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THE PANDEMIC AND THE PRIVACY PANDEMONIUM: A CASE STUDY OF THE AAROGYA SETU APPLICATION

Deepika Nandagudi Srinivasa

National Law University and Judicial Academy, Assam

Aroonima Anup

St. Joseph's College of Law, Bangalore

ABSTRACT

*This paper attempts to gain a comprehensive understanding of 'Aarogya Setu', a contact-tracing mobile application which is used to combat the Coronavirus pandemic in India. The working of the application, however, has given rise to several issues which are as unprecedented as the pandemic. These issues are with respect to privacy concerns, lack of transparency and retention of sensitive data amongst several others. Furthermore, the developments of the application are chronologically traced, by highlighting subsequent policy modifications and High Court orders. Consequently, the paper seeks to address the legality of digital surveillance by the government, with the primary focus being on the right to privacy. In light of *K. S. Puttaswamy v. Union of India*, the paper also attempts to make a constitutional analysis vis-à-vis contact tracing applications. The importance of government transparency concerning the usage and collection of personal data is also discussed. Lastly, the authors put forward policy recommendations to secure data privacy and discern the way forward.*



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I. Introduction

Ten months into the novel Coronavirus (*hereinafter*, COVID-19) engulfing nearly the entire world, the affected population has reduced by approximately eleven lakh as on 28th October, 2020.¹ The virus is believed to have spread from animals to humans from Wuhan, China.² As the virus made its way across 188 nations, more than forty-three million individuals have been at the receiving end of it.³ It is transmitted via droplets when an individual sneezes or coughs. These droplets may further be picked up by more individuals, facilitating the spread.⁴ With the easy communicability of the virus, the World Health Organisation (*hereinafter*, WHO) has felicitously declared COVID-19 a pandemic.⁵ Considering the virus is endangering the lives of many, it becomes necessary to batten down the hatches to surmount this global issue.

The first case of COVID-19 in India was reported from the state of Kerala on January 30th, 2020.⁶ Consequently, persons were directed to practice social distancing in order to contain the spread of the virus. However, amidst panic, coupled with global mismanagement, several individuals fled foreign nations to return to India. Data provided by the Ministry of Health and Family Welfare (*hereinafter*, MHFW), confirmed that the spread of the virus within India was primarily caused due to the influx of individuals having travel history from Italy, China and Iran.⁷

¹'WHO Coronavirus Disease (COVID-19) Dashboard', (*World Health Organisation*, 28 October 2020) <<https://covid19.who.int/>> accessed 28 October, 2020.

²'Coronavirus: All you need to know in under 500 words', (*Aljazeera*, 20 September 2020) <<https://www.aljazeera.com/news/2020/01/china-coronavirus-500-words-200127065154334.html>> accessed 22 March, 2020.

³ World Health Organisation, N 1.

⁴'Coronavirus disease (COVID-19): How is it transmitted?' (*World Health Organisation*, 9 July 2020) <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/question-and-answers-hub/q-a-detail/q-a-how-is-covid-19-transmitted?gclid=Cj0KCCQjw8rT8BRCbARIsALWiOvS61CudyGlznFIEdWhFtXkL5gL0kScNW4z6W2AqPYCfg5H68ri9tzAaAmMDEALw_wcB> accessed 2 August, 2020.

⁵'Coronavirus 2019 Situation Report - 51' (*World Health Organisation*, 11 March 2020) <<https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200311-sitrep-51-covid-19.pdf>>

⁶'India confirms its first coronavirus case, *CNBC* <<https://www.cnb.com/2020/01/30/india-confirms-first-case-of-the-coronavirus.html>> accessed 2 March, 2020.

⁷Mohan Basu, How coronavirus spread in India — 39 of the first 50 patients came from Italy, Iran, China, (*The Print*, 13 March 2020) <<https://theprint.in/health/how-coronavirus-spread-in-india-39-of-the-first-50-patients-came-from-italy-iran-china/379941/>> accessed 16 March, 2020.

In an effort to limit and contain the spread of the virus, the government has introduced proactive safety measures such as the imposition of strict lockdowns, enforcing strict social distancing,⁸ sanitisation of office spaces,⁹ and enforcing home quarantining following travelling¹⁰ Another measure taken by the NITI Aayog, the policy-making wing of India, in company with the Union Ministry of Electronics and Information Technology (*hereinafter*, MeitY) was to employ Precision Global Health (*hereinafter*, PGH) and Health-Related Internet of Things Technology (*hereinafter*, H-IoT).¹¹ PGH is theorized as an integrated and participatory approach enhanced by artificial intelligence (*hereinafter*, AI), to identify global problems and is believed to deliver impactful and targeted interventions in the healthcare sector.¹² It is considered to have virtually dispensed the need for traditional healthcare facilities.¹³

In a bid to use PGH and H-IoT, the government has launched several contact tracing mobile applications (“apps”), which are modelled after South Korea’s “Self-Quarantine Safety Protection” app.¹⁴ The Self-Quarantine Safety Protection app notifies the whereabouts of the COVID-19 infected individuals at the corresponding time. Shockingly, some citizens had accurately deciphered that two infected individuals were having an affair.¹⁵ Although the names and addresses of these individuals were not disclosed, the deployment of the app led to wide misuse of personal data, which gave rise to social stigmatization.

⁸‘Advisory on Social Distancing Measure in view of spread of COVID-19 disease’ (2020) Ministry of Health and Family Welfare, Government of India, <<https://www.mohfw.gov.in/pdf/SocialDistancingAdvisorybyMOHFW.pdf>> accessed 8 June 2020

⁹‘SOP on preventive measures to contain spread of COVID-19 in offices’ (2020) Ministry of Health and Family Welfare, Government of India, <<https://www.mohfw.gov.in/pdf/1SoPstobefollowedinOffices.pdf>> accessed 8 June 2020

¹⁰‘Guidelines for home quarantine’ (2020) Ministry of Health and Family Welfare, Government of India, <<https://www.mohfw.gov.in/pdf/Guidelinesforhomequarantine.pdf>> accessed 8 June 2020

¹¹Amitabh Kant, ‘Managing Coronavirus: Learning From Global Best Practices’ (2020) NITI Aayog <<https://niti.gov.in/managing-coronavirus-learning-global-best-practices>> accessed 28 June 2020

¹²Sheath, Danny J. et al., ‘Precision global health: a roadmap for augmented action’, 4 JOURNAL OF PUBLIC HEALTH AND EMERGENCY (2020) <<http://jphe.amegroups.com/article/view/5679/html>> accessed 5 April, 2020

¹³Brent Mittelstadt, ‘Ethics of the health-related internet of things: a narrative review’, 19 ETHICS AND INFORMATION TECHNOLOGY (2017) <<https://link.springer.com/article/10.1007/s10676-017-9426-4#Sec3>> accessed 22 March, 2020

¹⁴‘Coronavirus privacy: Are South Korea’s alerts too revealing? *BBC News* <<https://www.bbc.com/news/world-asia-51733145>> accessed 31 March 2020.

¹⁵*Ibid.*

Hence, the implication of using PGH based apps is the employment of a technological approach to control the spread and transmission of the disease through disease assessment, prediction and monitoring.¹⁶ This also involves digital surveillance, which is intimately leveraged by the accumulation of findings from a database. As such, questions about data collection, interpretation of the collected data, and the objective of interpretations are relevant from an ethical and legal standpoint.¹⁷

II. Aarogya Setu: Tracing Contemporary Developments

With the world coming to a standstill, countries were forced to go into a state of a lockdown wherein all economic and commercial activities were brought to halt. India being no exception to this underwent several stages of lockdown each of which made way for gradual relaxation in order to set economic activity back in motion. In light of these events, the app in itself has undergone developments over the various stages of the lockdown.

Taking lessons from contact tracing apps launched in countries like Singapore and South Korea, India too developed a beta contact tracing app called ‘Corona Kavach’ (loosely translates to “shield against Corona”).¹⁸ However, this app was abruptly made unavailable to download on Google Play Store and was pronto followed by a similar app called ‘Aarogya Setu’ (loosely translated to “bridge of health”).¹⁹ The app has been developed by India’s National Informatics Centre (*hereinafter*, NIC) which comes under MeitY.

With a conscious effort to guarantee data protection, countries like Singapore spent several months ensuring their contact tracing goals are met. Once the app proved to be fruitful while securing personal data, it was formally introduced. This ensured that adequate research was

¹⁶ Ahmadi S, et al., ‘*The role of digital technologies in tackling the Zika outbreak: a scoping review*’, 2(6) JOURNAL OF PUBLIC HEALTH AND EMERGENCY (2018) <<http://jphe.amegroups.com/article/view/4556/5357>> accessed 30 March, 2020

¹⁷ Ibid.

¹⁸ Government of India launches Coronavirus Tracking App Corona Kavach, *Financial Express* <<https://www.financialexpress.com/industry/technology/government-of-india-launches-coronavirus-tracking-app-corona-kavach-now-available-for-all-android-phones/1911452/>> accessed 31 March, 2020.

¹⁹ Coronavirus pandemic | Govt launches COVID-19 tracking app 'Aarogya Setu' for Android, iOS users, *Money Control* <<https://www.moneycontrol.com/news/trends/coronavirus-pandemic-govt-launches-COVID-19-tracking-app-aarogya-setu-for-android-ios-users-5101621.html>> accessed 22 March, 2020

conducted before inducting the application as well as instilled faith in the working of the app in the minds of the prospective users. In India, however, within two weeks (March 19th - April 2nd, 2020) after the first line of code was given, Aarogya Setu was made available for active usage.²⁰ Without adequate research over a prolonged period, it indicates the callousness of the government in relation to data protection and privacy. No effort was made to disclose either the possibility of public scrutiny or the level of anonymity that can be maintained on the app.

The government had explicitly confirmed its awareness regarding the sensitivity of the topic i.e. data protection, and therefore, promised to ensure that the data from the app is not “compromised”.²¹ While the app allows the MHFW to recommend the best practices to be followed to avoid contracting the virus with its users, it does not suggest any assistance or collaboration with any non-governmental stakeholders. Moreover, no reference has been made regarding the right of informational privacy.²² Originally, the Government declared that the purpose of the app was to notify users if they are at imminent risk of contracting Coronavirus;²³ but on further analysis, it was found that this is but one of the many goals of the app.

2.1 Highlighting instances of mandatory usage of Aarogya Setu

²⁰Karishma Mehrotra, Behind Aarogya Setu app push: ‘At least 50% people must download for impact’, *The Indian Express* < <https://indianexpress.com/article/coronavirus/behind-aarogya-setu-app-push-at-least-50-people-must-download-for-impact-6357121/> > accessed 5 April 2020.

²¹‘Aarogya Setu Data Access and Knowledge Sharing Protocol, 2020 in light of the COVID-19 pandemic’ (2020) Ministry of Electronics and Information Technology, Government of India, <https://www.meity.gov.in/writereaddata/files/Aarogya_Setu_data_access_knowledge_Protocol.pdf> accessed 1 June 2020.

²²Sidharth Deb, ‘Privacy prescriptions for technology interventions on COVID-19 in India’ (2020) IFF Working Paper No. 3/2020, <[https://docs.google.com/document/d/1nDoPzygQyTetEguOlzula5O9y5f3f5YJDsA2Pd99O6U/](https://docs.google.com/document/d/1nDoPzygQyTetEguOlzula5O9y5f3f5YJDsA2Pd99O6U/edit) edit> accessed 10 May, 2020

²³Aarogya Setu Coronavirus tracking app now available on Android, iOS: Here’s how to download and use, *India Today*, <<https://www.indiatvnews.com/technology/news-aarogya-setu-coronavirus-tracking-app-how-to-use-it-603851>> accessed 30 April 2020

A recent report suggests that the government of India has made efforts to compel smartphone manufacturers to make Aarogya Setu a default pre-installed application on all devices.²⁴ This implies that for a user to be able to use their device, it will be compulsory to set-up the app. Xiaomi India has given a nod to this directive and states that their cooperation in the pre-installation of the app can be expected.²⁵ Pre-installed apps are known to have several security risks and are known to be a catalyst for data-harvesting.²⁶ Considering the nature of this app and its need for GPS Location to be constantly enabled, the pre-installation of such apps poses a serious problem of perpetual user surveillance.

Furthermore, the government intimidated citizens to download the Aarogya Setu app in view of containing COVID-19. On May 1st, an order issued by the Home Ministry²⁷ mandated that all workplaces ensure there is “100 percent coverage” and the app be mandatorily used by all workers, both in the public and private sector.²⁸ On 10th May, 2020, a Writ Petition was filed in the Kerala High Court²⁹ challenging the order that employers will face criminal prosecution if it is found that any employee is not using the app.³⁰

²⁴Smartphones could soon come pre-installed with Aarogya Setu app: Report, *The Indian Express* <<https://indianexpress.com/article/technology/tech-news-technology/aarogya-setu-installed-smartphones-by-default-soon-6386270/>> accessed 11 June, 2020.

²⁵Aarogya Setu app will be pre-installed in Xiaomi smartphones if govt orders, *The Indian Express*, <<https://indianexpress.com/article/technology/mobile-tabs/xiaomi-phones-will-have-aarogya-setu-app-pre-installed-if-govt-orders-manu-jain-6393791/>> accessed 10 June, 2020.

²⁶Android ecosystem of pre-installed apps is a privacy and security mess, *ZD Net*, <<https://www.zdnet.com/article/android-ecosystem-of-pre-installed-apps-is-a-privacy-and-security-mess/>> accessed 10 June, 2020

²⁷Order No, 40-3/2020-DM-I (A), Government of India, Ministry of Home Affairs. <https://www.mha.gov.in/sites/default/files/MHAOrderDt_27102020.pdf>

²⁸Covid-19 new guidelines for workplaces, public areas: Aarogya Setu App mandatory, and more, *The Indian Express*, <https://indianexpress.com/article/india/covid-19-new-guidelines-for-work-places-aarogya-setu-app-mandatory-social-distancing-6389198/>, accessed 2 May, 2020.

²⁹ WP (C) No. 9806/2020, <https://drive.google.com/file/d/1wSaVWxJHhCcOkccPz9axjdtXq1GnvGY0/view>

³⁰New plea in Kerala HC against Aarogya Setu app, *The Economic Times*, https://economictimes.indiatimes.com/news/politics-and-nation/new-plea-in-kerala-hc-against-aarogya-setu-app/articleshow/75676487.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst, accessed 11 June, 2020.

In response to this, the Court questioned whether India has advanced enough to expect the population to be equipped with smartphones to meet the requirement.³¹ The plea further addressed the impracticability of all users having access to smartphones.³² Countries like South Korea have proved to be more efficient than most countries in the usage of contact-tracing apps in combating the pandemic, taking into account the whopping 95% smartphone penetration in the nation.³³ On the other hand, India's smartphone penetration is merely around 40%.³⁴ Hence, in comparison to such nations, the prevalent inadequacy of smartphone users has given rise to "information poverty" in India and cannot be disregarded.³⁵

Along with this, a joint representation against the direction to compulsorily download the app was co-signed by hundred private individuals and Amnesty India, Common Cause and People's Union of Civil Liberties amongst 45 other organisations.³⁶ With constant pressure on the State regarding privacy issues, the app diluted its requirement from compulsory to "best efforts".³⁷

Another victory was for the citizens of Noida, whose government authorities had mandated all citizens to compulsorily download the app. Non-compliance of the same was to attract a steep fine of Rs.1000 or jail-time for up to 6 months.³⁸ Additionally, through the press release

³¹How 'Aarogya Setu' Can Be Made Mandatory When Many Workers Have No Smartphones, Kerala HC Asks Centre, *Livelaw News Network*, <https://www.livelaw.in/news-updates/kerala-hc-to-centre-how-aarogya-setu-mandatory-when-workers-have-no-smartphones-156646> , 15 May, 2020.

³²How will you practically ensure that all employees download Aarogya Setu App? Kerala HC asks Central Government, *Bar and Bench* <https://www.barandbench.com/news/litigation/how-will-you-practically-ensure-that-all-employees-download-aarogya-setu-app-kerala-hc-asks-central-government> , accessed 11 June,2020

³³The Mobile Landscape in South Korea, *Device Atlas*, < <https://deviceatlas.com/blog/mobile-landscape-south-korea#:~:text=Smartphone%20penetration%20in%20South%20Korea,the%20next%20highest%20on%2088%25> > accessed 30 March, 2020

³⁴ Newzoo Global Mobile Market Report 2019 < <https://newzoo.com/insights/trend-reports/newzoo-global-mobile-market-report-2019-light-version/> > accessed 11 June, 2020.

³⁵RK Ghere and BA Young, 'The Cyber-management Environment: Where Technology and Ingenuity Meet Public Purpose and Accountability' (1998) *Public Administration and Management: An Interactive Journal* 3(1)

³⁶Representation to protect privacy, autonomy and dignity of workers during COVID-19 outbreak, <https://drive.google.com/file/d/1ELi-Q9FG-eapNFEzVeuJqTROFFrUfIT3/view> accessed 9 June, 2020

³⁷Statement: Victory! Aarogya Setu changes from mandatory to, "best efforts", *Internet Freedom Foundation*, <https://internetfreedom.in/aarogya-setu-victory/> , accessed 10 June, 2020.

³⁸No Aarogya Setu app? Pay Rs 1,000 fine or face 6 months jail in Noida, *The Indian Express*, <https://indianexpress.com/article/cities/delhi/aarogya-setu-app-fine-jail-noida-6394954/> , accessed 11 June, 2020

of Noida Metro Rail Corporation Ltd, it indicated that all passengers boarding the Aqua line will be required to download the app.³⁹ Owing to the backlash from Noida residents, two weeks after the first order; it was reversed and made the installation of the app voluntary.⁴⁰

For, 'special train' passengers,⁴¹ it is mandatory to download the app and update their information on the app.⁴² The Airports Authority of India, in furtherance of rules laid down by the Union, announced on May 15th, 2020 that all passengers availing air travel services must compulsorily download and periodically update their personal information on the app.⁴³

Bearing this in mind, a Public Interest Litigation filed in the High Court of Karnataka raised issues concerning the mandatory downloading of Aarogya Setu. It further laid emphasis on the discrimination faced by non-smartphone users in relation to railway and flight travel. It also raised the issue of privacy and location tracing and its impact on individual privacy and freedom. The Court thereby ordered an issue of notice to the Union Government, stating that the usage of the app be made voluntary.⁴⁴ Hence, downloading the app was initially a mandatory prerequisite,⁴⁵ but on May 23rd, 2020 changed to "recommended" for all flight

³⁹Noida Metro Rail Corporation Ltd. <http://www.nmrcnoida.com/Media/PressRelease16052020> , accessed 11 June, 2020

⁴⁰Noida Reverses Mandatory Aarogya Setu Order After Legal Challenge, *The Quint*, <https://www.thequint.com/news/india/aarogya-setu-app-gautam-buddh-nagar-district-noida-reverses-mandatory-order-after-legal-challenge-iff> , accessed 10 June, 2020.

⁴¹Yuthika Bhargava, Aarogya Setu app mandatory for travel on 15 special trains: Railways, *The Hindu* <https://www.thehindu.com/news/national/aarogya-setu-app-mandatory-for-travel-on-15-special-trains-railways/article31563211.ece> , accessed May 16, 2020.

⁴²Railway Ministry makes Aarogya Setu app mandatory for passengers taking special trains, *The Economic Times*, https://economictimes.indiatimes.com/industry/transportation/railways/railway-ministry-makes-aarogya-setu-app-mandatory-for-passengers-taking-specialtrains/articleshow/75691975.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst, accessed 10 June, 2020.

⁴³Aarogya Setu app compulsory for air, train travel and more: Full list, *The Indian Express* <https://indianexpress.com/article/technology/tech-news-technology/aarogya-setu-app-mandatory-air-train-travel-more-list-6413841/> , accessed May 28, 2020.

⁴⁴Karnataka HC orders issue of notice to Centre on 'Aarogya Setu' app, *The Hindu*, <https://www.thehindu.com/news/national/karnataka/karnataka-hc-orders-issue-of-notice-to-centre-on-aarogya-setu-app/article31750104.ece> , accessed 11 June, 2020.

⁴⁵Aarogya Setu App mandatory to fly: AAI, *Times of India*, http://timesofindia.indiatimes.com/articleshow/75759394.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst, accessed 10 June, 2020.

passengers.⁴⁶ It was later clarified that a self-declaratory form informing their COVID-19 negative status would suffice.⁴⁷

In another case, through an official notification, the Jawaharlal Nehru University mandates non-teaching as well as teaching staff to download and use the app.⁴⁸ Given the aforementioned instances, it is clear that despite the government lifting its imposition of downloading the app, the usage of the app has been maintained as “voluntary yet mandatory” across numerous institutions. Thus, owing to the multitude of privacy and data protection issues, Aarogya Setu has endured its fair share of controversy and speculation since its inception. Amidst the growing surveillance and geo-location concerns surrounding the app, users can now heave a sigh of relief as the app becomes open source.⁴⁹ This implies that the public code repository will be released allowing developers to collaborate, inspect and modify the source code in order to build a secure technological domain for contact-tracing.⁵⁰

2.2 Discretionary Action without Accountability

It is pertinent to mention that in May 2020, Terms and Services (TOS) of the app disallow users from sharing their devices with one another.⁵¹ If the user does so, they may run the risk of being mistaken for a COVID-19 positive individual. The intriguing question is how the switching or sharing of devices can put the user at the risk of being falsely mistaken. This

⁴⁶Aarogya Setu app preferable, not mandatory for air travel: Hardeep Puri clarifies, *India TV News*, <https://www.indiatvnews.com/news/india/aarogya-setu-app-not-mandatory-for-air-travel-hardeep-puri-619701>, accessed 10 June, 2020.

⁴⁷Aarogya Setu not mandatory but show COVID-19 negative certificate instead, *Deccan Chronicle*, <https://www.deccanchronicle.com/nation/current-affairs/240520/hardeep-puri-aarogya-setu-app-not-mandatory-self-declaration-form-al.html> accessed 10 June, 2020.

⁴⁸Jawaharlal Nehru University, <https://jnu.ac.in/sites/default/files/notices/Notice%20reg.%20COVID-19%20dated%2009th%20June%202020.pdf> accessed 11 June, 2020

⁴⁹Aarogya Setu becomes open source: What does it mean?, *The Indian Express*, <https://indianexpress.com/article/technology/aarogya-setu-android-open-source-what-does-it-mean-6428458/>, accessed 11 June, 2020.

⁵⁰Aarogya Setu becomes open source: What does it mean?, *Jagran Josh*, <https://www.jagranjosh.com/current-affairs/aarogya-setu-becomes-open-source-what-does-it-mean-1590558479-1>, accessed 11 June, 2020.

⁵¹Venkat Ananth, ‘Aarogya Setu's not all that healthy for a person's privacy’, *The Economic Times* < https://economictimes.indiatimes.com/tech/software/aarogya-setus-not-all-that-healthy-for-a-persons-privacy/articleshow/75112687.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst > accessed 5 May 2020.

poses a subsequent question of whether persons are declared COVID-19 positive purely based on health information furnished on the app or whether it uses the saved database of those who have been formally diagnosed with COVID-19.⁵² If it is the former, then surely a great number of tweaks and alterations must be made to the app.

In light of this, the TOS conveniently provides that in case the app inaccurately identifies one as COVID-19 positive, the government cannot be legally held responsible for the same. If such errors occur, who must be held accountable? This is clearly an evasive disclaimer on part of the government to wash its hands of any responsibility it owes to Aarogya Setu users.⁵³

Coming to another concerning aspect, the TOS of Aarogya Setu states that the Government is at liberty to temporarily or permanently disallow access to the app. This can further be limited to even only a certain class of users. As this app is linked to the personal healthcare details of an individual, such power is arbitrary and violative of Article 21 of the Constitution. It further violates Article 14 which upholds the right to equality and reiterates the concept of 'reasonable classification'. Hence, the government, through a notification or notice, must inform the person (or the class of persons) if their access was to be temporarily or permanently suspended, along with a legitimate reason for such suspension.

2.3 Data Retention and the Myth of "Anonymization"

The app proceeds to delete all records of users after 30 days on a roster basis. However, it also conveniently states that deletion of data will not apply to "anonymized and aggregated" datasets.⁵⁴ The reason cited to not do so was for the generation of statistical visualisations such as reports, heat maps with the aim to manage COVID-19 in India.⁵⁵ Although one might

⁵²Deb, N 22.

⁵³Aarogya Setu: Building a Wooden Bridge Won't Take Us to a Safer Future, *The Wire*, <https://thewire.in/tech/covid-19-aarogya-setu-concerns>, accessed 26 May, 2020.

⁵⁴'Frequently Asked Questions on Aarogya Setu App', Question 5 (2020) Government of Assam, <<https://perma.cc/AN8L-2HBA>> accessed 18 June 2020

⁵⁵ Ibid.

argue that the Personal Data Protection Bill, 2019 (*hereinafter*, PDP Bill) would allow the government to access anonymized data,⁵⁶ it must be noted that anonymization does not ensure data protection.⁵⁷ Research has proven that vast and heavily anonymized datasets could still be re-identified.⁵⁸ Hence, this flawed perception of anonymization acting as a balancing tool by the government has also led to a serious threat to the countervailing right to privacy.

The personal data of all users may be stored even after uninstalling the app for purposes “...for which the information may lawfully be used or is otherwise required under any other law for the time being in force”.⁵⁹ This implies that the government will retain personal data furnished by the users even after the end of the current public health crisis and for as long as they wish. In addition, when the app was initially launched, it did not provide the opportunity for users to formally request the deletion of their personal data. In a welcome step, the app brought about changes in relation to deletion of user accounts.⁶⁰ Amidst the rising data privacy concerns, the app was updated to include an option for users to permanently delete their accounts along with their personal data furnished in the app. The data will be deleted from government servers in 30 days of deletion of the user account.⁶¹

In relation to the interdepartmental transfer of data, third parties may be granted access to data of COVID-19 positive individuals and those with whom they have come in contact. While the privacy policy superficially promises its users that the personal data will not be disclosed to any third party, an exception is made for “persons carrying out medical and

⁵⁶Personal Data Protection Bill, No. 373 of 2019, Section 91(2).

⁵⁷Rocher, L., et al., Estimating the success of re-identifications in incomplete datasets using generative models, 10(3069) *Nature Communications*, <https://doi.org/10.1038/s41467-019-10933-3>

⁵⁸Ibid; Natasha Lomas, Researchers spotlight the lie of ‘anonymous’ data, *Tech Crunch*, < <https://techcrunch.com/2019/07/24/researchers-spotlight-the-lie-of-anonymous-data/e> > accessed 26 May, 2020.

⁵⁹Manavi Kapur, The coronavirus app Narendra Modi endorsed is a privacy disaster, *Quartz India* <https://qz.com/india/1838063/modis-aarogya-setu-coronavirus-app-for-india-a-privacy-disaster/>, accessed 2 May, 2020.

⁶⁰Aarogya Setu data protocol norms issued, *The Hindu*, < <https://www.thehindu.com/news/national/aarogya-setu-data-protocol-norms-issued/article31560752.ece> > accessed 27 May, 2020.

⁶¹Aarogya Setu adds three big features for users including delete account option, All you need to know, *Financial Express*, < <https://www.financialexpress.com/industry/technology/aarogya-setu-adds-three-big-features-for-users-including-delete-account-option-all-you-need-to-know/2015886/> > accessed 20 July, 2020.

administrative interventions necessary in relation to COVID-19”.⁶² In the garb of medical and technical support, third parties may manipulate and misuse anonymized sensitive data. Through an update in July, the app was updated to permit third-parties to access user information when the user grants access for the data to be shared.⁶³ This is one of the highlights among the updates as the user is given autonomy to allow or disallow third-parties from accessing their personal data.

Lastly, users are required to fill out an extensive amount of personal information and details. The user’s name, phone number, sex, profession and travel history in the last 30 days and their smoking habits are required to be filled out.⁶⁴ This broad scope of personal data being stored on the app connotes the uploading of such data to a cloud server, thus enabling access to the government.

Research has proven that health-based apps are more commonly used by general consumers than by health authorities or health professionals.⁶⁵ This indicates that there is great scope for apps to take advantage of vulnerable groups by collecting sensitive information for their public databases. Therefore, while dealing with H-IoT, databases must be maintained in a manner where there is end to end encryption of data, keeping in mind the privacy and interests of the users. In technologies akin to Aarogya Setu, the obfuscation of data is apparent and revealed to ensure that the data reaches only the concerned authorities. However, the primary concern of this app is that the obfuscation technology (such as User ID) has not been mentioned.⁶⁶ This goes to show that this is the beginning of the end towards personal data privacy.

⁶²How does the Aarogya Setu app work?, *The Hindu*, < <https://www.thehindu.com/news/national/how-does-the-aarogya-setu-app-work/article31532073.ece> > accessed 27 May, 2020.

⁶³*Financial Express*, N 61.

⁶⁴Coronavirus: What are the concerns around the Aarogya Setu app?, *The Hindu*, < <https://www.thehindu.com/sci-tech/technology/coronavirus-what-are-the-concerns-around-the-aarogyasetu-app/article31434768.ece> > accessed 26 May, 2020.

⁶⁵Mohanty, B., et al., Use of Mobile Apps for epidemic surveillance and response – availability and gaps, 1(2) *Global Biosecurity*, pp. 37–49 <http://doi.org/10.31646/gbio.39>

⁶⁶Deb, N 22.

III. A Constitutional Analysis of Contact Tracing

With the introduction of Aarogya Setu, it becomes a fundamental duty for the government to ensure that contact tracing apps work in consonance with the principles enshrined in the Constitution. Interestingly, with the PDP Bill, 2019 yet to become an Act, India does not have a statutory authority established exclusively for privacy laws.⁶⁷ The Information Technology Act, 2000 is the key legislation which fleshes out e-governance legal ramifications vis-à-vis privacy violations and breach of confidentiality, amongst others.⁶⁸ However, it makes no mention of breach of privacy in relation to state intervention.

While the right to privacy is not an absolute right,⁶⁹ the right in the context of surveillance, is considered as an intrinsic part to right to life and personal liberty,⁷⁰ thereby giving an extended definition to Article 21 of the Constitution.⁷¹ Some scholars intrinsically link all human rights are aspects of the right to privacy.⁷² The right is recognized world over as one of the most essential rights to exist in a state,⁷³ for it is considered to be the individual's "right to be left alone" and the "most cherished of freedoms in a democracy".⁷⁴

⁶⁷ Anirudh Burman, "Will India's Proposed Data Protection Law Protect Privacy and Promote Growth?", *Carnegie India* <<https://carnegieindia.org/2020/03/09/will-india-s-proposed-data-protection-law-protect-privacy-and-promote-growth-pub-81217>> accessed 10 March, 2020.

⁶⁸ M. Shamsul Haque, 'E-Governance in India: Its Impacts on Relations Among Citizens, Politicians and Public Servants' 68 (2) SAGE JOURNALS (2002) <<https://journals.sagepub.com/doi/abs/10.1177/0020852302682005>> accessed 11 March, 2020.

⁶⁹ Mr. X v. Hospital Z, AIR 1995 SC 495; People's Union of Civil Liberties v. Union of India, AIR 1997 SC 568.

⁷⁰ K.S. Puttaswamy v. Union of India (2017) 10 SCC 1

⁷¹ Indian Constitution, Article 21

⁷² Fernando Volio, Legal personality, privacy and the family enHenkin (ed) The International Bill of Rights, New York: Columbia University Press, 1981; Lavigne v. Canada (Office of the Commissioner of Official Languages) 2002 SCC 53

⁷³ International Covenant on Civil and Political Rights, art. 17, 1966, United Nations, Treaty Series, vol. 999, p. 177; Art 12, G.A. Res. 217 (III) A, Universal Declaration of Human Rights (Dec. 10, 1948).

⁷⁴ Samuel Warren & Louis Brandeis, *The right to privacy*, 4 HARV. L. REV., 193, 220 (1890); N. S. Nappinai, Advocate Nappinai & Co., "Privacy & The Constitution" <<https://cis-india.org/internet-governance/privacy-and-the-constitution>> accessed 4 April, 2020

As privacy is a person's right to control access to his or her personal information.⁷⁵ This draws a thin line between sharing personal health details on online portals and the protection of such information. Often, H-IoT technologies virtually snatch privacy away.⁷⁶ As a result, this leaves users with psychological issues of being "constantly watched".⁷⁷ With the linking of multiple computer systems, the need of a centralized computer system is eliminated. This makes the creation of dossiers of individuals a simple process, thereby putting the sensitive information of millions at high risk. This has created an exigency to debate the balance between the growth of IT alongside ensuring privacy and security breaches do not occur.

3.1 Revisiting K. S. Puttaswamy v. Union of India

Although the relationship between data privacy and technology is novel, theoretical frameworks provided by democracies may assist in developing the aforementioned relationship. Among the multiple rights enshrined in world constitutions and international organisations and catalogues, privacy seems to be the most complex to confine into a restricted definition. Gaining a constitutional understanding of the term is difficult, owing to the inherent impossibility to decipher the legislative intent of the Drafting Committee. However, as held in *K. S. Puttaswamy v. Union of India*⁷⁸ (hereinafter, "Puttaswamy"), it would be a grave mistake to constrict the interpretation of the Constitution to an originalist interpretation. Contemporary concerns must be adjudged with the prudent application of constitutional doctrines and cannot be frozen by a draconian vision.

The Puttaswamy judgement⁷⁹ states that even in an emergency health crisis, it becomes the duty of the government to use and preserve personal health information of individuals with an assurance of anonymity. Apps launched by the government can have access to an individual's

⁷⁵'Privacy Definition', *Duhaime's Law Dictionary* <<http://www.duhaime.org/LegalDictionary/P/Privacy.aspx>> accessed 2 April, 2020

⁷⁶ S. M. R. Islam, et al., *The Internet of Things for Health Care: A Comprehensive Survey*, 3 IEEE ACCESS (2015).

⁷⁷ Ibid.

⁷⁸ *K.S. Puttaswamy v. Union of India* 10 SCC 1 (2017)

⁷⁹ Ibid

personal details only if consent to do so, is granted. On giving consent, the user of the app creates rights for the State.⁸⁰ In the absence of consent, as expressed in Hohfeld's analytical jurisprudence, the State would essentially have no right to violate one's privacy.⁸¹

Since rights and duties are upheld as jural opposites,⁸² the State has the duty to uphold the right to privacy which is conferred to every citizen. From a medical perspective, the doctor's duty to maintain confidentiality has a correlative right vested in the patient.⁸³ However, with the advent of the usage of H-IoT, it raises a wide array of ethical concerns due to the inherent sensitivity of the personal details of the patient which are shared. To overcome this concern, obfuscation technologies must be utilized, going beyond encryption.⁸⁴ In addition, methods to prevent re-identification, even for anti-social actors must be devised. Therefore, any anonymized dataset that could be liable to be published must be viewed with caution.

In addition to the *Puttaswamy* verdict, the Supreme Court in *Malak Singh & Ors. v. State Of Punjab and Haryana & Ors.*⁸⁵ has also emphasised that surveillance ought to be allowed only when it is within reasonable limits. On implementing the Aarogya Setu app, any restriction of people's privacy must be subject to the tests of reasonableness mentioned in Article 14.⁸⁶ This suggests that any contact tracing mechanism must be reasonable and for a specific purpose and time period. In addition to this, reasonable restrictions along with safeguards must be in place to prevent abuse of power.⁸⁷

3.2 Determining Reasonable Expectation of Privacy

⁸⁰H Hurd, 'The Moral Magic of Consent', 121 (2) LEGAL THEORY, (1996) < <https://experts.illinois.edu/en/publications/the-moral-magic-of-consent> > accessed 11 June, 2020.

⁸¹ Walter Wheeler Cook, 'Hohfeld's Contributions to the Science of Law', (1919) 28(8) Yale L J, 721.

⁸² Isaac Husik, 'Hohfeld's Jurisprudence', 72 UNIVERSITY OF PENNSYLVANIA LR AND AMERICAN LAW REGISTER, (1924).

⁸³Mr. X v. Hospital Z, AIR 1995 SC 495.

⁸⁴Deb, N 22.

⁸⁵Malak Singh & Ors. v. State Of Punjab and Haryana & Ors. AIR 1981 SC 760.

⁸⁶Ind. Consti., art. 14.

⁸⁷Malak Singh, N 85.

According to our present legal framework, there exist multiple laws and precedents enforcing the Right to Privacy especially in relation to demographic data.⁸⁸ However, when it comes to the app, it collects not only demographic data but also location data through GPS systems as mentioned in the “protocol”. The reasonable expectation has not extended to location data and is therefore ambiguous. Using the Cell Site Location Information (CSLI) and GPS, an individual’s phone location can be conveniently located. CSLI refers to the information that is transmitted to cell phone towers in their vicinity thus allowing for easy identification of location of an individual. Through a process called “triangulation”⁸⁹ an individual can be traced if information is taken from multiple cell phone towers. Cell phone data may be in historical or prospective form. With the help of GPS, it becomes easy for the government to track a user’s prospective data in real time and will be collected and saved for the working of contact tracing apps like Aarogya Setu.

In order to understand this, it is important to reference what was held in *Kharak Singh*.⁹⁰ In this case unwarranted domiciliary visits undermine personal liberty under Article 21 of the Constitution. The *Puttaswamy* judgement held that there was reasonable expectation of privacy even in public spaces.⁹¹ Privacy is a right even in public as there may exist a fear that if a person’s movements are tracked, it may be misused.⁹² The two components of privacy, i.e., the objective aspect (whether society perceives tracking of movements to come under ambit of reasonable expectation of privacy) and the subjective aspect (referring to the opinion of one particular individual). Once both these aspects are addressed, concerns over privacy in public can be addressed. Through thorough analysis of *Puttaswamy* judgement⁹³ and *Kharak Singh* judgement,⁹⁴ it is established that there is reasonable expectation of privacy especially

⁸⁸Section 13, Aadhaar and Other Laws (Amendment) Act, 2019 available at https://uidai.gov.in/images/news/Amendment_Act_2019.pdf

⁸⁹Here’s How Aarogya Setu COVID-19 Tracker Works on Non-Smartphones, *The Quint*, <<https://www.thequint.com/tech-and-auto/tech-news/this-is-how-aarogya-setu-can-work-on-non-smartphones>> accessed 30 May, 2020.

⁹⁰ *Kharak Singh v. State of Uttar Pradesh & Ors.*, AIR 1963 SC 1295

⁹¹ *K.S. Puttaswamy v. Union of India* (2017) 10 SCC 1

⁹² Neil Richards, *The Dangers of Surveillance*, 126(1934) HARVARD LAW REVIEW (2012).

⁹³ *K.S. Puttaswamy v. Union of India*, 10 SCC 1 (2017)

⁹⁴ *Kharak Singh v. State of Uttar Pradesh & Ors.*, AIR 1963 SC 1295

in relation to location information in public spaces. Therefore it can be understood that collection and storage of location data is a compromise of user privacy.

3.3 An Appraisal of Problematic Bail Provisions

It is relevant to mention the recent bail conditions set by various High Courts of Delhi,⁹⁵ Madhya Pradesh⁹⁶ and Jharkhand.⁹⁷ The Petitioners were directed by the Court to mandatorily download Aarogya Setu and provide proof of the same in order to be granted a bail order. This directive evidently highlights the push for the mandatory download of the app and breaches the “free consent”⁹⁸ of bail applicants having limited bargaining power.

The Delhi High Court extended an interim bail to an undertrial on the condition that the app must be downloaded, and his Location and Bluetooth be on at all times during the period of release.⁹⁹ Courts in Jharkhand¹⁰⁰ and Madhya Pradesh¹⁰¹ have also granted bail on this condition along with an added condition that 35,000 rupees must be deposited by the petitioners into the Prime Minister’s Citizens Assistance and Relief in Emergency Situations (PM CARES) Fund.¹⁰²

⁹⁵Delhi Court extends interim bail to undertrial, directs him to install Aarogya Setu on his phone, *Bar and Bench*, <https://www.barandbench.com/news/litigation/delhi-court-extends-interim-bail-to-undertrial-directions-him-to-install-aarogya-setu-on-his-phone>, accessed 12 June, 2020.

⁹⁶Bar and Bench, ‘Register as Covid-19 Warriors, download Aarogya Setu, donate to PM CARES: MP HC brings in novel conditions for bail/ anticipatory bail’ <https://www.barandbench.com/news/litigation/register-as-covid-19-warriors-download-aarogya-setu-donate-to-pm-cares-mp-hc-brings-in-novel-conditions-for-bail-anticipatory-bail>, accessed 12 June, 2020.

⁹⁷Deposit Rs 35,000 to PM-CARES Fund, download Arogya Setu App: Jharkhand HC sets unusual bail conditions, *The Indian Express* <https://indianexpress.com/article/india/jharkhand-hc-bail-pm-cares-fund-coronavirus-lockdown-6367131/>, accessed 12 June, 2020.

⁹⁸Indian Contract Act, 1872, Sec. 14

⁹⁹*Bar and Bench*, N 95.

¹⁰⁰*The Indian Express*, N 97.

¹⁰¹‘Register as Covid-19 Warriors, download Aarogya Setu, donate to PM CARES: MP HC brings in novel conditions for bail/ anticipatory bail’ *Bar and Bench* <<https://www.barandbench.com/news/litigation/register-as-covid-19-warriors-download-aarogya-setu-donate-to-pm-cares-mp-hc-brings-in-novel-conditions-for-bail-anticipatory-bail>> accessed 10 June, 2020.

¹⁰²‘Strange and Arbitrary Bail Orders: Are Indian Judges Going Too Far?’ *The Wire* <<https://thewire.in/law/judges-bail-orders>> accessed 1 June, 2020.

Provisions relating to granting of bail are mentioned in the Criminal Procedure Code (CrPC), 1973. Section 437(3) of the Code grants power to the Court to impose “conditions in interest of Justice as it considers necessary”. Sessions and High Courts are empowered to impose “any condition” considered “necessary” for the offence under Section 473(3). Manifestly, the judges are free to impose any conditions they deem fit in order to grant a bail order. However, such conditions must not defeat the purpose of bail and must be read with the 268th Law Commission Report,¹⁰³ which emphasizes that the constitutional rights of the bail applicant must not be violated.¹⁰⁴

In *Sumit Mehta v. State of NCT of Delhi*,¹⁰⁵ the Apex Court held that “any condition” does not imply that absolute power is granted to courts of law. The condition must be a “reasonable condition” which is “acceptable in the facts and permissible in the circumstances” and “must not defeat the order of grant of bail”. This clearly proves that a rational nexus must exist between the petitioner’s facts of the case and the conditions imposed.

As held in *Maneka Gandhi v. Union of India*,¹⁰⁶ Justice Y. V. Chandrachud held a three-fold test to identify a legitimate encroachment on privacy. First, there must be a law in place to justify encroachment. Second, as also held in *Govind vs State Of Madhya Pradesh & Anr*,¹⁰⁷ the aim of the encroachment must be for fulfilling a necessary State interest. Third, the encroachment must not be disproportionate to the purpose. Even though there is a necessary State interest in the times of the current pandemic, the other two requirements remain unfulfilled for the imposition of downloading of the app. As there is no correlation between the conditions of bail and the facts of the Petitioner’s case, the reasoning behind the conditions preceding the bail order remains unanswered.

¹⁰³Law Commission of India, *Amendments to Criminal Procedure Code, 1973 – Provisions Relating to Bail* (Law Com Report No. 268, 2017)

¹⁰⁴Ibid.

¹⁰⁵*Sumit Mehta v. State of NCT of Delhi*, 15 SCC 570 (2013).

¹⁰⁶*Maneka Gandhi v. Union of India*, 1978 AIR 597.

¹⁰⁷*Govind v. State Of Madhya Pradesh & Anr.*, 1975 AIR 1378.

Thus, it is to be noted that the right to privacy must not be selective in its application. Where the government has diluted its “mandatory” status on the download of the app, it must uniformly apply to all citizens, including those seeking bail orders. Restriction of this fundamental right of privacy of bail applicants is a serious strike at Article 21,¹⁰⁸ the heart of the Indian Constitution.

IV. Transparency Failures of Aarogya Setu

Democracy requires an informed citizenry and transparency of information which are vital to its functioning and also to contain corruption and to hold Governments and their instrumentalities accountable to the governed.¹⁰⁹ In *R.K. Jain v. Union of India*¹¹⁰ the Supreme Court held that “*in a democracy, citizens are to know what their Govt. is doing. No democratic Govt. can survive without accountability and the basic postulate of accountability is that the people should have information about the functioning of the Govt*”.

As the preceding chapters highlighted the concerns of the app in terms of privacy and data protection, this chapter attempts analyse the Aarogya Setu app in light of the concerns vis-à-vis transparency (4.1) and the Right to Information Act, 2000 (*hereinafter*, RTI Act) (4.2).

4.1 Transparency and Limits of the App

In March, 2020 the app sought permissions to keep the Bluetooth and Global Positioning System (GPS) turned on, for a one-hour location tracking option which enables users to steer away from possible infected individuals.¹¹¹ This continued tracking of the live location of an individual infringes upon citizens’ right to privacy. An additional permission involves sharing

¹⁰⁸Ind. Consti. art. 21.

¹⁰⁹ The RTI Act 2005, No. 22 of 2005

¹¹⁰ R.K. Jain v. Union of India (1993) 4 SCC 119

¹¹¹ Siddharth Sonkar, Guest Report: Bridging Concerns with Recommending Aarogya Setu, *The Centre for Internet and Society, India* < <https://cis-india.org/aarogya%20setu%20privacy> > accessed 30 June, 2020.

the consistently collected and stored health information data with the Government of India.¹¹² The app's lack of transparency is highlighted, as it does not provide any website or manifesto to understand the usage and storage of the said data. The lack of transparency and non-disclosure of essential information has also led to concerns vis-à-vis the RTI Act which will be discussed in the subsequent section of this chapter.

When two users of the app are in close proximity of one another, there is information transmission through a protocol.¹¹³ The information exchanged pertains to the username, the location and the time of interaction. Additionally, the app makes no mention of authorities and officials having access to the stored personal data.¹¹⁴ Users are entitled to know the identity of the authorised persons handling the data as well as the storage and usage of the data. The lack of specification only gives room to speculation and overreach.

It has been reported that an expert panel has been monitoring and storing data sourced from the app.¹¹⁵ The said panel is headed by Amitabh Kant (*hereinafter*, "Kant"), Chairperson of NITI Aayog, accompanied by public officials from the ministries of Home Affairs, External Affairs, Communications and Information Technology.¹¹⁶ The suspicion of citizen surveillance is raised on scrutinizing the composition of the panel, with the point of concern being the exclusion of MHFW and healthcare officials in overseeing the app.¹¹⁷

¹¹²Upasana Sharma, Understanding Aarogya Setu: navigating privacy during a pandemic proves to be tricky, *LSE COVID-19 Blog* < <https://blogs.lse.ac.uk/covid19/2020/07/02/understanding-aarogya-setu-privacy-during-the-pandemic-may-be-compromised/> > accessed 3 July 2020.

¹¹³ Sonkar, N 111.

¹¹⁴A look at Aarogya Setu through the Right to Information lens #SaveOurPrivacy, *Internet Freedom Foundation* < <https://internetfreedom.in/aarogya-setu-through-the-right-to-information-lens/> > accessed 30 June, 2020.

¹¹⁵ Amitabh Kant, India Uniquely Positioned To Become AI Lab Of The World - Interview With CEO NITI Aayog, *NITI Aayog* < <https://niti.gov.in/india-uniquely-positioned-become-ai-lab-world-interview-ceo-niti-aayog> > accessed 29 October, 2020.

¹¹⁶Vasudha Venugopal, Aarogya Setu, Drone data to play part in lockdown exit strategy, *The Economic Times* < <https://economictimes.indiatimes.com/industry/healthcare/biotech/healthcare/aarogya-setu-drone-data-to-play-part-in-lockdown-exit-strategy/articleshow/75040648.cms?from=mdr> > accessed 30 April, 2020.

¹¹⁷Gayathri Vaidyanathan, Aarogya Setu: Major Surveillance, Few Safeguards In Modi Govt COVID Tracking App, *Huffington Post* < https://www.huffingtonpost.in/entry/aarogya-setu-surveillance-covid-tracking-app_in_5e8d6e26c5b6e1d10a6bdea6 > accessed 30 April, 2020.

The vague description of the app reads as “... connects health services with people of India in our combined fight against COVID-19”.¹¹⁸ However, the description gave rise to the app being repurposed to fulfil a variety of parallel uses. As a result, Kant’s panel has recommended expanding the scope of the app post the lockdown in order to further governmental interests.¹¹⁹ More alarmingly, the panel has been mandated to monitor individuals defying prevalent lockdown orders and to determine whether the lockdown must be relaxed.¹²⁰ This poses the question of whether such collation of data and surveillance is justified in the wake of the prevalent lockdown conditions.

4.2 *The RTI Act amidst Surveillance Concerns*

From May 2020 onwards, several organisations¹²¹ and RTI activists¹²² asked the MeitY, MHFW, NITI Aayog and NIC to disclose vital information pertaining to Aarogya Setu. The information was required to ascertain by whom the app was created,¹²³ the kind of data which was being collected and by who could access the data.¹²⁴ The Internet Freedom Foundation also enquired about the safeguards and data protection specifications the government has taken to uphold citizens’ privacy.¹²⁵

¹¹⁸Google Play Store, Aarogya Setu <https://play.google.com/store/apps/details?id=nic.goi.aarogyasetu&hl=en_IN> accessed 30 April, 2020.

¹¹⁹Venugopal, N 116.

¹²⁰Deb, N 22.

¹²¹ Internet Freedom Foundation, N 114.

¹²²Poulomi Ghosh, Ministry has no information on who created Aarogya Setu, RTI body issues showcase notice, *Hindustan Times* < <https://www.hindustantimes.com/india-news/ministry-has-no-information-on-who-created-aarogya-setu-rti-body-issues-showcause-notice/story-CCHofEmjdIaOOvmubCKxKI.html> > accessed 29 October, 2020

¹²³Deeksha Bharadwaj, Officials who embarrassed govt with RTI response on Aarogya Setu face action, *Hindustan Times* < <https://www.hindustantimes.com/india-news/officials-who-embarrassed-govt-with-rti-response-on-aarogya-setu-face-action/story-L3i7wkvkHgiDGRKfg9qxuK.html> > accessed 29 October, 2020

¹²⁴ A look at Aarogya Setu through the Right to Information lens #SaveOurPrivacy, *Internet Freedom Foundation* < <https://internetfreedom.in/aarogya-setu-through-the-right-to-information-lens/> > accessed 30 June, 2020

¹²⁵ Ibid.

On October 30th, 2020, every privacy activist and RTI activist's apprehensions quadrupled. This was for the NIC's responses towards RTI applications¹²⁶ hinted that governing bodies failed at implementing safeguards in accordance to the 'Aarogya Setu Data Access and Knowledge Sharing Protocol 2020'.¹²⁷ The essential information regarding the app's creator was also not disclosed by the NIC.¹²⁸ The Central Information Commission has lambasted the NIC's strange and evasive replies to the RTI request.¹²⁹ The onus of proof to ascertain that the Aarogya Setu application will keep the data of millions of citizens¹³⁰ safe - will lie in the hands of the government. Hence, it is for the greater good of the public that the information on the application's developer was requested.

The RTI Act provides that if public interest in disclosure outweighs the harm to the protected interests, access to information must be allowed.¹³¹ The Supreme Court, in several precedents¹³² ruled that right to information is implicit in the 'freedom of speech and expression', guaranteed under Art. 19(1)(a) of the Constitution. Apart from ensuring greater transparency, the RTI Act also acts as a deterrent against the arbitrary exercise of public powers.¹³³ Governance is, therefore, undoubtedly strengthened by the RTI Act. Thus, the NIC's evasive replies on quintessential information stand invalid.

¹²⁶Saurav Das, Govt Ignores Its Own Vital Safeguards on Aarogya Setu, *The Quint* < <https://www.thequint.com/news/india/exclusive-govt-fails-to-implement-its-own-data-protection-safeguards-under-aarogya-setu-protocol> > accessed 30 October, 2020

¹²⁷'Aarogya Setu Data Access and Knowledge Sharing Protocol 2020' (2020) Ministry of Electronics and Information Technology, Government of India, <https://www.meity.gov.in/writereaddata/files/Aarogya_Setu_data_access_knowledge_Protocol.pdf> accessed 8 June 2020

¹²⁸ Ghosh, N 122.

¹²⁹Vakasha Sachdev, 'Preposterous': IT Ministry Has No Info on Aarogya Setu Creation, *Entrackr* < <https://entrackr.com/2020/07/aarogya-setu-most-downloaded-covid-19-contact-tracing-app/> > accessed 29 October, 2020

¹³⁰Harsh Upadhyay, Aarogya Setu becomes the most downloaded Covid-19 contact tracing app globally, *The Quint* < <https://www.thequint.com/tech-and-auto/it-ministry-no-information-creation-of-aarogya-setu-app-cic-slams-nic-asks-for-details> > accessed 28 October, 2020

¹³¹ The RTI Act 2005, S. 8 (2)

¹³²Ministry of Information & Broadcasting v. Cricket Assn. of Bengal AIR 1995 SC 1236; Indian Express v. Union of India AIR 1986 SC 872.

¹³³P Chitra, 'Right To Information- A Tool For Good Governance & Social Change' (2013) 4, *International Journal of Scientific & Engineering*.

V. The Way Forward

This paper traced the developments of the Aarogya Setu application and the myriad of controversies it was embroiled in. It is found that the usage of the app leads to the flagrant violation of the right to privacy. Currently, with the absence of a comprehensive Data Protection Act, Aarogya Setu must be governed by legislations in consonance with the Puttaswamy judgement.¹³⁴ In addition, as pointed out in *Section 2.3* of the paper, anonymizing datasets does not ensure that the data is secure. The situation is further problematic as the NIC revealed that no government official “seems to have”¹³⁵ information on any documentation on the organisations which have access to the data collected by the app.¹³⁶ With the lack of audits regarding who gains access to the aggregated anonymised data¹³⁷ which would never get deleted,¹³⁸ citizens’ personal data is at the risk of getting re-identified and misused.¹³⁹ Hence, the aggregated data must be safeguarded to ensure that stigma and discrimination arising from COVID-19 is prevented especially in relation to marginalized communities.¹⁴⁰

The RTI pleas have revealed another significant dilemma: lack of transparency vis-a-vis governance. The central aim was to notify users if they are at a risk of contracting COVID-19. However, the government has been granted permission to divulge such sensitive information to “other necessary and relevant persons” for “necessary medical and administrative interventions”.¹⁴¹ This clearly indicates that there must be interdepartmental exchange of such sensitive user data. With no clarity and opacity on the sharing of personal

¹³⁴ K.S. Puttaswamy v. Union of India (2017) 10 SCC 1

¹³⁵ Ghosh, N 122.

¹³⁶ Das, N 126.

¹³⁷ Ibid.

¹³⁸ ‘Frequently Asked Questions on Aarogya Setu App’, Question 5 (2020) Government of Assam, <<https://perma.cc/AN8L-2HBA>> accessed 18 June 2020

¹³⁹ Rocher, N 57.

¹⁴⁰ Deb, N 22.

¹⁴¹ ‘COVtech in India: Privacy considerations amid COVID-19’, *The International Association of Privacy Professionals*, <<https://iapp.org/news/a/covtech-in-india-privacy-considerations-amid-covid-19/>> accessed , 9 June, 2020

data, it only gives rise to further speculation on creation of surveillance systems on pretext of notifying at-risk individuals. Additionally, the government has not divulged the obfuscation techniques used for the protection of users and their data. It must be ensured that all data produced remains on the user's device with efficient obfuscation technologies. This also gives rise to the conjecture that such data may be used for law enforcement which contradicts the very pillars of a democratic state. Notwithstanding the ongoing pandemic, we must not turn a blind eye to government intervention in people's privacy rights and their right to information.

Nations employ different approaches to surmount public health challenges, depending on their demography and economic conditions. While the utilization of H-IoT and PGH proved to be beneficial for several countries,¹⁴² it might not be the most prudent way forward from an Indian perspective. Moreover, when it comes to civil and political rights, Asian countries are far behind.¹⁴³ Thus, a comprehensive Personal Data Protection Act in India, similar to the European Union's General Data Protection Regulation (GDPR), is the need of the hour to protect data.

To develop efficient contact-tracing apps in India, ministries ought to model upcoming apps for the pandemic similar to the ones launched by EU nations, where comprehensive privacy laws are already in place.¹⁴⁴ These nations also follow data minimization. For instance, Germany and Italy are using anonymised location data to identify public spaces where individuals are not practising social distancing by defying lockdowns.¹⁴⁵ In order to combat privacy issues with respect to smartphone surveillance, users must be assured that the data will not be stored for an indefinite period. On mentioning the definitive timeline, app users

¹⁴²Yasheng Huang, Meicen Sun and Yuze Sui, "How Digital Contact Tracing Slowed Covid-19 in East Asia", *Harvard Business Review*, <<https://hbr.org/2020/04/how-digital-contact-tracing-slowed-covid-19-in-east-asia>> accessed 30 May, 2020.

¹⁴³Josef Benedict, 2019 Was a Dark Year for Civic Freedoms in Asia, *The Diplomat*, <<https://thediplomat.com/2019/12/2019-was-a-dark-year-for-civic-freedoms-in-asia/>> accessed 30 April, 2020.

¹⁴⁴EU General Data Protection Regulation (GDPR): Regulation (EU) 2016/679.

¹⁴⁵G Seetharaman, "How countries are using technology to fight Coronavirus", *The Economic Times*, <https://economictimes.indiatimes.com/tech/software/how-countries-are-using-technology-to-fight-coronavirus/articleshow/74867177.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cps> accessed 30 March, 2020.

should be ensured that the data will be deleted once the purpose of the app has been served. If their data is to be transferred to an external server, due permission and consent of the user must be obtained. All in all, the government cannot wash its hands off the responsibility of such contact tracing systems and must be allowed to be held accountable if matters go awry.

Even during a public health crisis, usage of contact tracing applications must follow the highest levels of ethics to safeguard the privacy and interests of the users. Assurance must, hence, be given to the public that data collected from the application will not be used in furtherance of law enforcement. More impetus must be given to establishing proximity with an infected person, rather than mapping and tracking every movement of the user. For this, the Fair Information Practice Principles must be amalgamated with the Privacy Policy of the app.¹⁴⁶

Privacy policies must intricately state the personal information used, how it is being stored and collected and the object of collection of such data. The Privacy Policy adopted by Aarogya Setu is ambiguous when it comes to data storage and sharing. It states that the personal data of the users will be kept confidential and continue to be stored on the user device.¹⁴⁷ However, it states that under certain conditions, the user data may be uploaded to the Cloud Server and be utilized by the government.¹⁴⁸ Secondly, the Privacy Policy makes a provision for the government to share personal information of persons infected with COVID-19 or have been in the proximity of an infected person. The Terms and Conditions are silent about the method used in confirming an individual COVID-19 positive. This especially requires clarification as it prohibits sharing of devices as the app could “falsely declare an individual COVID-19 positive”.¹⁴⁹

¹⁴⁶Electronic Privacy Information Center (EPIC), *The Code of Fair Information Practices*, https://epic.org/privacy/consumer/code_fair_info.html accessed 9 June, 2020; Pam Dixon, *A Brief Introduction to Fair Information Practices*, World Privacy Forum, <https://www.worldprivacyforum.org/2008/01/report-a-brief-introduction-to-fair-information-practices/>, accessed 9 June, 2020.

¹⁴⁷‘Aarogya Setu's not all that healthy for a person's privacy’ *The Economic Times*, <<https://economictimes.indiatimes.com/tech/software/aarogya-setus-not-all-that-healthy-for-a-persons-privacy/articleshow/75112687.cms?from=mdr>> accessed June 9, 2020.

¹⁴⁸ Ibid.

¹⁴⁹‘The Aarogya Setu app endorsed by Modi to track Covid-19 cases could ramp up government surveillance’, *Scroll.in* <<https://scroll.in/article/959364/the-aarogya-setu-app-endorsed-by-modi-to-track-covid-19-cases-could-ramp-up-government-surveillance>> accessed 11 June, 2020.

The privacy policy should give force to principles like the Collection Limitation Principle (CLM) and the Data Quality Principle (DQP).¹⁵⁰ The DQP includes utilization of personal data for a particular and limited purpose with it being regularly updated. Along with DQP, other principles like Purpose Specification Principle, (where the purpose for collection of information is specified), Limitation Principle, (to ensure data is not further processed for purposes unspecified), Openness Principle, (where data collected can be made readily available in a comprehensive form) and Accountability Principle (to ensure that if there is a breach of any of the aforementioned principles, a body can be held accountable for its actions) must be adopted to ensure safe collection and usage of private data.¹⁵¹

Lastly, administration with respect to Internet governance is believed to be far more cost-effective and transparent. However, the nexus between the surveillance and public health response must be justified. Some view that increased governmental supervision can curb third party interference in reference to personal data. However, political involvement can be viewed as a threat as well as an elixir to fight privacy as well as liberty related matters. This intrusion into civil liberties must be followed with empirical data and statistics supporting the development of such an application.

In conclusion, overcoming this pandemic is undoubtedly indispensable for the proper function of the country. With the introduction of contact tracing applications like Aarogya Setu, this may prove more of a burden than a boon to healthcare. The formulation of a comprehensive law on privacy is the need of the hour. A law intact would establish checks and balances, in addition to clearly stating the legal ramifications in the event of privacy infringement. Thus, accountability is essential, especially with respect to e-governance in these trying times.

“Those who would give up essential Liberty, to purchase a little temporary Safety, deserve neither Liberty nor Safety.”¹⁵²

¹⁵⁰University of the Highlands and Islands, *The Seven Principles* <<https://www.uhi.ac.uk/en/about-uhi/governance/policies-and-regulations/data-protection/the-seven-principles/>> accessed 9 June, 2020.

¹⁵¹ Ibid.

¹⁵²“Liberty, safety, and Benjamin Franklin”, *The Washington Post*, <<https://www.washingtonpost.com/news/volokh-conspiracy/wp/2014/11/11/liberty-safety-and-benjamin-franklin/>> accessed 2 June, 2020..