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## **CLONING IN THE DEVELOPING WORLD**

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### **I. THE DEVELOPING WORLD IN THE BIOTECHNOLOGY ERA**

When analyzing the cloning debates globally, we tend to focus on what is going on in industrialized countries, particularly in the United States, Canada and Europe. But we neglect to look at the developing world, even though some developing countries have been influential actors in the international debate in this area, both from a scientific and a policy standpoint.

Developing countries share common economic characteristics and often a history of colonialism and oppression. Nevertheless, astonishing inequalities exist not only between the North and the South but also within the developing world. Progress in science and biotechnology in the South has complicated the definition of the developing world. Currently, there are countries that notwithstanding having the status of ‘developing or third world nations’ have achieved significant progress in science and biotechnology, hence, blurring the distinction between first, second and third worlds.

A minority of developing countries have invested in science and biotechnology as the cornerstone of their economic and social development. This is shown, for example, in the initiative of the Mexican government to develop a platform for genomic medicine despite that it would constitute a significant financial burden for the country. As pointed out by one author when describing the creation of the National Platform for Genomic Medicine in Mexico,

“ Although economic limitations often cause developing countries to postpone the implementation of novel technologies, taking advantage of the current window of opportunity to develop genomic medicine will contribute to economic growth and social welfare”.<sup>1</sup>

Other examples are found in Brazil, China and Argentina pioneers in animal cloning technologies etc...

A recent survey shows us that, worldwide, where legislation has been enacted, it is typically to prohibit reproductive cloning (23% of the world), or on smaller scale to prohibit “therapeutic” cloning (16%) and germline genetic manipulation (14%); half of those bans come from developing countries from Asia, Africa, the Americas and even Europe. Nevertheless, there is far less convergence on issues such as the permissibility of other emerging reproductive and genetic technologies.

Indeed in Asia (China, India, Thailand and Vietnam), human reproductive cloning is prohibited while cloning for therapeutic or research purposes is allowed. In contrast, in regions such as Africa and the Americas there is more convergence in the national policies adopted which prohibit all forms of cloning. The same is true for national policies adopted by developing countries in the European hemisphere.

**Some observations about why the majority of developing countries opposed human cloning for reproductive and therapeutic or research purposes:**

- There are fears that imbalances between stakeholders can exacerbate the risk of exploitation of the world’s most vulnerable populations. Some countries fear that their citizens could be used as “guinea pigs” in experiments conducted by industrialized countries.
- While the prospect of cloning and genetic manipulation challenges humanity as a whole, it particularly threatens groups that have been historically targeted or disempowered.

- They are also of special concern to women, because these technologies are so closely tied to reproduction.

In a world where women's bodies – particularly of those living in poverty or in the developing world – have been used for the pursuit of medical knowledge, the potential for exploitation and commodification of women is obvious.

For example, in the South Korean breakthrough on deriving a human embryonic stem cell line announced early this year in Science, 242 eggs were extracted from 16 female volunteers. Thirty cloned embryos were created from which just one embryonic stem cell line was derived.

Another example is found in the increasing wave of “fertility tourism” to Eastern European countries.

- Concerns about technological developments that could be contrary to the recognition of equality and dignity and the rights of all human beings<sup>2</sup>.
- The ethics of allocating scarce resources. There is still contention about the wisdom and ethics of investing the scarce resources of the developing world in genetic research. There are those who believe that those resources should be devoted to the main problems of public health, poverty, and nutrition, housing and health care. Others believe that if developing countries are ever to improve the health care they provide to their citizens they have to invest in more than basic scientific research.

For example, during the debates of the Cloning Convention at the UN some developing countries pled for the allocation of “funds that might be used for human cloning technologies to pressing global issues in developing countries such as famine, poverty, infant mortality and diseases, including HIV/AIDS.”

## II. TOWARD A CONSENSUS ON CLONING IN THE DEVELOPING WORLD?

### National Policies

An area of particular concern worldwide, is the lack of coherent regulatory frameworks to govern cloning and other emerging human genetic technologies; as well as the absence of meaningful public debates. Conversely, the problem of *juridification* (this is the danger of uncritical and unreflective appeal to law) is also an area of concern. The developing world is not a stranger to these concerns.

There is also a lack of integrated ethical, scientific and policy debates, which affect the ethical background of regulatory responses. In the case of developing countries, these deficiencies could be explained by the fact that many of these nations have given priority to more pressing issues such as political and social stability, poverty reduction and economic progress.

Legislation is part of the world of competing ideas markedly influenced by cultural differences. Each national jurisdiction has sought to fashion a scheme of regulation – or has chosen not to regulate, or even have not yet chosen whether to regulate or not – in a way that is acceptable to its own culture and community. Those wealthy enough to participate in reproduction/genetics markets can readily evade their domestic constraints. Developing countries then face the challenge of preventing ‘genetic tourism’. This has led many countries to adopt prohibitive or restrictive cloning policies.

Legislative responses adopted by most developing countries generally focus on addressing specific applications of a scientific or technological development. Therefore they are mostly reactive in nature; however, this phenomenon is not unique to the developing world.

The potential benefits associated, for example, with cloning for therapeutic or research purposes, has caused hesitation in the legislative process in a number of jurisdictions that

appeared politically predisposed to a prohibitive approach to the issue of human cloning (e.g. Brazil, Mexico, South Africa, India). And of course, in many countries the politics of abortion permeate much of the relevant discourse and policy-making activity. For instance, discussions about the moral status of the human embryo are present in virtually every policy document in Latin American countries.

Other countries, however, have only adopted guidelines or recommendations from national bioethics committees. Their incorporation into legal texts is far from certain.

In some cases, the constitutional framework of a jurisdiction limits the regulatory options available to legislators. This is the case in most Latin American countries where the “right to life” is enshrined in national constitutions and in the Declaration on Human Rights of the American States.<sup>3</sup> The “right to life from the moment of conception” has been interpreted by many countries in the region as granting personhood status to the human embryo. Therefore, it has been used as a guiding source for adopting policies restricting or prohibiting any research or manipulation of the human embryo<sup>4</sup> and all forms of cloning.

The trend towards adopting prohibitive or restrictive policies is still current. Early this year, countries as diverse as Bulgaria and Panama<sup>5</sup> have passed legislation prohibiting not only the act of cloning (whether for reproductive, therapeutic or research purposes) but also criminalizing the act of providing funds to finance those activities. Similar laws are under discussion in Chile, Uruguay, Mexico, Brazil and South Africa.

It is difficult to predict the direction that regulatory policies will take across the developing world, even where those countries share many moral, religious and cultural values such as those in the Latin American region. The pressures imposed by local actors, the biotechnology industry and even foreign governments contribute to the polarization of the positions regarding the regulatory options available.

What is clear is that in the absence of adequate resources for regulatory oversight and effective enforcement mechanisms, convergence towards prohibitive or restrictive policies seems to be the option.

### **Regional and International Policies**

The leadership role of developing countries in the effort to build a consensus in regulating cloning is best found at the international and regional levels. International instruments provide guidance and core principles that potentially apply to all biomedical innovations regardless of the scientific advances made. They play an essential role, even if more specific provisions at the national level must complement and interpret them.<sup>6</sup>

To date, the most encouraging policy initiative taken to address the dangers of species altering procedures –such as reproductive cloning - is the Council of Europe's 1997 *Convention on Human Rights and Dignity with Regard to Biomedicine*. The European Convention highlights “the need to respect the human being both as an individual and as a member of the human species”. Its Additional Protocol prohibits “any intervention seeking to create a human being genetically identical to another human being, whether living or dead.”

A fact that commonly has been understated or has passed unnoticed is the high degree of support that the Convention has had from Europe’s developing countries. They represent almost half of the signatories of the Convention and 61% of its ratifications.

Regarding the Additional Protocol on the Prohibition of Cloning Humans Beings, 48% of the signatories and 71% of ratifications come from those developing countries.

Other regional bodies, including the African Union, have adopted statements calling for prohibitions or regulations concerning new human genetic technologies. This month the African Union’s Executive Council approved a motion introduced by the government of South Africa to adopt a common African position to be presented to the UN regarding the International Convention against the reproductive cloning of human beings.

The proposal aims at banning human cloning. It highlights the fact that many African countries opposed cloning not only because of social, ethical, cultural or religious reasons but also because of concerns that women from developing countries might be exploited to obtain fertilized eggs for therapeutic research<sup>7</sup>.

Similarly, the Arab League has initiated a debate with the goal of adopting a regional convention banning both reproductive and therapeutic cloning. Under the proposed treaty, all member states of the Arab League would agree to implement legislation banning both forms of human cloning. “The creation of human embryos solely for research purposes, and the transfer of nuclear genetic materials to human cells with the aim of creating human beings at any developmental stage would also be outlawed”. It is expected that the treaty will be finalized and approved before the UN re-opens discussions on the International Convention against the reproductive cloning of human beings

Regarding the Latin America Region, the Andean Community (Bolivia, Ecuador, Peru and Venezuela) has adopted a common system for industrial property on access to genetic resources - Decision No. 391- in which the patenting of all human cloning techniques is, indirectly, prohibited.

### **The Role Of Developing Countries at the UN Cloning Convention Process**

In 2002, the United Nations began discussions on an international Convention banning human reproductive cloning. During this process, developing countries made significant contributions to the effort to build an effective consensus that would permit the process to move forward. For example, on the divisive issue of the scope of the Convention, member States from the developing world proposed several alternatives: Mexico proposed to introduce a moratoria on all human cloning techniques, moratorium that would be in effect while the adoption of an international binding instrument was pending<sup>8</sup>.

Malaysia<sup>9</sup> and the Republic of Korea<sup>10</sup> proposed other approaches such as a “two-tiered” or a “fast-track approach”.

Besides the issue of its scope, developing countries stated that a crucial element for ensuring the adoption of the Convention and its implementation, was the promotion of international cooperation geared towards alternative technologies for developing countries, capacity building, and the setting up of international research networks.<sup>11</sup>

Undoubtedly the most prominent contribution from the developing world has been from the government of Costa Rica.<sup>12,13</sup> It calls for a comprehensive ban on all forms of cloning and enlisted the support of more than 60 states, virtually all of them developing countries.

## **CONCLUSION**

Policy analysis and the shaping of future regulatory policy require an understanding of the positions taken by other countries and regional or international organizations... Comparing developed-developing world views, has the value of sharpening our focus on the weight of competing considerations and values. It can also be useful in confirming a society's belief or in highlighting societal differences and responses.

Analyzing alternative conceptual frameworks for cloning policy, provides an opportunity to understand better the values that undergird professional and public policy in this area by allowing a closer scrutiny of the principles underlying specific policies.

Formal legislation is not the only regulatory response available and, if legislation is to be effective, it must be supported by less formal mechanisms, such as cultural norms, values and professional support.<sup>14</sup>

In countries where the relevant species-altering technologies are likely to be developed and applied to meet demand, no regulation is not an option. Regulatory oversight needs to

attract public support to be effective, and it must be the product of adequate consideration of all morally relevant interests and variables by those legitimately empowered to do so. In those countries where the government has failed to act, private arrangements regulated by voluntary agreements and self-regulatory initiatives are the only controls. Both have well-documented weaknesses.<sup>15,16</sup>

As noted by Wellman,

“(…) a society can safely leave important and potentially dangerous interventions without legal regulation only if there is a sufficient degree of moral consensus so that individuals can be expected to act morally without the regulation or more informal regulation can be trusted to be morally enlightened. Unfortunately, legal regulation may be necessary in areas of human conduct where liberty is often abused and important moral values are in jeopardy.”<sup>17</sup>

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<sup>1</sup> Developing a Platform for Genomic Medicine in Mexico, Gerardo Jimenez-Sanchez; *Science*, Vol. 300 (11 April 2003).

<sup>2</sup> *Report of the Ad Hoc Committee on an International Convention Against the Reproductive Cloning of Human Beings* (Feb. 25-Mar. 1, 2002), U.N. Doc. A/57/51, available at <http://www.un.org/law/cloning>.

<sup>3</sup> Article 4 of the American Convention on Human Rights, “Pact of San Jose, Costa Rica”, Organization of American States, November 22 1969.

<sup>4</sup> For example, Constitutions adopted in Chile, Costa Rica, Ecuador, Honduras, Nicaragua, Peru etc.

<sup>5</sup> Law No. 3 on the Prohibition of all forms of cloning, January 25 2004.

<sup>6</sup> Knoppers BM. *Socio-Ethical Issues in Human Genetics*. Cowansville: Les Éditions Yvon Blais Inc., 1998.

<sup>7</sup> African Union to discuss Human Cloning, News24.com ,July 5, 2004, available at [http://www.news24.com/News24/Africa/News/0,,2-11-1447\\_1553094,00.html](http://www.news24.com/News24/Africa/News/0,,2-11-1447_1553094,00.html)

<sup>8</sup> Proposal submitted by Mexico A/C.6/57/WG.1/CRP.3 and Statement by the Mexican Delegation at the 57th Sess. of the U.N. Gen. Assem., (Oct. 17, 2002) available at <http://www.un.org/law/cloning> (last visited Apr. 10, 2004).

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<sup>9</sup> Statement by Mr. Hasmy Agam, Permanent Representative of the Government of Malaysia to the UN in New York, on the International Convention against Reproductive Cloning of Human Beings, Feb. 26, 2002.

<sup>10</sup> Statement by Head of Delegation, Mr. Hahn Myung-jae, Permanent Mission of the Republic of Korea to the UN at the Working Group for the International Convention against Reproductive Cloning of Human Beings, (Sept. 24, 2002).

<sup>11</sup> Proposal submitted by Brazil concerning the revised proposal submitted by France and Germany in document A/C.6/57/WG.1/CRP.1/Rev.1, A/C.6/57/WG.1/CRP.6.

<sup>12</sup> Antigua and Barbuda, Benin, Costa Rica, Côte d'Ivoire, Dominica, Dominican Republic, El Salvador, Eritrea, Ethiopia, Fiji, Gambia, Georgia, Grenada, Haiti, Honduras, Italy, Kazakhstan, Kenya, Kyrgyzstan, Lesotho, Madagascar, Marshall Islands, Micronesia, Nauru, Nicaragua, Nigeria, Palau, Panama, Paraguay, Philippines, Portugal, Saint Kitts and Nevis, Saint Vincent and the Grenadines, San Marino, Sierra Leone, Spain, Suriname, Tajikistan, Timor-Leste, Uganda, United Republic of Tanzania, United States of America, Uzbekistan, Vanuatu and Zambia. *See* Draft Res.,

<sup>13</sup> Supporters of the 2 block: Belarus, Belgium, Brazil, China, Czech Republic, Denmark, Finland, Iceland, Japan, Liechtenstein, South Africa, Sweden, Switzerland and United Kingdom of Great Britain and Northern Ireland. *See* U.N. GAOR, 58th Sess., 6th Comm., Draft Res. International Convention against the Reproductive Cloning of Human Beings, U.N. Doc. A/C.6/58/L.8 (2003), *available at* [http://www.virtual-institute.de/en/hp/embryo/global/AC6\\_58\\_L8.pdf](http://www.virtual-institute.de/en/hp/embryo/global/AC6_58_L8.pdf) (last visited Dec. 10, 2003).

<sup>14</sup> Pattison S., "Influencing Traits Before Birth", Ashgate Publishing Limited, 2002.

<sup>15</sup> Bayertz, K. "Moral Consensus as a social and philosophical problem", in "The Concept of Moral Consensus", Bayer K. editor; Kluwer Academic Publishers, 1994.

<sup>16</sup> J. Gunning, H. Szoke (eds.); *The Regulation of Assisted Reproductive Technology*. Ashgate Publishing Limited, Hampshire, England, 2003.

<sup>17</sup> Wellman, C. "Moral Consensus and the Law", in "The Concept of Moral Consensus", Bayer K. editor; Kluwer Academic Publishers, 1994.