Page 2039 - 2054 **DOI:** *https://doij.org/10.10000/IJLMH.115063*

INTERNATIONAL JOURNAL OF LAW MANAGEMENT & HUMANITIES

[ISSN 2581-5369]

Volume 6 | Issue 3

2023

Human Cloning: Whether a Nemesis to Mankind?

DRISYA M.[1]

ABSTRACT

Cloning encompasses a range of techniques that enable the production of genetically identical replicas of a living organism. A clone is an exact replica of an organism or object that possesses identical genetic information as the source. In the 1990s, Ivan Wilmut and his colleagues successfully cloned the first mammal, a sheep named Dolly. Subsequently, Japanese scientists conducted cloning on cattle, while Asian Gaur was cloned in the United States.

Human beings are endowed with two distinct sets of traits, namely biological and cultural attributes. The practise of cloning is incongruous with the principles of evolutionary mechanisms posited by prominent figures such as Mendel and Darwin. The absence of aforementioned factors is notable in the context of duplicated individuals. From a non-religious perspective, this notion is viewed unfavourably.

In 1998, Richard Seed made the initial declaration of human cloning in Chicago. Seed proposed nuclear transfer as a means of reproductive cloning to aid infertile individuals, considering human cloning as a promising avenue for the development of this method. Reproductive cloning is widely proscribed across the globe, with only a few countries opting to establish regulatory frameworks for this practise.

This research article aims to study and analyse the concept of Human Cloning, its positive and negative consequences, the bio ethical issues and various conventions revolving around human cloning.

Keywords: *Human cloning, Reproductive cloning, Human rights.*

I. INTRODUCTION

"To prohibit all forms of human cloning is as much as they are incompatible with human dignity and the protection of human rights." -United Nations Declaration on Human Cloning, 2005.[2]

Cloning in mammals, or the reproduction of identical, was once attempted in sheep in the 1990s, resulting in the formation of Dolly, who perished soon after. Cloning has gotten easier with the advancement of biotechnology. Scientists estimate that 80–90 percent of human cloning fails,

[1] Author is a student at Nehru Academy of Law, Lakkidi, Palakkad, India.

[2] Susan Mayor, UN committee approves declaration on human cloning, National Library of Medicine (March 5,2005,10.00 am), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC552835/.

 [ISSN 2581-5369]

and this does not include the natural intake and birth of identical twins. As a result of these advancements, it was demonstrated that human clones could be created through reproductive and therapeutic cloning, resulting in completely cloned individuals and the production of particular organs. Human cloning is prohibited in around 70 nations, including India. Rather than focusing just on ethics, this broadens the field of inquiry and is a challenging issue in the new era. But still, even though it exists as an issue of discussion, it is not banned in the US, where the research on this is still going on.[3]

Humans inherit two characteristics: biological and cultural. Cloning contradicts the notions of evolutionary processes offered by Mendel, Darwin, and others. Those are missing in the case of replicated individuals; from a secular standpoint, it is really a negative idea.[4]

Concerning ethics, research on human subject suggests many problems in cloning to produce children namely of safety, consent, exploitation of women and distribution of risk. These are to be given higher importance rather than to the use of a highly perfected cloning technology.

Human reproductive cloning is an assisted reproductive technology for the procreation of identical child of that of any other human being paving negative effect on ethical, religious, societal, scientific and medical aspects (dangerous to women, foetus and newborn).It is not only a matter of prudence, cloning to produce children would also be an injustice to the cloned child from the imposition of chromosomes of someone else. It is an ultimate claim that the cloned child would be seriously wronged not only bodily. It is a unanimous agreement that cloning to produce children are not only unsafe but also morally unacceptable and ought not to be attempted.

The Convention for the Protection of Human Rights of the Council of Europe and its added guidelines on the restriction of genetic manipulation state that *"the increased social status of humankind through the deliberate creation of genetically identical human beings is contrary to human dignity and thus constitutes the misuse of biology and medicine."*[5]

According to the aforementioned studies by famous biotechnology scientists and thinkers, the question of whether cloned embryos have the very same respect as organically formed individuals emerges. The subject of patents on cloning remains a source of contention among

[3] Jason J. Jardine,The Law and Human Cloning,Knobbe Martens (November 6,2018,12.00 pm), https://www.knobbe.com/news/2018/06/law-and-human-cloning#_ftnref8.

[4]Francisco J. Ayala,Cloning humans? Biological, ethical, and social considerations,National Library of Medicine(21 July,2015,02.00 pm),https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4517218/.

[5] Timothy Caulfield,Human cloning laws, human dignity and the poverty of the policy making dialogue,PMC Medical Ethics(29 July,2003,04.30 pm),https://bmcmedethics.biomedcentral.com/articles/10.1186/1472-6939-4-3.

 [ISSN 2581-5369]

experts. Throwing light on science fiction, it emphasises the process of cloning and executing criminal offences or any unlawful behaviours that might result from human cloning, since humans are prone to interpreting and enacting what they are doing, hearing, reading, and so on. The rights of different species other than humans are violated throughout the cloning process. A bioethicist says, "The programmed reproduction of man will, in fact, dehumanise him." The ethos that can be found is scientifically inaccurate and philosophically problematic for the clones.[6]

II. HUMAN CLONING: ADVANCEMENT OF BIOTECHNOLOGY

The concept of biotechnology and cloning are as old as human civilization, fermentation being the oldest biotechnological process found.[7]

The employment of microorganisms, plant cells, animal cells and their biological components cell lines in the generation of useful products and services to human beings is generally termed as biotechnology. Which can be classified as:

- Old biotechnology (use of microorganisms for production of useful products)
- Modern biotechnology (Genetically Modified Plants and Organisms are produced)
- Medical biotechnology (medicinal gene synthesis, in-vitro fertilization)

European Federation of Biotechnology (EFB) has defined biotechnology as "integration of natural science and organisms, cell part thereof and molecules analogue for products and services." Combining both traditional and modern biotechnological aspects[8].

The manipulation of gene and genetic material by man is an emerging branch of science and technology called as the recombinant DNA technology, genetic engineering, DNA manipulation biotechnology holding its advancement in Polymerase Chain Reaction(PCR), gene cloning, DNA fingerprinting, In-vitro fertilization etc. this is engaged both in case of plants, microorganisms, medicines and animals.

The biotechnology is applied in case of agriculture for food production i.e. transformation of the plants can be seen as:

- Agro chemical based agriculture

[6] Bertrand Pulman,The Issues Involved in Cloning: Sociology and Bioethics,Cairn(May 6,2005,03.00 pm),https://www.cairn.info/revue-francaise-de-sociologie-1-2007-5-page-129.htm#no8.

[7] Aamarpali Roy,Human Cloning in ancient India: Is it a reality?,ResearchGate(4 June 2018,09.00pm),https://www.researchgate.net/publication/339850335_Human_Cloning_in_ancient_India_Is_it_a_reality.

[8] K.Bhatti,Companion Biology 665(S Dinesh and co.,2017)

 [ISSN 2581-5369]

- Organic agriculture
- Genetically engineered crop based agriculture

The plants so produced possess different characteristics in consonance with the natural ones. Namely:

- To tolerate adverse environment (abiotic stress)
- Insect resistance (Example. Bt Cotton)
- To yield higher amount of commercial products (gray biotechnology)
- Viral resistance
- Modification of flower colour
- Pest resistance in plants etc.

In case of microorganisms the transgenic microorganisms were also produced i.e. the microorganisms containing foreign functional gene in it. For a variety of reasons, including:

- Transgenic bacteria and yeast
- For environmental use (accelerate degradation)
- Transgenic E-coli (for production of milk)[9]

The contribution of modern biotechnology towards medicine and therapeutic drugs is highly appreciated for the treatment of various diseases. This has helped to find ways to diagnose, treat and prevent diseases to a great extent, gene therapy etc.

Transgenic animals are those kind of animals that have been genetically modified by incorporation of foreign or other specific gene by technology i.e. DNA recombination. Rats, rabbits, pigs, sheeps, cows etc. has been created by the use of this technology which involves great precision and knowledge. Involving high technical steps:

- Identification, location and isolation of gene
- Finding suitable vector
- Fusion
- Introduction of new recombinant

They are usually done for specific purposes:

[9] P.S.Dhami,G.Chopra & H.N.Srivastava,Pradeep's Textbook of Biology 46(Pradeep Publications,2015)

 [ISSN 2581-5369]

- Study of diseases
- Biological product
- Vaccine testing
- Chemical safety testing etc.

Cloning refers to a variety of procedures that can be used to create genetically identical duplicates of a biological organism. A clone is a copy of something that has the same genetic code as the original.[10]

A population of identical molecules (genes), cells or organism all derived from the same parent by asexual source is known as a clone. The process of producing genetically similar molecule, cell or organisms from a common precursor by asexual reproduction in-vitro or in-vivos is termed as cloning.[11]

The act of cloning can be by:

- Natural means (E Coli bacteria)
- Artificial cases (case of Dolly Sheep)

There are different techniques employed for the process of cloning:

- Cell cloning (devising genetically identical cells from a single parent cell)
- Gene cloning (production of large volume of DNA fragment)

The world's first mammalian clone is Dolly, the sheep in 1990s by Ivan Wilmut and Co-workers. Later the cloning was done on cattles by the Japanese scientists, Asian Gaur in USA etc.[12]

Human cell lines formed by cloning maybe used in treating diseases and replacing parts is always regarded as the success factor in the technological development. In the process of treating diseases, bone marrow transplantation etc.

The matter of human cloning shall be classified as:

- Reproductive cloning
- Therapeutic cloning

[10] National Human Genome Research Institute,Cloning Fact Sheet,NIH(15 August,2020,04.00 pm),https://www.genome.gov/about-genomics/fact-sheets/Cloning-Fact-Sheet.
[11] P.S.Dhami,G.Chopra & H.N.Srivastava,Pradeep's Textbook of Biology 49(Pradeep Publications,2015)
[12] Adèle Langlois,The global governance of human cloning: the case of UNESCO,Humanities and Social Sciences Communications(21 March,2017,05.00 pm),https://www.nature.com/articles/palcomms201719.

 [ISSN 2581-5369]

- Molecular cloning

Reproductive cloning is the process of transfer of asexual cells to an egg and the removal of its DNA and placing it in the uterus of the recipient (real or artificial) and the development of embryo leading to the development of identical clone i.e. similar to that of the gene donor:

- Helps seek immortality
- Bypass infertility
- Triumph over death by recreating loved ones.

Therapeutic cloning or embryonic cloning i.e. the development of i.e. duplication of any kind of biological matter human embryo for research purpose and treatment in case of regenerative medicines. Research is undergoing in the use of these cloned cells in the treatment of Alzheimer's, cancer, spinal cord injury etc.[13]

The progress in therapeutically cloning has slowed down due to the ethical issues in cloning.[14]

Molecular cloning is wherein the DNA of two separate organisms is used for the process of cloning and is being used in modern biotechnology and in medicines.[15]

III. BOON AND BANE OF HUMAN CLONING

The benefits of human cloning are numerous and varied. Human cloning can offer significant assistance to couples who experience infertility or reproductive challenges. This statement implies that the process of reproduction can be altered to incorporate the characteristics of both parents with the help of cloning.

The extraction of a minute quantity of cells from particular organs helps in the production and procurement of fully operational new organs. Genetic cloning is the process by which this is achieved.

The process of modifying genes has the potential to mitigate or eliminate genetic abnormalities in an individual. Individuals may possess genetic defects that can be remedied through the use of human cloning techniques.

The process of human cloning has been suggested as a potential means of mitigating the effects

[13] ABBY TANG,MICHELLE YAN,VICTORIA BARRANCO,Why we still haven't cloned humans — it's not just ethics,Business Insider(7 July,2020,04.00pm), https://www.businessinsider.in/tech/news/why-we-still-havent-cloned-humans-its-not-just-ethics/articleshow/76842270.cms.

[14] Michael Rugnetta,Cloning,Britannica(16May 2023,04.00pm),https://www.britannica.com/science/cloning.

[15] Vartika Singhania,SHOULD HUMAN CLONING BE LEGALISED?,Knowlaw(28 May,2021,03.00pm),https://knowlaw.in/index.php/2021/05/28/human-cloning-legalised/.

of defective genes. While genetic illnesses may not pose a significant threat presently, there is a possibility that they could become a more substantial concern in the future. The implementation of human cloning through the introduction of healthy human cells has the potential to address the issue of genetic defects.

The cloning procedure has the potential to provide significant assistance in the recovery process for individuals who have sustained severe injuries, such as paralysis. This may result in accelerated recovery and enhanced healing.

The drawbacks associated with human cloning human cloning has been criticised for potentially disrupting the natural process of procreation, which some argue should remain unaltered. There is criticism of the artificiality of the process and the potential for a domino effect, which could have adverse impacts on other aspects of life.

The possibility exists that the practise of human cloning may result in societal fragmentation and engender a significant social divide. The possibility exists that clones may not be accorded the same status as human beings, potentially resulting in social upheaval.

The use of human cloning presents a significant risk and likelihood of its potential misuse. Illicit actions can be perpetrated, and morally questionable gains can be obtained through its utilisation.

The success rate of human cloning is a cause for concern. The aforementioned phenomenon may result in the contamination of DNA and various other associated hazards. A malfunction in the cloning process could potentially result in a catastrophic event of significant magnitude.

It is considered to be in violation of the religious ethics held by a significant number of individuals. The notion of humans assuming the role of creator and attaining the status of supreme being has the potential to significantly impact the religious convictions and ethical principles of a substantial portion of the populace.

(A) United Nations

The Universal Declaration of Human Rights and the Human Genome are worldwide benchmarks for the moral, juridical, and social consequences of genetic and genomic developments. It recognises all humans' intrinsic dignity and equality, highlights the relevance of genomic sciences and development, and advocates the idea of non-discrimination. In addition, it highlights the significance of full consent and individual liberty in scientific studies and therapeutic practise. The Universal Declaration on the Human Genome and Human Rights underlines the necessity of preserving genetic data privacy and confidentiality. It also fosters

 [ISSN 2581-5369]

worldwide cooperation in genetic studies and supports the truly open sharing of scientific knowledge.

It highlights the significance of genetic education and the public's understanding of the ramifications of genetics. It emphasises the necessity of genetics and genomics education and public awareness, as well as the application of research literacy and ethical thinking. It helps to build a reasonable and rational strategy with the use of genomic information and technology, therefore promoting a more open and fair future for mankind.

(B) Universal Declaration Of Human Rights

The Universal Declaration of Human Rights (UDHR) highlights all people's intrinsic dignity and equality, as well as their rights to life, liberty, personal security, confidentiality, family, and non-discrimination. Human cloning involves a number of complicated ethical and moral quandaries, including the possibility of human and civil life and the right to individual freedom, as well as the risk of discrimination and stigmatisation. As it raises complicated problems concerning human rights, identity, confidentiality, community, and bias, the principles of the UDHR can serve as a framework for ethical considerations concerning human cloning. Human cloning regulations and recommendations have been produced by countries and international organisations.

(C) United Nations Educational, Scientific And Cultural Organization

UNESCO has been actively involved in discussions and activities concerning human cloning, establishing a number of statements and international bodies that give advice and set ethical standards. UNESCO approved the Universal Declaration on the Human Genome and Human Rights in 1997, emphasising the need for responsible practises and respect for human dignity. UNESCO approved the Universal Declaration on Bioethics and Human Rights in 2005, which tackles a wide variety of ethical challenges in biomedicine and the life sciences. UNESCO has also organised worldwide expert gatherings and seminars to encourage discourse and ethical agreement on human cloning. UNESCO contributes to the worldwide conversation on genetic research and the ethical issues that surround it.

A restriction on cloning violates people's privacy rights and reproductive autonomy.

Universal Declaration of Human Rights (UDHR) guarantees the right to have children and protects the family as a private space. Furthermore, the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) recognises the right of women to make

 [ISSN 2581-5369]

free and responsible decisions about the number and spacing of their children.[16]

The Many of the reasons against cloning are similar to those advanced 40 years ago against IVF (IVF). Concerns about portraying the role of a god were prevalent at the time, and we continue to wrestle with the constraints of our humanity. While real concerns, including the child's well-being, pertain to cloning, they are not unique to it and are greatly alleviated when responsible individuals are prepared to accept the moral and legal responsibility of motherhood.

(D) Human Dignity

Human dignity is a complicated term that refers to every individual's intrinsic worth, relevance, and esteem just because they are human. There are several views and ethical issues when considering human replication in the context of human dignity. Reproductive cloning tries to generate a genetically similar individual from a cloned human for the purposes of this experiment. Critics say that reproductive cloning undermines human uniqueness and individuality and may lead to the monetization of humankind, the disappearance of genetic variation, and the violation of human rights. Therapeutic cloning, also called somatic cell nuclear transfer, is a distinct procedure used to generate embryonic stem cells for medical study and possible therapeutics. Analysing the morals of therapeutic cloning requires taking into account all of the possible advantages, hazards, and ethical problems. It demands establishing a ratio amongst scientific development, esteem for individualism and liberty, and recognition of all persons' intrinsic value and dignity. Human cloning, particularly reproductive cloning, raises complex ethical quandaries that overlap with the concept of human dignity. To negotiate the possible benefits and hazards in a way that preserves the ideals of human dignity, it requires comprehensive analysis, the inclusion of many opinions, and ongoing ethical dialogues.[17]

(E) Liberty

The advancement of new fertility treatments has produced a slew of ethical questions, prompting the development of policies and guidelines to resolve these quandaries. One such idea is reproductive liberty, which states that child-bearing choices should be determined by people who are contemplating reproducing. This concept condemns coercive tactics such as forced sterilisation or the denial of abortion access. It highlights the importance of people having

[16] United Nations General Assembly,Convention on the Elimination of All Forms of Discrimination against Women New York, 18 December 1979,United Nations(4 June,2010,05.00pm),https://www.ohchr.org/en/instruments-mechanisms/instruments/convention-elimination-all-forms-discrimination-against-women.

[17] Carmel Shalev,HUMAN CLONING AND HUMAN RIGHTS: A Commentary,JSTOR(21 December,2010,01.00pm),https://www.hsph.harvard.edu/hhrjournal/wp-content/uploads/sites/2469/2013/07/8-Shalev.pdf.

 [ISSN 2581-5369]

the freedom to address the major challenges of human life without governmental interference. To defend the freedom to reproduce through cloning, reproductive liberty has also been invoked. It has, nevertheless, played an important part in the principles of in vitro fertilisation (IVF) programmes. IVF frequently results in an excess of frozen embryos, creating severe moral dilemmas. Dis agreements amongst the persons participating in the embryogenesis process, as well as situations involving deceased participants, have prompted concerns regarding the fate of all these embryonic cells. Third-party involvement, such as hospitals, religious institutions, and lobbyists, affects the choice process even further. In resolving these issues, the concept of reproductive liberty has typically driven the notion that the original parents should now have the ability to decide the destiny of the embryos. However, the advent of somatic cell nuclear transfer (SCNT) cloning has complicated defining whose reproductive liberty is at risk in such decisions. While women's reproductive liberty is paramount in traditional reproduction and genetic parents are involved in IVF, the question gets more complicated in the case of SCNT cloning.[18]

IV. BIO ETHICAL ISSUES OF CLONING

Human cloning is viewed as a viable option for infertile couples desiring a biologically related child as well as a method of preventing hereditary illnesses. It can assure the child's health and well-being, give a solution for fertility problems, protect genetic legacy, solve genetic or hereditary illnesses, and help same-sex couples reproduce. Advocates of genetic replication for children believe that it solves infertility and hereditary illnesses and allows biologically linked offspring to meet personal preferences. To protect safety, several nations have outlawed human cloning research and created rules for stem cell research. Cloning poses bioethical concerns, such as the disruption of natural laws and the possibility of human life's exploitation and commodification. It also raises more concerns about the liberty and rights of cloned people, as well as their safety and well-being. Furthermore, it raises difficult concerns about family connections and the role of motherhood. Cloning raises more concerns about the mental and emotional processes of communities, the social and legal frameworks that regulate parental rights and obligations, and the possibility of unethical use of technology. It also raises questions regarding human beings' individuality and diversity, the possible emotional impact of replicated people and society, and the potential repercussions of generating and eliminating human life for research purposes.[19]

[18] Prof. Robert Sparrow,Therapeutic Cloning and Reproductive Liberty, Robsparrow (10 April, 2009, 02.00pm), https://robsparrow.com/wp-content/uploads/Therapeutic-cloning-and-reproductive-liberty.pdf.

[19] Anisha Bhandari, Human cloning and its legal aspects ,iPleaders(10 January, 2021, 05.00pm),

Eisenstadt v Baird[20]

In the year 1972, the Supreme Court of US pronounced the judgement relating to reproductive freedom, that "if the right to privacy means anything, it is the right of the individual, married or single, to be free from unwanted governmental intrusion into matters so affecting a person as a decision, whether to bear or begat a child"

(A) Ethical Controversies

Human genetic cloning is frowned upon owing to the emotional, sociological, and physical hazards involved, as well as existential quandaries about procreation and human identity. Because it creates and destroys human life, therapeutic and scientific cloning are equally contentious. To address ethical issues around cloning, laws and international agreements have been formed. In 2005, the United Nations adopted a Resolution on Human Cloning, encouraging member states to outlaw any types of human gene editing that are contrary to the principles of integrity and life guarantee. The Human Fertilization and Embryology Authority in the United Kingdom issues permits for the generation of human embryonic stem cells by nuclear transfer. Government laws do not exist in the United States, but the Dickey-Wicker amendments prohibit the use of federal funding for injury or destruction.[21]

For many years, reproductive cloning has been the subject of heated discussion and examination, but its potential concerns have generated serious concerns. Animal cloning success rates have proven exceedingly low, prompting worries as to the reliability and well-being of replicated people. Furthermore, the intricacy and complexity of human growth make the process much more difficult. In the context of human cloning, ethical issues play a key role since they raise deep questions about procreation and the importance of phenotypic mutations. Cloning for the intention of generating "better" people or selecting preferred qualities is considered a breach of fairness, independence, and humanitarian values.

Furthermore, the fear of replicated people being viewed as products or things creates ethical difficulties. To address these ethical problems and control the process of cloning, legislation and international treaties have been enacted. Many governments have banned human cloning, acknowledging the need to emphasise ethical issues while also protecting individuals' well-being and dignity. Public opinion is also important, since ethical concerns about therapeutic reproduction have led to considerable scepticism and rejection. To maintain responsible and

---

https://blog.ipleaders.in/human-cloning-legal-aspects/?amp=1#Bioethical_issues_of_Cloning.

[20] 405 US 438 (1972)

[21] Michael Rugnetta,cloning,Britannica(24 April,2023,10.00am),https://www.britannica.com/science/cloning/Ethical-controversy.

ethical procedures in scientific study and progress, it is critical to engage in continuing conversations and analyses of the ethical problems of cloning.[22]

V. BANNING OF HUMAN CLONING

Over 60 prominent science academies worldwide have advocated for a United Nations prohibition on the reproductive cloning of humans, citing the need to safeguard vulnerable individuals from exploitation. However, they advocated that the prohibition should not encompass the cloning of human tissue for therapeutic purposes. The United Kingdom has enacted a prohibition on human cloning while simultaneously authorizing investigations into therapeutic cloning, which aims to address afflictions such as Parkinson's disease, multiple sclerosis, and other ailments. According to the UDHGHR, the aim of genetic research is to enhance the well-being of both individuals and the broader population. The existence of health disparities between individuals with varying socioeconomic statuses is a well-established global phenomenon. There is concern that the advancements resulting from the genomic revolution may further widen the gap in access to quality healthcare between developed and developing nations. A significant apprehension is that genetic medicine and pharmaceuticals may become technologically advanced commodities that exceed the accessibility of public healthcare systems. Developed nations are currently grappling with the challenge of prioritizing healthcare expenditures due to their limited capacity to offer comprehensive coverage for expensive medical and pharmaceutical innovations. It is improbable that any nation with a publicly funded healthcare system would have the financial capacity to support the provision of all conceivable genetic healthcare services. The expenses associated with conducting research in the field of bioinformatics are often too high for many public economies to bear due to the advanced infrastructure and research capacity that this technology demands. In which the situation may become increasingly dire, potentially resulting in a global catastrophe. The future world may be characterized by the coexistence of two discrete human populations. One group will enjoy sophisticated genetic and healthcare facilities, which will enable them to lead a life free from diseases for an unprecedented duration. In contrast, the other group will experience various illnesses and ailments, and their life expectancy will be comparable to that of individuals who lived a century ago.

Furthermore, it has been argued that cloning is a constituent of the eugenics doctrine and that the methods employed in cloning serve as the technological foundation for a broader

[22] Joe Phelan,Why haven't we cloned a human yet?,Livescience(9 May,2022,04.00pm), https://www.livescience.com/why-no-human-cloning

 [ISSN 2581-5369]

programme that would enable the transmission of genetically modified traits and genetic augmentation.

Individuals with enhanced inheritable traits, commonly referred to as the "GenRich," would likely exert dominance over the natural human population, which would be considered inferior in comparison.

The possibility of a genetic schism arising within the human species as a result of cloning has the potential to jeopardize the integrity of humankind. In order to address this issue proactively, it may be imperative to impose limitations and oversight on market dynamics to ensure that individuals and communities across the globe are afforded fair and impartial access to the advantages of genetic medicine.

The curtailment of liberty in the realms of commerce and agreement may be rationalized through the lens of ethical principles pertaining to the well-being of individuals and equitable treatment within society.

VI. INTELLECTUAL PROPERTY RIGHTS AND HUMAN CLONING

The progress in biotechnology has been emphasized by multiple sectors within the field. It is noteworthy that a majority of developing nations lack robust intellectual property rights (IPR) systems and successful payment structures. Intellectual property (IP) is a crucial aspect of the biotechnology industry, and it entails a dimension that fosters collaborative efforts, whether it pertains to drug discovery or clinical and commercial trials.

Intellectual property law has a big impact on the market. License privileges may be employed by patent holders to limit the accessibility of discoveries that have the potential to be utilized in subsequent research and development endeavors. Throughout the duration of the patent, proprietors are granted exclusive marketing rights and hold the ability to regulate the pricing of medicinal commodities. Intellectual property, much like research funding, is predominantly concentrated within the private sector of developed economies. Considerable discourse exists regarding the rationales behind the patenting of genes. According to a report published by the World Health Organization (WHO), the present state of affairs concerning the patenting of genomics-related discoveries can be described as nothing short of disorderly. The Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement of 1994 notably permitted the exemption of diagnostic, therapeutic, and surgical techniques from being eligible for patent protection. A significant inquiry pertains to the establishment of a public-domain policy for genetic medicine as opposed to the corporate intellectual property rights model prevalent in the pharmaceutical industry.

 [ISSN 2581-5369]

VII. HUMAN CLONING IN INTERNATIONAL SPHERE

The rapid development in the science, technology and research has paved its way to the formulation of rules and regulations relating to the use, application of it and the resources attached to it human cloning is a part of the international aspect of ethics and research in the biomedical strata. Almost 70 countries around the globe is in contravention to the idea of human cloning and the formulation of rules and regulations are let to the national and international level.

In the case of Europe, the reproductive human cloning is explicitly prohibited by The Charter of Fundamental Rights of European Union.

The debate regarding human cloning began in the UN General Assembly particularly to ban therapeutic human cloning; violative of human dignity, but couldn't find a solution and non-binding UN Declaration of Human Cloning was adopted in .

In the US, the Patients First Act, 2017 was passed promoting stem cell research inducing bioethics as a factor of concern. Currently there is no federal law banning cloning completely; but there exist ban in certain states and prohibits fund for it.

UK, the government passed Human Fertilization and Embryology Act, 1990 banning all forms of cloning later amended in 2001 permitting therapeutic cloning which was struck down in near period; In 2008, the Act allows the expert on hybrid human-animal embryo cloning.[23]

In India there is no particular law governing the human cloning but prohibits cloning of human beings. There exist guidelines that prohibit complete cloning of human beings.[24]

The Indian Council of Medical Research issued some far-reaching suggestions on biomedical research in 2006. In 2007 another set of guidelines that regulate stem cell research were issued, this specifically bans cloning of humans. These are mere guidelines and no legislation has been passed so far.[25]

According to the ICMR guidelines, 2017 the research is classified into three:

- Permissible (adult and cord blood)
- Restricted (embryonic)

[23] Varthika Singhania, SHOULD HUMAN CLONING BE LEGALISED?, KnowLaw(28 May, 2021, 05.00pm), https://knowlaw.in/index.php/2021/05/28/human-cloning-legalised/.

[24] Indian Council of Medical Research,Indian Council of Medical Research,(11 November, 2022), https://main.icmr.nic.in/content/thrust-areas-research.

[25] Pallava Bagla,Should India ban human cloning,NDTV(24 June, 2009, 05.00pm),[https://www.ndtv.com/offbeat/should-india-ban-human-cloning-396637

 [ISSN 2581-5369]

- Prohibited (reproductive cloning)

The permissible and restricted areas of research are permitted only with approval whereas in reproductive cloning is a prohibited area of research.[26]

The New Drugs and Clinical Trials Rule,2019 (Rule 15) mandates the ethical committee to approve, review and oversee matter relating to research involving National Ethical Guidelines for Bio Medical and Health Research involving human participants.[27]

Therapeutic cloning is restricted area of research and hence under the mandates of Section 26A of The Drugs and Cosmetics Act, 1940.[28]

Reproductive cloning being prohibited area of research does not fall under the purview of this Act.

Italy has passed strict laws prohibiting cloning.

VIII. CONCLUSION

The first announcement of human cloning was by Richard Seed in 1998 in Chicago as a service to sterile couple by nuclear transfer regarding human cloning as a developing method of reproductive cloning in helping sterile human species. The act of reproductive cloning is prohibited in most of the countries. Even though in certain countries there exist only guidelines.

In 2001, an American Company, Advanced Cell Technology has stated that their intention is not to create cloned human beings rather to make life saving therapies for wide range of diseases.[29]

Hence paving way to therapeutic reproduction.

The Korean scientist's research on therapeutic cloning has made it to seem the reproductive cloning more tangible.

It is also a matter of concern that if in-vitro fertilisation is accepted as a technology, human cloning could also be accepted to procreate children by considering the ethical aspects research on this matter is still advancing in the countries where human cloning is not prohibited, in a fast pace.

[26] Indian Council of Medical Research, NATIONAL ETHICAL GUIDELINES FOR BIOMEDICAL AND HEALTH RESEARCH INVOLVING HUMAN PARTICIPANTS, ICMR (10 October, 2017, 05.00pm), https://www.indiascienceandtechnology.gov.in/sites/default/files/file-uploads/guidelineregulations/1527507675_ICMR_Ethical_Guidelines_2017.pdf.
[27] New Drugs and Clinical Trials Rule,2019, Rule 15
[28] Drugs and Cosmetics Act, 1940, Section 26A
[29] Stephen J. Erdmann, What Part Is Taken by BIOTECHNOLOGY in Human Life?, advanced cell (23 June, 2022, 09.00pm), www.advancedcell.com.

 [ISSN 2581-5369]

Human reproductive cloning has wide range of legal implication. India even though does not have any legislation regulating the same, has proposed certain guidelines relating to the same and cloning should not be allowed in terms of human dignity, liberty leading to psychological and physical injury. Hence the regulation to be adopted for legitimate adoption of this technology.

It is of prime importance to make clear rules regarding human cloning (reproductive and therapeutic) to avoid the misuse of such research and to avoid chaos in the future and as seen in various conventions in the international and national sphere.

The granting of patent to such development regarding it as their intellectual property may be governed by private funding i.e. profit and hence the control has been imposed though. Regarding human cloning as a matter of global concern – health and justice.

It has both positive and negative aspect, but a threat to the identity of any individual is a matter of greater concern as it cannot be guaranteed that the technological advancements are not misused by the society leading to severe consequences especially in crimes.

These can be concluded from the recent debates relating to human cloning.

*****

 [ISSN 2581-5369]