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# Can a Machine Learn Democracy?

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# Can a Machine Learn Democracy?

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## Abstract

The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) provides up to 100 days of work in a year for every rural household at a minimum wage. The Act has several landmark worker-centric provisions. For the implementation of MGNREGA, for the first time in the country, a transaction-based Management Information System (MIS) has been made available in the public domain; a feather in the cap of transparency. However, there are several critical questions to be examined in this regard. Our main focus in this article is to explore the tensions between technocracy and democratic values/participation in the context of MGNREGA and its associated MIS. We use our action research on information-based interventions in several states to examine whether the MGNREGA MIS incorporates democratic values, whether it has been inclusive or if it has widened the existing inequities. We use specific examples to illustrate how such an information system has been used to subvert the legal rights of workers. We underscore that technological interventions, with a compassionate human-centred design are potentially powerful tools for transparency, accountability, and grievance redressal. However, technology alone can neither enhance participatory democracy nor reduce socio-economic inequalities.

## Background

The 'Right to Life' doctrine enshrined in Article 21 of the Constitution of India states: 'No person shall be deprived of his life or personal liberty except according to a procedure established by law.' From the first decade of the 20th century, there was a proliferation of various rights-based legislations thereby giving a tangibility to Article 21 of the Constitution. The Constitution of India contains the 'The Directive Principles of State Policy (DPSP)'. Article 37 of the Constitution states that the DPSP are not justiciable but constitute a core set of ideals and that it is the duty of the State 'to apply these principles in making laws.' One such principle states that 'The State shall, within the limits of its economic capacity and development, make effective provision for securing the right to work, to education and to public assistance in cases of unemployment...' Indeed,

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using a wider interpretation of Article 21 of the Constitution, one could argue that the Supreme Court (SC) recognised the 'Right to Work' as a fundamental right in the *Olga Tellis & Ors. vs Bombay Municipal Corporation & Ors* case <sup>3</sup>. The Court held that 'If there is an obligation upon the State to secure to the citizens an adequate means of livelihood and the right to work, it would be sheer pedantry to exclude the right to livelihood from the content of the right to life.' See (Thomas 2018) for more details. The MGNREGA needs to be seen as an aspect of these constitutional principles. It is to be seen as one of the legislative realisations of the 'Right to Work', a backbone for the 'Right to Life'.

There were several precursors to this Act and in its current form the Act can be traced to social movements through the 1990s. For instance in Rajasthan, public works programmes were central to drought and famine relief and the secrecy of government records meant that workers were severely exploited and were not even getting minimum wages -- violating the SC orders of the *Sanjit Roy vs State of Rajasthan* case <sup>4</sup>. Such infractions became the bedrock for the campaign for minimum wages and the campaign for people's Right to Information (RTI). Since the RTI movement had its origins in public works programmes, the principles of transparency and accountability as embodied in the RTI Act <sup>5</sup> were realised, for the first time in a social policy, through the provisions of MGNREGA. Thus the RTI Act and MGNREGA are inextricably connected. Indeed as (Lakin and Ravishankar 2006) note: 'Both the mobilization, in terms of networks and social capital, and the discourse, in terms of human and constitutional rights, which were created by RTI found their way into the Right to Food (RTF) campaign, as well as the closely linked campaign for an EGA [sic Employment Guarantee Act].' A rich account of the people's history of RTI can be found in (Roy and MKSS Collective 2018). (Lakin and Ravishankar 2006) is also a valuable resource to understand the political context of the origins of MGNREGA. For more history and details of early implementation of MGNREGA, the reader is referred to (Khera 2011).

3 <https://indiankanoon.org/doc/709776/>

4 <https://indiankanoon.org/doc/1150530/>

5 <https://rti.gov.in/rti-act.pdf>

In this article, focussing on MGNREGA, we discuss some aspects of people's experience with the State, mediated through a computer-based Management Information System (MIS). On the one hand, we look at how such an information system -- and associated techno-utopianism -- has been used to subvert legal rights and used as a tool to pass the baton of accountability. On the other hand, we look at how technologies have the potential to be enablers if there is political and administrative willingness. Information systems don't exist in a silo. At the very least, when an information system is designed to implement a law, it is imperative that such a system must respect the law. Further, when a law is designed to improve participatory democracy, such as the MGNREGA, it becomes even more critical that the information system used in the implementation of the law must pay attention towards strengthening it. A programme that is meant for the marginalised must necessarily involve them in its design and dissemination. To this end, the Central Employment Guarantee Council (CEGC) provides a clear set of guidelines for transparency and accountability in MGNREGA (CEGC 2010). The CEGC is a statutory body under the MGNREGA and its report has been accepted by the Ministry of Rural Development (MoRD). This was a highly progressive move by the then government. The report presents some 'General Principles'. One such key principle is 'Transparency and accountability of the institutions and individuals involved with the implementation of the NREGA is incumbent on the full and informed involvement of, and support to the potential and actual beneficiaries. This is because they, more than any of the other stakeholders, have the incentive, the resilience and the local knowledge required for adequately monitoring and evaluating the implementation of the scheme.'

Some important questions we consider are whether imposition of technology can be separate from the politics and the realities of the time. How does technology, in particular, the MGNREGA MIS incorporate democratic values? How has this technology been used to solicit feedback and/or register grievances from the set of people for whom it is primarily intended, i.e., the workers? Has it been inclusive or has it exacerbated the existing inequities in society? Technological interventions, with a compassionate human-centred design are potentially powerful tools for transparency, accountability, and grievance redressal. However, we argue that technology alone

can neither enhance participatory democracy nor reduce socio-economic inequalities. Transparency is a necessary but not sufficient condition to ensure improved accountability. Finally, technology has become synonymous to only being digital. There is a need to move away from this fixation and in particular when the rights of the poor are involved.

## Key Statutes of the Act and the MIS

Unlike other government schemes whose performance and longevity depend on the priorities of the government in power, MGNREGA's provisions are meant to be justiciable rights. Thus, it is a right for every rural worker with a job card to get work upon demanding work and it is an obligation for the State to abide by the statutes of the programme. MGNREGA provides up to 100 days of work in a year for any rural household, on demand, at minimum wage. Three main safeguards of the Act, among several others, are critical -- (a) If work is demanded and not provided by the government within 15 days of application, then the worker is eligible for an **unemployment allowance**, (b) If payment of wages is not done within 15 days of completion of work, then the worker is eligible for a **delay compensation**, and (c) Mandatory conduct of **social audits** -- a platform for any person to participate in the evaluation of the implementation of the programme.

Seen together with the RTI Act and social audits, MGNREGA can be a powerful vehicle to enhance political capacities. (Jenkins and Manor 2017) outline four dimensions of political capacities of workers -- awareness, connections, confidence, and skills. In addition to these, organisational collectives and unions can play a significant role in enhancing the understanding of rights and the workers' bargaining capacity. As a step in the direction of proactive disclosure of information (Section 4 of the RTI Act), a real-time transaction based MIS has been made available in the public domain. There has been a digitisation of all the processes in MGNREGA — right from a worker registering demand for work, to work allotment, to finally getting wages for completed works. Many public programmes in India had historically been marred by various forms of corruption and embezzlement. An MIS linked to a public programme with features of

proactive disclosure of information was unheard of in India. Indeed as (Drèze and Sen 2013) write, 'NREGA has also been a lively laboratory for anti-corruption efforts, involving a whole series of innovations that are now being gradually extended to other schemes as well: the use of the Internet to place all essential records (including every wage payment, worker-wise and worksite-wise) in the public domain, the payment of wages through bank accounts, and the practice of regular social audits, to mention a few.' While it is certainly no mean feat that transaction-level detail underlying all the complex processes of MGNREGA are available to anybody, it is, however, critical to pause and understand how this superstructure of the MIS has played out in reality. Therein lies an important duality with a fair share of critics. And, rightfully so.

The MIS plays at least two roles;

- The management system - which is controlled and used by different levels of the bureaucracy to manage the implementation of the programme.
- It also doubles up as the information system that aims to provide information about the various aspects of the scheme - work status, demand, employment provided, payment of wages. This information is available at various levels of disaggregation from country level statistics to individual level work and payment information. The information system provides useful statistics for the administration to monitor the programme. And ideally it should provide workers with the information that is important for them - like when the payment of a certain work is credited to their account or how many days of work have been registered by their household.

The real-time aspect of the MIS implies that all the checks and balances of the programme implementation are coded in the software. As (Nandy, Debmalya 2018) writes 'Activities are linked in the MIS in such a way that one will not be able to carry out "activity 2" without performing "activity 1".' In this sense, the MIS is akin to a software implementation of a complex supply chain system prevalent in the manufacturing and transportation businesses. For a complex process such as MGNREGA involving multiple agencies with varied distribution of

administrative and financial powers, the MIS has, on numerous occasions, become an easy tool for the administration to subvert some core principles of the Act. For some ways in which the real-time nature of the MIS becomes a tool causing delays and dilution of rights, the reader is referred to (Aggarwal 2017) and (Nandy 2018) among others. In this entire gambit, the asymmetry of power structures gets mediated through a technological system. It is in this context that we must also be cognizant of the politics of information.

Information is a layered concept and that there are at least four stages of information -- information production, information presentation, information access, and information use. While the MGNREGA workers and the government are jointly participating in the production of information, the workers have no say in its presentation, access and use. This adversely impacts workers. Minor variations of the 'knowledge gap hypothesis' seem to be applicable in this scenario (Tichenor, Donohue, and Olien 1970). According to the hypothesis, people belonging to a higher socio-economic group digest new information faster than the weaker sections in society, thereby widening the so-called digital divide. For MGNREGA, the MIS has become the sole repository of many pieces of information that are relevant to workers. For instance, when workers approach the computer operators at the block regarding their wage payments, it is common for the operators to say '*humne to computer mein daal diya tha. Tumhara payment nahin aaya to main kuch nahin kar sakta.*' (I had entered all your details in the computer. I can't help you if your payment has not come.)' The *computer* then doubles up as a screen and a smokescreen for the administrators thereby weakening the political capacities and democratic participation of workers. The way in which the MIS is currently designed indeed begs the question: Who is it being designed for and with what objectives?

## Examples of the MIS Subverting Legal Rights

In both its functions, there are several situations when the MIS has been surreptitiously used to subvert legal rights.

**Awareness & Transparency of Information:** The government has made little effort in

educating workers and building awareness of this specific statutes of the Act - such as the right to an unemployment allowance or delay compensation. Further, the information available on the MIS about the workers is not presented in an accessible format for the workers. This is as good as not having access to information altogether. If a worker wants to know her work - payment trail, she has to effectively parse through tens of complex reports to finally locate the details. The language of the MIS is quite *technical* and is difficult for the administrative staff to understand completely, let alone workers.

**Rationing of funds and demand:** The programme has become heavily rationed and has been suffering from extremely low budget allocations and truncations (Nandy and Narayanan 2020). The central funds are released to states in tranches through 'Mother Sanctions.' At such times, the administrative machinery has used the MIS to suppress demand. While they may accept demand for work 'offline', not entering work demand on the MIS means that work demand does not even get registered. Workers are not allotted any work unless the workers' details are generated electronically in an electronic muster roll (e-MR). When the work demand does not show up in the official data, there is no question of getting an unemployment allowance. There are occasions when the dates in the e-MR are digitally changed by the MIS operators to coincide with the dates of work demand to avoid payment of unemployment allowance.

Thus, the combination of two things -- (a) the State machinery having the power to control the MIS, and (b) information asymmetry tilted against the workers has made the MIS a handy tool to subvert a key provision of the Act.

**Compensation for Delays:** Section 3 of the MGNREGA says that the wages for a completed muster roll<sup>6</sup> for work has to be paid within 15 days of completion of a muster period (usually a week), failing which the workers are entitled to compensation for each day's delay. There are two broad steps in the payment process. Stage 1 corresponds to the time taken by the blocks to generate the electronic pay orders called the Funds Transfer Orders (FTO). The FTO is

6 Muster roll is like an attendance sheet and contains the details of all the workers at a work site along with the dates during which the workers have worked.



subsequently processed by the central government and then wages are transferred directly to the workers' accounts. The time taken by the central government to release wages after receiving the FTO is called Stage 2. Stage 1 is the individual states' responsibility and stage 2 is the central government's responsibility. The MIS only calculates and shows stage 1 delays. Stage 2 delays are not accurately reflected on the MIS and thereby the extent of delays and the delay compensation thereof remain unaccounted. The central government has abdicated its responsibility in transferring wages on time. In a recent work on MGNREGA payment delays, by analysing 9 million transactions, it was shown that only 21 percent of the wage payments were made on time. Further, Stage 2 delays alone were, on average, 50 days (Narayanan, Dhorajiwala, and Golani 2019). These were acknowledged by the Ministry of Finance in an internal [memorandum](#) (Department of Expenditures 2017) The paper also demonstrated the massive extent of under-calculation of delay compensation.

In the first case, the workers' legal rights were crushed right at the stage of data entry. It's akin to a technocratic belief that 'unless it's in the computer, it's not true.' In the second case, calculating and paying the workers for the full extent of delay (stage 1 + stage 2) is eminently possible since the information about stage 2 delays are available in the MIS. How its presentation and access is obfuscated. What this indicates is not lack of availability of information but lack of political and administrative willingness to be transparent and accountable. These are directly at odds with democratic principles of governance. Moreover, in the entire discourse on MGNREGA -- right from the bureaucracy, the politicians to the media and numerous scholars, there is an over-reliance on the so-called objectivity of publicly available data. However, unless one digs deep into the vagaries of this data, any analysis performed on such data could potentially yield misleading results.

## Techno-Utopianism as Against Democratic Values

Techno-utopians are strong proponents of introducing more technological solutions as a panacea for a diverse range of governance issues. The thought does not necessarily stem from an evil standpoint but instead from an axiomatic belief that technology inherently -- and

sometimes technology alone -- is sufficient to have positive, transformative consequences. And, as mentioned before, the techno-utopian idea of technology is usually confined to the notion of digital interventions.

Kentaro Toyama, an ex techno-utopian presents a remarkable thesis highlighting the cult of techno-utopianism for social change in his book titled *Geek Heresy* (Toyama 2015). Based on his work on education of children from marginalised communities in India, he posits that technology does not necessarily solve persistent socio-economic problems but instead tends to magnify the existing social norms and human (in)capacities. He writes 'Technology isn't the deciding factor even in a technology project. Of course, good design trumps poor design, but beyond some level of functionality, technical design matters much less than the human elements. The right people can work around bad technology, but the wrong people will mess up even a good one.'

Toyama's critical outlook of techno-utopianism presents us with a frame to look at the digital architecture of MGNREGA. The layout and interface of the MGNREGA MIS is a single platform attempting to solve three different problems -- administrative efficiency, transparency, and accountability. While it is useful to implement technological solutions for administrative efficiency, the design must crucially be empathetic towards the technical literacy of the workers. As far as the user interface is concerned, the government must be cognizant of the fact that a large part of the worker population is not connected to the internet and has limited literacy. For example, a worker-facing interface must have information disaggregated at individual levels, must be available in local languages and must have some offline functionality. Technology can enable proactive disclosure. However, additional steps need to be taken to ensure that the information reaches the intended person at the right time. For example, workers should be given printed wage slips, with appropriate details and dates, and must have passbooks to keep their accounts updated. While a notification, RE-I (360078), dated July 31, 2018, was issued by the MoRD, it is yet to be implemented. Further, the algorithms and backend design of the MIS should be made open source and the APIs be publicly available so that anybody can assess how

the aggregate statistics are computed. There isn't any easily available data dictionary indicating what different fields in multiple reports mean and how they are populated. In this specific context, while one could argue that there is some transparency but then the question is: Transparency for whom? Is the design of the MIS people-centred or bureaucracy-centred? Has the MIS experience been an empowering one for the stakeholders, especially the weakest link in the chain, perhaps an unlettered single woman?

A big digital technological push in MGNREGA implementation was the introduction of Aadhaar<sup>7</sup> and its integration in the MIS. In MGNREGA, Aadhaar plays a role at three levels:

- **Verification of Job Cards:** Seeding the Aadhaar numbers of the workers with the MGNREGA job card.
- **Directing Payment:** Making the payment through the Aadhaar Payment Bridge System (APBS), wherein Aadhaar is the financial address of the individual.
- **Withdrawing Money:** Withdrawing money from Customer Service Points (CSPs)/ banking kiosks or through Business Correspondents (BCs) through Aadhaar based biometric authentication. This requires the individual to seed their bank account with their Aadhaar number. This is known as Aadhaar enabled Payment System (AePS).

**Verification of Job Cards:** In 2015-16, the GoI initiated a verification exercise to establish the uniqueness of MGNREGA job cards by linking job cards with Aadhaar. The objective of this exercise has been on minimising leakage and eliminating 'fake' job cards or 'ghost workers.' Exclusions happen when the job card of a legitimate job card holder gets deleted and hence she loses the right to work in MGNREGA. While eliminating fake job cards is necessary, errors of exclusion have a more destructive effect on the workers as their livelihood is lost as a consequence. According to the Government of India (GoI) data<sup>8</sup>, the cumulative savings due to Aadhaar for MoRD is estimated to be more than Rs 24,000 crores. GoI further claims 'Based on

<sup>7</sup> Aadhaar is a 12-digit unique identity number that can be obtained by residents of India, based on their biometric and demographic data. The data is collected and the number is assigned by the Unique Identification Authority of India (UIDAI)

<sup>8</sup> <https://dbtbharat.gov.in/estimatedgain>

field studies Ministry has estimated 10% savings on wages on account of deletion of duplicate, fake/ non-existent, ineligible beneficiaries.' These claims are vague and unsubstantiated. The methodology adopted by the Gol to arrive at these estimates are not available for public scrutiny. Moreover, these estimates have been repeatedly challenged and shown to be highly exaggerated (Venkatanarayanan 2017). Statistical jugglery aside, numerous ground reports suggest that the job cards of several active workers got deleted in the quest to demonstrate 100 percent seeding of Aadhaar with MGNREGA job cards. As of July 22, 2020 more than 1.3 million out of the 6.6 million registered job cards have been deleted in the state of Jharkhand alone. In a recent study (to be published) conducted by Anjor Bhaskar and Preeti Singh along with a team of researchers, 2907 workers were surveyed in 8 villages of Jharkhand from May, 2019 to February, 2020. As per this, 57 percent of the workers whose job cards were deleted were genuine workers who were alive, residing in the village and willing to do MGNREGA work.

**Directing Payment through Aadhaar:** For moving to Aadhaar based payments, the block officials were instructed to collect the Aadhaar, bank account and job card details of workers and ensure that most workers were shifted on to the APBS platform. For an Aadhaar-based payment to be successful, in addition to the seeding of Aadhaar numbers to the workers' job cards and seeding the Aadhaar number to her bank account, the workers' Aadhaar number have to be mapped correctly with a mapper created by NPCI. Error in any of these steps results in the payment being rejected or misdirected. According to official figures, as of July 2020, in the last five years, about Rs. 4,800 crore worth of payments were rejected and about Rs. 1,274 crore worth is still pending to be paid to workers. Further, in contravention of SC orders, while migrating to the APBS, consent norms were frequently violated (Dhorajiwala and Wagner 2019).

Consider the following case of a payment that got rejected. Sunita Devi of Rajsamand district in Rajasthan has worked for 34 days in the financial year 2017-18, for which her wages amount to Rs. 4,285. When one of the authors of this paper met her in her village, she confirmed that she had indeed worked in all the schemes mentioned in the MIS but had not received a rupee for her work. Sunita like many others were among those whose payments had failed due to technical reasons. Sunita said that she had approached the local administration about her

pending payment several times but all her visits were in vain. Payments get rejected due to technical reasons and a report with all such failed transactions gets generated in the MIS along with some inscrutable reasons for rejections such as 'Inactive Aadhaar' and 'Customer to refer to branch', among several others. Owing to such an online report, we were able to locate her transactions and the associated reasons for failed transactions. In the online report the reason mentioned for her failure to receive wages was 'Inactive Aadhaar'. The local administration and the field functionaries are often unaware and sometimes not equipped to rectify these errors, thereby leaving the likes of Sunita Devi languishing in misery. A possible way to circumvent this would be to ensure that while introducing any new technological intervention, the old systems must be available as alternatives. The process of technical migration must be done in consultation with all the stakeholders, should be well planned and with strong grievance redressal mechanisms. These principles are particularly important while dealing with the lives and livelihoods of millions of the population on the margins of society. A detailed perspective on the procedural complexities resulting in various forms of hardships that workers go through when technology fails can be found in (Dhorajiwala 2020a).

The APBS architecture has made it nearly impossible for workers to track which account their payment has been deposited in. Consequently, when payments have been incorrectly diverted into the wrong account of some other worker, the rectification is nearly impossible, pushing the already vulnerable into a deeper crisis (Narayanan, Dhorajiwala, and Paikra 2017) and (Drèze 2018).

**Withdrawing Money Through Aadhaar:** The Aadhaar enabled payment system (AePS) typically enables features like banking through Customer Service Points (CSPs) or Banking Correspondents (BCs). However, workers who have accounts with CSPs don't have the option of updating their passbooks in the CSP/BC where they can withdraw wages through the AePS. Passbook update is a basic right and inability to update it means that they don't know how much money is there in their own accounts. The authors of this paper have written a report based on a three state (Andhra Pradesh, Jharkhand, Rajasthan) survey to understand the last mile challenges faced by MGNREGA workers once wages are credited to their bank accounts. The

report titled 'Length of the Last Mile' is soon to be published. 56 percent of all those who opened accounts at CSPs/BCs were not issued passbooks. While a significant proportion in Andhra Pradesh got receipts for withdrawals at CSP/BC, over 80 percent in Jharkhand and Rajasthan did not get receipts at CSP/BC. Issues of network connectivity, faulty printers and overcrowding were the key reasons for denial of receipts. Moreover, about 40 percent of CSP/BC users faced biometric authentication failure at least once in their last 5 transactions and for about 7 percent of them, each of their last 5 transactions failed due to biometric authentication issues. Further, as per a 10 district survey of Common Service Centres (CSC) in Jharkhand 45 percent of the respondents said that they were overcharged for AePS withdrawals and that they had to pay, on average, Rs 35 per withdrawal of Rs 1,000. Further, 42 percent of the CSC owners reported that users had to revisit for withdrawing owing to biometric authentication failures (Parthasarathy and Narayanan 2019). These are unflattering numbers. They also fail to capture the full extent of hardships that workers have to face. While cash payments had its share of problems, there was at least a person in their panchayats that workers could go to in case of problems with their job cards or payments.

A highly technical centralised architecture has meant that registration and redressal of grievances have become even more difficult. The computer has become an easy, powerful and silent ally for the baton of accountability to be passed on. And, technology is being used as a tool to further centralise the implementation of the Act. What is worse is that not getting their rations or wages due to biometric authentication problems can have severe implications such as starvation and death<sup>9</sup>. These are usually out of the ambit of the techno-utopian thought process. Violations of 'Right to Life' due to imposition of Aadhaar have gained scarce attention. The nature of exclusions arising in four different welfare programmes, including MGNREGA, are explained in (Khera 2017). The paper also demonstrates the misleading claims on 'savings' that the government has routinely alluded with respect to the introduction of Aadhaar in welfare programmes. Indeed, in response to an RTI query on the methodology used to quantify savings due to Aadhaar in MGNREGA, the response from the Ministry of Rural Development was 'Savings

9 [https://www.huffingtonpost.in/2018/09/25/aadhaar-linked-to-half-the-reported-starvation-deaths-since-2015-say-researchers\\_a\\_23539768/](https://www.huffingtonpost.in/2018/09/25/aadhaar-linked-to-half-the-reported-starvation-deaths-since-2015-say-researchers_a_23539768/)

are in terms of increasing the efficiency and reducing the delay in payments etc (Sabhikhi 2017). Such an opaque response serves to undermine democratic accountability at the altar of techno-utopianism.

The twin purposes of fairness and efficiency need not be aligned (O'Neil 2016). Democratic values and constitutional rights are anchored on principles of fairness and justice while technology tends to have a bias towards administrative efficiency. While technocracy gives primacy towards inclusion errors and leakage, democratic values dictate that we should give primacy towards exclusion errors. As (O'Neil 2016) further notes '..fairness is squishy and hard to quantify. It is a concept. And computers for all their advances in language and logic still struggle with concepts... Programmers don't know how to code for it and few of their bosses ask them to.'

In situations with high levels of inequality, technical fixes might have an adverse impact. Varying levels of inequality correlated with asymmetric access to information and awareness, in fact, gives more power and ammunition to the local elite-field functionary nexus to exploit the more marginalised.

## Technology: An Enabler and a Disabler

Melvin Kranzberg, a historian of technology, had evolved a 'series of truisms deriving from a long time immersion in the study of the development of technology and its interactions with sociocultural change.' These famously came to be known as Kranzberg's laws (Kranzberg 1986). Two of these so-called laws are illustrative for our purpose: (1) 'Technology is neither good nor bad: nor is it neutral', (2) 'Behind every machine, I see a face -- indeed many faces...the function of the technology is its use by human beings--and sometimes, alas, its abuse and misuse.'

Taking a cue from the two Kranzberg's laws, we discuss some examples of how technology can be a double edged sword.

It is important to acknowledge that technology has been instrumental in saving time and resources. For instance, it saves a lot of time when some of the approvals for the shelf of works are done digitally. It also helps in coordination among block/mandal, district and state level bureaucracy. Thereby, saving resources.

We look at two cases from two neighbouring states. First, we will look at a case where technology has been an enabler in Telangana and then we will look at how technology has been a disabler in Andhra Pradesh (AP).

The MGNREGA workers in Telangana can register their grievances either by calling the rural development toll free number or through the Call Centre. Only primary details that are essential for resolution of the grievance are sought. When a complaint gets registered either through phone or online, the complainant receives a text message on his/her phone. They can verify the status of their complaint either by calling the toll-free number or on the website at any given point of time. If the grievance is not resolved within a stipulated time it is automatically escalated to the higher official and the complainant receives an update on phone. Even when the complaint is closed officially, a third party agency calls up the few complainants randomly and seeks his/her feedback. Grievances of around 500,000 MGNREGA workers got resolved through this system in the last 9 years. The call centre has been operational from 2009.

On the other hand in Andhra Pradesh, Ghetta Satyavathi, a single woman, is an MGNREGA worker from Visakhapatnam district. She hasn't received her MGNREGA wages amounting to Rs 19,000 for more than 2 years due to problems with her biometric authentication. When she tried filing a complaint with the Government of Andhra Pradesh toll (not free) number, her complaint could not be registered owing to the fact that her Aadhaar details were not available in the call centre database. In the process, her right to file grievance itself was lost. Finally, she was advised by the MGNREGA field functionaries to discontinue MGNREGA work as she was not receiving her wages.



A robust grievance redressal architecture for a programme can serve as a useful yardstick to measure programme performance. For MGNREGA, in most states, several grievance collection facilities such as helpline toll-free numbers, presenting grievance letters to administrative functionaries, registration of grievances on web portals etc. are available. However, on both counts, i.e., collection and redressal of grievances, there are many gaps. The administration's perspective is usually quite different from the workers' perspective as far as grievance redressal is concerned. This is an area where there is huge potential to harness technology meaningfully and imbibe ideas of participatory democracy. For instance, as things stand, the registration for work can happen only in the block computer office using an administrative login. This is deeply limiting for the workers.

To register work demand, the workers should be able to do so on paper at the panchayat and get a dated receipt for the same from the panchayat functionary. Every CSC could be enabled and empowered to register work demand with a dated receipt. When banking can happen through such kiosks, enabling the CSCs to register work demand should be straightforward. Similarly, the MIS should be enabled for automatic calculation and payment of unemployment allowance and delay compensation for the full extent of delay.

Another noteworthy initiative in the direction of transparency is the '[Jan Soochna Portal](https://jansoochna.rajasthan.gov.in/index.php/home-hindi/)'<sup>10</sup>, a web portal of the Rajasthan government for the beneficiaries of public services and residents of panchayats. This portal gives information for over 75 public schemes across 27 departments. It provides information for individual beneficiaries as well as panchayat level information. This portal is accessible over the web as well as through kiosks located in every panchayat. Such an information system attempts to help individuals obtain information about the entitlements and hold their gram panchayats accountable.

While centralisation has severely undermined political processes, we present a scenario of an enabling environment due to it. This is from the famine affected and drought prone area of

10 <https://jansoochna.rajasthan.gov.in/index.php/home-hindi/>

Penukonda Mandal of Anantapur District of Andhra Pradesh. Many of the Dalit workers in this region were dependent on upper caste landlords for employment in their field as agricultural labourers. When the workers took up work under MGNREGA, there was immense pressure from the landlords to stop MGNREGA work so that the labourers continue to depend on them for employment. The fact that the payment architecture was centralised, helped the Dalit workers and the local officials sustain the pressure from the landlords. Our experience of working in that area suggests that if all the decisions (including work payment) were in the hands of the panchayat officials, the hegemony of the upper caste landlords would persist because they could pressure the panchayat staff.

On the other hand, complete centralisation in many places has meant that specificities of local realities are not taken into account. In the past few years, the nature of the work sanctioned in MGNREGA has been top-down and dictated by the bureaucracy. The context and needs of the villages are not accounted for.

These examples elucidate the conundrum of using technology. There is a need to avoid being trigger-happy about what technology to deploy for a given policy or situation, but instead focus on what values we need to keep in mind while thinking about a policy or designing technology. The objective and effort should be to create structures to improve information access and information use among the workers so that the alienation that many workers currently feel is reduced.

## Discussion

On a brutally hot summer afternoon, one of the authors of this article, had a long conversation with Anita Devi, an Adivasi woman, around 50 years old, in a village in Palamu district, Jharkhand. Anita Devi is unlettered and lacks numeracy. We discussed a range of topics from the role of government, to pensions, to statistics, and democracy. In continued conversation, we posed to

Anita Devi, what felt like a complicated question on information and access: 'Can a machine learn democracy?' She responded with casual elegance, saying 'A computer doesn't have a mind of its own. A computer is after all made and run by humans. If we truly want it to imbibe principles of democracy then we can teach it, isn't it?' In this regard, it is instructive to recall the phrase 'code is law' popularised by the Harvard Law professor, Lawrence Lessig (Lessig, Lawrence 1999). Code, as in software, and code, as in law, can both be instruments of social control. To quote him: 'We can build, or architect, or code cyberspace to protect values that we believe are fundamental. Or we can build, or architect, or code cyberspace to allow those values to disappear. There is no middle ground. Code is never found; it is only ever made, and only ever made by us.'

Devi's deep, insightful response speaks volumes about the need for compassionate information systems design to enable participatory democracy. The choice is clear. On the one hand there is using technology for administrative opacity, perpetuating falsehoods, and political unwillingness and on the other is to use technology that imbibes principles of democratic participation and values. The United Nations Human Rights Commission (UNHRC)<sup>11</sup> has also emphasised that every government's online and internet policies must be rights-based. In particular, it underscores that people's online rights must be in synchrony with the offline rights that people have. The MGNREGA MIS, among other technological initiatives by the government, must be held accountable to this. There is an urgent need for a strong governance framework surrounding all digital interventions for public services and such a framework must be developed through wide public consultations. In conclusion, we would like to add that perhaps not all problems have their solutions in a new or improved technology, and as those who are proponents of 'technology for development', we have the responsibility to be mindful about it.

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11 <https://www.un.org/en/chronicle/article/government-policy-internet-must-be-rights-based-and-user-centred>

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