



Knowledge Conclave

Industrial Food Production and Health: Linkages and Trends

Amit Khurana

Food Safety and Toxins

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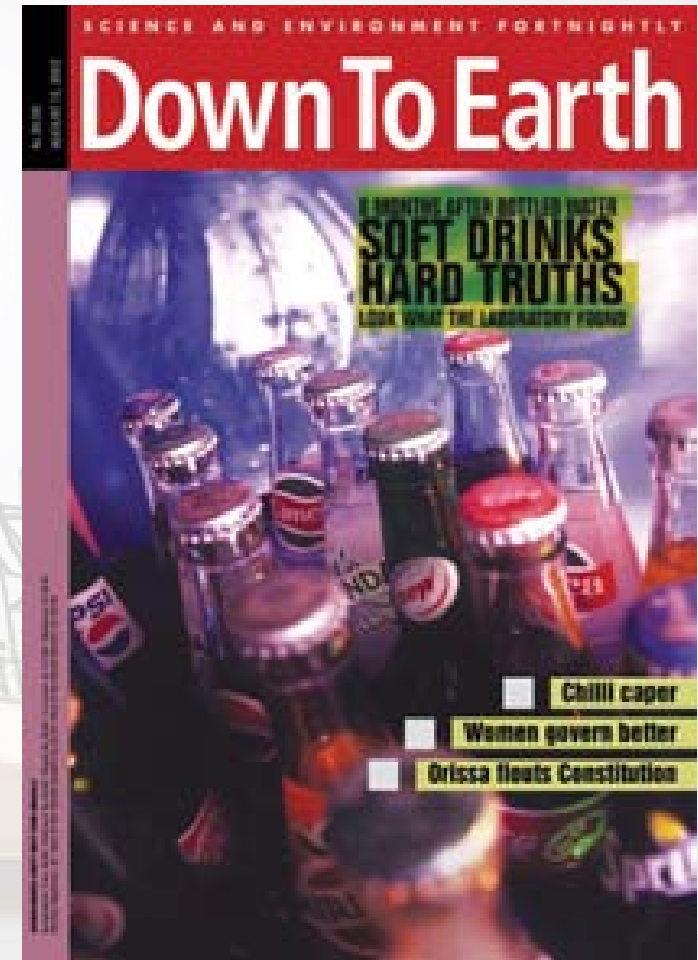


Industrial food production – what comes to mind!

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- Antibiotic residues
 - Pesticide residues
 - Chemical additives
 - Ultra-processed food
 - High salt, sugar, fats
 - Trans fats
 - Packaged foods
 - Aggressive food promotion
 - Labelling and claims
 - Industrial animal farms
 - Monocultures
 - Plastic packaging
 - Carbon miles
- Heart disease
 - Diabetes
 - Cancer
 - Obesity and metabolic syndrome
 - Antimicrobial resistance, infectious diseases and outbreaks
 - Problems of reproductive, hormonal, immune, respiratory and neurological systems
 - Behavior and psychological problems

Pesticides in soft drinks, 2003 and 2006

- Joint Parliamentary Committee (JPC) setup to investigate our study
- JPC vindicated CSE's study
- Reforms in food, water and pesticide regulations (*Food safety & standards act, an outcome*)
- After prevaricating for 5 years the Union health ministry set up mandatory standards for pesticide in beverages including soft drinks;
World's first



Pesticides in blood of Punjab cotton farmers, 2005

- Tested for organochlorines and organophosphates
- Start of debate on pesticides and its linkages with cancer in Punjab
- Punjab government ordered study and starts cancer registry
- Much more needs to be done



Trans fats in edible oils, 2009

- Tested for trans fatty acids in common edible oils
- FSSAI notified standards for trans fats in 2013 (less than 10%)
- Made stringent in 2015 (less than 5%) to be applicable by mid-2016



Trans fats in edible oils: Lab results

Trans fats of the land

Levels ranged 9-24 per cent—5-12 times the standard in Denmark



Antibiotics in Honey, 2010

- Tested 12 brands of honey, including two popular International brands
- Found several antibiotics such as Chloramphenicol, Ciprofloxacin, Erythromycin
- FSSAI has fixed standards – no antibiotics in honey allowed to be used



Nutritional analysis of junk food, 2012

- Found high levels of salt, sugar, total fats and trans fats
- Also found misleading labeling and advertisement practices
- Increased pressure for regulating junk food availability in schools; its promotion and labelling
- CBSE issues circular; MWCD report recommends stringent control; FSSAI yet to act



Antibiotics residues in Chickens, 2014

- Antibiotics found include those banned in certain countries; belong to critically important classes; highly prescribed for humans in India
- Issue of antibiotic misuse in industrial food animal production and its linkages with antibiotic resistance highlighted
- Animal Husbandry department (DADF) issues advisory to prohibit use of antibiotic growth promoters and trace all antibiotic use
- FSSAI issues draft of standards for antibiotic residues in animal tissues, milk and eggs

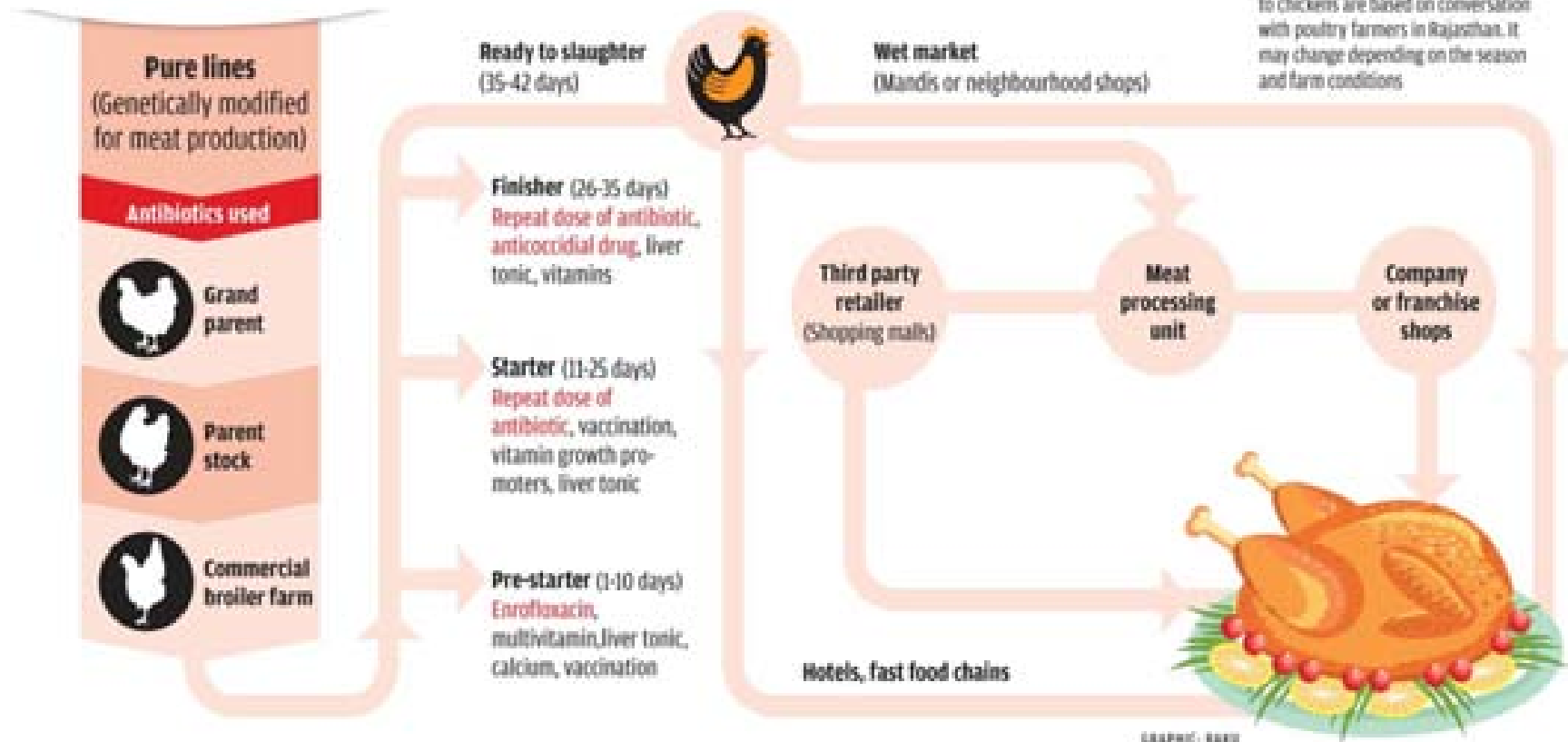


Antibiotics fed from birth till death

From farm to plate

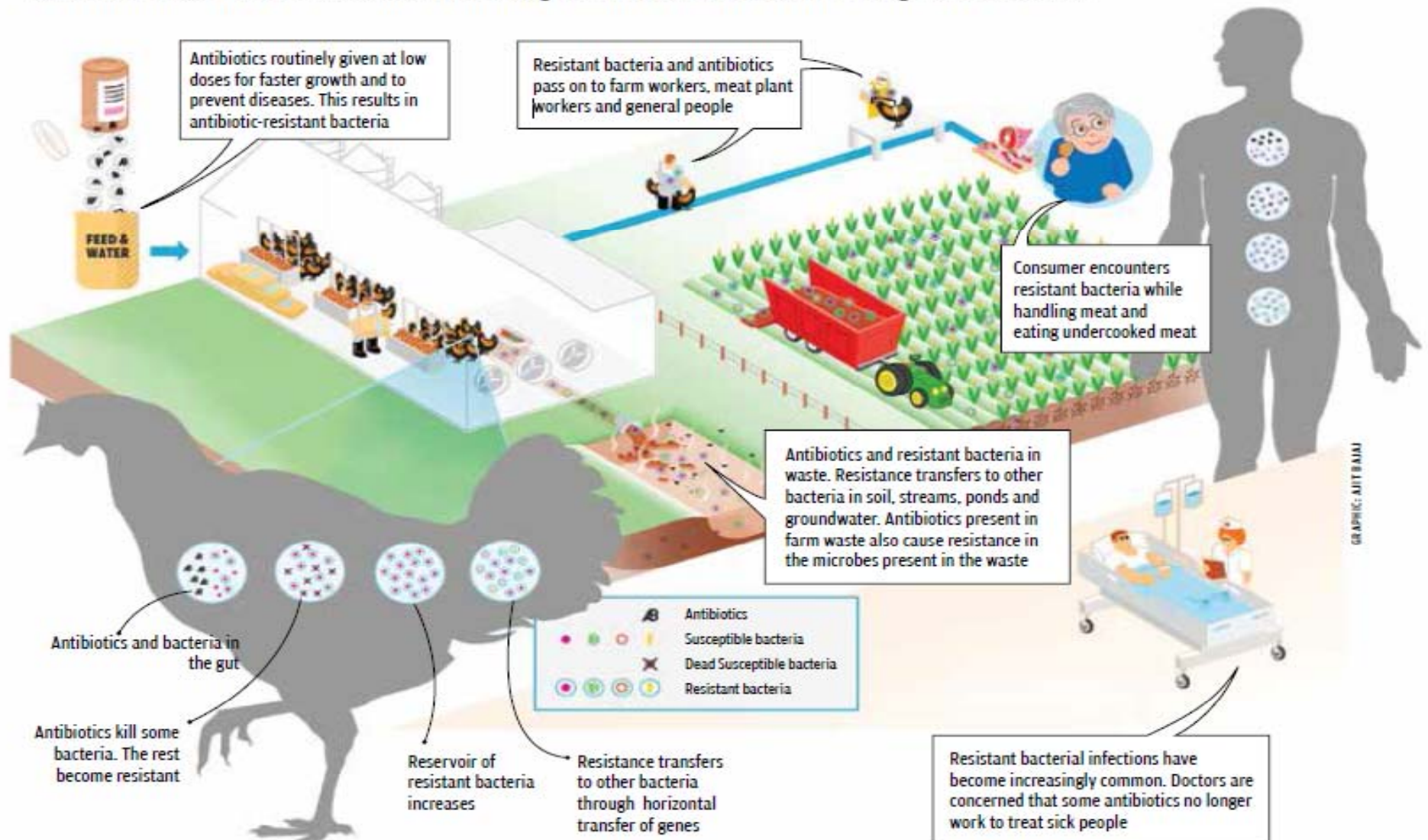
Antibiotics are used extensively throughout the 35-42 day life cycle of chicken

Note: The schedule of medicines given to chickens are based on conversation with poultry farmers in Rajasthan. It may change depending on the season and farm conditions

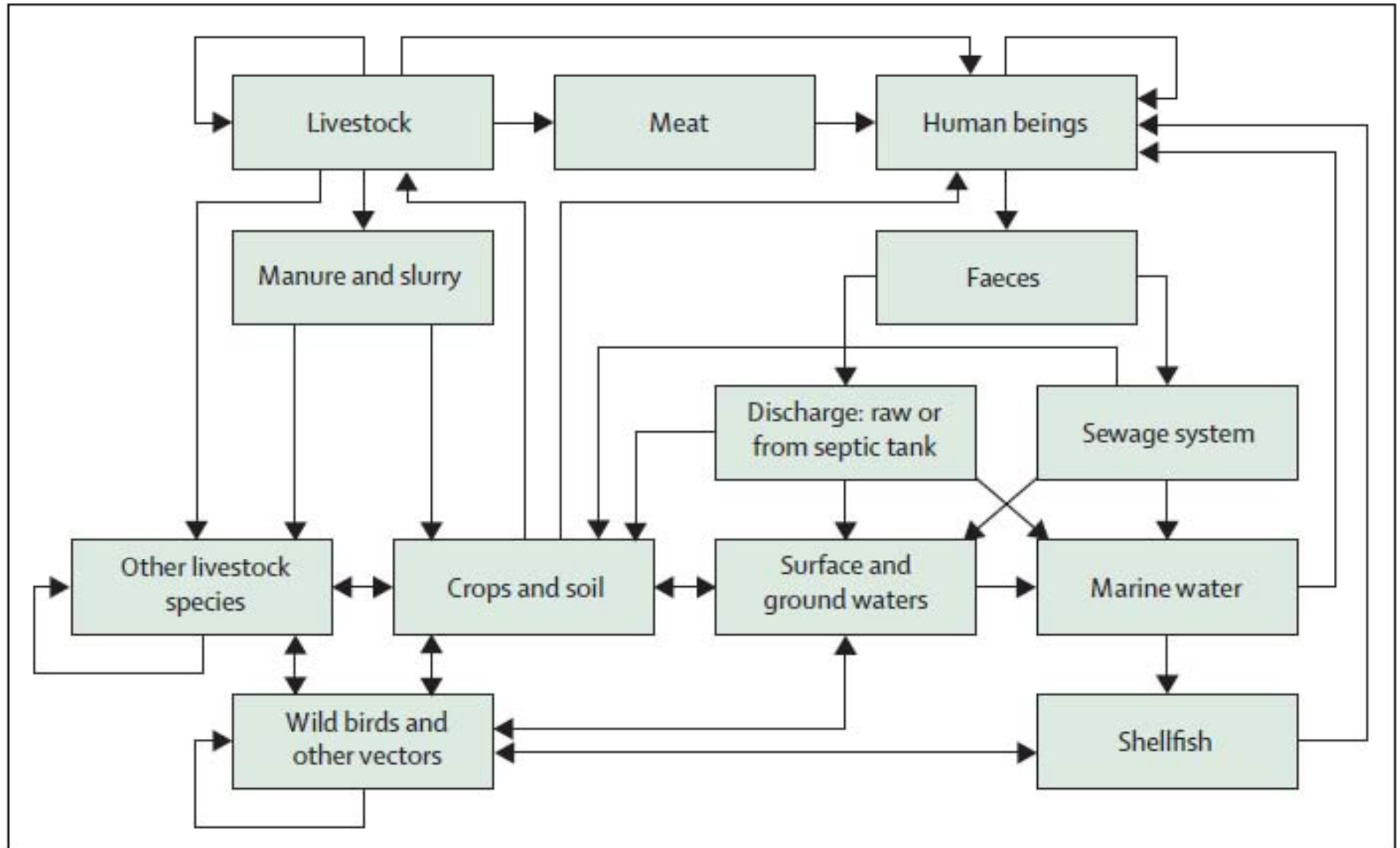


Smart moves of a deadly microbe

As a microbe become resistant, it influences other microbes present in the gut of the chicken and then those in the environment, making them resistant to a wide range of antibiotics



Environment linkages of antibiotic resistance



Politics of...

- Denial
- Challenging study – sample size, methodology
- Missing India specific studies and data or using per capita data
- Different ground realities – [enforcement](#), awareness, resources
- Deviating the focus; shifting blame and accountability
- Responsible Industry; Industry fulfilling need of society
- Stakeholder representation – despite conflict of interest
- More committees, influencing report/meeting outcomes
- Powers with centre and state departments
- Questioning intent...

Thank you...

