

Human cloning, artificial wombs, and the future of Hindu succession act: reconciling biotechnology with lineage law

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Abstract. This paper explores the intricacies of modern biological advancements in the field of reproductive human cloning, artificial womb technology, and Hindu succession laws in India. While cloning remains prohibited, the future possibility of ectogenesis enabling large-scale or simplified cloning cannot be overlooked. The Hindu Succession Act of 1956 is insufficient to adequately address the rights of children born through ART or the hypothetical legal status of clones. While Hindu succession law emphasises the significance of legitimacy and proof of lineage in determining inheritance and coparcenary rights, the current statutory provisions fail to account for the complexities introduced by reproductive biotechnology. Due to the absence of explicit statutory provisions, key issues such as legitimacy, inheritance rights, and the legal recognition of heirs conceived through human cloning and ART—particularly in cases involving third-party donors or posthumous reproduction—remain unresolved. The situation requires a regulated medicolegal framework that considers the ethical, legal, and social implications. This paper examines the intersection of human cloning, artificial womb technology, and Hindu succession principles, highlighting critical gaps in existing legal framework and proposing pathways for legal reform.

1 Introduction

1.1 Reproductive human cloning

Human cloning, in the present world scenario, is under consideration for both therapeutic and reproductive ends. In simple terms, a reproductive clone refers to a person or individual who has been scientifically cloned from another natural individual in a laboratory setting. The cloned individual can be derived from only one natural human somatic cell and thus may have only one natural parent. Attempts are still underway to make reproductive cloning a success, but other than this, the issue also involves specific moral and legal barriers [1]. As of now, most countries have only allowed therapeutic human cloning, primarily used for the treatment of various diseases. Reproductive human cloning, which involves giving birth to a cloned individual having a life of its own, is yet to be legalised by most countries [2].

1.2 Hindu succession laws

Different personal laws govern people of different religions in India. This paper aims to explore the

application and potential changes in succession laws regarding reproductive human clones under the Hindu Succession Act, 1956.

1.3 The possibility of human cloning in the near future

Before we proceed with the analysis, it is pertinent to put forth a foundation for the possibility of successful development and legalisation of reproductive human cloning in the near future. There has been extensive research in the field of reproductive human cloning. Many countries have prohibited this concept due to ethical considerations. However, this does not warrant ignorance of the possibility of the development of the technique of reproductive cloning.

Research and past experiments have shown that, although there are several hurdles in the process, reproductive cloning is not impossible, especially following the news of the successful cloning of 'Dolly', the sheep. Although the reproductive cloning technologies may take time to develop, they are not impossible. Experiments have yielded favourable results in other animals. If the fast pace is maintained,

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it is not unlikely that reproductive cloning technologies will soon be developed in the near future. Reproductive cloning is a growing possibility that carries with it certain risks. However, reproductive cloning does entail certain advantages. Most of the risks are of a moral, ethical, and religious nature, and, most importantly, legal. If such guidelines can be established that achieve nationwide acceptance, reproductive cloning may soon become a reality. Reproductive cloning is likely to be perceived well by people in the near future. The possibility of cloning has been considered widely for infertile couples who may not want the involvement of a third party or even a second party [3]. Human cloning is a concept still under legal consideration, and the ban on reproductive cloning is not necessarily unlikely to change [4]. Cloning may prove to yield several advantages, such as generating clones of loved ones and fighting genetic diseases.

Artificial womb technology (AWT) is a recent development being explored to support extremely premature babies in developing to their full term in an artificial environment that mimics the mother's womb. AWT has been successfully used for lambs and may soon enter human trials. Although the technology raises various moral and legal concerns, it may prove to be a boon for future generations [5]. Though ectogenesis (conception-to-birth in a machine) is futuristic, related human trials are underway. If this happens, it will facilitate human cloning as no surrogate mother will be required, making the process more feasible. UN Declaration on Human Cloning prohibit reproductive cloning, but as the law enforcement varies across jurisdictions, Artificial wombs could enable clandestine or cross-border cloning practices. Cloning is prohibited, but what if a cloned child is trafficked to a country where reproductive cloning is prohibited, where the law is ambiguous regarding existing individuals who are products of human cloning? So, the law must be framed in this aspect also to stop any such child trafficking in future. AWT destabilises the traditional legal concept of birth and parentage and also paves the way for surreptitious development of cloned embryos. Without proactive regulation frameworks, the law will lag behind technology, and justice will suffer.

1.4 Recent developments and similar precedents

There have been many recent developments regarding Assisted Reproductive Techniques (ART), like surrogacy, Human cloning, Artificial wombs and IVF techniques, among others. While many of these new technologies are still in their research phase, some have not yet received legal clearance to proceed with further research. These are primarily due to social and ethical concerns and can mainly be observed with respect to human cloning and surrogacy. This paper deals with concerns regarding the extent and manner of applicability of succession laws if human clones developed through reproductive cloning were to be possible in the near future. Human clones tend to have an ambiguous or incomplete parental lineage. What can be understood is that human cloning not only

faces geographical bans (a country prohibiting reproductive human cloning while another country allows the same), but also faces implementation hurdles across different religions. However, are mere moral or religious concerns strong enough to impose a ban and restrict the growth of such important biotechnological developments as human cloning? Can there not be a monitored and supervised development of the technology?

The CEDAW (Convention on the Elimination of All Forms of Discrimination Against Women), under Article 16(1)(e), grants women the rights to decide and access information regarding reproduction. Both the CEDAW and the ICPD (International Conference on Population and Development) convey that Reproductive rights include the right to make decisions without influence, coercion, or violence. The potential development of human clones in the near future raises significant concerns, as the consent of both parents may not be required. In present times, a human being is born of two parents. The female, through various conventions mentioned above, has been given rights over her reproductive health. With the development of new reproductive technologies where a human being may be born (or artificially developed) from only one person, we need to move forward by expanding the scope of the conventions already in place. In an increasingly complex world, we must question whether blanket bans truly promote societal progress. In a country like India, law is often shaped by the dynamic and emerging trends of the society.

Article 13 of the Indian Constitution recognises long-standing customs and traditions as sources of law. Therefore, references to Hindu mythology are relevant when discussing Hindu inheritance and the use of artificial reproductive technologies. The Mahabharata recounts stories involving modes similar to ART: Gandhari's hundred children emerging from divided embryonic masses contained in jars; Dronacharya supposedly being conceived from preserved sperm; and Balrama's birth occurring through an embryo transfer akin to that of a surrogate mother. The *Rigveda* refers to the *Rubhu* brothers, who were born by way of cloning. The three brothers mastered the technique of cloning and successfully cloned a cow and a horse. The enduring and widespread acceptance of these folktales across various generations suggests that society would probably come to gradually accept human cloning if it were to become a reality. A Recent Greek survey on 1020 people has also reported acceptability of human reproductive cloning for certain purposes [6].

The ethical concerns surrounding reproductive cloning are of paramount importance and need to be dealt with before reproductive human cloning is expressly given permission. At the same time, it is needless to say that a technology once developed is often subject to misuse due to poor implementation mechanisms. Reproductive human cloning entails several ethical concerns, including breach of privacy, commodification, human trafficking, non-consensual

clone, and issues regarding parentage. The National Ethical Guidelines for Biomedical and Health Research have prohibited research in reproductive human cloning in India. Deciding on the development of a clone or for one's own reproductive health is their own choice. The primary object of the state should not be to restrict the development of new technologies. Instead, the focus should be on conducting more research in the field and, simultaneously, developing practical guidelines for strict implementation.

Another such development is the Assisted reproductive technology conceived child. Where the semen and egg of a consented lawfully married couple are used, the child is the legal child of their marriage, having full rights to inherit from both parents. In situations where a child is born through cloning involving only one parent and developed through AWT, not involving any surrogate/natural mother, the child's legal status with respect to inheritance and succession rights remains ambiguous where no determinative heirship can be established. A special relationship of blood, matrimony, or adoption must exist between the deceased and the legal heirs, which qualifies and entitles the heir to inherit the deceased's property. Section 116 of the *Bhartiya Shakshya Adhiniyam, 2023*, provides that birth during marriage shall be conclusive proof of legitimacy, which means that when a child is born out of a lawful marriage between the husband and wife, the child is considered their legitimate child and is entitled to all inheritance rights.

Personal laws and the Indian Succession Act, 1925, primarily govern the inheritance laws in India. The succession laws laid down are based on their kinship to determine the order of preference. However, as far as human clones are concerned, they are not based on 'kinship'. They are purely developed from the genetic material of another individual. All personal laws relating to marriage and succession, even if providing for succession rights to an illegitimate child, cover within their ambit only the situation where the child is born to two parents, even if by way of adoption. Indeed, prominent situations have not arisen demanding renewed legislation to incorporate the rights of asexually or artificially born cloned individuals. However, the recent biotechnological advancement, like in the field of CRISPR babies, saviour siblings and other ARTs, demands the lifting of a blanket ban on reproductive human cloning and allowing the same in a regulated and controlled manner through the enactment of an adequate legislation and regulations.

2 Exploring the nuances of succession and cloning

2.1 Recognition under the Hindu Succession Act

The primary and fundamental question to address is whether a human clone can be classified as a "person" within the scope of the Hindu Succession Act 1956 (HSA). Section 2(1)(a) of the HSA states that the Act

applies to "any person...". It is crucial to ascertain whether the term "person" encompasses human clones. Section 3(42) of the General Clauses Act, 1897 defines "person" shall include any company or association or body of individuals, whether incorporated or not." In the United States, the term "person" under U.S.C. § 2510(6) includes any individual entity, both natural and legal. By analogy, it could be argued that the HSA might extend its application to human clones, considering them as natural entities akin to other human beings. Nonetheless, it remains to be determined whether a human clone should be regarded as a natural person or whether the HSA should be amended to introduce a distinct category for clones. If a human clone is treated as a natural person, it would conveniently fall under the provisions entailing male and female succession, as outlined in Sections 8, read with Schedule 1, and Section 15 of the HSA. Conversely, if a clone is not recognised as equivalent to a natural human, amendments to the Schedule would be necessary to identify the appropriate class of heirs to which the clone would belong, presenting significant legal challenges, particularly in determining the clone's right to inheritance. This interpretation requires further research to determine whether including reproductive human clones within the ambit of the term 'person' could introduce any ambiguity in other provisions of personal laws.

2.2 Determination of relationship with family members

Extensive research exists on determining the clone and its family members. This, by and large, depends on the biological and genetic characteristics of the clone thereof. W. Nicholson Price II has considered such an approach.[7]. A pertinent question that arises is- whether a reproductive human clone is to be treated as a child or a sibling?[8] A reasonable answer could be that, in case the clone is made from an adult (a person who has attained the marriageable age under section 5(iii) of the Hindu Marriage Act and is not a child under section 2(a) of the Prohibition of Child Marriage Act 2006), the clone would be considered a child of the person [9]. However, in cases where the person has not attained the marriageable age, a logical interpretation would only indicate that the clone is a sibling of that person. Hindu Succession rights would be applicable accordingly.

2.3 Share in coparcenary and parents' separate property

In cases where the clone is a child of the person from whom the clone is developed, an important consideration may arise as to the share of the clone in its parents' property. Further, in case of a cloned child being developed from a single individual without the necessity of having two parents, it is essential to determine the cloned child's share in both the coparcenary property and the parents' separate property. Moreover, if entitled to a share in the coparcenary property, it must be determined whether the cloned child would inherit from both the

parents or only from the parent who has cloned the child. Accordingly, it would impact the shares of the other children of the parents.

2.4 Determining the class of heirs for a cloned child

It is essential to determine the appropriate classification of a cloned child within the Schedule of heirs as outlined in the HSA 1956. A critical question is whether a cloned child be treated at par with existing terms such as son, daughter, father, or mother, or if a new classification should be introduced into the Schedule and under Section 15 of the HSA.

The Schedule to the HSA specifies two classes (class I and II) of heirs, applicable to a male Hindu dying intestate u/s 8. It is necessary to consider whether a cloned child should be encompassed within the term “son” or “daughter” or if a distinct category such as “cloned son” or “cloned daughter” should be added. Furthermore, a cloned child would only fall under the Schedule if the child was cloned from the father who is dying intestate. If the child was developed solely from the mother, inheritance rights would be governed by section 15 of the HSA. Even in this scenario, it must be determined whether a cloned child would be included u/s 15(1)(a) as a “son” or “daughter”. If not, an ambiguity arises whether the clone child or the mother’s parents would have priority over the mother’s property. Section 15(2) of HSA applies only in the absence of any children of the female Hindu dying intestate. Would the clone child be considered a child under this section? To make the situation more intriguing, what if the clone child has been developed from the husband of the female Hindu dying intestate? Can it be said that the wife had a child at the time of her death?

These ambiguities require a careful legal analysis. Customs and usages play an important role in Hindu laws. The customs and usages signifies any rule, having been continuously and uniformly observed for a long time, has obtained the force of law among Hindus in any local area, tribe, community, group or family: Provided that the rule is certain and not unreasonable or opposed to public policy: and Provided further that, in the case of a rule applicable only to a family, it has not been discontinued by the family; of the people unless they are violative of public policy. For emerging concepts like human cloning, there is no prior or existing source, such as custom and usage, to provide legal guidance in such a scenario.

2.4.1 clone as a sibling

As explained earlier, there may be instances where a clone is treated as a sibling. To put it another way, a situation may arise where parents decide to have a clone developed from their own child. The reasons may be multifaceted. However, in such a case, the clone developed would be considered a sibling of the natural child. In fact, since it carries the very same genes, it would not only be identical to the natural

child but would also appear to be a biological child of the same parents. It would lead to the inference that twin children were born to the parents. In such cases, ethical considerations entail treating both the children equally [10]

3 Proposed ethical guidelines for safeguarding the interests of cloned individuals in the near future

After careful consideration of the nuances mentioned above, the following succession guidelines for cloned individuals are proposed:

In cases where the clone is a child-

A cloned child shall be regarded as equal to other children of the parent [11].

The cloned child shall have a right in the separate and coparcenary property of the parent from whom the clone was developed.

If the cloned child is developed from a married person, it would be considered the child of both the parents if both parties consent to the same as similar to adoption, where the consent of married couple is necessary for adoption.

A cloned child shall not be considered as an adopted or illegitimate child [12].

A cloned child shall fall within Class I heirs under the Schedule of the Hindu Succession Act if cloned from the father.

If the cloned child is developed from the mother, the child shall fall under Section 15(1)(a) of the HSA.

A cloned child may make a will under Section 30 of the Hindu Succession Act, 1956 read with the Indian Succession Act, 1925 concerning property inherited or owned.

The children of a cloned child shall have a right to inherit the property of the cloned individual. The children of the cloned person may be adopted. The UN Convention on the Rights of the Child (UNCRC) under Article 21 provides for adoption and, the best interests of the child shall be the paramount consideration. The Hindu Adoption and Maintenance Act, 1956 also mandates that the adoption will be for the welfare of the child.

In the event of a cloned female child dying intestate, Sections 15(1)(c), (d), and (e) would be modified. Property under clause (c) would devolve solely to the parent from whom the clone was developed. Additionally, either clause (d) or clause (e) would apply depending on which parent the clone originated from.

In cases where the clone is a sibling-

The clone should be treated as a natural child of the parents of the child from whom it was cloned. All of the succession provisions would generally apply as if a new child were born into the family.

3.1 Frontier scenarios: testing the limits of law and ethics

Reproductive human cloning not only poses a challenge to the existing inheritance laws, but the technology gives rise to a series of advanced frontier scenarios that question the very limits of the legal and ethical framework. These situations include cross-gender replication, postmortem cloning, single parent cloning and others, the very natural framework of the functionality of life and death. The laws of nature are something that are deeply ingrained in the societal framework. The analysis of the intricacies that these challenges carry is essential to be carried out to demonstrate how the legalisation of reproductive human cloning pushes the very foundational framework of life into an uncharted territory.

3.1.1 Single Parent Conundrum: Reproductive Autonomy and Child Welfare

At the outset, it is essential to clarify the use of the term 'child' in reference to the clone. It has been dealt with earlier that there is no clear demarcation of whether a clone is a 'child'. Employing an assumption that a person has attained a marriageable age as per the governing law, the clone hence generated could be rightly classified as a 'child' of that person. One of the most significant challenges might be faced by the concept of reproductive human cloning is cloning a child of the opposite sex by a person. This involves moral, social and ethical challenges. It is a protectionist measure rooted in societal anxieties about the potential for sexual abuse. The prevailing social taboo against single-parent families would constitute a significant non-legal barrier to acceptance and could heavily influence judicial interpretation [13].

More advanced research in animal models has even demonstrated the possibility of generating viable offspring with genetic material from two fathers by reprogramming somatic cells into induced pluripotent stem (iPS) cells and exploiting the spontaneous loss of the Y chromosome to create functional oocytes.

Furthermore, this scenario directly engages the central ethical conflict in the cloning debate: a child as a "gift" to be accepted versus a "project" to be willed and controlled. Such an act could be seen as a violation of the child's right to an open future and a unique identity, as their very sex would be a product of their parent's design rather than genetic chance.

3.1.2 Post-mortem Cloning: Consent and Genetic Property

The prospect of cloning from a deceased individual may appear to be a domain of science fiction. However, this has been brought into the realm of legal possibility. Most recently, the Delhi High Court, in *Gurvinder Singh v. State (NCT of Delhi)*, 2024 SCC OnLine Del 6902, addressed the issue of posthumous reproduction. This was a situation where the petitioners' son died from cancer, but

had left a preserved frozen sample of his semen. The court determined that the deceased's due consent was present to allow the release of the semen sample for procreation. The court used the Hindu Succession Act to infer that the deceased's parents were the heirs of the deceased, and the frozen semen sample of the deceased was property that now belonged to the parents. This case stands as a landmark ruling on fertilisation and reproduction after the death of the parent individual. What is also relevant in this case is that the court pointed out there were no prohibitions against posthumous reproduction under the Assisted Reproductive Technologies Act 2021. The government was also to consider framing laws or guidelines to address issues related to posthumous reproduction and Postmortem Sperm Retrieval. This ruling is a significant step towards establishing similar rules and clarifying ambiguity in situations where the preserved living cells of a deceased individual could be used to develop a clone. This is needless to say that the element of consent would play a crucial role here. An individual who consents in writing or through a contract with ART service providers can have their clone developed posthumously. However, it is essential to consider that if this is not conducted in a regulated manner, it would lead to a state of 'manufacturing' human beings. It needs to be ensured at all costs that the consent of the individual is obtained during their lifetime. Certain restrictions should be brought by imposing a blanket ban on specific individuals with deviant behaviour, genetic ailments and minors. Married individuals should require the consent of their spouse. Furthermore, a testamentary guardian could be appointed who would have custody of the cloned child, subject to the condition that they have also consented to the development of the cloned child. Following the logic of the Delhi High Court, cryopreserved somatic cells, if used for cloning, could be deemed to be the property of the Class-I heirs of the deceased. However, this does not automatically grant the heirs the right to use the preserved cells for cloning purposes. The court, in the referred case, had clearly indicated that the deceased had expressed his consent as he wanted his semen to be cryopreserved for procreation in case of his untimely death. Thus, consent plays a significant role, and it must flow directly from the individual from whom the clone is to be developed, and also from the relevant parties who may directly or indirectly be affected by the development of the clone, such as the spouse, testamentary guardian, or even the other biological children of the deceased who have attained the age of majority [14].

3.1.3 Saviour Siblings and the spectre of Saviour Clones

The ethical debate surrounding reproductive human cloning often centres around the issue of instrumentalisation. This refers to a scenario where another living being is intended solely as a means to achieve an end. This concern is brought into the most straightforward focus due to the creation of a child for a therapeutic purpose. Therapeutic cloning already exists and is generally approved. By examining the established

and broadly accepted practice of creating 'saviour siblings and contrasting it with the hypothetical creation of a 'saviour clone', it is possible to explain a critical ethical concern. While both practices involve creating a life to help another, the creation of a saviour clone represents a more profound and ethically concerning form of instrumentalisation that challenged the very foundation of human dignity and the natural laws of life and death [15].

The creation of "saviour siblings" is a medical practice that utilises a combination of in vitro fertilisation (IVF) and preimplantation genetic diagnosis (PGD) to conceive a child who can be a tissue donor, typically for bone marrow or cord blood, for an older, critically ill sibling. The process involves creating multiple embryos, screening them for both the absence of the genetic disorder affecting the sick child and for a human leukocyte antigen (HLA) tissue match, and then implanting a suitable embryo. This practice is legal in many countries, including the United States and the United Kingdom, and is often considered ethically justifiable, primarily on utilitarian and consequentialist grounds.

The core ethical defence of saviour siblings rests on two pillars: benefit and intent. The primary outcome is undeniably positive: it has the potential to save the life of the sick child while simultaneously allowing the parents to have another, healthy child whom they desire.⁴⁸ The crucial element is the parental intent. The ethical justification presumes that the parents intend to love and raise the saviour sibling as a cherished individual in their own right, not merely as a collection of therapeutic tissues. The benefit to the sick sibling is a motive for the child's conception, but it is not the sole reason for their existence. Proponents argue that the saviour sibling also benefits from being born and from growing up in a family where their sibling is healthy, and the family unit is intact.

The ethical debate surrounding saviour siblings is not without complexity. It raises significant concerns about the commodification of embryos, the welfare of the donor child, and the nature of informed consent. A child, especially a young one, cannot give legally valid consent to a medical procedure like bone marrow donation. Parents must consent on their behalf, but in this context, they face an apparent conflict of interest, balancing the needs of both the sick child and the donor child. There is also the potential for a significant psychological burden on the saviour sibling, who may feel their value is tied to their utility to their older sibling. Despite these concerns, the practice is generally accepted because the child is a unique genetic individual who is *selected* for a purpose but is intended to be loved.

The creation of a "saviour clone" represents a radical departure from the practice of creating a saviour sibling and crosses a significant ethical line. A saviour clone would be a genetic replica of the sick individual, created through SCNT for the sole purpose of serving as a perfect source of immunologically compatible cells, tissues, or even organs. Such Act moves beyond

selection to outright manufacture, and in doing so, it constitutes a profound violation of the Kantian categorical imperative: "Act so that you treat humanity, whether in your own person or in the person of any other, always at the same time as an end, never as a means only".

The ethical distinction between a saviour sibling and a saviour clone is rooted in intent and uniqueness. A saviour sibling is a genetically unique person, a result of the genetic lottery of sexual reproduction, who is chosen from among other potential embryos. A saviour clone, by contrast, is a manufactured genetic copy. Their entire purpose is to serve as a biological resource for another. The Act of creation is inextricably linked to their use, making them the ultimate instrument. This practice would legitimise the creation of human life exclusively for its use in research or therapy, crossing a critical moral boundary. To permit the creation of saviour clones would be to open the door to the widespread commodification of human life, where artificially developed cloned children are viewed as products designed to meet the needs of biologically born children. It would represent the ultimate triumph of the "child as project" over the "child as gift" paradigm of parenting, a shift that many bioethicists warn would disfigure the parent-child relationship. Misuse is also inevitable; it might give rise to child trafficking cases.

3.1.4 Cloning: A Boon for Same-Sex Couples?

As has been discussed at length earlier, reproductive human cloning is something that does not require both parents to develop a clone. Same-sex couples face a challenge as they are not able to bear children. Countries like India, have not yet authorised or recognised the legal validity of same-sex marriages, as demonstrated by the Supreme Court of India in *Supriyo @ Supriya Chakraborty & Anr. v Union of India, 2023 INSC 920*. Many a times, arguments against such recognition arise on the grounds that the same-sex couples are not able to bear children. Introduction of reproductive human cloning would allow same sex couples to give birth to children by means of their clones, which could become a welcome move to further allow for the legal validity of same sex marriages. However, concerns may often arise about cross-gender cloning, and others may argue that allowing this would be against the very laws of nature, where same sex couples cannot bear children. The concept of legal guardianship and due consent also flows from the virtue of being a parent through a legal marriage. If the marriage of same-sex couples is not legally recognised, and the clone developed therefrom is to be considered a child of the couple not legally married, there is no valid consent of the clone so developed, and there was no means by which the consent of the couple was valid, as there was no legally recognised marriage in the first place. Thus, this becomes a vicious loop of a deadlock situation.

4 Towards a uniform law on human cloning and family rights

Currently, the legal framework is inadequate not only in India but also across foreign jurisdictions. There is no explicit mention of any guidelines applicable to human clones or individuals developed from a single human being. Furthermore, when children are biologically born to parents from different religious faiths, it often depends on factors such as the upbringing of the child. However, when we consider situations where a cloned child is developed from a single parent, it may give rise to disputes about the child's religious identity. A human clone is a development of the biotechnological advancements in the near future, not bound by any particular religion. Although succession rights and personal laws may still bind a clone born in a particular family, ethical considerations regarding reproductive human cloning should remain unimpacted by personal laws. Thus, uniformly applicable ethical regulations for human cloning are not only advisable but also essential.

4.1 Foundational Principles

The foremost principle in the regulation framework is the principle of human dignity, irrespective of the process of birth. Article 1 of the Universal Declaration of Human Rights (UDHR) by the U.N. proclaims that "all human beings are born free and equal in dignity and rights". Similarly, Article 2 of the International Covenant on Civil and Political Rights (ICCPR) by the U.N states, "Each State Party to the present Covenant undertakes to respect and to ensure to all individuals within its territory and subject to its jurisdiction the rights recognized in the present Covenant, without distinction of any kind, such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status." Thus, a clone by virtue of being a human shall enjoy all equal human rights as any other biologically born child enjoys. At the same time, a clone should not be developed without the due consent of the person from whom the clone is to be developed, or anyone legally authorised to consent on his behalf. Any person born through cloning should be entitled to all rights, freedoms, and protections guaranteed by the Constitution of India and enjoy the right to life and liberty under Article 21. There should be clearly set out principles to ensure that there is no commodification of human life. The laws of nature are the ones that have ruled this world since its conception, and any interference could prove to be a detrimental precedent for generations to come. Such principles should be uniformly applicable in order to have an overriding effect over conflicting provisions in any of the personal laws.

The enactment should also endeavour to include other similar uniform provisions relating to the status and kinship of the clone as per the age of the parent individual. For instance, if the clone is developed from an individual who has attained the age of majority and is not subject to any personal law, then the clone so developed will have the status of a child of the individual. However, in the case of an individual under eighteen years of age, the clone so developed shall have the status of a sibling of that individual, and the clone can only be developed with the consent of the

individual's parents, unless the individual has attained the age of majority.

4.2 Constituting a General Framework of Control

The current Indian approach to cloning, based on non-binding ICMR guidelines that prohibit reproductive cloning while restricting therapeutic cloning, is insufficient. A formal statute is needed to create a robust governance structure capable of managing the technology's evolution. This requires moving from a simple reactive prohibition to a system of proactive governance.

- (i) **Establishment of a Regulatory Authority:** It is proposed to establish a central statutory body, provisionally named the "National Reproductive Technologies Authority" (NRTA). This body, analogous to CARA for adoption, would be granted the exclusive authority to license, regulate, monitor, and oversee all research and clinical applications of human cloning and other advanced reproductive technologies in India.
- (ii) **Initial Moratorium on Reproductive Cloning:** In line with current scientific safety concerns and broad international sentiment, the Act should impose a strict, legally binding moratorium on human reproductive cloning.⁶⁴ This moratorium should carry severe criminal penalties for any violation, including imprisonment and substantial fines, to act as a powerful deterrent.
- (iii) **Mechanism for Review:** A permanent ban is brittle and can be quickly rendered obsolete by scientific progress. Therefore, the Act should empower the NRTA to conduct a mandatory review of the moratorium on reproductive cloning at regular intervals (e.g., every three to five years). This review will assess global scientific advancements, safety data from animal cloning, and the evolving ethical and social consensus, and provide recommendations to the Parliament for framing laws.
- (iv) **Restriction on Activities and Research Related to Human Cloning**
 - a) **Sole Authority of Government Institutions:** All activities, experiments, studies, and research relating to, or having a direct bearing upon, human cloning shall be conducted exclusively under the supervision, control, and authority of the Central Government or such Government institution or body as may be notified for this purpose.
 - b) **Prohibition on Private Entities:** No private individual, private organisation, corporation, institution, or other non-governmental entity shall undertake, participate in, collaborate in, or otherwise be associated with any activity, research, experiment, or work relating, directly or indirectly, to human cloning.
 - c) **Invalidation of Unauthorised Activity:** Any activity undertaken in contravention of this clause shall be deemed unlawful, void, and subject to penal action as may be prescribed under the relevant statute or rules made thereunder.

(v) **Non-Patentability, Confidentiality, and Disclosure Control of Human Cloning Research**

- a) Non-Patentability: Any invention, process, method, technology, material, research finding, or application that relates, directly or indirectly, to human cloning shall be deemed non-patentable and shall not be eligible for grant of any intellectual property rights under the Patents Act, 1970 or any other applicable law.
 - b) Confidentiality Requirement: All research data, results, documentation, findings, technological details, or related information pertaining to human cloning shall be classified as highly confidential and shall be maintained in secure custody by the designated Government authority.
 - c) Restriction on Publication and Dissemination: No publication, dissemination, communication, disclosure, or release of any information, findings, or material relating to human cloning shall be made by any person or entity except with the prior written approval of the Central Government or the competent authority notified in this behalf.
- (vi) **Permanent Prohibitions on Unethical Practices:** While the general ban on reproductive cloning may be subject to review, the Act should permanently and irrevocably prohibit certain practices deemed fundamentally contrary to human dignity. These should include:
1. The creation of a human being for the primary purpose of harvesting cells, tissues, or organs (i.e., "saviour clones").
 2. The creation of a human clone of the opposite sex from the progenitor ("cross-gender cloning").
 3. The creation of human-animal chimaeras.
 4. Any cloning performed without the explicit, prior, written, and informed consent of the genetic progenitor.
 5. Postmortem cloning, with prior written consent specifically for this purpose.

- (vii) **Regulation of Therapeutic Cloning:** The Act should formally legalise and regulate therapeutic cloning, moving it from the "restricted" category under ICMR guidelines to a permissible activity under the strict oversight of the NRTA. This would provide legal clarity for researchers and ensure that all such research is conducted in an ethical and transparent manner.

We propose ADPIE decision making model to integrate this framework ethically and systematically into the society. The bio-legal framework-ADPIE involves five different phases: (1) Assessment (gathering facts), (2) Diagnosis (identifying the conflict), (3) Planning (drafting a framework), (4) Implementation (enforcement of the draft) and, (5) Evaluation (feedback and refining) to frame a robust decision-making model and regularly upgrade it through continuous feedback. This legislative blueprint shifts the legal paradigm from a simple "stop sign" to a comprehensive "roadmap." It acknowledges that technology will inevitably advance and that the law must function as a dynamic instrument of governance, rather than a static barrier.

By creating a clear, uniform, and adaptable framework, India can ensure that the progeny of scientific progress is born into a society that recognises their rights, protects their dignity, and defines their place within the human family. This proactive approach is the only responsible way to manage the profound challenges and possibilities that human cloning presents.

Conclusion

The intersection of the Hindu succession laws and human clones is a complex one. It is not easy to proceed with such technological and biological advancement without definitive guidelines. There is a high risk of misuse of reproductive human clone technology. There are societal, ethical and religious hurdles. Some concerns raised by different scholars are associated to loss of dignity, identity crisis, unnatural creation, and playing with god.

However, ethical guidelines should be established to permit only those in genuine need to develop human clones. The current scenario necessitates open research platforms and support for research in the field of reproductive human cloning. The challenges pertaining to moral, ethical, and legal principles are genuine, but they do not warrant the express prohibition of technological advancement itself. The countries should make a collective and informed decision to allow for research and development of reproductive human clones, but in a manner that the facility can only be operated by state-controlled organisations. Private access to such technology may lead to irreparable consequences. Biological advancements are the very essence of today's fast-paced modern world. We must learn to promote development and simultaneously keep our laws updated in accordance with these developments.

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