

LAW INTERVIEW

Nanotechnology: Crossing the legal horizon

Dr. Md. Ershadul Karim is a Senior Lecturer at the Faculty of Law, University of Malaya in Malaysia, and holds a PhD from the same institution for his thesis on "Human Health and Environmental Implications of Nanotechnology". Emraan Azad from Law Desk talks to him on the following issues:

The legal community should understand the life cycle of nanomaterials, see the adequacy of existing legal provisions, raise their voice and assist the government toward its safe, sustainable and responsible development.



Law Desk (LD): We have come to know that the researchers from the Imperial College of London, who are pioneer in introducing robotic surgical instruments using nanotechnology, are developing device that can be applied to more efficient delivery of cancer drugs and better target cancer cells with chemotherapy drugs. Would you please briefly explain about 'nanotechnology'? How is it different from other technologies?
Md. Ershadul Karim (MEK): Nanotechnology is hailed as the 'next wonder of modern science after the internet'. The prefix 'nano' means billionth. So, if we say 'one nanometer', it means one billionth a meter i.e. one part if you can divide one meter into one billion parts. It is not easy to comprehend and that's why different examples are used to describe it. For example, a strand of human hair is roughly 75,000 nm across and a six-foot tall man is two billion nanometer.
 Scholars are divided in using 'nanotechnologies'

instead of 'nanotechnology'. Attributing different prospects, nanotechnology is described as generic, emerging, disruptive, game-changing, general purpose, enabling or key technology. All these features make it different from traditional technologies.

LD: What are the utilities of nanotechnology in our daily life?
MEK: Theoretically, when you can control atom, you are able to do anything. Nanotechnology is the art and science of manipulating things at the atomic level. So, it has the potential to develop and enhance any product of your own will and thus, you can coin it as the practical version of 'Aladin's Magic Lamp'!

Though the regulators are yet to endorse, many scientific literature, based on laboratory studies and published in high impact journals, have already indicated that some nanomaterials have the tendency and ability to adversely affect human health and different environmental components. Therefore, the regulators put emphasis on conducting more and more research.

LD: Does the functioning of this technology have any legal and human rights challenge?
MEK: During the life cycle of nanomaterials, the regulators will be facing challenges to implement legal provisions relating to intellectual property, occupational health and safety, environment, trans-boundary pollution, product safety, tort etc. Human rights challenges will include, inter alia, right to life, information and expression, privacy, environment etc.

Already Europeans have assessed the adequacy of their municipal law provisions to handle different aspects of nanotechnology. More or less, they reached to similar conclusion that the existing legal framework seems to be sufficient based on the present state of knowledge. However, since nanomaterials pose some unique challenges, extensive scientific research must be continued and that may compel to introduce significant

changes in the legal system in near future.
LD: As patent is generally granted on the basis of novelty and usefulness of any innovation, does nanotechnology fall into this?
MEK: The United States Patent and Trademark Office (USPTO) and the European Patent Office (EPO) have already introduced a new Class 977 and new tags "Y01N", respectively for nanotechnology. Nanomaterial is nanoscale chemical and chemicals are normally patented. However, the main challenge is that at the nanoscale the chemicals exhibit some unique features totally different from the bulk chemical. Here comes the debate whether nanomaterial is 'new' chemical or 'existing' chemical. Hence, we foresee a patent war in this regard soon.

LD: Is there any legal instrument that deals with nanotechnology?
MEK: Unfortunately, there is no single comprehensive legal instrument so far in this field. The USA and South Korea enacted laws on nanotechnology, containing provisions for setting up relevant administrations without any substantive provision e.g. on liabilities arising out of 'engineered nanomaterials' (ENMs).

In the Europe, the regulators introduced some changes in the community laws on chemicals, biocides, cosmetics and food. In relation to cosmetics and food, it is now mandatory to label with the word 'nano', if nanomaterials are used in the products.
 Nano-enabled products are one of the serious concerns by many including UNESCO. Due to strict regulation in developed countries and in the absence of an international instrument, it may happen that manufacturers from those countries may move to or target developing countries for all kind of experiments and dumping.

LD: Is the introduction of compulsory registration of nanomaterials necessary?
MEK: Yes, it can be seen as the first formal move to regulate nanotechnology. Having an official list of

nanomaterials through registration will enable regulators to assess the risks of nanomaterials. Threshold registration system is included in the European REACH Regulation. But there are some inherent limitations in the REACH Regulation; that's why countries like France, Belgium, Denmark, Canada, and Sweden have introduced mandatory registration.

LD: What roles can the members of legal community play in this emerging field of nanotechnology?
MEK: Given the limitless potential of nanotechnology, we should welcome more development of this, but at the same time human health and environmental degradation must not be compromised. In developed countries unlike developing ones, the regulators remain very active. Hence, the legal community should understand the life cycle of nanomaterials, see the adequacy of existing legal provisions, raise their voice and assist the government toward its safe, sustainable and responsible development. As I previously wrote in The Daily Star, I again like to say that the next big thing is nanotechnology and the members of the legal community have great roles to play to this end.

LD: Is there any possibility that Bangladesh will be facing legal challenges concerning nanotechnology?
MEK: Without making any comprehensive assessment, it will not be wise to comment on this. The Europeans are very active in regulating nanotechnology as they experienced the genetically modified food issue. Among the South Asian countries, India is the forerunner and one of the key global players. Pakistan is also doing well. But surprisingly, Sri Lanka seems to realise the importance of this technology and has taken many pragmatic steps.

LD: Thank you, sir for addressing the queries.
MEK: It was my pleasure to talk to you.

LAW ANALYSIS

Protecting Hindu women's right to property

MD. AL-IFRAN HOSSAIN MOLLAH

MUCH has been debated on the issue of women's right to property and the feasibility of its governance under traditional Hindu legal regime in Bangladesh. Hindus being the minor community in Bangladesh has been in deprivation of the utility of the expected changes for last six decades which in consequences has been creating a regime of flagrant non-compliances with the universal human rights normative framework as to the twin principle of equality and non-discrimination. Inequality in the succession, lifetime interest

of colonialism, India has started advancing forward with the Hindu Code Bills, reforming major family issues like marriage, guardianship or inheritance. The Hindu Succession Act, 1956 of India has placed a socially secured position of Hindu women in succeeding their ancestral property from which they were excluded before. The greatest merit of the Act is that it lays down a uniform and comprehensive system of inheritance applicable to all Hindus. The most significant effect of this law is the abolition of Hindu women's limited estate and making her absolute owner of the property and conferring unfettered power over disposal on any types of property.

Point to noteworthy here, the amending Act of 2005 has also imposed equal liabilities to that of a son upon the shoulders of daughter as well. Later on, with a view to further amendment on the Hindu Succession Act of 1956 a bill (Bill No. 17 of 2013) has been prepared and yet to be submitted to the Indian legislative apex body. Unfortunately, such major initiatives are yet to be taken by the legislative authorities of Bangladesh to improve women's property rights status prevailing under orthodox regime of Hindu law, even though Bangladesh has ratified the Convention on the Elimination of all forms of Discrimination against Women (CEDAW).

Bangladesh Law Commission has put forward a list of recommendations for an inclusive amendment on the Hindu family matters under the report titled "Recommendations for reforming Hindu Family Laws" in 2012 with a view to facilitate absolute interest for hindu women through repealing limited interest. In addition, a good number of rights advocacy groups have been demanding for the enactment of uniform family code or law which would apply to all, irrespective of religious affiliation. The feasibility of this demand, from the presence of multi-religious contexts, requires close and critical examination as to their feasibility.

Irrespective of all the recommendations and demands from various rights group, the law making authorities seems to be indifferent in transforming the age old property laws which is considered as the root cause of exerting the patriarchal view in opposition to gender equality and thus depriving women from their very basic rights as enshrined under article 17 of the Universal Declaration of Human Rights. Hence, the experiences of legal reformations brought about by the Indian legislative authorities can act like a guiding star, even though Bangladesh has yet to go a long way towards bringing the expected changes in ensuring gender justice for Hindu women.

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and deliberate seclusion of women from the line of succession are few of the significant features of prevailing practice of property rights of Hindu community in Bangladesh. It has been established through the interpretation of sacred texts and having been influenced by patriarchal system of the society. Laws governing the women's property rights still lags behind the timeline of 1947, i.e. there were no changes, be it major or minor, has been brought upon after the division of Indian Subcontinent. It has become a social exigency to reform the existing legal regime with a view to bring positive changes in conformity with the demand of time.

Difference between married and unmarried daughters has also been eliminated along with the devolution of property in joint family system. The basis of Sapinda relations has been established upon the theories of love and affection. Moreover, grounds of exclusions like disease, defect or deformity under the orthodox regime has also been relinquished.

Consequently, the Hindu Succession (Amendment) Act of 2005 has furthered gender equality through making the daughters as a member of coparcenary (the small unit within joint family system regulating the core affairs relating to property) and conferring equal property rights with son in their father's property as well.

Right after being freed from two hundred years

LAW LETTER

Law for secure maritime zones



Law of the sea is a branch of public international law governed by the United Nations Convention on the Law of the Sea (UNCLOS), 1982. It is called the constitution for the law of the sea. This convention empowers the coastal state to enact law for the protection of maritime zones. For example, New Zealand had enacted the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act in 2012 whereas we have the Territorial Waters and Maritime Zones Act of 1974 as well as that of Rules of 1977. However, this old legislation is considered to serve the purpose of UNCLOS.

Bangladesh is also a signatory party to this Convention. Thus, we can enact a law for the purpose of exploring and exploiting, conserving and managing natural living or non-living resources of the sea like the way Russia, China and the USA have already enacted. This law will definitely ensure the security of our marine energy and marine resources from any threats.

Legitimacy of territorial sea is prescribed in article 3 of the UNCLOS, which states that a coastal state has the right to establish the breadth of its territorial sea up to a limit not exceeding 12 nautical miles, measured from baselines determined in accordance with this Convention. But we did not incorporate it in our legislation of 1974. Territorial sea is much closer to a coastal state than contiguous zone and exclusive economic zone. Therefore, lack of surveillance in this area may foster a number of criminal activities specially human trafficking by sea in recent past and other crimes, i.e. arms trafficking, territorial attacks against shipping, hijacking, the smuggling of arms, illegal fishing, sound and water pollution, dumping of crude oil and human wastes, etc.

There is a contrast of right within this territorial sea between the coastal state and ship of other states. Contrast is that the coastal state has power to exercise sovereign right over its resources on the other hand ships of all states has right of innocent passage through this territorial sea.

In order to protect sovereign right of coastal state (Bangladesh) and right of innocent passage of all other state, UNCLOS in its article 21 directly empowers the coastal states to adopt laws and regulations, in conformity with the provisions of this Convention and other rules of international law, relating to innocent passage through the territorial sea for the safety of navigation and regulation of maritime traffic; conservation of living resources of the sea; prevention of infringement of the fisheries laws and regulations of the coastal state; preservation of the environment of the coastal state and the prevention, reduction and control of pollution thereof; prevention of infringement of the customs, fiscal, immigration or sanitary laws and regulations of the coastal states, etc.

Though we have law and rules for the territorial waters and maritime zones, these legal frameworks cannot cover all the rights and power of the coastal states prescribed in article 21 and 25 of UNCLOS. It is worthy to be noted that there are some world famous cases, i.e. *Corfu Channel Case* between U.K. and Albania (1949) and *Commonwealth of Puerto Rico v S.S. Zoe Colocotroni* (1980) regarding rights and liability of coastal states can give an idea in respect of this issue.

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LAW AMUSEMENTS

Movies for legal minds

WE often think that preparing for law school always has to be purely academic. Yes, it has to be; but at the same time there's plenty we can learn from film and TV if we can figure out our taste at the right moment. For new law students and aspiring lawyers, here is a blend of list recommended by Martin Partington, Emeritus Professor of Law at Bristol University, and of course by us.

- *Twelve Angry Men* (1957): This US film is set in the jury room, where 12 jurors have to decide the outcome of a seemingly open and shut case. In the UK, no one knows precisely what goes on in the jury room. Direct participant research is prohibited by law. So dramas like this offer a version of what might happen.
- *The Devil's Advocate* (marketed as *Devil's Advocate*) (1997) American mystery thriller film directed by Taylor Hackford, and stars Keanu

- Reeves, Al Pacino and Charlize Theron. The story focuses on an exceptionally adept Florida lawyer is offered a job to work in New York City for a high-end law firm with a high-end boss - the biggest opportunity of his career to date.
- *In the Name of the Father* (1993): This is an Irish-British-American film based on the story of the Guildford Four, four people falsely convicted of the 1974 IRA's Guildford pub bombings, which killed four off-duty British soldiers and a civilian. The story is important as it formed part of the background to major changes in the criminal justice system of England and Wales, including the creation of the Criminal Cases Review Commission and the Crown Prosecution Service. Warning: its portrayal of the trial process is a travesty of reality - it should not be taken as any sort of representation of what happens in practice.



- *To Kill a Mockingbird* (1962): Based on Harper Lee's classic novel, this tells the story of attorney Atticus Finch's defence of a black man falsely accused of rape. The recent

- publication of Harper Lee's follow up novel *Go Set a Watchman* brings a new dimension to the tale.
- *Erin Brockovich* (2000): A great 'cause lawyering' film. A clerk in a small law office pursues an action against a huge corporation, suspected of widespread land pollution. It's a pity no similar UK film was made about the Sunday Times classic investigation into the thalidomide drug.

This compilation, however, is not everything to the "legal thrill" that has been captured on celluloid; you may invest your weekend night in any of the following: *Judgment at Nuremberg* (1961), *Reversal of Fortune* (1990), *10 Rillington Place* (1971), *The Paper Chase* (1973), *The Exorcism of Emily Rose* (2005), *The Lincoln Lawyer* (2011), *Anatomy of a Murder* (1959), and *Bridge of Spies* (2015).