

## Rise of the Superbugs: India and Antimicrobial Resistance



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## Lead Essay

### Rise of the Superbugs: India and Antimicrobial Resistance

#### Introduction:

At a recent conference on Antimicrobial Resistance held in the capital, Union Health Minister JP Nadda termed Antimicrobial Resistance (AMR) as the number one public health challenge facing the world today.<sup>1</sup>

A recent study revealed soaring rates of antimicrobial resistance in countries with growing prosperity, especially India.<sup>2</sup> More people are demanding antibiotics for minor infections, resulting in skyrocketing resistance rates among bacteria.

“We’ve seen a huge increase in MRSA (Methicillin-Resistant Staphylococcus Aureus - a type of bacteria that's resistant to a number of widely used antibiotics) in India, from 29 per cent of isolates in 2009 to 47 per cent in 2014,” says Ramanan Laxminarayan of the Center for Disease Dynamics, Economics and Policy in New Delhi. There is an equally alarming surge in Klebsiella Pneumoniae, which can cause fatal lung infections. It is resistant to Carbapenems, which are antibiotics that are used as a last resort. In 2014, 57 per cent of samples tested in India were resistant, compared with virtually none six years ago.<sup>3</sup>

“These bugs weren’t a problem at all, but now we stand on the brink of almost losing a whole class of vital antibiotics,” says Laxminarayan. Investigators say preventing resistance to existing antibiotics should take priority over developing new drugs, since these will also fail if the causes of resistance are not tackled.<sup>4</sup>

#### What is Antimicrobial Resistance?

According to the World Health Organisation, Antimicrobial Resistance occurs when microorganisms such as bacteria, viruses, fungi and parasites change in ways that render the medications used to cure the infections they cause ineffective. When the microorganisms become resistant to most antimicrobials they are often referred to as “superbugs”. This is a major concern because a resistant infection may kill, can spread to others, and imposes huge costs to individuals and society.

Antimicrobial Resistance is the broader term for resistance in different types of microorganisms and encompasses resistance to antibacterial, antiviral, antiparasitic and antifungal drugs.<sup>5</sup>

#### Causes of Antimicrobial Resistance:

##### 1. Widespread Antibiotic Use:

India is the world’s largest consumer of antibiotics, followed by China and the USA.<sup>6</sup> 76% of the overall increase in global antibiotics consumption between 2000 and 2010 was due to BRICS countries, of which India accounted for 23% of the increase in retail antibiotics sales volume.<sup>7</sup> Antibiotics tend to be prescribed or sold across India for diarrheal diseases and

<sup>1</sup> Press Release (2016), ‘Health Minister inaugurates 3-day international conference on Antimicrobial Resistance’, Press Information Bureau, 23 February, 2016. Available at <http://pib.nic.in/newsite/PrintRelease.aspx?relid=136657>

<sup>2</sup> Andy Coghlan (2015), ‘Global study reveals soaring antibiotic resistance in India’, New Scientist, 17 September, 2015. Available at <https://www.newscientist.com/article/dn28180-global-study-reveals-soaring-antibiotic-resistance-in-india/>

<sup>3</sup> Ibid.

<sup>4</sup> Ibid.

<sup>5</sup> Q&A (2014), ‘What is antimicrobial resistance?’, World Health Organization, April 2014. Available at <http://www.who.int/features/qa/75/en/>

<sup>6</sup> Kounteya Sinha (2015), ‘At 13 billion pills in a year, India tops in antibiotics use globally’, ETHealthworld.com, 18 September, 2015. Available at <http://health.economicstimes.indiatimes.com/news/industry/at-13-billion-pills-in-a-year-india-tops-in-antibiotics-use-globally/49006669>

<sup>7</sup> Thomas P Van Boeckel et al. (2014), ‘Global antibiotic consumption 2000 to 2010: an analysis of national pharmaceutical sales data’, The Lancet, 09 July, 2014. Available at [http://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(14\)70780-7/abstract](http://www.thelancet.com/journals/laninf/article/PIIS1473-3099(14)70780-7/abstract)

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upper respiratory infections on which their efficacy is limited.<sup>8</sup> Further, there is little regulation of sale of substandard and illegitimate antimicrobials, and their extent is poorly quantified.<sup>9</sup>

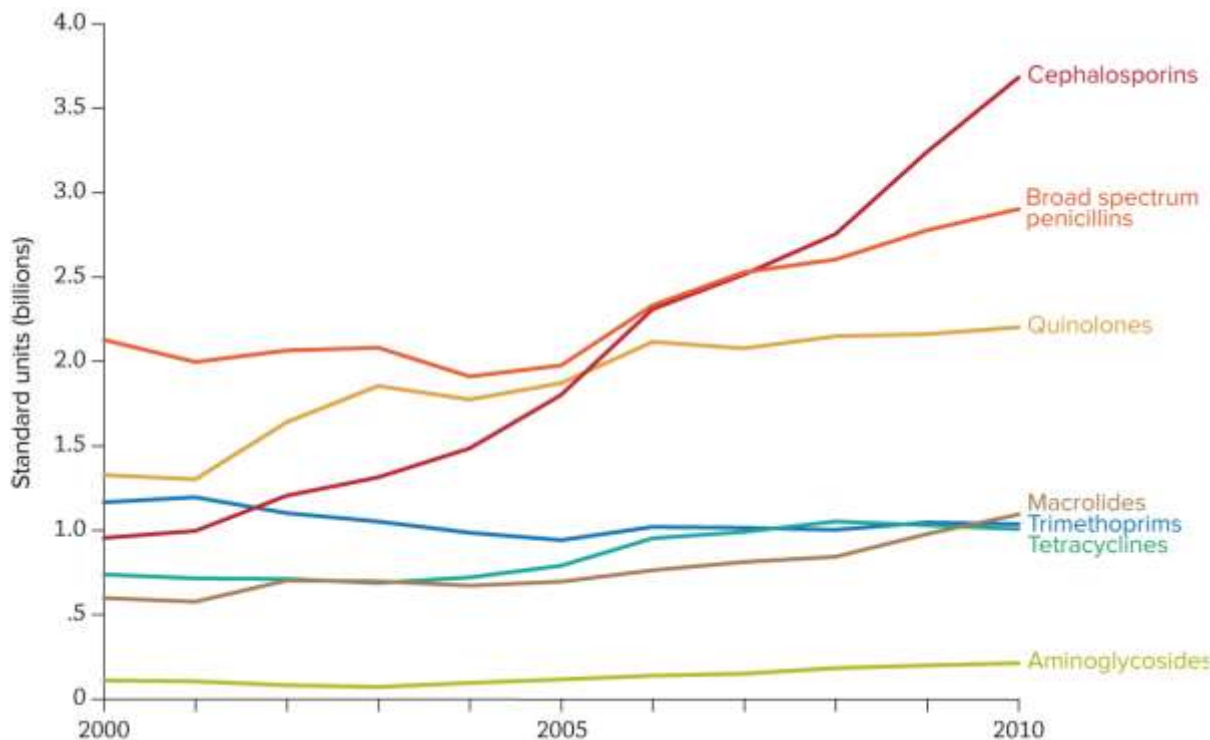


Image: Antibiotic consumption trends in India between 2000 and 2010. (Source: ResistanceMap)

## 2. Pharmaceutical Waste:

Environmental antibiotic pollution is a major factor in the transfer of resistance genes to humans. Waste treatment plants for antibiotic manufacturing facilities have been implicated in the transfer of resistance genes to humans, and pose a serious threat to antibiotic effectiveness<sup>10</sup>, especially considering that India is the largest exporter of generic pharmaceuticals globally<sup>11</sup>.

## 3. Public Health Measures:

Rapid economic growth and rising incomes have not resulted in corresponding improvements in water, sanitation, and public health. Immunization rates in India (72%) lag behind those in Brazil (95%), China (99%), and Indonesia (85%). The percentage of the population with access to improved sanitation facilities in India (36%) was significantly lower than the percentage in Brazil (81.3%), China (65.3%), and Indonesia (58.8%).<sup>12</sup>

<sup>8</sup> S. Kanungo et al. (2013), 'Diarrhoea-related knowledge and practice of physicians in urban slums of Kolkata, India', Cambridge Journals, 10 May, 2013. Available at <http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=9129501&fileId=S0950268813001076>

<sup>9</sup> Roger Bate et al. (2009), 'Pilot Study of Essential Drug Quality in Two Major Cities in India', PLOS, 23 June, 2009. Available at <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0006003>

<sup>10</sup> Anna Johnning et al. (2013), 'Acquired Genetic Mechanisms of a Multiresistant Bacterium Isolated from a Treatment Plant Receiving Wastewater from Antibiotic Production', Applied and Environmental Microbiology, 13 September, 2013. Available at <http://aem.asm.org/content/79/23/7256>

<sup>11</sup> Report (2016), 'Indian Pharmaceutical Industry', Indian Brand Equity Foundation, January, 2016. Available at <http://www.ibef.org/industry/pharmaceutical-india.aspx>

<sup>12</sup> Data, 'Indicators', The World Bank. Available at <http://data.worldbank.org/indicator>

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### 4. Health System Factors:

Pharmaceutical companies often compensate doctors in exchange for antibiotic prescriptions, incentivising unnecessary antibiotic treatment.<sup>13</sup> Hospitals in India have a poor rate of infection control and monitoring, leading to greater demand for antibiotics. Over-the-counter access to antibiotics is a widespread problem; however, a recent study cautions that regulations to control access must take into account the need for such access by a large swathe of the population that lacks medical facilities, since lack of access to effective and affordable antibiotics still kills more children in India than does drug resistance.<sup>14</sup>

### 5. Antibiotic Use in the Animal Sector:

Rising demand for meat and poultry has resulted in growing antibiotic use in the animal sector. India will potentially face heavier consequences from widespread resistance because of its high bacterial disease burden. There are no provisions in place to regulate the use of antimicrobials in cattle, chickens, and pigs that have been raised for domestic consumption. Recent studies in various regions of India have discovered antimicrobial residues in food animal products such as chicken and milk<sup>15</sup>, indicating that antibiotic use in food animal production is widespread.

### Present Situation in India:

95% of adults in India carry bacteria that are resistant to antibiotics prescribed as “last resort” where all else fail. In comparison, the same bacteria are carried by only 10% of adults in Queens, NY.<sup>16</sup>

An accurate estimate of the overall burden of resistance on the general population is not available, but will most likely fall most heavily on neonates and the elderly, who are more prone to infections and most vulnerable to ineffective treatment. It is estimated that 58,000 neonatal deaths each year are attributable to sepsis caused by drug-resistance to first-line antibiotics.<sup>17</sup>

In Hyderabad, officials from the Central Ground Water Board recently warned that its groundwater is riddled with chemicals much higher than permissible levels. Environmentalists blame this on indiscriminate dumping of garbage, especially pharmaceutical waste. “The city is surrounded by pharmaceutical and chemical industries, which do not hesitate from dumping hazardous and chemical wastes that eventually find its way into the dwindling aquifers,” says environmentalist K. Purushottam Reddy. “It is this water that ultimately finds its way into people’s homes.”<sup>18</sup>

A 2009 study<sup>19</sup> by Joakim Larsson of the University of Gothenburg, Sweden reported that a waste water treatment plant at Patancheru near Hyderabad released drugs in its effluent water at levels sometimes equivalent to the high doses that are given therapeutically. The antibiotic-containing water reaching the plant came from 90 bulk pharmaceutical manufacturers in the region near Hyderabad.

Björn Olsen, an infectious-disease specialist at Uppsala University in Sweden, says that the spread of antibiotic-resistance genes is complicated, and resistance hotspots like the one at Patancheru could end up behaving like a volcanic eruption: “The cloud is going

<sup>13</sup> Nobhojit Roy et al. (2007), ‘Drug promotional practices in Mumbai: a qualitative study’, Indian Journal of Medical Ethics, 2007. Available at <http://www.ijme.in/index.php/ijme/article/view/168/1380>

<sup>14</sup> Prof Ramanan Laxminarayan et al. (2015), ‘Access to effective antimicrobials: a worldwide challenge’, The Lancet, 18 November, 2015. Available at [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(15\)00474-2/abstract](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(15)00474-2/abstract)

<sup>15</sup> Kakkar M, Rogawski L. (2013), ‘Antibiotic Use and Residues in Chicken Meat and Milk Samples from Karnataka and Punjab, India’, Public Health Foundation of India, 2013.

<sup>16</sup> Beenish Ahmed (2015), ‘India’s Antibiotic-Resistant Superbug Problem Is Spreading’, Think Progress, 21 October, 2015. Available at <http://thinkprogress.org/world/2015/10/21/3714328/india-antibiotics/>

<sup>17</sup> Prof Ramanan Laxminarayan et al. (2015), ‘Access to effective antimicrobials: a worldwide challenge’, The Lancet, 18 November, 2015. Available at [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(15\)00474-2/abstract](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(15)00474-2/abstract)

<sup>18</sup> Article (2016), ‘Water: Too less and toxic’, The Times of India (Hyderabad), 15 February, 2016. Available at <http://timesofindia.indiatimes.com/city/hyderabad/Water-Too-less-and-toxic/articleshow/50990427.cms>

<sup>19</sup> Gunnar Carlsson et al. (2009), ‘Effluent from bulk drug production is toxic to aquatic vertebrates’, Environmental Toxicology and Chemistry, December 2009. Available at <http://onlinelibrary.wiley.com/doi/10.1897/08-524.1/full>

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to drop down somewhere else, not just around the sewage plant". For example, his team documented multidrug-resistant E.coli in the faeces of birds migrating to the Arctic.<sup>20</sup>

### **NDM-1:**

NDM-1 is an enzyme produced by certain bacteria, which allows them to neutralise the harmful effects of carbapenems, one of the most powerful types of antibiotics available to doctors.

NDM-1 (New Delhi metallo- $\beta$ -lactamase-1) is named after where it was first found – Delhi's public water supply. It was first identified in UK patients who had recently travelled to India or Pakistan for medical treatment – often cosmetic surgery. When these people were later treated in UK or US hospitals, NDM-1 passed to other patients.<sup>21</sup> The NDM-1 superbug has now spread to 70 countries across the world.<sup>22</sup>

In Delhi, Cardiff University scientists had found that the NDM-1 gene had already spread to the bacteria that cause cholera and dysentery in India. This means when people carrying the superbug, especially children, suffer from a bout of cholera and dysentery, it would be nearly impossible to treat them with available antibiotics. Studies have shown that even the Ganga is teeming with NDM-1.<sup>23</sup>

### • **Escherichia coli:**

Escherichia coli (or E.coli) is the most prevalent infecting organism in the family of gram-negative bacteria known as enterobacteriaceae. Some types of E.coli can cause intestinal infection. Symptoms of intestinal infection include diarrhoea, abdominal pain, and fever. More severe cases can lead to bloody diarrhoea, dehydration, or even kidney failure. People with weakened immune systems, pregnant women, young children, and older adults are at increased risk for developing these complications.<sup>24</sup>

India has among the highest global rates of resistance to each of the five types of antibiotics that treat E.coli.<sup>25</sup>

<sup>20</sup> Maria Sjölund-Karlsson et al. (2008), 'Dissemination of Multidrug-Resistant Bacteria into the Arctic', Centers for Disease Control and Prevention, January 2008. Available at [http://wwwnc.cdc.gov/eid/article/14/1/07-0704\\_article](http://wwwnc.cdc.gov/eid/article/14/1/07-0704_article)

<sup>21</sup> Tim Edwards (2010), 'What is NDM-1 bacteria, the new superbug threat?', The Week, 11 August, 2010. Available at <http://www.theweek.co.uk/politics/12543/what-ndm-1-bacteria-new-superbug-threat>

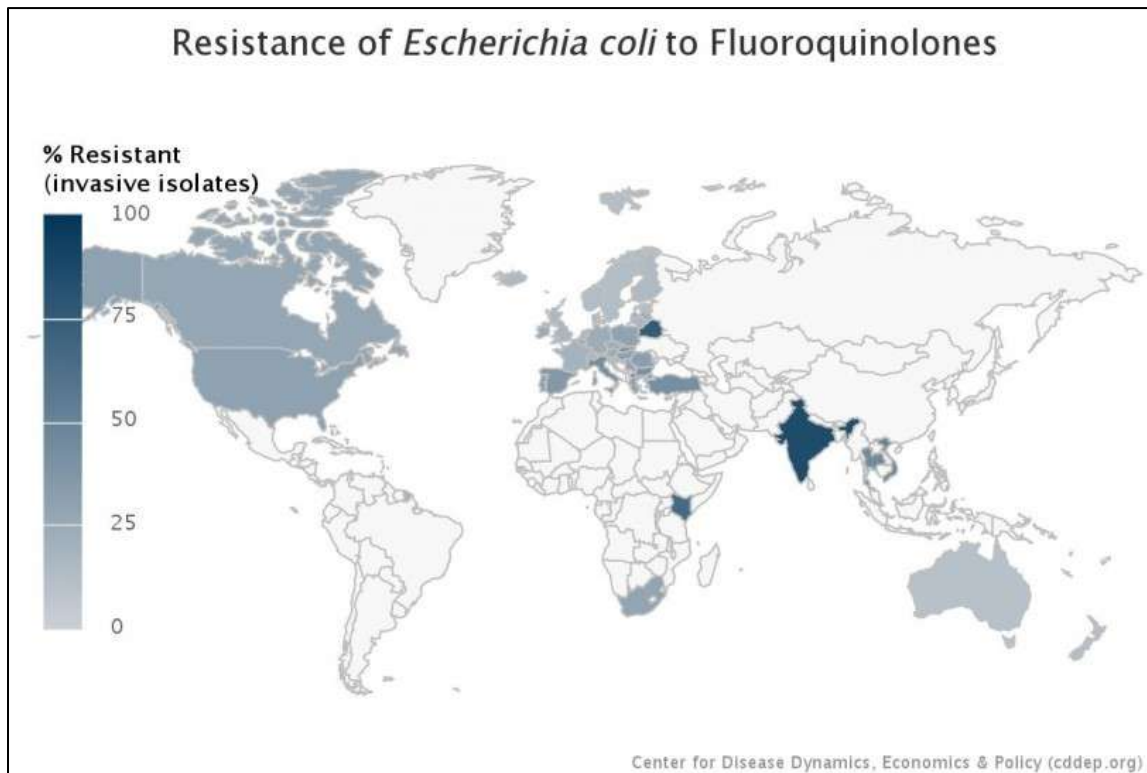
<sup>22</sup> Kounteya Sinha (2015), 'Delhi superbug now in over 70 nations', The Times of India, 17 September, 2015. Available at <http://timesofindia.indiatimes.com/home/science/Delhi-superbug-now-in-over-70-nations/articleshow/48994248.cms>

<sup>23</sup> Ibid.

<sup>24</sup> Ann Pietrangelo (2015), 'E. coli Infection', Healthline, 15 October, 2015. Available at <http://www.healthline.com/health/e-coli-infection#Overview1>

<sup>25</sup> Data, 'Antibiotic Resistance of Escherichia coli in India', ResistanceMap. Available at <http://resistancemap.cddep.org/resmap/c/in/India>

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**Image:** Resistance of E.coli to Fluoroquinolones (Source: ResistanceMap)

### Government Action:

While inaugurating the 3-day International Conference on Combating Antimicrobial Resistance in Delhi last week, Mr. Nadda reiterated India's commitment to combating Antimicrobial Resistance while calling for collective action by all stakeholders within the country and all countries within the region to work towards this common goal.<sup>26</sup> He attributed the rise in cases of AMR in the country to wide-scale abuse of antibiotics, which he said would be countered by removing the need for antibiotics by eliminating diarrhoeal diseases through improved water and sanitation. He also pointed out that the government through Swachh Bharat has taken steps to improve hygiene and sanitation and reduce the environmental spread of pathogens. Noting the importance of vaccination as a health measure, the government aims to increase routine immunization coverage to 90% within just a few years through Mission Indradhanush.<sup>27</sup>

Mr. Nadda stated that the complexity of AMR is also fuelled by numerous stakeholders impacting and impacted by AMR. These include "consumers or the patients who take the medicine, doctors who prescribe, pharmacists who dispense, the industry which manufactures, the Government which regulates, the research organizations which innovate, the animal and agricultural sector which contribute to the food chain, the hospitals which treat the patients, the civil society which articulates the peoples' perspectives, and the media which can focus attention on this issue."<sup>28</sup>

At present, the government's focus on combating AMR seems to be through tackling widespread and unnecessary use of antibiotics, which is no doubt an important factor in the spread of AMR. In line with this approach, the Union Health Ministry announced that

<sup>26</sup> Press Release (2016), 'Health Minister inaugurates 3-day international conference on Antimicrobial Resistance', Press Information Bureau, 23 February, 2016. Available at <http://pib.nic.in/newsite/PrintRelease.aspx?relid=136657>

<sup>27</sup> Ibid.

<sup>28</sup> Ibid.

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all antibiotics packets will now carry a red line to enable easy identification.<sup>29</sup> However, it has ignored the crucial link between AMR and pharmaceutical waste in India.<sup>30</sup>

India's role as the largest producer of generic drugs in the world coupled with its lack of a strict regulatory framework in this regard makes it more vulnerable to the fallout of unchecked dumping of pharmaceutical waste.

### Way Forward:

Laxminarayan has related the risk of antibiotic resistance to the globalized threat of climate change. To fight AMR on a worldwide scale, he believes that world leaders will have to enact coordinated efforts similar to those for environmental issues to fight off a plague of antibiotic resistance. "This is increasingly gaining momentum as public health and political leadership but the talk has to be translated into action." Specifically, global leaders should "create a global fund to alter incentives for antibiotic use, change national policies to conserve effectiveness and create new tools, diagnostics and drugs that will ensure that we retain the ability to treat infectious diseases."<sup>31</sup>

The pharmaceutical industry, one of India's most polluting sectors, claims to have embraced the government's Swachh Bharat initiative. However, treating medical waste is expensive and complex, and more often than not, not strictly adhered to. This is due to a combination of lax waste management regulations and negligence in monitoring how pharmaceutical companies dispose of their waste. If Swachh Bharat is to be seriously implemented, it must far more comprehensive and must include the pharmaceutical sector within its ambit. This includes the government demanding greater accountability on the part of manufacturers, including making checking of treated waste-water for antibiotics mandatory. Moreover, it needs to bring about greater ease and clarity in the processing of medical waste and ensure that it is being strictly implemented.<sup>32</sup>

Drastic measures must be taken swiftly, or else India (and consequently the world) faces a potential epidemic of once easily treatable illnesses that have turned deadly because of drug-resistant bacteria evolving faster than scientific researchers can find ways to tackle them.

### Prepared By:

Yesha Paul

<sup>29</sup> Santosh Andhale & Somita Pal (2016), 'Now, antibiotics packs will carry red line', DNA, 27 February, 2016. Available at <http://www.dnaindia.com/mumbai/report-now-antibiotics-packs-will-carry-red-line-2182803>

<sup>30</sup> Naomi Lubick (2011), 'Dumped drugs lead to resistant microbes', Nature, 16 February, 2011. Available at <http://www.nature.com/news/2011/110216/full/news.2011.46.html>

<sup>31</sup> Beenish Ahmed (2015), 'India's Antibiotic-Resistant Superbug Problem Is Spreading', Think Progress, 21 October, 2015. Available at <http://thinkprogress.org/world/2015/10/21/3714328/india-antibiotics/>

<sup>32</sup> Usha Sharma (2015), 'Swachh Pharma Swacch Bharat', Express Pharma, 08 June, 2015. Available at <http://www.financialexpress.com/article/pharma/cover-story/swachh-pharma-swacch-bharat/81719/>



## Headlines

### **Maharashtra Reports 57 Farmer Suicides So Far in 2016**

(*The Indian Express*, March 01, 2016)

As many as 57 farmers have committed suicide in Maharashtra so far during 2016 due to agrarian reasons. Last year, Maharashtra government had reported 725 cases of farmers suicides.

In a written reply to the Lok Sabha, Minister of State for Agriculture Mohanbhai Kundariya submitted the data of 'number of suicides committed by farmers due to agrarian reason as reported by the state governments'. As per the data, as many as 1,690 cases of farmer suicides were reported in 10 states during 2015. The maximum number of farmers suicide cases was reported in Maharashtra at 725, followed by Punjab at 449, Telangana 342, Karnataka 107 and Andhra Pradesh 58. In 2016 so far, 57 farmers suicide cases have been reported all from Maharashtra. Other states have not yet reported any farmer suicide case to the Centre.

Kundariya informed that the government has recently approved a new crop insurance scheme to protect farmers from crop failure.

Read More: <http://indianexpress.com/article/india/india-news-india/maharashtra-reports-57-farmers-suicides-so-far-in-2016/>

Date Accessed: 03.03.2016

### **HRD Ministry Pulled Up for Not Fulfilling OBC Quota in Central Universities**

(Gaurav Vivek Bhatnagar, *The Wire*, March 02, 2016)

A parliamentary committee, headed by a BJP MP, Shri Rajen Gohain pulled up the Union Human Resource and Development Ministry for not implementing 27% reservation in central educational institutions despite guidelines being issued by the government. The committee in its report 'Measures undertaken to secure representation of OBCs and for their welfare in universities and other higher educational/technical institutions' has also observe that reserved category students of the University of Allahabad were being treated unjustly at the interview stage of admission in D. Phil course. "The committee said it was informed about serious complaints regarding violation of reservation rules, discrimination against OBC and SC students, especially in admissions in the ancient history department and also regarding the non-disposal of the complaints of OBC students at Allahabad University."

Read more: <http://thewire.in/2016/03/02/hrd-ministry-pulled-up-for-not-fulfilling-obc-quota-in-ceis-23503/>

Date Accessed: 04.03.2016

## Governance & Development

### *POLITICS AND GOVERNANCE*

#### **Aadhaar: Still Too Many Problems**

(Pranesh Prakash, *Livemint*, March 7, 2016)

The Aadhaar Bill has been introduced as a money bill, even though it doesn't qualify as such under Article 110 of the Constitution. If the Speaker agrees to this, it will render the Rajya Sabha toothless in this matter, and will weaken our democracy. The government should reintroduce it as an ordinary legislative bill, which is what it is.

Read more: <http://www.livemint.com/Opinion/VSqBps7Y5YrUhvS5mGgSO/Aadhaar-still-too-many-problems.html>

Date Accessed: 7.3.2016

#### **Housing for All By 2022**

(Shirish B Patel, *Economic and Political Weekly*, March 5, 2016)

The Pradhan Mantri Awas Yojana, a central government scheme of subsidies for low-income housing, is singularly unimaginative and poorly thought-through. It is unlikely to deliver worthwhile results. The promised funds could be far more effectively deployed if used differently. This article examines the scheme's deficiencies and suggests options that should be explored. It also considers the Model Tenancy Act of April 2015 and the National Urban Rental Housing Policy (Draft) released in October 2015. The article argues that these policy statements are unlikely to lead anywhere, at least in regard to increasing the supply of rental housing to low-income groups.

Read more: <http://www.epw.in/journal/2016/10/perspectives/housing-all-2022.html>

Date Accessed: 7.3.2016

### *DEVELOPMENT*

#### **The Lacuna in the Real Estate Bill**

(Gurbachan Singh, *The Wire*, March 02, 2016)

The Real Estate (Regulation and Development) Bill, can be useful in protecting home buyers from exploitation. But the bill does not address the issue of a high housing prices, which are unaffordable for a large number of prospective buyers. "Home prices used to appreciate at a high rate in many parts of India in the past, but in recent years there has been an important change – the appreciation rate has slowed down to such an extent that the price appreciation for urban residential properties has dropped to zero over the 2007-14 period, after adjusting for the general inflation. However, this development has only arrested a further rise in real prices, while *absolute* prices are still high for most people in India."

Read more: <http://thewire.in/2016/03/02/the-lacuna-in-the-real-estate-bill-22928/>

Date Accessed: 04.03.2016

### *AGRICULTURE*

#### **Economic Survey Backs Hybrid Seeds in Boost for GM Food**

(Krishna N. Das, *Reuters*, February 26, 2016)

India should look to introduce high-yielding hybrid seeds to lift its lagging farm productivity, a finance ministry report urged on Friday, in what is being seen as government support for cultivation of genetically modified food crops now banned.

Authorities are considering whether to allow commercial growing of genetically modified (GM) mustard, which uses a technology that could improve yields but draws strong opposition over fears of safety. Some politicians have accused Prime Minister Narendra Modi of trying to impose his government's decision on farmers relating to an "unsafe and unproven technology".

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Permitting GM food crops is a big call for a country that spends tens of billions of dollars importing edible oils and other food items every year.

India's farm productivity is one of the lowest in the world, in some cases even below those of poorer countries like Bangladesh. On top of that, back to back droughts have made India a net buyer of some key commodities for the first time in years. If a commercial launch of GM mustard is allowed, it could pave the way for other food crops such as corn varieties developed by Monsanto, in one of the world's biggest farm markets. The company's cotton seeds are popular in India.

Read More: <http://www.reuters.com/article/india-gmo-crops-economicsurvey-modi-idUSKCN0VZ1G4>

Date Accessed: 29.02.2016

### LAW AND JUSTICE

#### "The Beast in Us is being Unleashed": An Interview with Former SC Judge B.N Srikrishna

(Prachi Pinglay-Plumber, *Outlook*, February 26, 2016)

*Q. How fair is it for the police to be on a college campus?*

A. There is no law for police not to be on campus or even courts. As a matter of courtesy, they don't enter unless they talk to the Vice Chancellor or the Chief Justice. As far as the law is concerned, whether murder takes place inside the court or outside, it is the same. When Telangana issue was burning, the police were on the campus every day. But their job is to prevent break down of law and order; not to aggravate it.

*Q. The attack on journalists in the court premises took it to the next level...*

A. Attack on journalists is as bad as attack on judges. Democracy has survived in this country because of these two institutions, the judiciary and the free press. They are now acting against journalists as they did against Muslims during the riots. Mob psychology is different. When one fellow throws a stone, everyone does. When you talk one to one, people are normal but when they come together, the mob psychology takes over. (In IPC there is a section for common intention, so whether you throw a stone or not you are liable if you were part of the mob)

One of the reasons why riots took place was because of the failure of the state machinery that's supposed to protect people from violence, atrocities. But the state was complicit in it, whether its government officers or the police, which are the visible limbs of the state. Then the helpless person looks outside for help.

*Q. How different was the time of riots from today's atmosphere?*

A. At that time the atmosphere was charged. In those days there was open incitement to kill, hurt and loot. This is more disastrous because it is done in a subtle way with the blessings of the state in power. The more you read the more you are reminded of what happened in hay days of Adolf Hitler. As Lord Acton says, power corrupts and absolute power corrupts absolutely.

Read More: <http://www.outlookindia.com/website/story/the-beast-in-us-is-being-unleashed/296687>

Date Accessed: 29.02.2016

### DEFENCE

#### All about Pay and Perks: India's Defence Budget 2016-17

(Lakshman K Behera, *Institute of Defence Studies and Analyses*, March 3, 2016)

The fiscal year 2016-17 marks yet another year in which defence allocation has been overshadowed by the increases in the manpower cost. More disturbingly, the manpower-centric growth in the defence budget has begun eating into the capital expenditure which is key for modernisation of the armed forces. This skewed nature of the growth, which originates from the

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implementation of the Sixth CPC, is likely to intensify further in the coming years because of the implementation of OROP and the recommendations of the Seventh CPC.

Read more: [http://idsa.in/issuebrief/pay-and-perks-india-defence-budget-2016-17\\_lkbehera\\_030315](http://idsa.in/issuebrief/pay-and-perks-india-defence-budget-2016-17_lkbehera_030315)

Date Accessed: 7.3.2016

## Society

### **GENDER**

#### **India's Military to Allow Women in Combat Roles**

**(Franz-Stefan Gady, *The Diplomat*, February 26, 2016)**

India will soon allow women to take up combat roles in all sections of its military, the President of India and supreme commander of the Indian Armed Forces, Pranab Mukherjee said in an address to both houses of the Indian Parliament this week.

Some Indian military officials expressed skepticism over the president's remarks. "Can women officers be deployed in bunkers and posts along the LoC amid heavy shelling and infiltration bids? Similarly, warships and submarines have constricted spaces," one officer said. "Only a few of the new warships (like the *Shivalik*-class stealth frigates) cater for individual bathrooms for some officers. The rest have open bathrooms."

"Even the U.S. and the U.K. do not have women in front-line ground combat as of now. Gender equality is fine, but you may have to draw the line somewhere in the armed forces," another officer said.

Women soldiers argue that they should at least be free to have the option to serve in combat arms. However, they also emphasize that the principal struggle remains to get more female permanent commission (PC) officers into the different service branches, since short service commission officers can only serve for a period ranging from 5-14 years, which prohibits them from rising to higher military ranks.

Read More: <http://thediplomat.com/2016/02/indias-military-to-allow-women-in-combat-roles/>

Date Accessed: 29.02.2016

## India and World

### INTERNATIONAL AFFAIRS

#### Less than Zero in Japan

(Koichi Hamada, *The Livemint*, March 1, 2016)

In theory, negative rates, by forcing commercial banks essentially to pay the central bank to be able to park their money, should spur increased lending to companies, which would then spend more, including on hiring more employees. This should spur a stock-market rebound, boost household consumption, weaken the yen's exchange rate and halt deflation. But theory does not always translate into practice; while the BoJ's introduction of negative rates almost immediately pushed the interest-rate structure lower, as expected, the policy's effects on the yen and the stock market have been an unpleasant surprise.

Read more:

<http://www.livemint.com/Opinion/z7d0BL1YH8Qf9R7vrBAEVL/Less-than-zero-in-Japan.html>

Date Accessed: 1.3.2016

### SOUTH ASIA

#### Wigneswaran Seeks India's Help on New Constitution

(T. Ramakrishnan, *The Hindu*, March 01, 2016)

Chief Minister of Sri Lanka's Northern Province C.V. Wigneswaran on Monday called upon India to ensure that the spirit behind the 13th Constitutional Amendment be retained in the new Constitution.

"When I say the spirit of the 13th Amendment, it means 'federal features', which have to be made an integral part of the new Constitution," Mr. Wigneswaran told *The Hindu* on the phone from Jaffna.

The 13th Amendment, an outcome of the 1987 India-Sri Lanka accord, is the "only document" through which India could function as the "guarantor" of interests and rights of Tamils in Sri Lanka, he said. But with the enactment of the Provincial Councils Act of 1987, "what was granted [to Provincial Councils] under the Amendment has been taken away". This is why the demand is being made for the repeal of the Provincial Councils Act and adherence to the original character of the Amendment.

Asked whether New Delhi could make any suggestion to Colombo on the Amendment issue under the given circumstances, Mr. Wigneswaran recalled how Constitutional experts from India got involved in the process of drafting the 13th Amendment.

Read More: <http://www.thehindu.com/news/international/wigneswaran-seeks-indias-help-on-new-constitution/article8296797.ece>

Date Accessed: 01.03.2016

## Opinions/ Books

### OPINIONS

#### Refusing to Rein in Hindu Zealots Could Spell the Undoing of Narendra Modi

(Dileep Padgaonkar, *The Huffington Post*, March 02, 2016)

Here are the telltale signs of a government in serious trouble: when it sniffs a conspiracy in every criticism aimed at it; when it deploys state power in a ham-handed manner to curb dissent; when it looks the other way as its supporters abuse, intimidate, injure and even murder its ideological and political foes; when it seeks shelter behind a veil of high-decibel nationalism; when it dons the mantle of victimhood; and, not least, when it attracts ridicule more than rage.

The other sign was more ominous. That Modi was beholden to the RSS for ensuring his spectacular triumph in the general election became obvious. He gave it a free hand to advance its agenda of "cultural nationalism" -- a barely disguised synonym for turning India into a Hindu nation. The RSS began to take control of educational institutions and cultural bodies. History textbooks were re-written to suit its ideology. Individuals with desultory professional credentials were named to head universities, research bodies and various cultural institutes. Modi chose to look the other way. He was also conspicuously silent when members of his ideological fraternity hounded Muslims, leftists and liberals on one pretext or the other. Indeed, anything that smacked of "Western" culture and ideas, such as free speech and tolerance of diversity, invited the wrath of this fraternity.

But the ground is clearly slipping from beneath his feet. Like the Bourbons of France, he seems neither to learn anything nor forget anything. He needs to learn that Indians can worship an idol and demolish an idol with equal zeal. He needs to forget that he can ride roughshod over what is at the core of India's democracy -- respect for the country's exuberant diversity upheld in its Constitution -- in the name of Teflon nationalism. To persist with this delusion is to embark on a path leading to certain perdition.

Read More: [http://www.huffingtonpost.com/entry/hindu-zealots-modi\\_b\\_9349728.html?section=india&utm\\_hp\\_ref=india](http://www.huffingtonpost.com/entry/hindu-zealots-modi_b_9349728.html?section=india&utm_hp_ref=india)

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Issue Coordinator: Mr. Jeet Singh

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