

CONTAGION OF MISINFORMATION

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‘Virus’ of misinformation has been around in science since ages. Digital technology has helped in both detecting it and spreading it; however, it has been more instrumental in driving up the pace, scope and scale of misinformation. Domains of science having a direct and stronger bearing on the public such as medical, food and agricultural sciences are more prone to misinformation. There are two major carriers of misinformation in such arenas: the first being unscrupulous elements garnering monetary, political and other personal advantages, these can be easily red-flagged by individuals having appropriate scholarly background in the field. Unfortunately, however, ideas promoted by such elements have considerable uptake by the civil society. The second are environmental fundamentalists, which though do not have any bad intentions but become opinionated selectively against the information that involves the use of chemicals, genetic engineering, etc. These fundamentalists devoutly spread information which demonizes these interventions. Their thinking is hard-wired to reject synthetic materials and embrace natural products only. Our dependence on chemicals has been on rise and awareness towards limiting their use is a pressing need of the hour. However, our emphasis should not be across the board, but should be weighed against the scientific evidence and the risks to chemical use need to be gauged in terms of product of exposure time and quantity. Also, we should responsibly remain far below the assimilative capacity of the environment while loading chemicals into it. Presenting just selective information with deliberate disregard to the other aspects or trade-offs of a technology and be a doomsayer to laypersons is a major misinformation challenge.

Research and academic institutes need to engage effectively with civil society for managing chemophobia and other myths. It is wrong to demonize synthetic fertilizers when we have a straightforward fact that chemical properties of an element are not conditional upon its source: nitrogen sourced from urea cannot have properties different from the one provided by decomposing crop residue, provided there are no collateral harmful ingredients in the fertilizer. This chemophobia has proved disastrous in some cases. For instance, in May 2021 the Sri Lankan President

had banned all agrochemicals including fertilizers for achieving utopian target of having 100% organic produce. However, an undo button had to be pressed in November 2021 when food scarcity started raising its ugly head.

Similarly, the Bt technology continues to remain a polarizing issue. Social media is replete with misinformation and skewed narratives against Bt technology. As a result, environment reactionaries have not been allowing it to embrace increasing number of crops. It goes without saying that release of Bt cotton in India or elsewhere helped gain better yields and limit chemical use. Despite this positive evidence, Bt technology continues to be thwarted by environmental fundamentalism.

Climate change science has also been victimized by misinformation. Some political leaders who have been peddlers of the falsehoods that climate change is not real or it is not manmade have not been ready to cooperate with the remaining world for containing greenhouse gases (GHGs). This misinformation emboldens polluters. Lately, there has been a growing sense of urgency and alarm around this at the world level.

Quasi-spiritual opinions are also gaining ground. Such individuals approve scientific revelations but wishfully relate these with scriptural texts. Similarly, there has been misinformation regarding priority claims over a revolutionary change: for instance, there exist different narratives about who brought in Green Revolution.

Science is supposed to peel information layer by layer to hit a fact. It is supposed to present a consensus opinion. At the same time, however, scientific research is also subject to pluralism and sometimes eludes a unifying principle. Many methods may be in use for determining a particular variable. Resulting variance may be misconstrued as disinformation. It is here where meta-analysis based review papers can shine light on the most probable outcomes of a study. Review papers should be considered at par with the research papers as the former can help separate the chaff from grain and form a more representative opinion.

The answer to what constitutes misinformation still remains elusive. The information which is yet to be comprehensively validated by research and which

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seems indubitable also needs to be watched for its likely uptake through print and social media. For example, prevalence of cancer like life-threatening medical conditions in southwest Punjab has often been attributed by such media to the overuse of agrochemicals and fertilizers. There do not seem to exist comprehensively planned studies which can either belie or validate this narrative. It is hoped that upcoming policy will flag this

urgency and propose to plan and fund comprehensive studies aimed at ascertaining any direct correlation. Likewise, mainstream print media and social media carry apocalyptic warnings about 'poisoned' landscape of Punjab. Such unverified and overplayed claims can be ruinous to the agricultural market of the state. Misinformation is highly tenacious. Bold policy initiatives are required for effective governance of social media.