the submission letter are as follows:[19]

a. Name and address of the proposed depository agency;

b. Detailed information about the capacity of the microorganism samples depository institution, including legal status, scientific standing, as well as staff and facilities, owned;

c. Types of Microorganism samples received for a deposit, or for example, only certain types received;

d. The nominal amount of fees for storing the microorganism samples;

e. The official language used by the microorganism depository agency;

---

[12] Michael Blakeney, "Patent Law and Modern Biotechnology", *European Intellectual Property Review, Vol. 20, No. 3,* 120 (1998).

[13] OECD, *The Bioeconomy to 2030: Designing A Policy Agenda*, Paris: OECD, 22 (2009).

[14] OECD, 152.

[15] Silke Von Lewinski, Indigenous Heritages and Intellectual Property: Genetic Resources, Traditional Knowledge and Folklore, The Netherlands: Kluwer Law International 191 (2ed. 2008). Luigi Palombi, Gene Cartels: Biotech Patents in The Age of Free Trade, Cheltenham, UK: Edward Elgar Publishing Limited 205-206 (2009).

[16] T.V.S. Ramamohan Rao, "Biotechnology Inventions and The Patent Regime", *Asian Biotechnology and Development Review, Vol. 9, No. 2*, 112 (2007).

[17] *Regulations under the Budapest Treaty on the International Recognition of the Deposit of Microorganisms for Patent Procedure*, (Adopted on 28 April 1977 and amended on 20 January 1981 and 1 October 2002) WIPO, https://www.wipo.int/edocs/lexdocs/treaties/en/budapest/trt_budapest_003en.pdf.

[18] WIPO, Article 7 (1).

[19] Regulations, Rule 2.1 (b).

f. The effective date of the status of the Microorganisms samples depository institution as IDA.

As for the obligations of an IDA, it is as follows:[20]

a. Permanent;

b. Have staff and facilities to support performance, both scientific and administrative;

c. Impartial and objective;

d. Receive the depository of the Microorganisms samples by the depositor based on the same requirements;

e. Receiving various types of microorganism samples, testing the viability and storing Microorganism;

f. Provide receipts and viability statements to depositors as evidence of the depository of Microorganism;

g. In terms of maintaining the sustainability of the samples, IDA must comply with confidentiality requirements;

h. Provide samples from each Microorganisms samples stored based on requirements and under established procedures.

Regarding the technical aspects of the depository implementation, an IDA is also obliged to keep the stored Microorganism in viable condition and not be contaminated with things that interfere with the Microorganism stored quality. [21] Therefore, IDA must have adequate facilities to allow Microorganism's depository to be carried out adequately to minimize the risk of damage and loss of stored Microorganism collection.[22]

Suppose IDA is unable to carry out its capacity as mentioned above. In case the member state in the IDA is located, may submit a written request to WIPO regarding the termination status as an IDA or restriction of the type of Microorganism that can be stored.[23] The substance of the request is as follows:[24]

a. IDA name and address;

b. If it is related to restrictions on the type of Microorganism, it is mandatory to mention the type of Microorganisms samples in question; and

c. Details of the facts behind and used as the reason for the request.

Whereas in the case of termination of IDA status (terminate), an IDA is obliged to perform assurances furnished action against the deposited Microorganism.[25] The guarantee action is in the form of:[26]

a. Ensuring that samples of Microorganism are transferred or transferred immediately to other IDA taking into account the principle of prudence so as not to be contaminated;

[20] WIPO, Article 6 (2).
[21] WIPO, Rule 2.2 (i).
[22] WIPO, Rule 2.2 (ii).
[23] WIPO, Article 8 (1) (a).
[24] WIPO, Rule 4.1 (b).
[25] WIPO, Article 6 (1)
[26] WIPO, Rule 5 (a).

b. Ensure that all correspondence or correspondence and documents regarding the information relating to the depository of the Microorganisms samples in question are transferred or transferred promptly to the replacement IDA, taking into account the principle of prudence;

c. Ensure that the IDA concerned informs all depositors of the consequences of termination of their status as IDA and the transfer process;

d. Notify WIPO immediately of termination of IDA status and the result of the transfer process.

3) Procedures for Microorganism Depository

The depository of the Microorganisms samples submitted by the depositor to IDA, based on a written statement in the form of a written statement containing scientific descriptions and/or descriptions that determine the kinship based on the genes of the body of the Microorganism concerned, signed by the depositor containing the following:[27]

a. The description that the depository of the Microorganism is carried out under the Budapest Treaty and cannot be withdrawn taking into account the provisions in Rule 9.1 regarding the retention period of the Microorganism;

b. Name and address of depositor;

c. Information on the way of treatment, including development, the Microorganisms samples to be stored/deposited, description of the components of the Microorganisms samples and the method of testing the Microorganisms samples, which is related to the process of testing the Microorganism (viability test);

d. Identification reference, namely symbols or identity numbers given by the depositor to the Microorganism; and

e. Information on the risks or dangers of Microorganism samples for the environment or health.

In the case of Microorganisms samples depository, IDA imposes requirements that depositors, namely as follows, must meet:[28]

a. Microorganism to be deposited based on and intended by the provisions of the Budapest Treaty;

b. Meets administrative requirements regulated by the relevant Microorganisms samples depository authority;

c. A written statement of depositor related to the depository of the Microorganisms samples is made in the official language used by the authority of the Microorganisms samples;

d. Paying the cost of storing the Microorganisms samples; and

e. Agree with the Microorganisms samples authority regarding the parties' rights and obligations, and responsibilities related to the Microorganism depository.

The procedure of receiving the Microorganism, IDA has the authority to refuse the Microorganism to be stored, in the case:[29]

a. The Microorganisms samples are not one of the types that the IDA can store;

[27] WIPO, Rule 6.1.
[28] WIPO, Rule 6.3 (a).
[29] WIPO, Rule 6.4.

b. Microorganisms samples are an exception because it cannot be stored in the IDA, although the type of microorganisms samples is included in the list of depository in the IDA, for example, there is a manipulation of the genes of the Microorganisms samples which then results in IDA not being able to provide the treatment (cultivate) that should be;

c. When the Microorganisms samples are damaged, caused by contamination or partially lost in the delivery process.

After fulfilling the admission procedure requirements, the depositor keeps/deposits the relevant Microorganism to the IDA. The depositor receives a receipt as valid proof that the depositor keeps the Microorganism at the IDA.[30] While the receipt at least contains the following:[31]

a. IDA name and address;

b. Name and address of depositor;

c. Date of a depository of the Microorganisms samples;

d. Reference identification, namely the number or symbol of the identity of the Microorganisms samples given by the depositor;

e. Accession number provided by IDA; and

f. The scientific description and/or description determine kinship based on the Microorganisms samples' genes (taxonomic).

The depository of the Microorganism lasts for 30 years and maintains the stored samples with a treatment that allows being uncontaminated and viable as stipulated in Rule 9.1 Regulations. In order to store the Microorganism, there are provisions for the confidentiality of the information stored. The provisions are stipulated in Rule 9.2.

When the Microorganism depository was carried out, IDA conducted a viability test and stated the viability of the stored Microorganism.[32] There are three possibilities for viability test implementation, among others:[33]

a. At the moment as soon as the Microorganisms samples are deposited; Or

b. Sometime after receipt deposit of the Microorganisms samples depends on the type of microorganisms samples and the condition depository of the Microorganisms samples, or also for technical reasons; Or

c. At any time, upon request of the depositor.

While the viability statement is issued by IDA at the time, among others:[34]

a. For depositors, at the moment, as soon as the Microorganism is deposited;

b. For depositors, upon request, after depositing;

c. The patent office, or authority, or individuals or legal entities other than the depositor, interested in the Microorganism, i.e. at the parties' request, is deposited after the Microorganism.

[30] WIPO, Rule 7.1.
[31] WIPO, Rule 7.3.
[32] WIPO, Rule 10.
[33] WIPO, Rule 10.1.
[34] WIPO, Rule 10.2 (a).

Viability statement is a form of IDA statement when the Microorganism is still or is not viable, which contains the following:[35]

a. The name and address of the IDA that made the statement;

b. Name and address of the depositor;

c. The time/date of the deposit of the Microorganism;

d. Accession number provided by IDA;

e. Time/date of viability test implementation; and

f. Information on viability test results.

Examples of how to store Microorganism can be seen in the figure 1 below:

Another provision related to the procedures for storing samples is the provision of examples of Microorganism.[36] IDA may provide examples of Microorganisms to the patent offices of member states of the Budapest Treaty at the request of the patent office, which is fulfilling the request is accompanied by a statement from IDA, as follows:[37]

a. A patent application related to the example of the Microorganisms samples in question has been requested to the patent office;

b. The patent application is still in the process to be granted at the patent office;

c. Examples of such Microorganism are required to fulfil patent procedures in treaty member states; and

d. Examples of Microorganism and information related to or produced based on the Microorganism depository mechanism in question, only used solely to fulfil the patent application procedure.

Example of a Microorganism permit addressed to the depositor upon his request is conducted to approve the depositor.[38] IDA may also provide examples of Microorganism to the authority. A legal person (the certified party), at the request of one of these parties, can be done with the Patent Office's written consent that permits the issuance of such samples from IDA.[39]

[35] WIPO, Rule 10.2 (b).
[36] WIPO, Article 6 (2) (viii).
[37] WIPO, Rule 11.1.
[38] WIPO, Rule 11.2.
[39] WIPO, Rule 11.3.

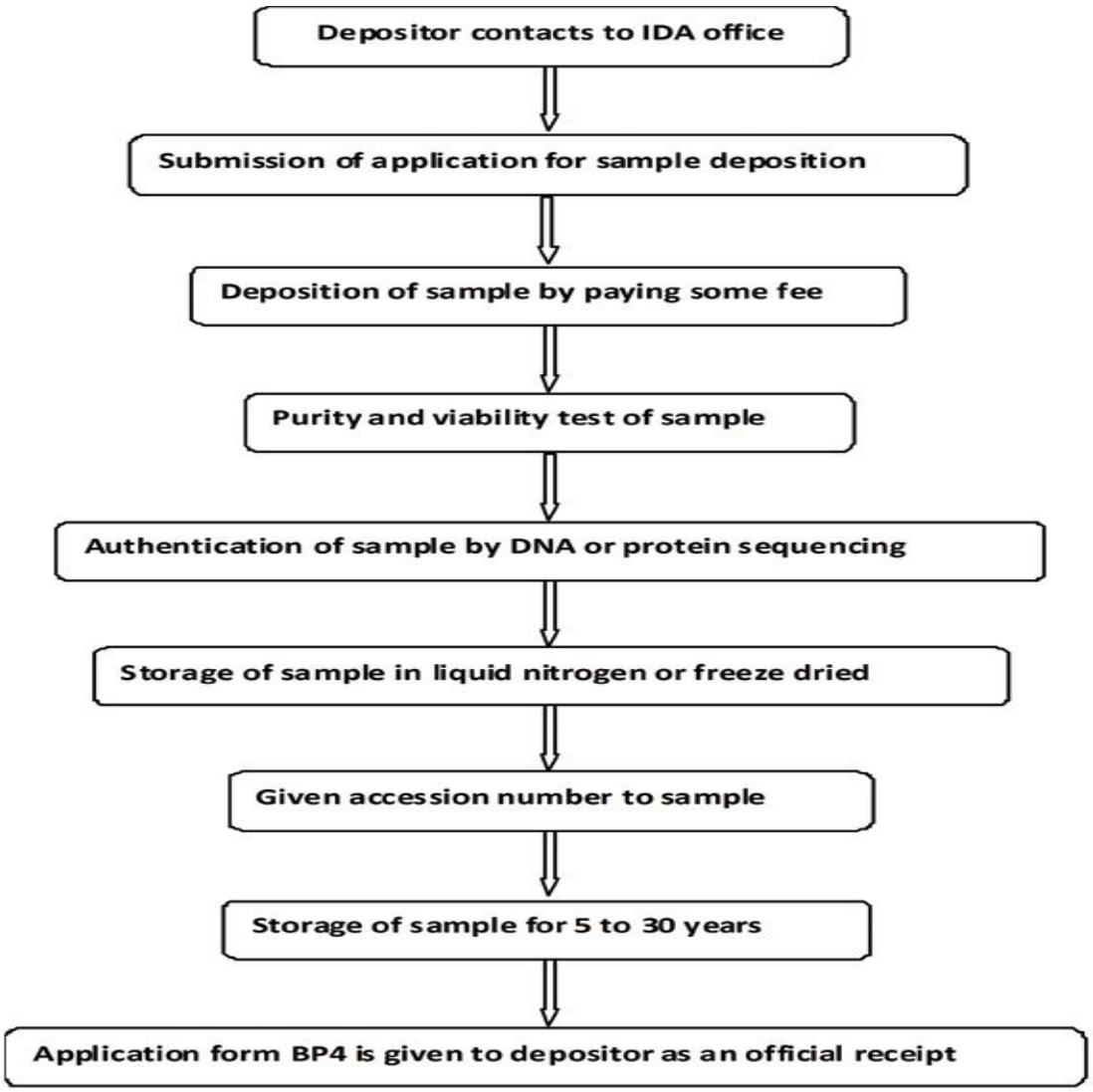

Figure 1. Process Flow/Procedure for Depository of Microorganism[40]

Regarding the costs that must be incurred by the genetic resources (GRs) depositor related to the procedure of Microorganism storing the remains, among others include:[41]

a. Depository costs;

b. Deposit attestation fee;

c. The cost of stating the vision ability of the Microorganism;

d. The cost of providing examples of Microorganism; and

e. The cost of conveying information.

The depository fee is paid once for 30 years of the depository.[42] The amount or nominal costs incurred should not vary from IDA to each other in member countries.[43] For any plan to change these costs to IDA, member state, or intergovernmental industrial property organization[44] The depositor

[40] Abhishek Parashar, *International Depository Authority and its Role in Microorganism's Deposition*, Journal of Clinical and Diagnostic Research, Vol-11(8): DE01-DE06 (2017). DOI: 10.7860/JCDR/2017/29077.10408.
[41] WIPO, Rule 12.1 (a).
[42] WIPO, Rule 12.1 (b).
[43] WIPO, Rule 12.1 (c).
[44] WIPO, Article 9 (1).

obliged to submit a notice in advance in which the notice contains information about the planned time/date of the new tariff.[45]

4) Membership Procedures

The requirement to become a member of the Budapest Treaty is that the country is a member of the Paris Convention.[46]. The country signed the Treaty and deposited the ratification instrument. If it is not signed, it can also be done by depositing the instrument of treaty accession. Both instrument ratification and accession were deposited to the Director-General of WIPO.[47]

III.2 The Urgency of Storing Microorganism for Patent Application Procedures in Biotechnology in Indonesia

The interconnection between the Budapest Treaty provisions and the patent in Indonesia is that there are arrangements regarding patent application procedures. Article 5, Article 25, Article 26, and Article 45 of PERMENKUMHAM No. 38 Year 2018 concerning Patent Applications, governing the documents of patent requests/requests about new creatures and/or patents related to the use of new creatures. In this regulation, the term ' Microorganism ' is referred to as a new creature.

Regarding the patent biotechnology application procedures, the advantage implication arising from the Budapest Treaty's existence is that Microorganism's depository can be done at one of the IDA is one of the contracting parties only aimed at simplifying patent procedure application and minimizing the costs that the applicant must incur. The uniformity of the rules and procedures of storing the Microorganism in the world so that there are standard standards in applying such mechanisms and reducing the environmental risk or biosafety risk associated with a Microorganisms samples' efficacy.[48]

About the patent application procedure, the existence of a Microorganisms samples depository mechanism under the Budapest Treaty has fulfilled three essential elements in the framework of the patent application, namely:[49]

1. Identify patent applications related to the culture of a specific Microorganism, which is reproducible, and necessary for the implementation of inventions;
2. Managing and maintaining the existence of Microorganism samples in IDA depository where the sample is recognized as a fingerprinted identity for patent application; and
3. Allow the public to access the Microorganism according to the specified time.

Although a Microorganism depository mechanism under the Budapest Treaty provisions has positive implications for fulfilling the patent application procedure for the remains, some problems are critical of this mechanism. *First*, the Budapest Treaty does not clearly explain the notion of 'Microorganism', thus causing the vagueness of anything that includes 'Microorganism'. Which implies vagueness in the determination of types of 'Microorganism' that can be patented and give the impression of any living being, including human and animal genes, can also be patented.[50]

---

[45] WIPO, Rule 12.2.

[46] Keputusan Presiden No. 15 Tahun 1997 Tentang Perubahan Keputusan Presiden Nomor 24 Tahun 1979 Tentang Pengesahan Paris Convention for The Protection of Industrial Property Dan Convention Establishing the World Intellectual Property Organization.

[47] Keputusan Presiden No. 15 Tahun 1997, Article 15.

[48] WIPO.

[49] Akim F. Czmus, *"Biotechnology Protection in Japan, the European Community, and the United States*, 8 Temp. Int'l & Comp. L.J. 435 (1994).

[50] Silvia Rodríguez Cervantes, 'CAFTA and the Peace Research Institute, SIPRI Background Paper (2009). Budapest Treaty: The Debate in Costa Rica', GRAIN, Seedling, January 2008, pp. 33-37., Accessed on 15 January 2021.

However, recent biotechnology developments show that the understanding of 'microorganism' includes several types, such as bacteria, fungi, viruses, and microalgae. Therefore, the vagueness notion of 'microorganism' solved by a clear division of the scope variety of these types.[51]

Second, there is criticism of the obligation to comply with the provisions of the Microorganism depository mechanism made before filing a patent application is the same as the initial publication before the date of receipt to be vulnerable to cause patent infringement by interested parties. The nature of the Microorganism material that can be propagation or replicated is considered very easy to infringe (biopiracy) by other parties. So it seems that this mechanism even facilitates microbiological material by irresponsible parties.[52] However, The Budapest Treaty also has clear rules regarding the mechanism of access to the Microorganism deposit that allows the depositor to know the whereabouts. The parties were accessing their samples and authorizing the access rights with the owner's approval (depositor), so it will be difficult for other parties to access it without the depositor's knowledge. [53]

Third, applying the Microorganism depository mechanism also lies in the cost of storing the Microorganism that can incriminate the patent applicants. The cost of a patent application that has been relatively large will be increased by the provision of additional costs for the depository of Microorganism, mainly is carried out in IDA whose locations is outside the applicant's country.[54] However, the cost incurred is not as high as the applicant's cost to reproduce microbiological material for the specification of application documents (written specification), requiring further research efforts that are complex and cost more.[55] What is more, depository payments are only made once for 30 (thirty) years of a depository.[56]

III.3 The Budapest Treaty's ratification on the Depository Microorganism for the Protection of Biotechnology Patents in Indonesia

A. Budapest Treaty Ratification Issues

Concerning the Budapest treaty ratification issue, in Indonesia, there has been a series of discussions and technical consultations with WIPO regarding the possible ratification plan and about the benefits that Indonesia can obtain if the international agreement is later ratified. However, until the present time, the Government of Indonesia has not ratified the International Treaty.

It is a condition in which there are two patent applications for an invention which is one another. There are similarities between the more recent invention and the existing invention (prior art), which is known by proving the similarities in the claims of each invention submitted by the patent application. Suppose it is later known that the invention that was previously filed or has existed has similar claims with the invention submitted (junior patent). In that case, the patent application for the invention becomes invalid or can not be granted patent protection. There are two forms of 'Double Patenting', first, "the same invention double patenting", namely junior patent invention claims, have identical similarities that are substantive (substantially identical) in terms of scope that has been submitted by the inventor/applicant before. Second, "obviousness-type double patenting', i.e. junior patent invention claims, do not have substantially identical, but there are variations that are the same (apparent variation)

---

[51] Edward Farrington, *Katrin Lindberg Dahlin dan Ulf Inger, "If in Doubt, Deposit"*, 95 Managing Intellectual Property, No. 180 (2008).

[52] Brandi L. Wickline, *"The Impact of the Deposit Requirement for Patenting Biotechnology: Present Concerns, Proposed Solutions"*, 24 Vand. J. Transnat'l L. 793 (1991).

[53] David J. Weitz, *"The Biological Deposit Requirement: A Means of Assuring Adequate Disclosure"*, 8 High Tech. L.J. 275 (1993).

[54] John Edward Schneider, *"Microorganisms and the Patent Office: To Deposit or Not to Deposit, that is The Question"*, 52 Fordham Law Review, Issue 4 (1984).

[55] David J. Weitz.

[56] Ibid.

with a prior art.[57]

Meanwhile, concerning GRs protection efforts, the existence of IDA and the application of microorganisms samples depository obligations can be used to provide information. There can be useful information about the collection of Microorganism related to GRs conservation that can be accessed from all over the world. This accessibility is useful for information tracing and knowing that the microorganisms samples belong to a domestic inventor, as evidenced by the accession number and ownership of the IDA certificate, to prevent claims by foreign parties.[58]

B. Intertwined to The Protection of Genetic Resources

As previously described, the existence of IDA and the mechanism of storing Microorganism can be used to protect the GRs from conservation issues. Based on the results of a study conducted by Swaranjit Singh Cameotra, the existence of an IDA can be used as a means of ex-situ conservation and preservation (maintenance) of chronic Microorganism because, in general, IDA is a culture collection that can store Microorganism.[59]

Meanwhile, according to David Smith, culture collection has a crucial role in ex-situ conservation and preservation of Microorganism, particularly and the GRs in general. Its existence plays a role in maintaining the authenticity of biological and microbiological collections that support quality research and the provider of Microorganism. Both for the use of research and educational purposes and industrial purposes, as mandated by the United Nations Convention on Biological Diversity (CBD).[60]

About GRs protection issues, there are three objectives of the CBD[61], namely:[62]

(1) Biodiversity conservation;

(2) Sustainable utilization of biodiversity components; and

(3) The distribution of profits or benefits resulting from the utilization of the GRs fairly and evenly.

Concerning ex-situ conservation and GRs utilization, there are several essential requirements in the CBD, which include regulating the following:[63]

(1) Identification and monitoring of biodiversity (Article 7);

(2) Ex-situ conservation, including Microorganism, especially in the country of origin of GRs sources (Article 9);

(3) Establish and maintain scientific and technical education and training programs for the identification, conservation and sustainable utilization of biodiversity for the specific needs of developing countries (Article 12 a);

(4) Improving and advancing research that contributes to the conservation and sustainable utilization of biodiversity, particularly in developing countries (Article 12 b);

---

[57] Alan L. Durham, *Patent Law Essentials: A Concise Guide*, 129 (2018).
[58] Alan L. Durham, 133.
[59] Swaranjit Singh Cameotra, *"Preservation of Microorganisms as Deposits for Patent Application",* 353 Biochemical and Biophysical Research Communications (2007).
[60] David Smith, *"Culture Collections Over the World"*, 6 International Microbiology (2003).
[61] Undang Undang No. 5 Tahun 1994 Tentang Pengesahan United Nations Convention on Biological Diversity (Konvensi Perserikatan Bangsa Bangsa Mengenai Keanekaragaman Hayati).
[62] Undang Undang No. 5 Tahun 1994 Article 1.
[63] S. Sekar dan D. Kandavel, *"Patenting Microorganisms: Towards Creating a Policy Framework"*, 7 Journal of Intellectual Property Rights (2002).

(5) Access to the GRs, and recognition of sovereign rights of their natural resources, and the authority to determine GRs access lies with the national government based on its national laws (Article 15);

(6) Access to technology and technology transfer, i.e. providing and/or creating access to and transfer of technologies by the conservation and sustainable utilization of the GRs with fair and most favorable requirements (Article 16);

(7) Exchange of information which includes technical and scientific research results related to the conservation and sustainable utilization of the GRs in order to facilitate the flow of information from all available sources and their availability to the public;

(8) Technical and scientific cooperation in the field of conservation and sustainable utilization of GRs; and

(9) Biotechnology handling and benefit-sharing (Article 19).

After the enactment of CBD, there is also a protocol governing GRs access. The Protocol is titled "Nagoya Protocol on Access to Genetic Resources and The Fair and Equitable Sharing of Benefits Arising from Their Utilization to The Convention on Biological Diversity" (Nagoya Protocol).[64] In Nagoya Protocol, there are arrangements regarding institutions designated by the government regulating GRs access, named Competent National Authority (CNAs).[65] CNAs are responsible for granting users GRs access permissions and Traditional Knowledge related to the GRs.[66] The CNAs issue is written evidence that access requirements have been met and are responsible for providing advice on procedures and requirements for obtaining Prior Information Consent (PADIA)[67] and enter into Mutually Agreed Terms (MAT)[68].[69]

Related to implementing GRs access arrangements, institutions play a vital role in the achievement of the Nagoya Protocol's objectives. Institutional arrangements are outlined in the Nagoya Protocol regarding capacity building. Capacity is one of the Protocol's core benefits, where the parties must work together to build and strengthen human resources and institutional capacity. Some efforts to realize these rights include the National Focal Points (NFPs)[70]CNAs, Clearing House, and Checkpoints. The Ministry of Environment proposes institutions that will be related to the implementation of access and distribution of GRs benefits as the table below:[71]

Meanwhile, the implementation of GRs access and benefit development activities, CBD provides an example of the flow activities to the GRs and the profit-sharing utilization, as described in figure 2:[72]

C. Microorganism Depository Authority

1) Biological Resource Center Role

[64] United Nation, Nagoya Protocol On Access To Genetic Resources And The Fair And Equitable Sharing Of Benefits Arising From Their Utilization To The Convention On Biological Diversity (2011). ISBN: 92-9225-306-9, https://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf.

[65] United Nations Article 13.

[66] Ibid.

[67] Achirul Nditasari, et.al., *Paket Informasi Keanekaragaman Hayati: Seri Sumber Daya Genetik*, Jakarta: Kementerian Lingkungan Hidup, 20 (2011).

[68] Ibid

[69] Ibid, United Nation, supra note 65.

[70] Achirul Nditasari, *et.al.*, 14.

[71] Ministry of Environment of Republic of Indonesia, *"Presentation of Deputy III of the Ministry of Environment concerning Biodiversity and Climate Change"*, Jakarta (2012).

[72] Awareness-raising material on ABS, https://www.cbd.int/abs/awareness-raising/, accessed on 16 February 2021.

The lack of authority to store and IDA facilities, based on studies conducted by Soundarapandian Sekar and Dhandayuthapani Kandavel found that the existence of IDA should be expanded or transformed into a Biological Resource Center (BRC). The future demands regarding Microorganism's depository are not limited to fulfilling patent application procedures and GRs preservation and conservation functions for sustainable utilization of GRs. More than that, the existence of BRC is also not only limited to the preservation and conservation of mere Microorganism but also includes other types of GRs, including animals and plants. Thus, there is a paradigm shift in looking at GRs' depository mechanism, especially for patent purposes. The fulfillment of the patent application procedure is not the only background for Microorganism's depository of the remains.

The BRC has several functions and plays an important role, both for commercial or industrial purposes, technological science development, and biodiversity conservation, as follows:[73]

a. Access to biological resources for scientific and industrial research and development purposes still obtain for primary purposes regarding preservation and regulation. The BRC provides essential infrastructure functions for research and development purposes, for example, by providing laboratory facilities. BRC is also a source of biological information and materials that are essential for industrial purposes;

b. Access to biological resources for scientific and industrial research and development purposes still obtain for primary purposes regarding preservation and regulation. The BRC provides essential infrastructure functions for research and development purposes, for example, by providing laboratory facilities. BRC is also a source of biological information and materials that are essential for industrial purposes;

c. Implementation of research and development of biological resources. In this case, BRC has a function to identify, characterize and preserve biological resources with the ultimate goal is the creation of research and development results that are beneficial for human life;

d. Biodiversity conservation. Carry out ex-situ conservation of biodiversity, as well as sustainable use as mandated by CBD provisions;

e. Provide depository facilities (repositories) of biological resources for IPRs protection. Within the BRC scope, there is also an IDA facility for patent application procedures as stipulated by the Budapest Treaty and

f. Public resources and policy formulation on biological resources. BRC serves to disseminate information on the importance of biodiversity conservation to the public and as a strategic institution that provides input to the government and industry on biodiversity management.

[73] OECD 2001, 13-15.

Table 1. Institutional Proposals from the Ministry of Environment

Name	**Function**	**Authorised Institutions/Designated Institutions**
National Focal Point	• Provider of information to obtain PIC and build MAT • Acting as a liaison with the CBD Secretariat	Since the 1992 Earth Summit, ratification of CBD 1994 and COP to 2 CBD 1995 à Ministry of Environment
Competent National Authority	Grant wrote access permissions by the requirements and assistance to obtain PIC and MAT.	Sectors that manage resources directly, such as Ministry of Forestry, Ministry of Marine Affairs and Fisheries, Ministry of Agriculture, Indonesian Institute of Sciences
Clearinghouse	Exchange of information and databases	Will be determined by mutual agreement.
Checkpoints	• Examination of GRs and documents on the suitability • Monitoring	Quarantine function (combined quarantine + immigration + conservation) a Ministry of Agriculture, Ministry of Forestry, Ministry of Marine Affairs and Fisheries • IPRs Office • Customs • College (ethic clearance for the researcher)
Scientific authority*	Provide scientific considerations	Indonesian Institute of Sciences/ Ministry of Research and Technology

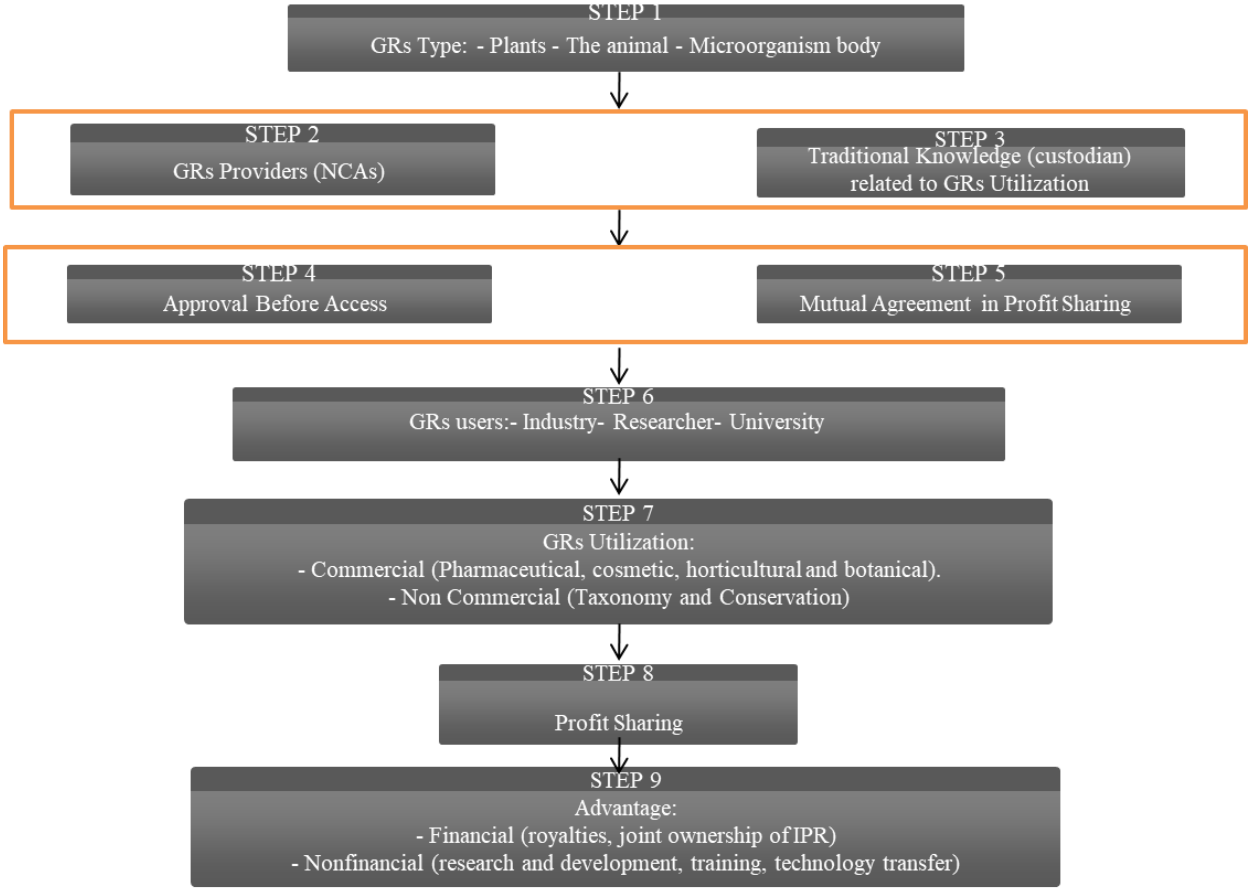

Figure 2. Flowchart of Access Activities to GRs and Profit Sharing from Their Utilization (Authors Interpretation)

Indonesia has the most extensive biodiversity globally (mega biodiversity country). Biodiversity is the only source of the genetic material needed to develop biotechnology. Therefore, real steps are needed to make use of it sustainably.[74] However, until now, Indonesia does not have a BRC.[75] Meanwhile, 22 (twenty-two) culture collections in Indonesia conduct scientific activities related to Microorganism. Based on the latest data in 2021 compiled by the World Federation of Culture Collections.[76]

A BRC or Microbial Biological Resource Centers (MBRC) requires government support in terms of institutional status. Even in many countries with BRC, the BRC institutional system is within the scope of government or national institutions.[77] About the existence of the Indonesian Culture Collection (InaCC), it is necessary to establish its legal basis as an institution or authority that handles the depository and access to the GRs. The legal basis for the establishment and ratification of the institution is at least the level in Presidential Regulation. With this institutional, then in the future, two things can be sought solution problems, namely the problem of fulfilling the procedure of applying for patents microorganism and GRs protection.

[74] Lukman Hakim dan Endang Sukara, *"Indonesian Biodiversity and Biotechnology: LIPI Update"*, 13 Widyariset -- Edisi Ilmu Pengetahuan Sosial, No. 1, 131 (2010). Endang Sukara dan Imran S.L. Tobing, *"Industri Berbasis Keanekaragaman Hayati"*, 1 Vis Vitalis, No. 2 (2008).

[75] Ibnu Maryanto, et.al. (Eds.), *Bioresources untuk Pembangunan Ekonomi Hijau*, Jakarta: LIPI Press, 2013, xviii.

[76] World Federation for Culture Collection - World Data Center for Microorganism, http://www.wfcc.info/ccinfo/collection/col_by_country/i/62/, accessed on 16 February 2021.

[77] OECD 2001, 41.

2) Institutional Governance

As previously stated, an institution or authority is required in terms of the depository and access of Microorganism in Indonesia. An institution needs good institutional or organizational governance to achieve its objectives and carry out institutional activities legally and targeted.[78] In terms of institutional governance, the standard used in making the SOP refers to the OECD's standards on BRC governance.[79]

About the existence of governance standards issued by the OECD, in addition to BRC management standards, on the other hand, Budapest Treaty rules are governing the procedures for the depository of Microorganism to fulfill patent procedures. These two things are not contradictory and are complementary or complementary.[80] Institutionally, there are differences between the two, the BRC, related to the GRs' management in general. Simultaneously, the IDA under the Budapest Treaty is limited to the scope of depository for patent application procedures. One example that can be used as a comparison material is the BRC in Japan. In Japan, the existence of BRC is in the National Institute of Technology and Evaluation (NITE). At the same time, NITE organization has NITE BRC (NBRC) and patent depository named NITE (Patent Microorganisms Depository NPMD). These two facilities are in the same institution, and there are no problems because the linkup work, objectives, and main tasks are different functions.[81]

The guidelines issued by the OECD outline the following:[82]

a. Regarding organizational requirements related to the period of institutions that are permanent or long-term sustainability, management procedures, staff qualifications and capacity building of staff, as well as aspects of health and safety (biosafety) of depository facilities;

b. Use, calibration, testing and maintenance of facility equipment;

c. Management of documentation related to the GRs materials;

d. Access to deposits, problems receiving and handling GRs materials, procedures for accessing, and the improvement of deposit quality;

e. Preservation of deposits; and

f. Audit the quality of agency management.

Furthermore, the issue of access and utilization of Microorganism, and consideration Indonesia shortly ratified the Nagoya Protocol. The mechanism of access and utilization of the Microorganism refers to the provisions of the mechanisms stipulated in the Nagoya Protocol, as illustrated in the figure 3 below:[83]

[78] Richard N. Langlois and Nicolai J. Foss, "Capabilities and Governance the Rebirth of Production in the Theory of Economic Organization", Economics Working Papers. Paper 199602, 1996. http://digitalcommons.uconn.edu/econ_wpaper s/199602.

[79] OECD 2001.

[80] OECD 2001, 55-56.

[81] National Institute of Technology and Evaluation (2016) https://www.nite.go.jp/data/000081573.pdf

[82] OECD, *Best Practice Guidelines for Biological Resource Centres*, Paris: 2007.

[83] Puspita Lisdiyanti, *"Microbial Diversity and its Access and Benefit Sharing",* presentasi yang disampaikan pada International Conference on Biotechnology, Bogor 13-14 Nov. 2012.

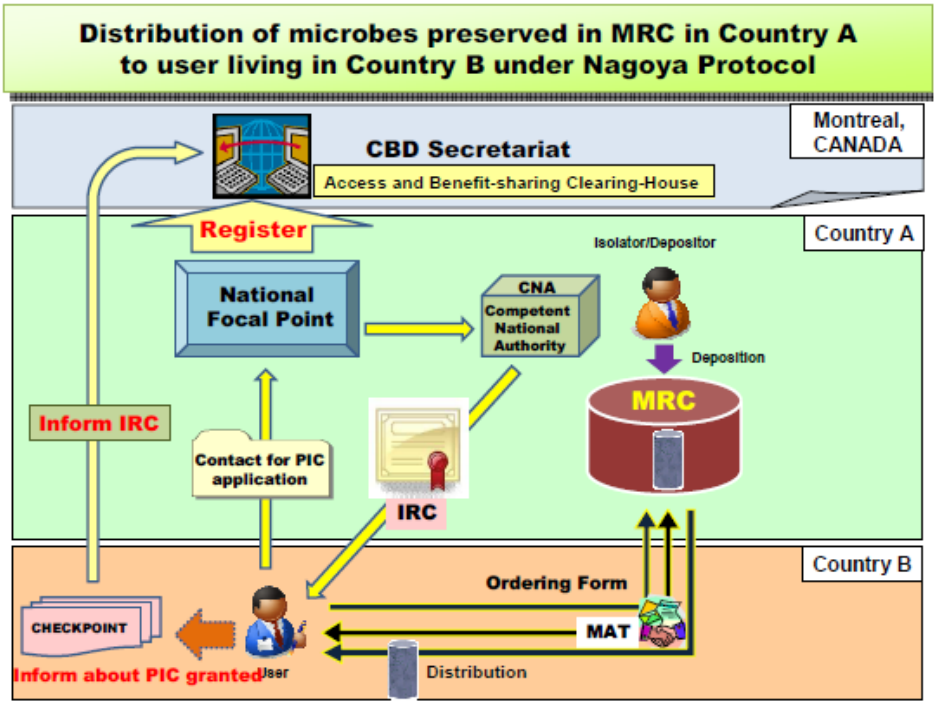

Figure 3. The Activities of Access Mechanism and Utilization of Microorganism According to Nagoya Protocol[84]

Concerning the management of BRC institutions, another vital thing that should get attention is financial management or funding. According to the OECD, a BRC obtains funding support from the following:[85]

a. Government funding;

b. Private/industry funding support;

c. Private industrial support for internal restricted BRC;

d. Funding support from foundations, both private and public;

e. Public fundraising;

f. Sales of GRs materials and technical materials;

g. Payment for consulting services or technical advice from experts;

h. Results obtained from research activities (research income, e.g. grants or contracts);

i. Material depository costs, whether for academic or research purposes or patent application procedures; and

j. The cost of procuring technical courses.

IV. Conclusion

Based on the previously stated description, it is known that the existence of a depository Microorganism mechanism is urgent because it is not only useful as patent protection and fulfilment of patent registration procedures but also in the framework of protecting genetic resources. With a depository mechanism supported by international standard facilities, the collection of genetic resources

[84] United Nation.
[85] OECD 2001, 24-25.

used for patent purposes and the source of information. Due to its urgent nature, this mechanism's existence requires the support of 'legal infrastructure' using the ratification of the Budapest Treaty as a legal basis. The ratification of this international legal instrument also aims to be compatible with recent developments. The Indonesian government has also ratified the Nagoya Protocol, whose substance is a mechanism for protecting genetic resources.

In Indonesia, this condition is mostly related to the depository Microorganism regarding Budapest Treaty and Nagoya Protocols still experiencing developments, especially in national management through the utilization of research and development results. It is very closely related to the requirements that must be met and requires a strong commitment between actors involved in the fulfilment of national management of patent protection arising, especially in biotechnology. It takes several obligations that all stakeholders can provide inputs in all aspects needed to accelerate and improve the microorganism storage management system. Moreover, it takes one national conservation center to accommodate all valuable culture collection such as biological materials used in research, agriculture, industrial, pharmaceutical and other sectors.

Reference

Abhishek Parashar, International Depository Authority and its Role in Microorganism's Deposition, *Journal of Clinical and Diagnostic Research. Vol-11*(8): DE01-DE06 (2017). DOI: 10.7860/JCDR /2017/29077.10408.

Achirul Nditasari, et.al. Paket Informasi Keanekaragaman Hayati: Seri Sumber Daya Genetik, Jakarta: Kementerian Lingkungan Hidup, 20 (2011).

Akim F. Czmus, "Biotechnology Protection in Japan, the European Community, and the United States, 8 Temp. *Int'l & Comp. L.J.* 435, Fall 1994.

Atit Kanti, Muhammad Ilyas et al., Panduan Pengelolaan Koleksi Mikroorganisme Indonesian Culture Collection (2018), Jakarta: LIPI Press. Awareness-raising material on ABS, https://www.cbd.int /abs/awareness-raising/, Accessed on 16 February 2021.

Brandi L. Wickline, "The Impact of the Deposit Requirement for Patenting Biotechnology: Present Concerns, Proposed Solutions", *Vand. J. Transnat'l L*., Vol 24, 793 (1991).

Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure. *WIPO.* (2020).

Christine Greenhalgh dan Mark Rogers, Innovation, Intellectual Property, and Economic Growth, *Princeton University Press* (2010). https://doi.org/10.2307/j.ctt1zgwjjb.

David J. Weitz, "The Biological Deposit Requirement: A Means of Assuring Adequate Disclosure", *High Tech. L.J*. Vol 8, 275, (1993).

David Smith, "Culture Collections Over the World", I*nternational Microbiology, Vol. 6* (2003).

Debra K. Leith, "Biological Deposits Necessary for Patent Protection: An Expansion of Permissible Procedure—In Re Lundak, 773 F.2 D 1216, 227 U.S.P.Q. (BNA) 90 (FED.CIR.1985)", *Wash. L. Rev. Vol 61*, 1519, (1986).

Edward Farrington, Katrin Lindberg Dahlin dan Ulf Inger, "If in Doubt, Deposit", *Managing Intellectual Property, Vol. 95*, No. 180 (2008).

Helianti Hilman & Ahdiar Romadoni, Pengelolaan dan Perlindungan Aset Kekayaan Intelektual: Panduan Bagi Peneliti Bioteknologi, Jakarta: The British Council, 182 (2001).

lan L. Durham, *Patent Law Essentials: A Concise Guide,* 129 (2018).

Ibnu Maryanto, et.al. (Eds.), *Bioresources untuk Pembangunan Ekonomi Hijau*, Jakarta: LIPI Press, 2013, xviii.

John Edward Schneider, "Microorganisms and the Patent Office: To Deposit or Not to Deposit, that is The Question", *Fordham Law Review, Vol. 52,* Issue 4, 1984.

Keputusan Presiden No. 15 Tahun 1997 Tentang Perubahan Keputusan Presiden Nomor 24 Tahun 1979 Tentang Pengesahan Paris Convention for The Protection of Industrial Property Dan Convention Establishing the World Intellectual Property Organization.

Kulasooriya, S. A. The amazing world of microorganisms. Review Article. *Ceylon Journal of Science 48*(4): 303-310 (2019). DOI: http://doi.org/10.4038/cjs.v48i4.7669.

Luigi Palombi, *Gene Cartels: Biotech Patents in The Age of Free Trade*, Cheltenham, UK: Edward

Elgar Publishing Limited (2009).

Lukman Hakim & Endang Sukara, “Indonesian Biodiversity and Biotechnology: LIPI Update”, *Widyariset - Edisi Ilmu Pengetahuan Sosial, Vol. 13,* No. 1, 131 (2010).

Endang Sukara & Imran S.L. Tobing, “Industri Berbasis Keanekaragaman Hayati”, *Vis Vitalis, Vol. 1*, No. 2 (2008).

Michael Blakeney, "Patent Law and Modern Biotechnology", European Intellectual Property Review, Vol. 20, No. 3, 1998, 120.

Ministry of Environment of Republic of Indonesia, “Presentation of Deputy III of the Ministry of Environment concerning Biodiversity and Climate Change”, Jakarta, 2 May 2012.

Muhammad Ahkam Subroto & Suprapedi, *Eksplorasi Konsep Kekayaan Intelektual untuk Penumbuhan Inovasi*, Jakarta: LIPI Press, 2005, 108.

National Institute of Technology and Evaluation, 2016, https://www.nite.go.jp/data/000081573.pdf.

OECD, Biological Resource Centers: Underpinning The Future of Life Sciences and Biotechnology, Paris: OECD, 11 (2011).

OECD, Best Practice Guidelines for Biological Resource Centres, Paris: 2007.

OECD, The Bioeconomy to 2030: Designing A Policy Agenda, Paris: OECD, 2009, 22.

PERMENKUMHAM No. 38 Year 2018 Concerning Patent Applications. Puspita Lisdiyanti, “Microbial Diversity and its Access and Benefit Sharing”, presentasi yang disampaikan pada International Conference on Biotechnology, Bogor 13-14 November 2012.

Regulations under the Budapest Treaty on the International Recognition of theDeposit of Microorganisms for the Purposes of Patent Procedure (Adopted on 28 April 1977 and amended on 20 January 1981 and 1 October 2002) WIPO. https://www.wipo.int/edocs/lexdocs/treaties/en/budapest/trt_budapest_003en.pdf.

Richard N. Langlois and Nicolai J. Foss, “Capabilities and Governance the Rebirth of Production in the Theory of Economic Organization”, *Economics Working Papers*. Paper 199602 (1996). http://digitalcommons.uconn.edu/econ_wpaper s/199602.

Sardjoko, *Bioteknologi: Latar Belakang dan Beberapa Penerapannya*, Jakarta: PT Gramedia Pustaka Utama, 3 (1991).

Sidharta BA. Refleksi Tentang Struktur Ilmu Hukum: Sebuah Penelitian Tentang Fondasi Kefilsafatan Dan Sifat Keilmuan Ilmu Hukum Sebagai Landasan Pembangunan Ilmu Hukum Nasional Indonesia. Bandung: Mandar Maju (2009).

Silke Von Lewinski (Ed.), Indigenous Heritages and Intellectual Property: Genetic Resources, Traditional Knowledge and Folklore, *2nd Eds., The Netherlands: Kluwer Law International* (2008).

Silvia Rodríguez Cervantes, ‘CAFTA and the Peace Research Institute, SIPRI Background Paper, November 2009. Budapest Treaty: The Debate in Costa Rica', GRAIN, Seedling, January 2008, pp. 33-37., accessed on 15 January 2021.

S. Sekar dan D. Kandavel, “Patenting Microorganisms: Towards Creating a Policy Framework”, *Journal of Intellectual Property Rights, Vol. 7* (2002).

Swaranjit Singh Cameotra, "Preservation of Microorganisms as Deposits for Patent Application", *Biochemical and Biophysical Research Communications, Vol. 353* (2007).

T.V.S. Ramamohan Rao, "Biotechnology Inventions and The Patent Regime", *Asian Biotechnology and Development Review, Vol. 9,* No. 2, 112 (2007).

Undang Undang No. 5 Tahun 1994 Tentang Pengesahan United Nations Convention On Biological Diversity (Konvensi Perserikatan Bangsa Bangsa Mengenai Keanekaragaman Hayati).

United Nation, Nagoya Protocol on Access to Genetic Resources and The Fair and Equitable Sharing of Benefits Arising From Their Utilization to the Convention on Biological Diversity (2011). ISBN: 92-9225-306-9, https://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf, accessed on 16 February 2021.

Wildan Yatim, Kata Pengantar, dalam Jean L. Marx (Ed.), Revolusi Bioteknologi, Terj. Wildan Yatim, Jakarta: Yayasan Obor Indonesia, 1991, Xi.

WIPO, "Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure: Note by the Secretariat", WO/INF/12 REV. 19, 2020. http://www.wipo.int/export/sites/www/treaties/en/registration/budapest/pdf/wo_inf_12.pdf, access on 15 January 2021.

WIPO 1977, https://www.wipo.int/treaties/en/registration/budapest/, accessed on 15 February 2021.

World Federation for Culture Collection - World Data Center for Microorganism, http://www.wfcc.info /ccinfo/collection/col_by_country/i/62/, accessed on 16 February 2021.

The Legal Concept of Educational Fair Use: A Comparative Study on International Compliance between Indonesia & Myanmar Copyright Law

Ranti Fauza Mayana [*]
Lecturer
Law Faculty, Universitas Padjadjaran (UNPAD) Bandung, Indonesia

Yin Yin Win [**]
Professor & Head Department of Law
TAUNGGYI University, Myanmar
Visiting Scholar
Brooklyn Law School, New York, United States of America

Tisni Santika [***]
Lecturer
Law Faculty, Universitas Pasundan (UNPAS) Bandung, Indonesia

ABSTRACT

Fair use is the accommodation of balancing between the interest of the copyright owner and the non-commercial user. *"The three-step tests"* were stated in Article 9 of the *Berne Convention* for the authorization to its member states to get a reproduction of the literary and creative works in certain instances supplied that such reproduction must not be in a conflicted position with regular and fair exploitation of the works and unreasonably prejudice the valid interest of the creator or owner of copyrights. *"The three-step tests"* were adopted in Article 13 of the *Agreement on Trade-Related Aspects of Intellectual Property Rights* (*TRIPS Agreement*). Through the juridical normative approach focused on analyzing the comparison of copyright legal systems between Indonesia and Myanmar, this research found that Indonesia enacted the new Copyright Law in 2014, while Myanmar addressed the new Copyright Law in 2019 both in line with the minimum standards of *TRIPs Agreement*. Regarding educational purposes, both Indonesia and Myanmar Copyright laws provide important exceptions that are specifically aimed at non-commercial and/or educational purposes and public library archival institution context. However, it's important to formulate globally accepted official guidelines for determining educational fair use that offers "*rules of thumb"* in determining whether the certain model of utilization qualified as fair use in a variety of educational contexts, including distance learning followed by synergy and collaboration approach between government, academic, and libraries so that educational fair use shall be practiced in accordance with national legislation and compliance with international copyright regulations.

Keywords: Copyright law, Educational Purposes, Fair Use, International Compliance

[*] Contact Email: ranti.fauza@unpad.ac.id
[**] Contact Email: yinyinlaw2021@gmail.com
[***] Contact Email: tisni.santika@unpas.ac.id

1. Introduction

Since the early development of the copyright act, the importance of educational purposes restriction has been recognized. Copyright law provides for the principle, commonly called *"fair use"* or *"fair dealing"* of the reproduction of copyrighted works for certain purposes, including educational purposes. However, until now there is no implementation of educational guidelines that are globally or commonly accepted. The Conference on Fair Use (CONFU) in the late 1990s was an attempt to develop fair use guidelines that copyright owners and educators could agree on, but the results were far from comprehensive. Educational activities and purposes that were protected under fair use mainly rely on common practices that considered being fair use.[1]

There are some examples of activities that the court considered as fair use: cite a review, excerpts for the explanation, critique or comment, cite short texts of scientific or technical work for explanation or clarification, a parody content of work, and summary of articles including short citations, a small part of the teacher's or student's activities to explain the lesson and the reproduction of the legislative report or litigation.[2]

In the age of distance learning and massive online teaching activities, the creation, utilization, and dissemination of information in general and copyrighted works, in particular, have become borderless. Distance learning has become an essential part of the educational system in many countries. In order to meet the needs of the changing world, it's important to ensure the availability, accessibility, and affordability of education materials. The development of distance learning and online teaching opens endless possibilities for educational material exchanges. Thus the need for an informed approach to the application of fair use of digital works becomes increasingly critical as the use of such works increases. It's important to provide clear requirements and compliances for fair use of copyrighted works to ensure the balance between the interest of public education purpose and the interest of both moral and economic rights of the author and/or copyright holder.

Copyright law, like all areas of intellectual property, is governed by the principle of territoriality; however, there are several legal commonalities in this field, especially among the Word Trade Organization (WTO) member states that have adopted the minimum standard of intellectual property protection compliance to *Agreement on Trade-Related Aspect of Intellectual Property Rights (TRIPs Agreement).*

This article particularly aims to analyze the legal commonalities and differences in the implementation of fair use principles for educational purposes in Indonesia and Myanmar and its international compliance. This article further provides several recommendations concerning the formulation of implementing regulations and specific guidelines as a code of conduct in implementing fair use for educational purposes in the age of digital learning.

Several legal issues will be discussed in this article:

1. How does Indonesia Copyright Law regulate the fair use principle for educational purposes in the terms of legislative provisions, interpretation, and implementation?
2. How does Myanmar Copyright Law regulate the fair use principle for educational purposes in the terms of legislative provisions, interpretation, and implementation?

[1] Davis, J. Y., *Fair Use after CONFU*, 59 College & Research Libraries, 3, 209–211 (1998). https://doi.org/10.5860/crl.59.3.209.

[2] Crews, K. D., *The Law of Fair Use and the Illusion of Fair-Use Guidelines*, 62 SSRN Electronic Journal, 2, 599–702, (2012). https://doi.org/10.2139/ssrn.1588292.

3. What are the principal approaches and strategies of fair use implementation for educational purposes in Indonesia and Myanmar based on a comparative analysis?
4. How do the legislative provisions of fair use for educational purposes in Indonesia and Myanmar comply with the international regulations and doctrines?

2. Literature Review

2.1. Copyright Protection and Doctrine of Fair Use

After the introduction of copyright protection by the Statute of Anne in 1709, the court found that certain cases of unauthorized copies were protected by copyright regulations that, at that time described as *"fair abridgment,*[3] later known as *the "doctrine of fair use"* that limit the scope of the copyright monopoly and exclusivity in furtherance of its utilitarian objective, especially concerning public needs.

Copyright law is not an assemblage of law *per se* but instead comprises a huge number of reciprocal and all the more critically, multilateral agreements and conventions, which set standards and minimum commitments for state parties to embrace into their national laws. Hence, basic principles like authorship, proprietorship, length of protection, rights, exemptions, and remedies are regulated at the international level, given and to consent to the commitments of the conventions and agreements.[4]

Berne Convention for the Protection of Literary and Artistic Works (*Berne Convention*) regulates non-commercial utilization of copyrights in article 10 concerning *Certain Free Uses of Works* compatible with fair practice. *Berne Convention* also regulates the possibility of an extensive implementation of *"Free Uses of Works"* which include certain works/creations that publish or broadcast in correlation with the latest events/news. *Berne Convention* also provides the possibility for national regulations of the signatory countries to regulate the permission for reproductions of copyrighted works/creations or certain parts of copyrighted works/creation to be broadcast to the public through mass media concerning economic, political, religious issues and conditions as special cases provided that such reproductions shall be made available to the public, the information of sources. National regulation also shall regulate the legal consequences of a breach of this obligation and determine sanctions for violations of such measures.

Further, *Berne Convention* additionally formulates *"the three-step test"* that currently becomes the worldwide standard to decide the extent of fair use and any remaining exemptions for the restrictiveness and monopoly of Copyright compliance to the treaty. Article 9 (2) of the *Berne Convention* regulates the category of permissive uncompensated use of copyrighted materials; known as *the "three-step test"*;[5] reads as follows:

> *"It will be a matter of regulation in the nations of the Union to allow the proliferation of such works in specific exceptional cases, given that such generation doesn't struggle with a normal and fair exploitation of the work and doesn't nonsensically prejudice the legitimate interests of the creator"*

Berne Convention became the reference to *the Agreement on Trade-Related Aspect of Intellectual Property Rights* (*TRIPs Agreement*) and *the World Intellectual Property Organization Copyright Treaty 1996*

[3] Leval, P. N., *Toward A Fair Use Standard,* 103 Harvard Law Review, 5, 1105–1136 (1990).

[4] Schwartz, E., *An Overview of the International Treatment of Exceptions,* PIJIP Research Paper American University Washington College of Law (2014).

[5] Okediji, R. L., *The International Copyright System: Limitations, Exceptions and Public Interest Considerations for Developing Countries,* UNCTAD - ICTSD Project on IPRs and Sustainable Development, (Issue Paper No. 15), p. 1–52 (2006). http://unctad.org/en/docs/iteipc200610_en.pdf.

(*WIPO Copyright Treaty*). Since then, the *"three-step test"* has been modified and transplanted into other international regulations. Article 13 of the *TRIPs Agreement* and Article 10 of the *WIPO Copyright Treaty* regulate that contracting parties / member-states may provide limitations and exceptions to exclusive rights for certain special cases which do not conflict with a normal exploitation of the work and do not prejudice the legitimate interests of the rights holder. The signatories of the *Berne Convention* and *WIPO Copyright Treaty* also member states of TRIPs – WTO agree to standardize possible limitations and exceptions to exclusive rights under their respective national copyright laws.

3. Research Methodology

The study used a juridical normative approach focused on analyzing the comparison of the regulation of educational fair use in copyright legal systems between Indonesia and Myanmar through literature analysis such as books, articles and journals, data cases, and legislation. In addition, this paper also analyzes the relationship between the regulation and implementation of educational fair use based on copyright legal systems in both countries that are related to basic international principles and theoretical concepts of copyright protection. The approach used in this research work is mainly analytical. In the analysis process, the comparative approach is adopted to highlight the link between legal commonalities and differences in the practice of educational fair use in Indonesia and Myanmar using secondary data obtained from books, articles, and journals.

4. Discussion

4.1 Fair Use in Indonesia: Legislative Provisions, Interpretation, and Application of the Doctrine for Educational Purposes

Indonesia ratified the *Agreement Establishing the World Trade Organization* based on *Law of Republic Indonesia Number 7 / 1994 on the Ratification of Agreement Establishing the World Trade Organization*.[6] Indonesia also ratified several important treaties and conventions including the *Berne Convention for the Protection of Literary and Artistic Works* and *the World Intellectual Property Organization Copyright Treaty 1996* (*WIPO Copyright Treaty*).[7] These ratifications require Indonesia to synchronize the intellectual property – including Copyright - regulations by taking relevant approaches and measures to comprehensively harmonize the legal protection.[8]

Law Number 28 / 2014 on Copyright (Indonesian Copyright Law) defines Copyright as *"an exclusive right of the creator legally granted based on declaratory principles after the manifestations/works are embodied in a certain form without violating the prudence or limitations under the arrangement of laws and guidelines."* This regulation was enacted on the basis that copyright protection plays a strategic role in economic development and prosperity,[9] thus, the protection of creativity through copyright law is the ultimate necessity for the acknowledgment and protection of the creators over their creations, to

[6] For further understanding of WTO as a legal system see Palmeter. D, The WTO as a Legal System, 24 Fordham International Law Journal, Issue 1, Article 19, p. 444-490 (2000). https://ir.lawnet.fordham.edu/cgi/viewcontent.cgi?referer= &httpsredir = 1&article=1744&context=ilj.

[7] WIPO Administered Treaties consist of Convention Establishing the World Intellectual Property Organization (December 18, 1979), Trademark Law Treaty (September 5, 1997), Patent Cooperation Treaty (September 5, 1997), WIPO Copyright Treaty (March 6, 2002), WIPO Performances and Phonograms Treaty (February 15, 2005) and Protocol Relating to the Madrid Agreement Concerning the International Registration of Marks (January 2, 2018).

[8] Mayana, RF, Ramli,AM. Santika,T., *Dysfunctional Regulations and Ineffective Implementation of Intellectual Property Rights – Based Banking Collateral : A Critical Analytical Study*, 9 NTUT Journal of Intellectual Property Law and Management, 1, p. 58 -87 (2020). https://iip.ntut.edu.tw/var/file/92/1092/img/2036/v1-1.pdf.

[9] Barizah, N, *International Copyright Treaties and Its Implementation Under Indonesian Copyright Act; Is It a Better Access To Knowledge?*, 14 Indonesian Journal of International Law, 1, p.1 -27 (2016). https://doi.org/10.17304/ijil.vol14.1.674.

protect the manifestation of ideas and creations of the minds. Adequate protection is expected to generate creativity, economic growth, and contribution to society.[10]

In the copyright law that applies in Indonesia, several things are regulated as *"not violating copyright"* or known as *fair use.* Indonesia regulates *fair use* as the copyright limitation in article 43 to Article 51 of Indonesian Copyright Law. Regarding educational purposes, Article 44 regulates that the use, re-creation, reproduction, multiplication, as well as change of copyrighted works in an entire or significant part, are not viewed as a copyright infringement assuming the source is referenced or referred to in full for educational purposes, training, research, logical composition, report composing, composing of study or audit of an issue and discussion that compliance with the end goal of education and science without prejudicing the sensible interests of the Creator and/or Copyright Holder. Facilitating access to copyrighted works for persons who are blind, visually impaired, or disabled and/or users of Braille, audiobooks, or other media, is not considered a copyright infringement if the source is mentioned or fully cited, except for commercial purposes.

For the purposes of public education, Article 47 of the Indonesian Copyright Law stipulates that any library or non-commercial archival institution may reproduce 1 (one) copy of a copyrighted work or part of a copyrighted work without the consent of the author or copyright owner for the reproduction of the reprography of copyrighted works that have been distributed, summarized or directed to fulfill individual needs considering that the library or archival institutions guarantees that the duplicate will be used for educational or research purposes, with the assumption that reproduction is carried out independently, without requiring permission to take all or part of the work from the Collective Management Organization.

Although the fair use exception is purposefully broad and flexible, Indonesian Copyright Law provides important exceptions that are specifically aimed at non-commercial educational and scientific purposes and public library archival context, research, and development activities, provided that they do not harm the reasonable interests of the creator in enjoying economic benefits of the creation.[11] However, it is of particular importance to formulate special provisions, implementing regulations, supportive technological infrastructure to ensure the effectiveness of fair use implementation in teaching, research, and other educational purposes in the age of digital learning.

4.2 Fair Use in Myanmar: Legislative Provisions, Interpretation, and Application of the Doctrine for Educational Purposes

The first Copyright law in Myanmar was enacted in 1914, this regulation was based on the 1911 British Copyright Act. No registration procedures have been founded despite the presence of this Act, nor can't this law endorse copyright acquired in different nations to be authorized in the country. This law gave two significant arrangements that provided a decent beginning stage for the new law being worked on. First, *"fair dealing / fair use"* with any work for private review, research, analysis, survey, or paper rundown was allowed. Second, replicating was allowed for certain educational and/or instructive purposes, for models used in schools, and making duplicates of short sections from distributed scholarly works for use in assortments.

In the present status, copyright is one of the numerous laws being supplanted as Myanmar goes through a quick political, social, and economic turbulence . On 24 May 2019, the Union Parliament of Myanmar passed the Copyright Law (Law No. 15/2019) as the new copyright protection framework

[10] Ramli, H. A. M., Mayana, R. F., & Santika, T., *Fostering a Creative Economy with Copyright Protection: "Weightless Economy" and Creativity-Based Sustainable Development,* 10 International Journal of Innovation, Creativity and Change, 10, p 432–443 (2020). https://www.ijicc.net/images/vol10iss10/101031_Ramli_2020_E_R.pdf.

[11] Nugroho, B. S. F., & Utama, M. A. R., *Legal Protection of Copyright in The Globalization Era : A Comparison of Indonesia and China,* 1 Journal of Law and Legal Reform, 4, p. 671–680 (2020). https://doi.org/10.15294/jllr.v1i4.39424.

with a few significant changes including the multiplication of a copyrighted work without the approval of the holder of the privilege under certain conditions. For example, propagation for instructive or individual use is permitted given that it doesn't affect the freedoms of copyright proprietors. Further, as the public authority intends to work on the nature of instruction and exploration as one of the components in the progress interaction to open society, the new copyright law gives the essential lawful framework expected to help libraries, training, and examination.

A proliferation as a citation of a short piece of a distributed work will be allowed without the approval of the copyright's owner viable with fair practice and not surpasses the degree legitimized by the purpose. The citation will be joined by a sign of the source and the name of the Creator, in the event that his name shows up in the work from which the citation is taken. [12]

The reproductions without the authorization of the Rights Owner that are compatible with fair practices are allowed for:[13]

a. Reproduction of a short part of a published work reproduced, a short part of features published in news, magazines, and journal for teaching purposes;

b. Compilation of copies of work reproduced in electronic and published curriculums to be used in teaching provided by the educational organizations where such electronic and published curriculums to be placed in a secure network that is only accessible by teachers and students;

c. Incorporation of parts of the Literary and Artistic Work in electronic or paper-based form, either for personal use or to be placed in a library into a thesis or research paper.

Section 27 Myanmar Copyright Law No. 15 / 2019 regulates the implementation of fair use for educational purposes by a non – commercial library or archival institutions, both without the approval of the copyright owner. The regulation allows the production of a single duplicate of a Literary and Artistic Work for a distributed article, other short citations of copyrighted work, and the propagation is done due to a solicitation by an individual given that the library or archival institution is fulfilled that the duplicate will be utilized exclusively for the educational reasons for example study, instructive activities or private exploration. This implementation of propagation is restricted, and forbidden to be repeated, including on unrelated events.

Non-commercial libraries or archival institutions may be made a copy of a distributed article, other sorts of copyrighted work, or short parts of copyrighted work to save and, if essential, supplant a duplicate or to supplant a copy that has been lost, annihilated, or delivered unusable in the long-lasting assortment of another comparable library or archival institutions gave that it is impossible to get such a duplicate under sensible conditions. This implementation of propagation is also restricted and forbidden to be repeated, especially on unrelated events.

A literary and artistic work may be copied in accordance with the intention of reproduction and preservation. For example, a library or archival institution may obtain a copy or reproduction from another library or archive if its collection of literary and artistic work is not complete and the literary and artistic work is neither available on the market nor from its publisher. A library or archival institution also may reproduce a Literary and Artistic work if the work is neither available on the market nor from its publisher, even if the library or archival institution tried to obtain permission from the Rights Owner, but was unable to obtain it. The copy reproduced may be studied on the premises of the library or archival institutions. Furthermore, the library or archival institutions may borrow a copy from a user for studying on the premises or for self-use.

Libraries may communicate and supply items to each other by post, fax, or other secure electronic methods. However, if a copy of a Literary and Artistic is transferred in an electronic file, the file shall be

[12] See Section 26 Myanmar Copyright Law No. 15/2019
[13] Ibid.

deleted once printed out. The receiving library may provide such printed copies to its users. Such reproduction and provision shall not be repeated. A library or archival institution may translate, for research or education purposes, a literary and artistic work that it officially acquired if this work is not in a language used by its users. Such translation shall not be used for other purposes. A person or organization may translate, for the information of the public or persons speaking a minority language, a literary and artistic work from the minority language to the majority language or vice versa if this is not done in order to pursue commercial gain.

4.3 Comparative Assessment on Educational Fair Use of Copyrighted Materials between Indonesia and Myanmar

4.3.1. Legislation

Indonesia Copyright Law regulates several activities qualified as fair use. Article 44 verse (1) points a and c of Indonesian Copyright Law regulates the use, recovery, generation, and additionally change of Copyrighted Works or potentially related rights items in an entire or significant part are not viewed as a Copyright infringement assuming the source is referenced or referred to in full for the purposes behind schooling, research, logical composition, report composing, investigation or survey of an issue and talks that are fair, just and comply with the end goal of training and science without prejudicing the sensible interests of the Creator or Copyright Holder.

The reproduction of 1 (one) duplicate of the Works or part of the Works by a non – commercial library or archival institution without authorization from the Creator or the Copyright Holder that may be utilized for educational, instructive, or research purposes or for the safeguarding, the substitution of copy in the event that the copy is lost, harmed or annihilated from the permanent collection is allowed.[14] The reproduction for the exchange of communication or information purposes in interlibrary, inter-archival institutions, and between the library and archival institutions are also categorized as fair use.

Indonesia Copyright Law protects copyright and related rights. Related rights include the economic rights of performers, producers of the phonogram, and broadcasting organizations, and both the works and related works are subject to legal protection and subject to fair use. Indonesian Copyright Law regulates the protection of limitations for works and related works where the use without the approval of the freedoms holder is permitted to be applied on the utilization of short portions from Works and/or Related Copyrighted items for detailing real occasions expected exclusively to give flow data, generation of Works and/or related copyrighted items exclusively with the end goal of logical examination, proliferation of Works and/or Related Privileges items exclusively to show exercises, aside from exhibitions and Phonograms that have been distributed as showing materials and use with the end goal of training and logical improvement that permits Works and/or Related Privileges items to be utilized without authorization from Performers, Producer of Phonogram, or Broadcasting Organizations.[15]

Indonesian Copyright Law also regulates the compulsory license for educational purposes as a permit to do translation, interpretation, and/or proliferation of educational works which are conceded under the choice of the Clergyman upon demand from each individual for the reasons for instruction, education, and/or science just as development activities.[16]

Nevertheless, Indonesia's Copyright Law remains lacks strict and comprehensive implementing regulations concerning educational fair use. The interest of education as one of the exceptions to copyright does not explain the definitions, criteria, quantitative and qualitative limitations for the utilization of copyrighted works for educational interests, the absence of quantitative limitations, and the number of copyrighted works allowed to be reproduced also creates confusion. The occurrence of

[14] Article 47 Indonesia Copyright Law No. 28 / 2014.
[15] Ibid.
[16] Article 84 and 85 Indonesia Copyright Law No. 28 / 2014.

the vacuum of law concerning the implementation of the principle of fair use and the establishment of related organizations or agencies responsible to thrive and encourage the promotion, access, and utilization of copyrighted works for educational purposes still has a long way to go.

General rules concerning fair use in Myanmar regulate that the importation of a copy of a literary and artistic work by a natural person shall be permitted without the authorization of the Rights Owner if it is not for commercial gain.[17] A person may reproduce a published work without the authorization of the rights owner exclusively for his purposes. However, such reproduction shall not be such that it would constitute a misuse of the Literary and Artistic Work or impact the legal rights of any Rights Owner.[18]

Concerning educational purposes, the Myanmar Copyright Law largely put supports modern libraries, education, training, research, and the examination completed with new exemptions for private review, citation, internet instructing, course-packs, and use in virtual learning conditions, additionally record conveyance administrations, computerized conservation by libraries and chronicles and the creation of format copies for people with print incapacities is allowed. Myanmar Copyright law provides more comprehensive measures in regulating fair use, especially for public educational purposes conducted by the libraries and archival institutions.

4.3.2. Implementation

In the implementation of fair use, there are several limitations in Myanmar Copyright Law considering the protection of the interest of the creator and also the nature of copyrighted works. The exemption of the utilization of copyrighted works for personal purposes without the authorization of the rights owner shall not apply in the event of reproduction of a work of building design as a structure or other construction development, reproduction of the whole musical work or significant part as book or notes, reproduction of the entire or of a significant piece of a data set in digital form and reproduction of a computer program which isn't consistent with the provision under section 30 (concerning the generation, in a solitary duplicate, or the transformation of a computer program by the legitimate owner of a duplicate of that computer program).[19]

Myanmar Copyright law presents a few significant changes for instance the copyright security for unfamiliar attempts to help the progression of *"copy culture"* concerning the method on how individuals and organizations, for example, libraries to access, duplicate, share and download books and different materials for study. This is followed by the detailing of the *"eLibrary Myanmar Project"* which furnishes scholarly organizations with admittance to an amazing scope of excellent global diaries, data sets, and digital books to empower libraries to appropriately uphold students, scientists, and researchers in Myanmar through fair use alongside reason explicit special cases as the structure for admittance to copyright-protected content.

The Myanmar Copyright Law provides immense support for significant activities like digital-based education, record delivery, and digital safeguarding by libraries and archives, and for the execution, on 6th March 2020 Central Committee for Intellectual Property Rights (CCIPR) was established with the issuance of Notification No. 18/2020 of March 6, 2020. The organization of the CCIPR was changed by Notification No. 21/2020 on March 18th, 2020. The CCIPR has 30 individuals including the Ministry of Business, and delegates from ministries, for example, the Ministry of Information, Ministry of Education, and Ministry of Industry, Intellectual Property (IP) experts with a few significant obligations including creating public IP arrangements and procedures, giving IP preparing and supporting

[17] Section 31 of Myanmar Copyright Law No. 15 / 2019
[18] Chapter 12 section 24 of Myanmar Copyright Law No. 15 / 2019
[19] Ibid.

applications from organizations, for example, libraries to be perceived as authorized and approved entities.

To optimize the impact and implementation of the formation of the *Myanmar Academic Library Consortium (MALC)* that heralds a new era of collaboration among academic libraries in Myanmar. MALC will expand members' access to electronic resources from low to free of charge through-composed licensing of e-resources and collaboration in the selection of e-materials. Member will likewise share data, information, technology, human resource, and collaboration to guarantee the supportability of admittance to e-resources, and to putting current IT-based library administrations and services for academic and research in Myanmar.

Indonesia Copyright Law addresses similar measures regarding fair use for reproduction for personal use that exclude the reproduction of architectural works in the form of buildings or other constructions, an entire or a substantial part of a book or musical notation, an entire part of a database in digital form, certain computer programs which contravenes the reasonable interest of the author or the copyright holder.[20]

The quantitative limitation for the educational purposes viewed from the perspective of Indonesia Copyright is still vague, by referring to Indonesia Copyright Law:

"…copyright infringement is not considered if the source is fully stated for educational purposes without prejudice to the reasonable and sensible interests of the creator."[21]

This article does not explain the measurement of quantity and quality of works being used to be qualified as fair use and not detrimental to the creator, no comprehensive explanation about how to conduct quantitative and qualitative assessments for example by paying attention to the quantity or certain proportion taken and by examining to the part substantially taken and whether it is the basic essence of the copyrighted work. These are very important undertakings to determine the benchmarks for the proportion of works that can be used considering before determining whether the use of another party is fair use, it must first be determined whether its use is violating the rights of authors and copyright holder or not, [22] also, the definition and qualification of educational interests' themselves are not comprehensively explained.

Indonesian copyright law broadly puts the moral right of the creator as the limitation of fair use by other parties. Article 5 verse (1) point e addresses the rights of the author to defend their rights in the event of distortion of works, mutilation of works, modification of works, or other acts which will be prejudicial to their honor or reputation. Indonesian Copyright law provides the rights for the author to decide, whether certain use and acts towards their works are ethical and do not violate their moral rights in the aspect of the personality embodied in their works or those use and act cause a defiant, harm or even degrading effects for their works, and concerning this, the user of copyrighted works must pay attention to the reasonable and legitimate interest of the author and copyright holders.

4.4 Educational Fair Use in Indonesia and Myanmar Copyright Law: International Compliance of Doctrines

Berne Convention introduced *the "three-step test"* as a general clause on exceptions and limitations at a revision conference for the *Berne Convention* in Stockholm, 1967 when the minimum right of reproduction was introduced and has become the model for almost all exceptions to all intellectual property rights on the international level. [23]Further, the *Berne Convention* then became a reference to *the Agreement on Trade-*

[20] Article 46 Indonesia Copyright Law No. 28 / 2014.
[21] Article 44 verse (1) Indonesian Copyright Law No. 28 / 2014.
[22] Nurmaya, N., Handono, M., & Puspaningrum, G., *Fair Use Doctrine in Photocopying Books for Educational Purposes: A Study of Copyright Acts in Indonesia and the United States.* 1 Indonesian Journal of Law and Society, 2, p.101 (2020). https://doi.org/10.19184/ijls.v1i2.18091.
[23] Article 9 verse (2) Berne Convention for the Protection of Literary and Artistic Works.

Related Aspects of Intellectual Property Rights (TRIPs Agreement) and *the World Intellectual Property Organization Copyright Treaty 1996 (WIPO Copyright Treaty)*.

The *Berne Convention*, *TRIPs Agreement*, and *WIPO Copyright Treaty* provide the signatories and member states leniency to formulate their national laws and regulations while still referring to the *Berne Convention* and the *TRIPs Agreement* because of these rules' binding nature.[24] Further, these agreements are used as the general rule that guides national legislators with respect to the right of reproduction to formulate the exceptions to the reproductions rights in certain special cases that do not conflict with the normal commercial exploitation of the work and do not unreasonably prejudice the legitimate and reasonable interest of the author.[25] In practice, to determine whether a proposed use is fair use, four factors need to be examined:

1. **Purposes:** the reason and character of the utilization including whether such use is a commercial business, or is for non-profit purposes, for example, educational or research matters. The tools to determine certain use as non-commercial fair use is that there must not be any direct or indirect monetary gain or compensation of such use.
2. **Nature:** the idea and the nature of copyrighted work, in case of the nature of copyrighted works, were creative rather than factual, and then the use without the authorization of the author and/or copyright holder is more likely to be classified as infringement.
3. **Amount:** The sum and substantially or considerably important part utilized in relation to the protected work as an entire. Fair use shall generally be limited to a brief and non-substantial amount of the entire work because fair use should not harm both the moral and economic rights of the creator/copyright holder.
4. **Effect:** The impact of the utilization upon the likely market for or worth value of the protected work, the implementation of fair use shall not be a threat to the potential profitability and incentives. [26]

Non – Commercial purposes in the educational use of copyrighted works can be ensured by drawing a limit that materials used in class only to serve the needs of specified educational programs and only those portions of the work relevant to the educational objectives allowed to be used in the classroom. Concerning the nature of the copyrighted work, it's important to apply the law of fair use proportionally concerning the nature of the copyrighted works where the term and conditions apply more narrowly to highly creative works that are not particularly created for the purpose of education. For example, it's important to avoid substantial excerpts from novels, short stories, poetry, modern arts, images, and other commercial materials that are meant to be used and repurchased.

Limitation of the amount of the work that is allowed to use in a *fair use* framework is also important to ensure as the benchmark of the proportion for the utilization of copyrighted works is qualified as is not in conflict with a normal and fair exploitation of the work and the legitimate rights of the creator/copyright holder. The materials used in the classroom shall generally be limited to a brief and non-substantial amount of the entire work. *Fair use* should not harm both moral and economic rights of the Author and Copyright Holder; therefore, before using any copyrighted materials for educational purposes, it's important to consider whether the replicating creates harm for the market or offers the protected materials. The use also ought to incorporate an appropriate reference to the first cause of distribution and a type of copyright notice. In case the copyrighted materials are easily accessible, reasonably available, and affordable for students to purchase, for educational purposes then copying shall not be an option because copying substitutes for the

[24] Nurmaya, et. al, Loc. Cit.

[25] Edwald, J., *The Three Step Test of International Copyright Law: Is Fair Use the Key to Balancing Interests in the Digital Age?* [Lagadeild] (2016). https://skemman.is/bitstream/1946/25525/1/Jóhanna Edwald ML Ritgerð 2016.pdf.

[26] Bartow, A, . Educational Fair Use in Copyright: Reclaiming the Right to Photocopy Freely. *University of Pittsburg Law Review, 149.* 1998, https://scholars.unh.edu/law_facpub/356/.pdf.

purchase of books or other materials.

Further, it's also critical to test the economic effect to assess how the use of the copyrighted work affects a work's potential market, for example, when the use of a certain portion of the works makes the consumers think they do not need to buy the book then it cannot be considered as fair use, although to examine the economic loss from creator's potential market is a very complicated procedure to conduct, it's important that in giving judgments, the judge must be observant and dig deeper to the principle of economic potential exploitation of copyright.

Both Indonesian Copyright Law and Myanmar Copyright Law adopted the *"three-step test"* on Article 9 (2) *Berne Convention* as a general clause on the implementation of fair use where the limitations are set not overly broad / only for special cases, mostly non-commercial and education purposes, the implementation of fair use shall be in the form of normal exploitation of the works and do not diminished the economic rights of the author/copyright holders and should not do disproportional harm to their legitimate interests.

5. Conclusion

The Copyright Regulations determine that using copyrighted work for educational purposes has been declared as *fair use*, however, it's still necessary to evaluate and examine the balance of the nature of the work, the substance of the parts used, and the economic and market effect on the economic value of the work. Both Indonesia and Myanmar Copyright Laws provide important exceptions that are specifically aimed at non-commercial educational purposes and public library archival context. However, it is of particular importance to formulate special provisions and implement regulations as well as comprehensive codes of conduct to ensure the effectiveness of fair use implementation in teaching, research, and other educational purposes and to formulate the collaborative synergy between state holders through the Ministry of Information, Ministry of Education and Ministry of Industry and stakeholders includes Intellectual Property experts, educational institutions and public libraries.

6. Suggestion

To optimally and effectively implement the doctrine of *fair use* for educational purposes, especially in the digital age it's important to adopt globally accepted official guidelines for determining educational fair use that offers rules of thumb and other important tools to provide immense support for significant activities like digital-based education, record delivery, and digital safeguarding by libraries and archives also to guide and assist faculty, staff, and students in determining whether the certain model of utilization qualified as *fair use* in a variety of educational contexts, including distance learning followed by the development of digital infrastructures, synergy, and collaborative approach between government, academic, and libraries so that educational fair use shall be practiced in accordance with both national and compliance with international copyright legislation.

References

Agreement on Trade-Related Aspect of Intellectual Property Rights (TRIPs Agreement)

Barizah, N, International Copyright Treaties and Its Implementation Under Indonesian Copyright Act; Is It a Better Access To Knowledge? *Indonesian Journal of International Law*, Volume 14 (1),p.1 -27, 2016 https://doi.org/10.17304/ijil.vol14.1.674.

Bartow, A, . Educational Fair Use in Copyright: Reclaiming the Right to Photocopy Freely. *University of Pittsburg Law Review*, *149*. 1998, https://scholars.unh.edu/law_facpub/356/.

Berne Convention for the Protection of Literary and Artistic Works.

Davis, J. Y., Fair Use after CONFU. *College & Research Libraries*, Vol 59 (3), 209–211 (1998). https://doi.org/10.5860/crl.59.3.209.

Edwald, J., *The Three-Step Test of International Copyright Law: Is Fair Use the Key to Balancing Interests in the Digital Age*? [Lagadeild], 2016. https://skemman.is/bitstream/1946/25525/1/Jóhanna Edwald ML Ritgerð 2016.pdf.

Nugroho, B. S. F., & Utama, M. A. R. (2020). Legal Protection of Copyright in The Globalization Era : A Comparison of Indonesia and China, *Journal of Law and Legal Reform*, Volume 1 (4), p. 671–680 (2020). https://doi.org/https://doi.org/10.15294/jllr.v1i4.39424.

Nurmaya, N., Handono, M., & Puspaningrum, G., Fair Use Doctrine in Photocopying Books for Educational Purposes: A Study of Copyright Acts in Indonesia and the United States*, Indonesian Journal of Law and Society*, Volume 1 (2), p.101, 2020, https://doi.org/10.19184/ijls.v1i2.18091.

Leval, P. N., Toward A Fair Use Standard, *Harvard Law Review*, Vol 103 (5), 1105–1136 (1990).

Mayana, RF, Ramli,AM. Santika,T., Dysfunctional Regulations and Ineffective Implementation of Intellectual Property Rights – Based Banking Collateral : A Critical Analytical Study, *NTUT Journal of Intellectual Property Law and Management*, *Vol. 9* (1), p. 58 -87, 2020, https://iip.ntut.edu.tw/var/file/92/1092/img/2036/v1-1.pdf.

Okediji, R. L., *The International Copyright System: Limitations, Exceptions and Public Interest Considerations for Developing Countries*. UNCTAD - ICTSD Project on IPRs and Sustainable Development, March 2006 (Issue Paper No. 15), p. 1–52. http://unctad.org/en/docs/iteipc200610_en.pdf.

Palmeter, D., The WTO as a Legal System, *Fordham International Law Journal, Vol 24,* Issue 1, Article 19, p. 444-490, 2000, https://ir.lawnet.fordham.edu/cgi/viewcontent.cgi?referer=&httpsredir = 1&article=1744&context=ilj.

Ramli, H. A. M., Mayana, R. F., & Santika, T, Fostering a Creative Economy with Copyright Protection: "Weightless Economy" and Creativity-Based Sustainable Development., *International Journal of Innovation, Creativity and Change, Vol. 10* (10), p 432–443 (2020). https://www.ijicc.net/images/vol10iss10/101031_Ramli_2020_E_R.pdf

Schwartz, E. An Overview of the International Treatment of Exceptions, *PIJIP Research Paper American University Washington College of Law* (2014).

Statute of Anne 1709

The Law of Republic Indonesia Number 28 / 2014 on Copyright

The Law of Myanmar Number 15 / 2019 on Copyright

World Intellectual Property Organization Copyright Treaty 1996 (WIPO Copyright Treaty)

The Role of Patent Valuation in new Technology Commercialization in Vietnam: A Case Study of Remote Waste Treatment Technology

Tran Van Nam, Ph.D; LL.D*
Associate Professor, Faculty of Law, National Economics University, Hanoi-Vietnam
ORCID iD: 0000-0002-1884-6931

Nguyen Quang Huy, LL.M
Associate; Vission & Associates Law Firm; Hanoi-Vietnam
ORCID iD: 0000-0001-9945-4544

Tao Minh Hung, LL.M
Lawyer, Rouse Legal Vietnam Ltd. – Hanoi Branch, Vietnam
ORCID iD: 0000-0002-5197-5794

Richard Cahoon, Ph.D
Professor-adjunct, Department of Global Development,
College of Agriculture and Life Sciences, Cornell University, USA

ABSTRACT

Patent valuation is not a novel matter in developed countries, but still a challenging task in developing countries like Vietnam, due to the nascent practice and inadequate regulation. In the US, patent holders and patentees don't rely mainly on patent valuations as a basis for license deals. A "pre-negotiation valuation" approach leading to a mutually designed "value capture/risk-sharing mechanism" (i.e., a license agreement) is often a preferred path for commercializing new technologies. However, the difficulty with the valuation of intellectual property assets is one of the many obstacles to the commercialization of patents, especially those domestically developed by Vietnamese entities.

To complete this study, the authors have combined data collection and analysis. Data collection methods included written reflection and secondary source verification. The study has also pursued thecase study method, conducted by the authors regarding the real invention of Inventor Lai Minh Chuc. This article uses a normative legal approach to address new issues of intellectual property including patent valuation.

This paper describes the current practice in patent valuation and commercialization in Vietnam with a case study of remote waste treatment technology. This case study illustrates that in the current context of Vietnam, the valuation of a patent is still hard for the potential purchasers to accept, so the price should be adjusted flexibly through a pre-negotiation preparation and finally in the license negotiation, rather than a valuer providing a fixed valuation. Based on this case study, recommendations will be provided to improve the legal framework for patent valuation and commercialization.

Keywords: patent valuation, remote waste treatment, technology transfer, commercialization

* Contact Email: namtv@neu.edu.vn

1. Introduction

Following the development of the economy and the participation of foreign investors, the Vietnamese Government is paying more attention to the status of domestic technology developed by Vietnamese entities, along with other aspects of intellectual property. However, the alarming fact is that Vietnamese inventors are facing too many challenges in the exploitation and commercialization of their patents, although they are registered at the Intellectual Property Office and assessed by independent valuers.

A typical case is a remote waste treatment technology invented and developed by Mr. Lai Minh Chuc ("Mr. Chuc") in 2008, filed for a Vietnamese patent in 2008, and issued a patent in 2014. This patented technology was valued at US$12.24 million by Dr. Robert Sanders in 2013. Unfortunately, despite the prospective value of the patent, it took Mr. Chuc over 10 years to commercialize his technology, while the benefit generated from the transfer was not as expected.

The article clarifies Vietnam's current practice in patent valuation and commercialization through six main sections. Sections 2 and 3 provide a background on the literature review and legal framework for patent valuation in Vietnam. Section 4 points out the fundamental problem with patent valuation and new technology commercialization. Section 5 studies the case of Mr. Chuc's invention, through an analysis of the need for an appropriate waste treatment technology and the main features of Mr. Chuc's technology. Thereafter, this section also describes the valuation for Mr. Chuc's patent that was completed by Dr. Robert Sanders in 2013. The commercialization process of Mr. Chuc's technology was presented, and followed up with additional discussions and findings. In Section 6, the recommendations proposed included the long-term strategy for promoting domestic patent registration, as well as the restructuring of the legal framework for the establishment and operation of the intermediary organizations

2. Literature Review

Patent valuation, and the legal framework governing patent valuation caught the attention of many scholars all over the world for decades. Most scholars discussed the three traditional valuation methods (i.e., cost, market, and income) and how they are applied to intellectual property rights (IPRs) in general. Dilip Sharma and Abhijeet Kumar (2021)[1] summarizes modern valuation methods, including Monte Carlo, Royalty Rate, Loss of Profit Calculation, and Decision Tree Analysis. Specifically for patents, Prabuddha Sanyal (2005)[2] addresses patent valuation from the perspective of multinational enterprises (MNEs), while Maayan Perel (2014)[3] introduces a new approach to patent valuation which is to value patents based on the patent quality (i.e., "how well a patent meets the statutory requirements"). Alexander J Wurzer et al. (2012)[4] introduced tools for patent valuation (e.g., patent legal factors, the modeling of license relations, payment streams, and risks) along with case studies in different contexts: management, company law, transfer, and finance-oriented contexts.

Those foreign studies have clarified theoretical issues on valuation in patent transfer, i.e., theories on patents, patent transfer, valuation in patent transfer, intellectual asset valuation methods, the relationship between competition law, intellectual property law, and contract law on governing agreements on price in patent transfer contracts. Even so, few scholars took an economics-law approach to the analysis of patent valuation or addressed legal tools to govern patent valuation in their

[1] Dilip Sharma & Abhijeet Kumar, *Methods for Intellectual Property Valuation*, in Handbook of Intellectual Property Research: Lenses, Methods and Perspective (OUP), Irene Calboli and Maria Lillà Montagnani (eds.) (2021).

[2] Prabuddha Sanyal, *Valuation of Patents from a Multinational Perspective*, 87 Journal Patent & Trademark Office Society, 548 (2005).

[3] Maayan Perel, *An Ex Ante Theory of Patent Valuation: Transforming Patent Quality into Patent Value*, 14 Journal of High Technology Law 148 (2014)

[4] Alexander J Wurzer et al., Valuation of Patents (1st edition, Kluwer, 2012).

studies. Even fewer have approached patent valuation through the lense of practical negotiations between a willing "buyer and seller" (*aka* a willing licensee and licensor).

Vietnam

Over the past 15 years, many Vietnamese scholars have researched the valuation of intellectual assets in Vietnam. Between 2006 - 2013, three entities under the Ministry of Science and Technology, i.e., the Department of Technology Appraisal, Examination and Assessment (2006),[5] the Vietnam Intellectual Property Research Institute (2009),[6] and the National Agency for Technology Entrepreneurship and Commercialization Development (2013),[7] conducted in-depth studies on theories, methods and protocols in valuing technologies, intellectual assets and specifically patents in Vietnam.

Doan Van Truong (2011),[8] Tran Van Hai et al (2006),[9] Vu Thi Hai Yen (2008),[10] and Tran Van Nam (2020)[11] analyzed valuation of intellectual assets in different niche contexts, i.e., in multinational companies, in equitization of state-owned companies, in business activities, and in startups respectively.

Hoang Lan Phuong (2012),[12] Duong Thi Thu Nga (2014),[13] and Le Minh Thai (2017)[14] pointed out some problems in the legal system of intellectual assets, specifically the incompletion of regulations on intellectual assets' valuation in specific niche contexts (i.e., capital contribution, equitization of state-owned companies, and security interests), and the inconsistency in regulations or guidelines on the cost-based valuation method.

---

[5] Legal research and some methods of technology valuation [Nghien cuu phuong phap luan và mot so phuong phap đinh gia cong nghe], Department of Technology Appraisal, Examination and Assessment – Ministry of Science and Technology (2006).

[6] Nguyen Huu Can et al, *Theoretical and practical research in order to develop a patent valuation method applicable to Vietnam [Nghien cuu ly luan va thuc tien nham xay dung phuong phap đinh gia sang che ap dung cho Viet Nam]*, Vietnam Intellectual Property Research Institute – Ministry of Science and Technology (2009).

[7] Theoretical and practical research to propose principles, *approaches and processes for valuing intellectual property in Vietnam [Nghien cuu co so ly luan, thuc tien de de xuat nguyen tac, cach tiep can và quy trinh dinh gia tai san tri tue ap dung tai Viet Nam]*, National Agency for Technology Entrepreneurship and Commercialization Development - The Ministry of Science and Technology (2013).

[8] Doan Van Truong, *Collection of valuation methods for intangible assets, intellectual property rights, technology valuation and transfer prices inside multinational companies, [Tuyen tap phuong phap tham dinh gia tri cac loai tai san vo hinh, quyen so huu tri tue, dinh gia cong nghe va gia chuyen giao ben trong cac cong ty da quoc gia]*, Science and Technology Publishing House (2011).

[9] Tran Van Hai et al, *Some points to pay attention to when valuing intellectual property of enterprises in the equitization process [Mot so diem can chu y khi dinh gia tai san tri tue cua doanh nghiep trong qua trinh co phan hoa]*, Report of International Workshop: Vietnam in the process of becoming a member of WTO – Transforming state enterprises in Vietnam, Hanoi, March (2006).

[10] Vu Thi Hai Yen, *Intellectual property and methods of valuing intellectual property in commercial business activities of enterprises [Tai san tri tue va cac phuong phap dinh gia tai san tri tue trong hoat dong kinh doanh thương mại cua doanh nghiep]*, Hanoi Law University, Thesis (2006).

[11] Tran Van Nam, *Identifying shortcomings in determining the value of intellectual property of startups in Vietnam today [Nhan dang cac bat cap ve xac định gia tri tai san tri tue cua cac startup o Viet Nam hien nay]*, Law and Practice Journal [Tap chi Phap Luat va Thuc tien], Issue 39 (2020).

[12] Hoang Lan Phuong, *Overcoming the inadequacies of Vietnamese law on intellectual property valuation [Khac phuc nhung bat cap cua Phap luat Viet Nam ve dinh gia tai san tri tue]*, 1 Policy and Management of Science and Technology Magazine [Tap chi Chinh sach va quan ly Khoa hoc va Cong nghe], Issue 2, page 62-72 (2012).

[13] Duong Thu Nga, *Intellectual property valuation according to Vietnam laws [Dinh gia tai san tri tue theo phap luat Viet Nam]*, Master of Laws Thesis, Faculty of Law, Vietnam National University (2014).

[14] Le Minh Thai, *Completing regulations on intellectual property valuation in the context of economic integration [Hoan thien quy dinh ve dinh gia tai san tri tue trong dieu kien hoi nhap kinh te]*, Journal of Finance [Tap chi Tài chinh] (2017). https://tapchitaichinh.vn/nghien-cuu-trao-doi/hoan-thien-quy-dinh-ve-dinh-gia-tai-san-tri-tue-trong-dieu-kien-hoi-nhap-kinh-te-127276.html

These studies managed to provide an overview of (i) intellectual asset valuation methods that are applied globally; and (ii) the valuation regulations and practice in Vietnam over intellectual assets including patents. They are also ambitious to fine-tune traditional methods of intellectual asset valuation to make them more workable and suitable for the Vietnam context. However, these studies have yet to address the distinctive legal and economic characteristics of patents and reflect them in their analysis and proposals.

3. Legal Framework on Patent Valuation

By law, a patent means a technical solution in the form of a product or process which is intended to solve a problem by application of natural laws.[15] An invention must fulfill three criteria to be protected as a patent; novelty, inventive steps, and industrial applicability. However, an invention without inventive steps could be protected as a utility solution if it is not common knowledge and satisfies the roperty wo criteria.[16] A patent can be protected for a maximum 20 years from the filing date, while a utility solution can be protected for a minimum 10 years from the filing date.[17]

Vietnam has no specific regulation on patent valuation. However, Vietnam has general regulations on intellectual assets' valuation provided in different legal instruments. Such regulations can be categorized into four groups addressing the following issues: (i) circumstances where intellectual assets valuation is needed; (ii) methods of intellectual assets valuation; and (iii) entities providing intellectual assets valuation services. Circular No. 06/2014/TT-BTC[18] (Circular 06) provides valuation standard no. 13 specifically applicable to intangibles including technologies and patents. It remains the most comprehensive official guidance on the valuation of intangibles in Vietnam for purposes of *inter alia* sales, purchases, transfers, mortgaging, mergers and acquisitions, capital contributions, profit division, disputes, and bankruptcy proceedings.

The Price Law[19] and Decree No. 89/2013/ND-CP guiding the Price Law[20] (Decree 89) provide general principles on "valuation". The Technology Transfer Law[21] and Decree No. 76/2018/ND-CP guiding the Technology Transfer Law (Decree 76)[22] specifically define "technology valuation",[23] specify cases where technology valuation is required (i.e., contribute technologies in investment projects using state budget),[24] and provide requirements an organization must satisfy to provide technology valuation services.[25]

Joint Circular No. 39/2014/TTLT-BKHCN-BTC[26] (Joint Circular 39) and Circular No. 10/2019/TT-BTC[27] (Circular 10) regulate and provide guidelines for valuation of intangible assets obtained from scientific and technological tasks using state budget. Joint Circular 39 generally mentions the protection status of the patent and risks in using the patent (e.g. cancellation, invalidation,

[15] Article 4.12 Intellectual Property Law
[16] Article 58 Vietnam Intellectual Property Law
[17] Articles 92.2 and 92.3 Vietnam Intellectual Property Law
[18] Circular No. 06/2014/TT-BTC dated 7 January 2014, providing valuation standard no. 13.
[19] Law No. 11/2012/QH13 dated 20 June 2012 on prices, amended and supplemented in 2014 and 2020.
[20] Decree No. 89/2013/ND-CP dated 6 August 2013, detailing the implementation of a number of articles of the Law on prices.
[21] Law No. 07/2017/QH14 dated 19 June 2017 on technology transfer.
[22] Decree No. 76/2018/ND-CP dated 15 May 2018, providing guidelines for certain articles of the Law on technology transfer;
[23] Article 2.18 Vietnam Technology Transfer Law.
[24] Article 8 Vietnam Technology Transfer Law.
[25] Article 48 Vietnam Technology Transfer Law 2017; Articles 32 and 33 Decree 76.
[26] Joint Circular No. 39/2014/TTLT-BKHCN-BTC dated 17 December 2014, regulating the valuation of scientific research results and the development of technology and intellectual assets using the state budget.
[27] Circular No. 10/2019/TT-BTC dated 20 February 2019, providing guidelines for valuation of assets resulting from the scientific and technological tasks using state budget.

economic/technological obstacles in application/exploitation/commercialization) as distinctive criteria that must be considered in valuing patent-employed assets.[28] Both instruments address three traditional valuation methods (i.e., cost, income and market), yet Circular 10 adds a distinctive method called "valuation based on the amount of investment in the respective scientific and technological task".[29]

4. The Fundamental Problem with Patent Valuation and New Technology Commercialization

Although patent valuation methods can lead to relatively accurate predictions of future market value, these methods suffer from extremely high-risk factors and the assumptions used in calculations of the value. These risks and assumptions are a major hurdle for patent owners and potential licensees to overcome. Despite the sophistication and reasonable quality of information underlying the various valuation methods, potential licensors and licensees have significant difficulty in agreeing on a transaction price. An alternative route is the use of a "pre-negotiation valuation" as a starting point to an effective negotiation of mutually-shared risk and value capture. In patent valuation approaches, a price is set by a patent owner who then expects potential buyers or licensees to meet that price. In a pre-negotiation valuation, the patent owner conducts a preliminary patent valuation and uses i*nter alia* the patent's inventiveness, technology value proposition, and market share capture projections to begin a fact-based, transparent and mutual design of a set of mechanisms that allow the parties to share the risk and value of new technology, unvalidated by the marketplace.

5. Case Study: Valuation of the First Remote Waste Treatment Technology in Vietnam

5.1 Current Status of the Treatment of Municipal Solid Waste (MSW) in Vietnam and Regulations

Following the growth in economy and population, as well as industrialization and urbanization, municipal solid waste (MSW) has been produced quickly in developing countries, including Vietnam, and it is clear that MSW has severely affected the environment and community wellbeing.[30] MSW is defined as the wastes in solid form, which are generated in daily activities by households and commercial, industrial, and institutional establishments.[31]

In 2019, the volume of MSW was estimated at 64,658 tons per day, with volumes in urban and rural areas calculated at 35,624 and 28,394 tons per day, respectively. Notably, the MSW volume generated in Hanoi and Ho Chi Minh City, the two largest cities of Vietnam, was over 6,000 tons per day in each city, and on average, each citizen in these cities accounts for about 1 kilogram of MSW per day.[32] It is also predicted that the MSW amount will increase by 10-16% annually, according to the Vietnam Center for Environmental monitoring portal.[33]

However, the ratio of collected MSW is 92% in urban areas and 66% in rural areas, whereas the rest is not collected but directly emitted into the environment. After collection, the MSW is treated

[28] Article 9.1 Joint Circular 39. supra note 26

[29] Article 7 Circular 10. supra note 27

[30] Ming-Lang Tseng, et al., *Resource Utilization Model For Sustainable Solid Waste Management In Vietnam: A Crisis Response Hierarchical Structure,* Resources, Conservation And Recycling, 171 (2021)

[31] Feng Ming Tsai, et al., *A Causal Municipal Solid Waste Management Model For Sustainable Cities In Vietnam Under Uncertainty: A Comparison, Resources,* Conservation And Recycling, 154 (2020),

[32] Dan Tri, *Thematic Report On National State Of Environment In 2019: Municipal Solid Waste Management,* Ministry of Natural Resources and Environment of Vietnam, pp. 27-32 (2020).

[33] Tat-Dat Bui, et al., *Effective Municipal Solid Waste Management Capability Under Uncertainty In Vietnam: Utilizing Economic Efficiency And Technology To Foster Social Mobilization And Environmental Integrity,* Journal of Cleaner Production, 259 (2020)

using three main methods: landfilling, burning, and biological composting.

Until 2019, there were 1,322 MSW treatment facilities in total, including 904 landfills, 381 incinerators, and 37 composting plants, which respectively handled 71%, 13%, and 16% of the total amount of collected MSW.[34] Although landfilling is the most common treatment method, perhaps due to its low cost, it raises concerns regarding the pollution in the environment and the land shortage.[35] Of totally 904 landfills in Vietnam, approximately 20% meet the requirements for sanitary, mostly placed in large cities like Hanoi, Ho Chi Minh City, and Da Nang. Moreover, in recent years, there is a trend of shifting from landfilling to incineration, and 294 out of 381 incinerators have the capacity of over 300 kilograms of MSW per hour.[36]

Acknowledging the vital role of MSW management in the sustainable growth of the economy, the Vietnamese Government has issued several documents on MSW management in recent years, which encourage the research, creation, transfer, and application of MSW treatment technologies. In 2009, the Prime Minister approved the "National strategy for integrated management of solid waste up to 2025, with a vision towards 2050," which was amended in 2018. Some key objectives of that National strategy are the application of advanced and environment-friendly technologies for treating MSW, the selection of safe treatment technologies combined with energy recovery, greenhouse gas emissions, and consistent conditions for socio-economic development of each local authority.

Following the National strategy, the Vietnamese Government has issued some main legal documents regarding MSW management as follows:

- *Law No. 72/2020/QH14 on environmental protection, which comes into force from 01 January 2022, replacing Law No. 55/2014/QH13*. Particularly, pursuant to Article 5 and Article 72 of Law No. 72/2020/QH14, the Vietnamese Government encourages the scientific research and development of technologies for waste recycling and treatment, besides the transfer and application of advanced and environment-friendly technologies, for the purpose of reducing the amount of MSW buried in landfills.

- *Decree No. 08/2022/ND-CP detailing a number of articles of Law on environmental protection*. Regarding the MSW management, Article 59 stipulates that in case the treatment technology originates from an industrialized country whose waste management standards are different from those under the Vietnam's National Technical Regulation (also known as "QCVN"), the emissions and wastewater must meet the respective standards of both Vietnam and that industrialized country. Also, Article 133 stipulates that if by applying appropriate treatment technology, the proportion of after-treatment waste that must be buried is less than 30% of the total amount of collected MSW, the project investor will enjoy some incentives and financial support.

- *Decision No. 1658/QD-TTg approving the "National strategy for green growth in the period of 2021-2030, with a vision toward 2050"*. Decision No. 1658/QD-TTg sets out that a strategic direction is promoting the R&D of integrated MSW management models, technologies which transform waste into resources and production materials, and the application of measures to separate MSW at source, reuse and recycle MSW.

5.2 The Need for Appropriate MSW Treatment Technology

Despite the government's efforts, there is a concern that the National Strategy for MSW

[34] Ministry of Natural Resources and Environment of Vietnam, supra note 32, at 38-41.
[35] Wen-jing Wang and Xue-yi You, Benefits Analysis Of Classification Of Municipal Solid Waste Based On System Dynamics, Journal of Cleaner Production, 279 (2021)
[36] Ministry of Natural Resources and Environment of Vietnam, supra note 32, at 41-43.

management is likely to fail[37] due to *inter alia* the lack of appropriate technologies for MSW treatments in Vietnam, which cannot be solved merely by importing advanced technologies from developed countries.

Particularly, MSW's characteristics largely depend on the socioeconomic and geographical features, so each local authority will have unique requests for the waste treatment process to fit municipal and policy goals.[38] In detail, some main characteristics of MSW in Vietnam are high humidity (in the range of 65-95%), the ratio of ash is about 25-30% of dry mass, the total volatile solid is about 70-75% of dry mass, and low caloric value (in the range of 900-1,100 Kcal/kg of wet mass)[39]. Hence, the efficiency of imported technologies, which were developed for handling MSW with other characteristics, remains questionable.[40]

On the other hand, there are not many domestically developed technologies in the field of MSW treatment. On 6 February 2022, the authors searched for the keyword "solid waste" in the public patent database of the Vietnam Intellectual Property Research Institute at https://ipplatform.gov.vn/database/sang-che/tra-cuu-nang-cao and found only about 40 granted patents and applications concerning MSW treatment in the name of Vietnamese entities. In addition, such domestic technologies are normally developed by the private sector, so their application remains limited.[41]

For example, in Hanoi, the authorities and project investors are confused in choosing the MSW treatment technologies. Some projects like the waste treatment plant at Thoong Mountain in Chuong My District have applied outdated and inappropriate technologies, thus facing severe backlash from the local communities who blame such projects for causing environmental pollution.[42]

It is therefore clear that selection of appropriate MSW treatment technologies, which meet the specific requirements for handling MSW in Vietnam, is necessary, not only for cost efficiency but also for avoiding the threats to the environment and human health.[43]

5.3 General Background of the Remote MSW Treatment Technology Invented by Mr. Chuc

Mr. Chuc is known as one of the leading inventors of MSW treatment technology in Vietnam.[44] He is also the Director of the Centre of Research and Development of Environmental Technology for Construction (aka "CIRDETC") and the President of the Board of members of Vietnam Environmental Science and Technology Co., Ltd. Mr. Chuc has participated in the creation of nearly twenty inventions and utility solutions, and at least four of them have been patented as of 7 February 2022 (i.e. Patent Nos. 12044, 26501, and 24299 and Utility Solution No. 1218) by the IP Office of Vietnam. Please find Appendix 2 – List of Mr. Chuc's inventions and utility solutions extracted from

---

[37] X. Cuong Nguyen, et al., *Call For Planning Policy And Biotechnology Solutions For Food Waste Management And Valorization In Vietnam*, Biotechnology Reports, 28 (2020)

[38] Ibid. Feng Ming Tsai, et al., supra note 31.

[39] Ibid. Ministry of Natural Resources and Environment of Vietnam, supra note 32.

[40] Tran Van Nam & Lai Minh Chuc, *"Barriers To The Commercialization Of Inventions, A Practical View From The WTM "Made In Vietnam" Start-Up", Proceedings, National Conference on Connecting Network to Support Innovation and Invention [Hoi thao quoc gia: Ket noi mang luoi nghien cuu chinh sach ho tro khoi nghiep doi moi sang tao]*, Lao Dong Press, 400 (2021).

[41] Ibid.

[42] *"Prioritizing Advanced Waste Treatment Technology"*, Nhan Dan Online (2021). https://nhandan.vn/tranghanoi-tin-chung/uu-tien-cong-nghe-xu-ly-rac-thai-hien-dai-678557/, accessed 2 February 2022.

[43] Nguyen Huu Hoang & Csaba Fogarassy, Sustainability Evaluation Of Municipal Solid Waste Management System For Hanoi (Vietnam) - Why To Choose The 'Waste-To-Energy' Concept, Sustainability, 12.3 (2020).

[44] *"Engineers Invented Environment-Friendly Automatic Rubbish Classification - News Vietnamnet"*, English.Vietnamnet.Vn (2012). (7 February 2022) http://english.vietnamnet.vn/fms/environment/22990/engineers-invented-environment-friendly-automatic-rubbish-classification.html.

the World Intellectual Property Organization (WIPO) Publish database of the IP Office of Vietnam at http://wipopublish.ipvietnam.gov.vn/wopublish-search/public/patents.

At Ha Nam Waste Treatment Plant, the monitoring and control system with automatic mechanical technology and digital image combined with internet transmission was completed by Mr. Chuc in May 2010. In considering the possibility of mass production, in January 2012, the Ministry of Science and Technology (MOST) and the Ministry of Industry and Trade (MOIT) decided to support 30% of the capital (approximately US$120,000) for Mr. Chuc to implement the project. By May 2012, the automatic control system with digital programming technology (PLC) and remote control by wireless devices and image-perfect technology was manufactured successfully. The highlight of the 4th generation automatic sorting machine combination used for sorting input composite waste, is the automatic sorting technology that saves on cost and energy when compared to prior sorting lines, specifically:

- Installation area is less than 10%;
- Using 10-20% of fair labor;
- Only use electrical energy equal to 30%;
- The total cost of waste classification is reduced by over 70%;
- Volume of iron and steel for manufacturing is reduced by 80%.

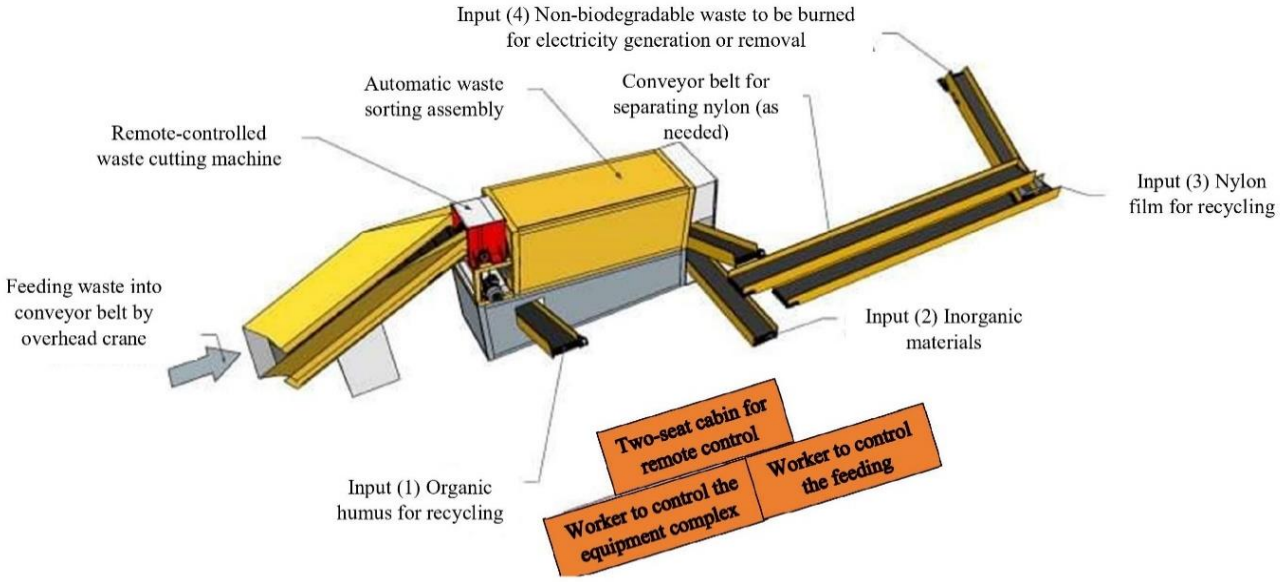

Figure 1: Model of Automatic waste sorting equipment complex with remote control invented [Source: Inventor Lai Minh Chuc]

Notably, the quality of waste sorting of this technology is much higher than that of prior manually-operated devices, thus overcoming the secondary pollution situation of emissions and micro infectious bacteria for workers and the environment around the factory. According to the Director of Ha Nam Waste Treatment Plant, Ms. Nguyen Ngoc Hue, this is a totally automatic technology that should be widely used in Vietnam.[45]

[45] Tran Van Nam, *Observation From The Waste Sorting Technology Transfer Case Study In Vietnam: Towards A New Circular For The Establishment And Operation Of Intermediary Organizations, Hanoi Law University*, Conference on Commercialization of Intellectual Property Assets (2021).

5.4 The Illustrative Valuation and Commercialization of Remote Waste Treatment Technology

5.4.1 The Illustrative Valuation Estimated by an Independent Expert

As the claims of Mr. Chuc cover the technology in a meaningful way, with enforceable claims, WIPO and her Vietnam counterpart arranged a pilot service to evaluate the invention that was already patented at the IP Office.

The aforesaid waste treatment technology was valued by Dr. Robert Sanders, Managing Partner of Global IP Services LLP, Singapore, and Managing Director of Global IP Services Australia Pty Ltd, in an illustrative Independent Expert's Report (IER) under the terms of a proposal extended during the WIPO IP Valuation workshop in Hanoi, Vietnam in June 2013.

a) The Purpose and Scope of Valuation

The IER was prepared for the purpose of providing an illustrative valuation of Mr. Chuc's technology as of 1 July 2013. The scope of the illustrative valuation exercise is governed by the nomination of the waste treatment technology as a valuation case study, and the communication of material changes to the facts and instructions contained therein and since provided, and or confirmed, by the inventor and IP Office after that date.

b) The Basis of Valuation

The basis of valuation selected was existing (and planned) use, or valuation of the subject intangible assets against the existing operational, marketing and financial strategies that the owner currently has in place, and/or might, in the reviewer's view, implement in the future.

Valuation should be premised on fair market value, or the value that would be negotiated between a knowledgeable and willing, but not anxious, buyer, and a knowledgeable and willing, but not anxious, seller, acting in an arms-length transaction, where both the buyer and seller are fully informed.

c) Independence of the Valuer

The IER, and the valuation activity undertaken in support of it was produced by the valuer acting independent of the engaging party. While engaged under the terms of the proposal, the valuer has at all times been able to conduct his activities independently and objectively, and arrived at his conclusions freely.

Independence is here taken to include (as outlined in APES 225 – **Valuation Services** issued by the Accounting Professional and Ethical Standards Board):

- Independence of mind: the state of mind that permits the provision of an opinion without being affected by influences that compromise professional judgment, allowing an individual to act with integrity, and exercise objectivity and professional skepticism.

- Independence in appearance: the avoidance of facts and circumstances that are so significant a reasonable and informed third party, having knowledge of all relevant information, including any safeguards applied, would reasonably conclude a Firm's, or a member of the Engagement team's integrity, objectivity or professional skepticism had been compromised.

d) Valuation Approaches

The valuation approaches adopted in determining the estimates of value for the specified

intangible assets and valuation elements were the cost, income and approaches from a market-based perspective.

Particular methods and sub-methods employed included:

- Cost of Reproduction or Replacement
- Anticipated benefits. The estimation of reasonably expected future economic benefits (including revenue) against the (Specialised Information Security Services) SISS business model and strategy.
- Conversion of Anticipated Benefits (Risk Assessment – including economic, technological, and functional obsolescence)
- Comparable Transaction Analysis

DCF (Discount Cash Flow) analysis was applied to existing and projected revenue streams to assert the NPV (Net Present Value) of these.

e) Specific Information Utilized

Given the pre-commercial stage of waste treatment technology (at the time of this report), as opposed to a business model and intangible asset development, overall, and the future-premised nature of most licensing revenue streams and projections, there was a particular reliance on primary information and modeling sourced from the owner of the technology. The subsequent validation, and cross-checking of all internally sourced information was a priority.

The Fair Value Hierarchy places fair value-supporting information and inputs into three categories or levels. Appropriately separating observable (Level 1 and 2) from unobservable (Level 3) inputs, the Fair Value Hierarchy essentially rates information that is more 'market-derived' (and hence objectively observable) above information that is, by contrast, more likely to be based on the reporting entity's assumptions.

While a preference for observable inputs such as Level 1 Inputs: Quoted prices (unadjusted) in active markets for identical assets that the reporting entity has the ability to access at the measurement date and Level 2 Inputs: Market-related inputs other than the quoted prices included in Level 1 (such as prices in related, but inactive, markets) that are observable for the assets was appropriately maintained in dealing with the valuation elements designated by the owner of the waste treatment technology in the scope of this engagement.

It was deemed appropriate to request and rely on management representations, and supporting information, which constituted in terms of the fair value hierarchy, the "best information available" to undertake this valuation exercise.

Extensive efforts were then undertaken to test and validate all WMT-related management representations, particularly those material to the estimation of valuation-related cost and revenue streams. Overall, the valuer was satisfied with the accuracy, and consistency of the internal and publicly available documentation provided, and independently sourced and tested, in the context of this exercise.

The specific information relied on reaching the conclusions of value in this report included:

- "Costs of Developing the Waste Treatment Machine" Report from Mr. Chuc (June 2013)

- The usually comprehensive range of inputs and information made available for valuation engagements was restricted to a single translated response to set questions, and a detailed cost of development table, provided by the inventor. As the main objective was to provide an illustrative valuation report, this was considered sufficient in this situation.

General information available to the public was also sourced from a variety of websites and information databases, including:

- Industry websites

f) Cost of Development

The total cost of developing the waste treatment technology was estimated at **US$1.149 million**, which is broken down as below:

Table 1: The detailed breakdown of the costs for developing the waste treatment technology [Source: Inventor Lai Minh Chuc]

Total Costs for Developing the Waste Treatment Equipment			
Activities		**Cost (in million VND)**	**Cost (in million USD)**
I	Labor costs	4,830	0.225
II	Loans without interest	8,062.5	0.375
III	Costs for purchasing supplies and facilities for manufacturing and testing	11,780.5	0.549
Total		**24,673**	**1.149**

The historical costs provided were reviewed and assessed in the context of the IER. This investment provides the owner, in the context of a nationally recognized and highly regarded technology, with a capacity to leverage these in the context of a Vietnamese domestic market with well-researched and sustainable requirements for the solution that waste treatment technology represents.

g) Value of Vietnam Market for Waste Treatment Technology

The capital for establishing each waste treatment plant (with a notional handling capacity of 1,000 tons of waste per day) is estimated at US$24 million, according to other research by Mr. Chuc. Based on the provided information, a planning estimate (for calculation of fair value purposes) of 10 plants (across three cities: Hai Phong, Hanoi, and Ho Chi Minh City) was used.

Again, for calculation purposes, the valuer assumed a flatlined commissioning of waste treatment plants over a 5-year period, the following capital investment trend, with an upfront 'spike' in the first year as the first facilities (essentially 1 for each key metropolitan center) was commissioned, was envisaged.

Table 2: Capital investment trend in Vietnam market for waste treatment technology over 5 years

[Source: Robert Sander, Valuation Report of the Remote Waste Treament Technology of Inventor Lai Minh Chuc, 2013]

Value of Vietnam market for waste treatment Units (Capital Cost Basis)	**US$**
Year 1	80,000,000
Year 3	160,000,000
Year 5	240,000,000

h) The Estimated Value of the Waste Treatment Technology

First, the valuer argued that the cost-based approach was not appropriate for assessing the fair value of the waste treatment technology. The cost-based approach, including the consideration of any component of the US$1.149 million amount reported by the inventor in the context of this exercise as total costs associated with the development of the waste treatment technology, was rejected as it did not, in the reviewer's opinion, adequately reflect or indicate the enterprise fair value the technology would have in relation to the fair value of royalty-based, and other practicable income streams in relation to the 5-10 year plant rollout (and US$24 million per plant capital model) outlined above.

Second, the market-based approach was constrained by the lack of an active and relevant "waste treatment technology" market. This market was inadequate for fair value purposes, as illustrated by the "Nil Response" results for direct comparable transaction (acquisition) searches.

Hence, for illustration purposes, the income-based approach was employed and calculated. Applying a notional 6% royalty rate (to depict the notional contribution of the Technology on a Relief-from-Royalty basis against the US$240 million capital model relied upon) against the first 5 years of waste treatment plant roll-out revenues, a total revenue stream of $14.4 million was depicted. Applying a (straight line – for illustration purposes) discount rate of 15%, on a DCF basis, a fair value of **US$12.24 million** in NPV terms was derived.

This depicts an appropriate (internal and illustrative) fair value for the subject waste treatment technology and is not meant, in any way, to establish or constrain their potential commercial market value to potential acquirers, especially those interested in exploiting an international (beyond Vietnam) market for its application.

5.4.2. Actual Commercialization of Remote Waste Treatment Technology and Findings

Despite the positive result of the valuation, the commercialization of remote waste treatment technology was not straightforward. From 2008 to 2018, some prototypes were built and underwent tests in Seraphin Son Tay Waste Treatment Plant, Ha Nam Waste Treatment Plant, and another treatment plant located in Dai Dong Commune, Hung Yen Province. In addition, the inventor and his CIRDETC attended several seminars and meetings with the local authorities across Vietnam to introduce their technology and seek the government's support.

With no limits to the public sector only, some proposals on cooperation were exchanged with several project investors, who looked for suitable technologies to be applied in their plants. Mr. Chuc and CIRDETC approached Phu Thai, a potential investor in the field of waste treatment in Vietnam, and proposed to build some plants in Hanoi and its satellite provinces like Bac Giang, Bac Ninh, and Ha Nam. Some possible cooperative schemes between CIRDETC and Phu Thai were discussed, but

the progress for application of the technology was quite slow.

It was not until 2019, the sixth generation of remote waste treatment technology was successfully transferred and built in Xuan Loc District, Dong Nai Province. The sixth remote-controlled waste sorting machine complex was transferred to sort 100 tons of urban waste each day at the Cu Lao Xanh Waste Treatment Company. An advantage of the waste sorting equipment complex is that the entire factory is located in a closed workshop, thereby minimizing the spread of odors to the surrounding environment. The garbage sorting process only needs two workers to operate with one controlling the robot to put the waste into the machine. This equipment can separate up to 80% of the organic sources from the synthetic waste. On the other hand, the machine can sort out organic waste to produce compost for agriculture. The waste sorting machine complex allows to reduce 70-85% of landfill volume compared to current technologies. However, after a year of operation, the agreement to transfer waste sorting technology at Cu Lao Xanh Waste Treatment Company was terminated due to a non-conformity of the licensee to respect the Licensor's IPRs.

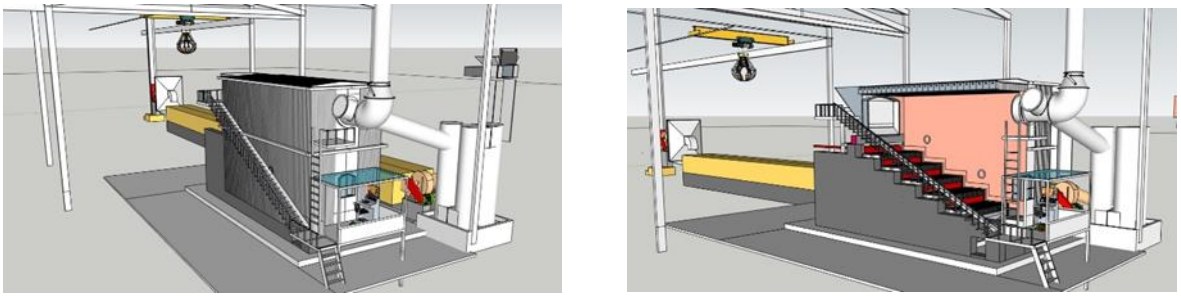

Figure 2: 02 models of incinerators used in combination with the automatic waste sorting equipment complex with remote control [Source: Inventor Lai Minh Chuc]

This was the first time that the technology was successfully commercialized after many efforts of its owner, marking the late success and opening a prospective future. According to Mr. Chuc, although the benefits from the first transfer of technology could not cover his 10-year investment, it made the inventor more self-confident in following his risky business. After maturing from many failures in the past, perhaps Mr. Chuc and his Company's shareholders gradually understood the "key" for the commercialization of their technology in the Vietnamese market.

5.5 Discussions and Findings

5.5.1 Obstacles to Commercialization in the Case of Mr. Chuc's Technology

An invention can be commercialized if it can produce a specific product, process, or service. Generally speaking, inventions require a combination of different technical fields, so a patent by itself is only one contributing factor. Therefore, to commercialize such inventions, it will take an inventor a long time from experimental research to creating a prototype on an industrial scale. From the scenario of remote waste treatment technology, the required conditions for a startup company to successfully transfer its patents' rights are:

(i) the technology must have a compelling "value proposition" that has been reasonably well-validated by the Company. The value proposition is the quantified benefits of using the technology minus the costs of implementation.

(ii) if the Company cannot rent facilities, it must obtain its own factory premises to manufacture waste treatment equipment according to the Company's inventions. Equipment expected to be produced and supplied to the market includes: (1) Automatic waste sorting machines, (2) Machines for processing biological compost, and (3) Waste incinerator.

(iii) There is a requirement that the Company acquires at least one real "buyer" to carry out the

latest generation of waste sorting provided by the Company. This licensing contract will help to generate more potential licensees in the future.

(iv) The Company should find at least one real partner to cooperate with in order to process bio-composting organic waste. The Company's waste sorting equipment proves that the invention is effective and sustainable for the entire life cycle of urban waste treatment.

(v) There is a requirement that the Company acquires at least one angel fund to allocate capital for manufacturing an incinerator of urban waste treatment on an industrial scale (see Figure 2).

5.5.2 The Benefit and Drawbacks of Valuation in Commercialization in Vietnam

Given the intangible and unique nature of a patent, its value is not easily assessed like other traditional properties. Undoubtedly, valuation is only a starting point for negotiation between a licensee and a licensor. In Vietnam, the patent valuation provided by a qualified appraisal organization is a reliable source for parties in their negotiation. In some complicated cases, the parties may obtain the valuation results from different service providers to get an average valuation accepted by both parties.

In Mr. Chuc's case, the valuation of US$12.24 million resulting from the income approach was not accepted by the potential purchasers. A commonly given reason is the income-approach valuation is very high, and even not realistic, in the eyes of potential purchasers. In general, the potential purchasers were very reluctant to pay such a high price, while there was no guarantee that Mr. Chuc's patent would bring the expected profits if applied in reality. Instead, the potential purchasers opted for the cost-based valuation, i.e., US$1.149 million, much lower than the income-based one that Mr. Chuc preferred. Due to the big gap between these 02 amounts, the negotiations between Mr. Chuc and potential purchasers often came to a dead end. This proves our point that "patent valuation" per se is a dead-end for trying to enter into a license with unproven technology.

Hence, the lesson from Mr. Chuc's case is the patent valuation, no matter which approach is used, is still just a source of reference. To actively commercialize the patent, the inventors should not fix the price at their expectation, but adjust it to be reasonable and affordable, while considering the potential purchaser's perspective. As disclosed by Mr. Chuc, the final price accepted by both parties was less than his expectation, but still much better than a zero-income scenario if the negotiation fails[46].

6. Recommendations

6.1 Long-term Strategy for Promoting Domestic Patent Registration

Mr. Chuc is not the only inventor facing difficulties in patent commercialization in Vietnam. The application and registration are meaningless if the owners could not commercialize their protected patents to recover expenses and gain benefits. Bearing this concern, Vietnamese entities are quite hesitant in developing their own technologies and filing for patents, and according to the Ministry of Science and Technology of Vietnam, the number of domestic patent applications and registrations from 2010 to 2019 is 5,851 (including 5,020 applications and 831 registrations), just equivalent to around 10% of the number (i.e., 58,085) of the foreigners' applications and registrations.[47]

[46] An interview by Tran Van Nam with Inventor Lai Minh Chuc at the 1st Vietnam Leaders in Innovation Fellowship – (LIF) Seminar conducted in August 1, 2021 by the National Economics University and LIF Vietnam.

[47] Ministry of Science and Technology of Vietnam, Proposal On Approving The Intellectual Property Development Program toward 2030, pp. 4 (Hanoi, 2020).

Acknowledging the vital role of domestic technologies in improving national competitiveness, on 24 December 2020, the Prime Minister issued Decision No. 2205/QD-TTg approving "the Intellectual Property Development Program toward 2030," targeting that by the year 2030, the number of patent applications filed by Vietnamese research institutes and universities is expected to grow by an average of 16-18% per year. Besides, the exploitation and commercialization of IP assets will be emphasized and promoted, especially since 8-10% of patented inventions are expected to be commercially exploited.

To meet these targets, the Vietnamese government sets out the following six groups of solutions:

- Strengthening innovative activities, improving the quality of human resources on innovation and intellectual property;
- Promoting the registration of intellectual property at home and abroad;
- Improving the efficiency of management, exploitation and development of intellectual property;
- Enhancing the efficiency of enforcement against infringements;
- Developing and improving the capacity of intermediary organizations and rights holders;
- Creating a culture of respecting intellectual property in society.

It is premature to predict whether these targets will be achieved in 2030. However, there is an impression that the Vietnamese government is showing its efforts in realizing goals through many actions. Based on the Prime Minister's Decision No. 2205/QD-TTg, each local government made its own plans for implementation in their localities, with different targets and proposed solutions to be suitable to their specific conditions. In addition, the draft amendments to the IP Law, which are currently under the National Assembly's review, may entail regulatory changes to facilitate the domestic inventors in registering, protecting and commercializing their patents, in accordance with Decision No. 2205/QD-TTg.

6.2 Restructuring The Legal Framework for Establishment and Operation of the Intermediary Organization

On June 13, 2014, the Minister of Science and Technology issued Circular No. 16/2014/TT-BKHCN on the conditions for the establishment and operation of the intermediary organization of the science and technology market ("Circular 16") aims to form a network of intermediary organizations, promoting consultancy and brokerage activities in technology transfer and commercializing research results. After seven years of implementing the Circular, in addition to identifying intermediary organizations, the network establishment purpose was not achieved due to the setting of conditions attached to the operation registration procedure.

In the context of reduction of administrative procedures, strengthening support to develop intermediaries for the science and technology market, and the innovation ecosystem, it is no longer appropriate for any conditions and set up procedures for establishment and operation registration for intermediary organizations.

The Law on Technology Transfer 2017 and Decree No. 76/2018/ND-CP detailing and guiding the implementation of the Law on Technology Transfer stipulate that an intermediary organization to receive support must be an organization performing functions such as connection and brokerage, consulting, evaluating, evaluating prices, without setting conditions for each type of intermediaries and procedures for establishment and operation registration. Instead, these two legal documents regulate support mechanisms (subjects, content, forms, sources of support...) to improve operational capacity, and promote the intermediary organizations in the market, thereby forming a network that

can connect and share resources, and information. However, the support content should continue to be concretized as a basis for determining the level of support in financial documents of related programs and projects.

Therefore, replacing Circular 16 towards establishing supportive content shall be an urgent requirement to meet practical requirements. Particularly, the Vietnamese government should recognize the following functions of intermediary organizations:

- to provide consulting and brokerage services, technology transfer promotion, commercialization of scientific research and technological development results; technology assessment, evaluation and assessment; incubation of technology and incubation of science and technology enterprises according to the law on technology transfer.

- to provide innovative start-up support services, including (i) advising organizations and individuals on how to improve, innovate technology, technology products, business models; management, exploitation and commercialization of intellectual property; (ii) providing services to support organizations and individuals in selecting, acquiring, decoding, mastering and improving technologies; (c) consulting and training on scientific research and technological development; complete, apply and commercialize technology; start a business, corporate governance, market development, branding, intellectual property management; (d) investing, mobilizing investment capital, supporting financial activities, crediting for incubating and commercializing science and technology and enterprises.

An intermediary organization performing the functions specified in this circular may be organized in the forms of technology exchange centers, transfer of technology offices, incubators, or other entities according to the current legal regulations. The intermediary organization should be supported in the following areas:

- to support the value of brokerage contracts, consultancy, promotion of science and technology market, technology commercialization, results of scientific research and development.

- to give priority to participation in programs and projects that support the promotion of science and technology market development and commercialization of scientific research and technological and intellectual property results. Innovation start-up and other related programs and projects using the state budget.

- to support for organizing and participating in events at home and abroad, including (i) support to organize and participate in workshops on technology transfer and commercialization, technology and equipment market (Techmart), supply-demand technology demonstration (tech demo), an exhibition introducing technology, results of scientific research and technological development, investment day for technology commercialization (Demo Day), startup and innovation days, invention exhibition, science and technology exhibition commercialization potential (Techshow); and (ii) support for providing renting costs of local and international exhibitions for the promotion of science and technology market, technology commercialization.

- to support in terms of innovation start-ups: (i) support the cost of using equipment at technical facilities; (ii) support fees for participation in incubation facilities and common working areas; (iii) support under consultancy contracts on procedures for establishment, transfer and protection of IPRs; (iv) support under consultancy contracts on the formulation and implementation of intellectual property policies and strategies; (v) support according to the value of consultancy contracts on design, protection registration, exploitation and development of the value of inventions, industrial designs and trademarks; (vi) support according to the value of consultancy contracts on the formulation of grassroots standards; and (vii) support for testing, verification, inspection and quality certification costs.

Vietnam is in a phase of accelerating industrialization and modernization, thus, issuing new sub-laws to support technology transfer services conducted by intermediary organizations will help to fill the gap between Vietnam and other economies in the region.

7. Conclusion

A patent, even registered at the intellectual property offices, is almost meaningless if it is not exploited and commercialized effectively by its owner, and patent valuation can be useful – or become a hindrance – in the commercialization process. However, the case of Inventor Lai Minh Chuc has shown that patent valuation and commercialization are not straightforward tasks in the context of Vietnam, where the legal framework is still inadequate, and the potential purchasers often reject the valuation calculated by an independent valuer.

Therefore, to quickly commercialize a patent, the inventors are advised to adjust the price flexibly to meet the acceptable threshold of potential purchasers. Inventors should use a "pre-negotiation valuation" approach as the basis for a mutually designed (negotiated) value-capture and risk-sharing mechanism. When engaging in this negotiation, Inventors should consider the balance of a "front-loaded" value capture (i.e., larger upfront license fees, when invention is at its riskiest) and versus "back-loaded" value capture (i.e., larger royalty rates on sales, milestone payments, etc). Such a balance will ultimately lead to more patent transactions and value creation and capture for Inventors and their commercialization partners. Furthermore, it is necessary to improve the legal framework for patent valuation and commercialization, through the long-term strategy of promoting domestic patent registration, and the restructuring of the legal framework of the establishment and operation of the intermediary organization.

8. Acknowledgment

This research is funded by Vietnam National Foundation for Science and Technology Development (NAFOSTED) under grant number 505.01-2020.301

References

Publications in English

Alexander J. Wurzer, Theo Grünewald Dieter Reinhardt, *Valuation of Patents, 1st edition,* Kluwer Law International.

Dilip Sharma & Abhijeet Kumar (2021), *Methods of Intellectual Property Valuation, Handbook of Intellectual Property Research: Lenses, Methods and Perspective (OUP),* in Irene Calboli & Maria Lillà Montagnani (eds.).

Feng Ming Tsai, et al. (2020), *A Causal Municipal Solid Waste Management Model For Sustainable Cities In Vietnam Under Uncertainty: A Comparison, Resources, Conservation And Recycling, 154*

Maayan Perel (2014), *An Ex Ante Theory of Patent Valuation: Transforming Patent Quality into Patent Value*, Journal of High Technology Law, 14, 148.

Nguyen Huu Hoang & Csaba Fogarassy (2020), *Sustainability Evaluation Of Municipal Solid Waste Management System For Hanoi (Vietnam) - Why To Choose The 'Waste-To-Energy' Concept*, Sustainability, 12.3

Prabuddha Sanyal (2005), *Valuation of Patents from a Multinational Perspective*, Journal Patent & Trademark Office Society, 87, 548.

Robert Sander (2013), *Valuation of Nominated Waste Treatment Machine ("WTM") Intangible Assets;* Independent Specialist's Report (Illustrative Case Study); Global IP Services LLP

Tran Van Nam (2018), *Strengthen legal roles of intermediaries for a Real Breakthrough of technology transfer in Vietnam*, The 15th some ASLI Conference, Law in Asia, looking into the future, Seoul National University.

Tran Van Nam et al (2022), *Recommendations for Improvement of Laws and Regulations for Trademark Pricing Services in Vietnam*, Webology, Vol 19, No. 1, (January, 2022) https://www.webology.org/issue.php?volume=19&issue=52&page=4

Tat-Dat Bui, et al. (2020), *Effective Municipal Solid Waste Management Capability Under Uncertainty In Vietnam: Utilizing Economic Efficiency And Technology To Foster Social Mobilization And Environmental Integrity*, Journal of Cleaner Production, 259.

Wen-jing Wang & Xue-yi You (2021), *Benefits Analysis Of Classification Of Municipal Solid Waste Based On System Dynamics*, Journal of Cleaner Production, 279.

X. Cuong Nguyen, et al. (2020), *Call For Planning Policy And Biotechnology Solutions For Food Waste Management And Valorization In Vietnam,* Biotechnology Reports, 28.

Yanmei Lin and Natalie W.M. Wong; *Forging Partnerships and Fostering Wisdom: Dynamics of an Environmental Public Interest Litigation Network in Advocating Sustainable Municipal Solid Waste Management in China*; The Chinese Journal of Comparative Law, (2022) pp. 119 https://doi.org/10.1093/cjcl/cxac017

Publications in Vietnamese

Doan Van Truong, (2011), *Collection of valuation methods for intangible assets, intellectual property rights, technology valuation and transfer prices inside multinational companies*, [Tuyen tap phuong phap tham dinh gia tri cac loai tai san vo hinh, quyen so huu tri tue, dinh gia cong nghe va gia chuyen giao ben trong cac cong ty da quoc gia], *Science and Technology Publishing House.*

Duong Thu Nga (2014), *Intellectual property valuation according to Vietnam laws* [Dinh gia tai san tri tue theo phap luat Viet Nam], Master of Laws Thesis, Faculty of Law, Vietnam National University.

Hoang Lan Phuong (2012), *Overcoming the inadequacies of Vietnamese law on intellectual property valuation* [Khac phuc nhung bat cap cua Phap luat Viet Nam ve định gia tai san tri tue], Policy and Management of Science and Technology Magazine [Tap chi Chinh sach va quan ly Khoa hoc va Cong nghe], Vol 1, Issue 2, p62-72.

Le Minh Thai (2017), *Completing regulations on intellectual property valuation in the context of economic integration* [Hoan thien quy dinh ve dinh gia tai san tri tue trong dieu kien hoi nhap kinh te], Journal of Finance [Tap chi Tài chinh], (July, 2017), https://tapchitaichinh.vn/nghien-cuu-trao-doi/hoan-thien-quy-dinh-ve-dinh-gia-tai-san-tri-tue-trong-dieu-kien-hoi-nhap-kinh-te-127276.html

Ministry of Science and Technology (2006), *Legal research and some methods of technology valuation* [Nghien cuu phuong phap luan và mot so phuong phap đinh gia cong nghe], Department of Technology Appraisal, Examination and Assessment.

Nguyen Huu Can, et al. (2009), *Theoretical and practical research to develop a patent valuation method applicable to Vietnam* [Nghien cuu ly luan va thuc tien nham xay dung phuong phap đinh gia sang che ap dung cho Viet Nam], Vietnam Intellectual Property Research Institute – Ministry of Science and Technology.

The Ministry of Science and Technology (2013), *Theoretical and practical research to propose principles, approaches, and processes for valuing intellectual property in Vietnam*, [Nghien cuu co so ly luan, thuc tien de de xuat nguyen tac, cach tiep can và quy trinh dinh gia tai san tri tue ap dung tai Viet Nam], National Agency for Technology Entrepreneurship and Commercialization Development.

Tran Van Hai et al (2006), *Some points to pay attention to when valuing intellectual property of enterprises in the equitization process* [Mot so diem can chu y khi dinh gia tai san tri tue cua doanh nghiep trong qua trinh co phan hoa], Report of International Workshop: Vietnam in the process of becoming a member of WTO – Transforming state enterprises in Vietnam, Hanoi.

Tran Van Nam (2020), *Identifying shortcomings in determining the value of intellectual property of startups in Vietnam today* [Nhan dang cac bat cap ve xac dịnh gia tri tai san tri tue cua cac startup o Viet Nam hien nay], *Law and Practice Journal [Tap chi Phap Luat va Thuc tien]*, Issue 39.

Tran Van Nam (2017), *Current situations and legal solutions to promote technology transfer services in Vietnam* [Thuc trang va giai phap thuc day dich vụ chuyen giao cong nghe o Viet Nam], *Journal of Science and Technology Manpower [Nhan luc Khoa hoc xa hoi]*, Issue 03, pp.3-13.

Tran Van Nam (2018), *Perfecting regulations on intermediaries' activities to develop science – technology market*, [Hoan thien quy đinh ve to chuc trung gian nham thuc day dịch vu chuyen giao cong nghe tai Viet Nam], *Journal of Legal Studies [Nghien cuu Lap phap]*, No. 03 pp.89 - 94.

Tran Van Nam, et al. (3rd eds, 2022), *Chapter 5 Valuation of Intellectual Property Assets, Intellectual Property Law Textbook* [Giao trinh Phap luat so huu tri tue], National Economics University Press [Nha xuat ban Dai hoc Kinh te Quoc dan].

ISSN 2226-6771