**University Name.**

**Positive and Negative Effects of Cloning**

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 **The Positive and Negative Effects of Cloning**

Cloning is the process of creating a genetically identical copy of an organism or cell. It describes the processes that are used to generate an exact genetic copy of another cell tissue or organism. The replica material which has the same genetic makeup as the original is known as a clone. In biomedical research, cloning is widely defined as the duplication of any kind of biological material for scientific study such as a piece of DNA or an individual cell. There are three different types of cloning:

* Therapeutic cloning which produces embryonic stem cells.
* Gene cloning which generates copies of genes or segments of DNA.
* Reproductive cloning which produces copies of whole animals.

**Positive Effects of Cloning.**

1. **Resolves infertility issues**

Cloning enables couples who are unable to naturally conceive to create children to whom they are naturally related. It makes it possible for anyone to conceive a child who is genetically their own since it utilizes adult somatic cells. Infertility could become a thing of the past because doctors could take the genetic profiles of each parent, insert it into an embryo outside the body and grow the fetus in a laboratory environment. This process could help countries like Japan struggling with low birth rates right now.

1. **Prevents extinction of certain species.**

As many organisms in the world are near endangerment and extinction, cloning appears to be a promising solution to restoring population. Cloning can even help expand gene pool diversity by utilizing the genetic information of already deceased organisms. The cloning of extinct animals and their effective restoration will also enable scientists to fully study species as living organisms and not just studying their remains. It helps in restoring the population and genetics diversity of animals and plants that are threatened by habitat loss, poaching, diseases and climate change.

1. **Increases agricultural production.**

Cloning serves as means of boasting agricultural production especially in livestock and fresh produce which is an important benefit. During cloning, the target gene as well as the organism bearing the target gene is replicated faster than when it occurs naturally. Therefore, the number of organisms produced at a given time increased. It can also help increase the quantity and quality of food products such as milk, meat, eggs, fruits and vegetables. It can ensure the preservation and replication of the desirable traits of livestock and crops such as, disease resistance, high yields, nutritional value and taste. Cloning can also he’ll reduce the reliance on pesticides, hormones and antibiotics that may have harmful effects on the environment and human health.

1. **Enables same-gender couples to have offspring**

Cloning helps same-gender couples to conceive children who are biologically their own. The genetic manipulation could be targeted at giving the children that genetic traits of both parents. Children could be produced without using donor perms or donor eggs. The same-gender couples will only need a surrogate parent to carry the clone until its birth. Scientists who uphold this method believe that it would become justifiable for the couples to reproduce if the procedures are carried out safely.

1. **It greatly aids in the transplantation of organs**

Cloning can be considered as a crucial process in the event that there is need for an organ transplant especially in the event where and organ is not available. Through the process of cloning it may become possible to duplicate a patient’s needed organ in a laboratory environment to produce a viable outcome

1. **Aide for illness**

Cloning can be used to improve the compatibility and safety of organ transplant by making use of the patient's own cells to produce a clone of the organ needed. Cloning can help develop new therapies and curses for various illnesses and disorders such as cancer, diabetes, spinal cord injuries and organ failure. It can also be used in the testing of new drugs and vaccines. Therapeutic cloning, which takes place with the same methods as adult genetic cloning which allows resulting embryo to develop for days before the stem cells are removed and encouraged to develop into body tissues or whole human body parts that will be used for transplant or treatment of specific diseases.

**Negative effects of Cloning**

Even though cloning promises quite a number of benefits for research and industries, the results is sometimes certain due to high risks of losses and death of organisms during their development. Apart from that, the process of cloning remains elucidated. The following are some of its most common negative effects:

1. **It is unsafe**

Clones will not have the same behavioral attributes despite being genetically identical with each other. Apart from that there is no guarantee in the similarity of physical appearances. One of the risks associated with cloning is cell mutation and has been connected to the emergence of new and more serious genetic diseases in people. As a matter of fact, many people think that cloning will bring an end to civilization.

1. **Ethical, Social and moral dilemmas**

Cloning possessed ethical, social and moral challenges that should be addressed before it can be widely applied. Some of the issues included: the potential of exploiting and abusing clones, the violation of human dignity and rights, conflicts with religious and cultural value and uncertainty of long-term Consequences of cloning. It also involves manipulation and destruction of embryos which is considered to be equivalent to human life by some people.

1. **It can be easily misused**

Researchers should make an effort to keep the cloning technology under constant observation because there is always a chance of it being misused. If this technology is misused it can cause more harm than good to the world. Most people believe that the only way to prevent this situation is to not even put cloning into consideration since there is always someone looking for an opportunity to explore such technology.

1. **Causes lack of genetic diversity and individuality**

It reduces genetic variation and uniqueness of the living organisms. Genetic diversity is essential in the survival and adaptation of species to the changing environments and challenges. Cloning produces copies of existing genes which may limit the potential of evolution and innovation. It also raises questions about the identity and rights of the clones, who may be viewed simply as the replicas or commodities rather than individuals with their own personalities and preference.

1. **It might promote discrimination**

There is a clear presence of discrimination and prejudice in the word today which may be caused by either facial uniqueness or social differences. Therefore cloned persons would feel less human than other humans who not products of cloning.

1. **It is not reliable**

Cloning has not yet gotten to the point where can be effectively used to to aid in conservation of species. A number of scientists do not even accept cloning because it ignores the main causes of extinction in the first place, which is destruction of habitats and hunting.

1. **It has high level of uncertainty**

Since it is a new field of study that is still being explored, there is no secure way to foresee the potential psychological, social and medical effects. The manipulation of the human gene will have uncontrollable and unexpected effects that may affect out lives. Cloned persons may experience serious health issues at some point in their lives.

**Conclusion**

There are some positive effects of cloning that can benefit humans and other living beings. Positive effects serve various purposes such as: conservation, medicine, agriculture and research. However, cloning also posses ethical, social and technical challenges that should be addressed before it can be widely applied. Some of the issues include: reduced genetic diversity, risks of genetic defects, violation of human dignity and rights, loss of individuality and identity and moral and religious objections. Therefore cloning should be carefully regulated and monitored to ensure that it is used for hood and with respect to human life.