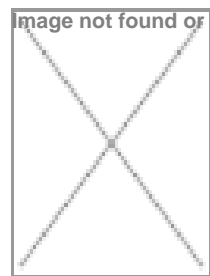


India's Scientific Community Must Become More Assertive

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The Indian scientific community should communicate the risks and benefits of modern biotechnology to the public in a sustained manner.

Lately stem cell research is making head lines in the world of science. Stem cell research is being touted as the next wave of medical biotechnology that could potentially revolutionize treatment of diseases in the next couple of decades. Stem cell research has become very controversial in the US, and this controversy will follow wherever it goes. Certainly, there are ethical concerns that are mostly based on ones religious proclivities and they are being pandered by the political class as always. This is becoming more and more egregious in the US with the divided National Bioethics Commission advising the President to take regressive positions on embryonic stem cells to appease the religious right. President Bush has banned embryonic stem cell research in any federal institution or in any federally funded research program save for some already existing cell lines. There is a great deal of scientific uncertainty as to what shape or form the stem cell research agenda is going to take in the US. The State of California has gone ahead with its own promotion of stem cell research by selecting San Francisco as the global hub of stem cell research and hopes to attract billions of dollars of investment in the area. California is investing \$3 billion upfront to attract leading researchers and investments on stem cell research to come to San Francisco.

Ultimatum to White House

Fed up with the lack of federal leadership, the US National Science Academy offered its own guidelines for stem cell research in May which the scientific community supports wholeheartedly and has sent a clear message to the White House that if it does not act, they will go ahead with stem cell research on their own voluntary guidelines. The American scientific

community, it seems, is determined not to be left behind on stem cell research because of lack of federal leadership on the issue. That is the kind of bold leadership from a country's scientific body that is required to drive scientific agenda in any country that is seriously committed to harnessing science and technology for progress and economic development. The US National Science Academy's bold move comes in the wake of a serious effort under way in Southeast Asia on stem cell research.

China and Korea have made significant commitments to stem cell research and are poised to become the leaders in the field. India also jumped into the fray a few years back, and as always, without much thought and preparedness. India's biotech private sector led by the Reliance group, has committed considerable resources to stem cell research. All of a sudden one hears that AIIMS scientists have started stem cell therapy experiments and never bothered to ask anybody's permission a la Bt-cotton in Gujarat seven years ago. In addition, scores of private nursing homes and hospitals (that are largely unregulated) are engaged in experimental stem cell therapy without any oversight. These same establishments have misused and abused sex determination techniques and also In-Vitro fertility technology with impunity. Sale of kidneys became a national scandal few years ago. There is not a decent public law to govern organ donations and there is not even a central registry from where one can find out anything about organ donations. The private sector which has the most to gain from the stem cell technology must demonstrate leadership in corporate social responsibility and develop volunteer guidelines to see that the benefits of stem cell research is harnessed in an ethically appropriate and socially responsible manner.

Ignorance is not bliss

India is ambitious of harnessing stem cell research and is perfectly capable becoming a world leader, but it has to do some quick home work before jumping headlong into the field. ICMR and DBT seem to have made some noise about developing a policy, but have nothing much to show for it, and certainly there has not been much of a stakeholder debate on the issue. India has a national bioethics commission whose existence it seems is some sort of a national secret. The Indian Medical Council and the Indian Medical Association are feigning ignorance of the subject as if it is of no concern to them. No one in the public or the scientific community knows what the three major academies of science in India think on the issue. The ministry of health recently said that it did not even know that AIIMS was doing stem cell therapy experiments. But, one can already hear noises from the civil society organizations and non-governmental organizations that lose no time or momentum to start howling. When they take charge, there is no telling what kind of regulations will be put in place. But, once can be most certain that science will not be the underpinning of those regulations.

Recently the National Center for Biological Sciences (NCBS) hosted an international meeting in Bangalore on stem cell research in collaboration with scientists from the UK, and professed to be guided by a voluntary code of conduct. It is unclear what these voluntary codes are, but nevertheless, it is a good beginning. They must keep up the momentum and lead the charge publicly. The kind of a mess that one sees in the regulation of GM crops must not be allowed to repeat in the medical field. Stem cell research will need significant private investment and therefore scientists from the academia and the industry must make this a common cause to take charge of the research agenda. Apathy from the scientific community will not be acceptable any longer, and they owe it to themselves to the country to show political leadership and communicate with the public directly before the anti-biotech brigade can inflict undoable public relations damage on it.

India needs to be more vocal

The last time the Indian National Science Academy had anything to say on the issue of regulating GM crops was at a press conference a decade ago in far away London in the company of four other national academies of science. The Indian public did not hear about it and the Indian anti-GM brigade does not care about it. The Indian political establishment is completely oblivious and is willing to be led by anyone who cares to talk to them. Everyone knows that the Indian scientific community is not the one doing the talking. One cannot fathom the reason for aloofness of the scientific community from this important technology issue. It is not enough to "preach to the choir" by making customary speeches and publish books and papers just for the benefit of their ilk. These academies have to get into the activists mode and barrage the media and the public just like the Luddites do. If the scientists shy away from this responsibility, then they have only themselves to complain about. To say that the public does not understand science is a tired old argument that cannot and should not be used any longer.

This apathy of the scientific community allows all sorts of ignoramuses in the name of protecting the public from the dangers of the technology to spread falsehoods, innuendos and outright lies to confuse media and the public. It is time for the Indian scientific establishment to become a little bit of activists themselves and provide leadership in communicating the risks and benefits of modern biotechnology to the public in a sustained manner. It is time for India to grow and cultivate charismatic science communicators to do the job because the 21st century public policy on science in India will be made by the public in public. Everyone these days demand pluralism in technology decision making. The scientific community in India must assert its role in science policy making, communicate with the public, and demonstrate its true leadership.

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