

Towards an Ethical Digital Society: From Theory to Practice
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Lecture 03

Centralized Technology, Localized Services: A Case for Selective Inclusion?

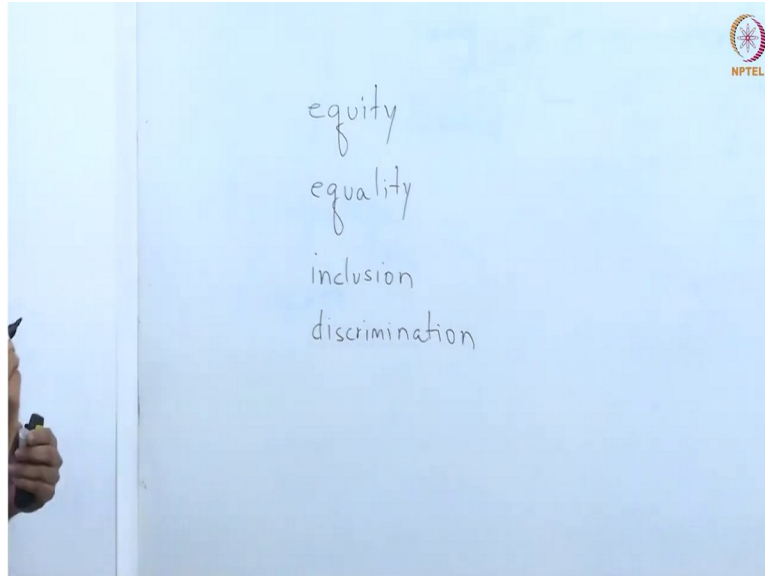
My name is Amit Prakash, I am faculty member here in IIT and also part of the centre for IT and public policy, which Bidisha and some of the others are also associated with. So, it is good to see all of you around and good to...I joined a bit late. But it was good to listen to the discussions going in the first session. I will try not to use the word ethics in my presentation. I do not know if I will be but I will try not to use it. And still see if it makes sense to talk about what I am talking, in a Winter School on Technology and Ethics.

Okay, I understand all of you would; how many of you equate equality with equity? You see equality and equity they are the same. Okay if you see equality and equity are same, These are the terms you will use. We will use equality, we will use equity. Inclusion is better with equity than discrimination. Equality is not equity so what is equity? So equity is probably not equality as Patel... I will give you time, I will give you an opportunity to refute that claim.

Equity probably has more to do with some of the terms we used in the last session, justice, fairness right. Equality is a more is easier to measure. You can say I am equal in terms of my weight, my height, my wealth, my access to certain kind of resources, my land holding so that would be equality. Equity will also involve some of these terms that were being discussed in the morning session which include justice, fairness how did that resource come to be, was it procedurally fair, did it involve principles of justice as understood by the particular society etcetera. So, with that understanding of equity, ah would you relate inclusion to equity or would you relate discrimination to equity? Do you see a natural affinity of one of these terms to equity or it will depend on the context.

Do you feel being inclusive is naturally affiliated or naturally can lead to being more equitable or do you feel being discriminatory can lead to being more equitable. Okay I will just write down the term and we will see.

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So, we are talking about equity, equality, talking about inclusion and we are talking about discrimination. So what I want one is not taking the position that they are same, I am not taking that position. This associate with this kind of terms these are some of assumption that I will be making. The second is I will also engage with these kinds of terms. Let us want to understand to start with how would you feel equity relates to these two terms? If I want to be in an equitable society, should I look only for inclusion? Or should I also be discriminated, no, discriminatory in my approach?

Discriminatory, all of you are fine with this. If you are looking for equity you need to discriminate, yes or no? Who said no? Someone said no. It is okay, I want people to take yes, no, all kinds of positions. Some of you said yes, you said yes, what is your name? Siva anyone else yes? You also said yes. What is your name? Deborah, you also said. Who all said no? No one said no. Three of them said yes all the others said what?

Say something yes or no maybe, you can, ok so we will see what? So what I will focus on is try to look at these kinds of terms and see if it comes through the case that we are trying to present today and then will come to this kind of questions, whether we always always need or whether inclusion of a particular kind goes along with discrimination of a particular kind. Yes inclusion not always the opposite of discrimination.

To achieve inclusion we may need to discriminate, to be equitable we may need to discriminate. Just keep that on your back of your mind. Those of you are comfortable good, those of you are not just leave it for about 40-50 minutes and then we will see we will come

back to this question. Okay, so I have three sections: one is I will just set the context of why this particular talk then I will get in to a case study and empirical work on the public distribution system that one of my master student did in his last semester.

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Govt's savings from DBT grow multifold in FY19

NPTEL

Shir Sinha | New Delhi | Updated on June 09, 2019 | Published on June 09, 2019

Gains to rise further with fertiliser subsidy also coming under DBT

The government has saved over ₹50,000 crore through direct benefit transfers (DBT) in FY19. This is

<https://www.thehindubusinessline.com/economy/govts-savings-from-dbt-grow-multifold-in-19/article27705539.ece>

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3

And then we will come to some notions of designing technology. I am some of you would have read this: government savings from DBT grow multifold 10 financial year 2019. All of you are aware of DBT direct benefit transfer scheme? So, what happens today is a lot of or many individuals who get some cash transfer from the state, largely, the Central Government, the state government of India. And now most of these cash transfer or even say subsidies in kind are being provided directly into the bank account of the beneficiary.

So it is a direct benefit transfer from Government of India to the bank account of the beneficiary and this was I think it has been talked about the last 10 odd years, but over the last 4 or 5 years it has been made much more operational and it uses... So the government says that these are claims from the economic survey and other documents of the Government of India. I think last year it was; and I think this one is I think half year estimated around 50,000 crore the government has saved by direct benefit transfer.

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Govt's savings from DBT grow manifold in FY19

Official data also reveal that savings were made possible through the use of information technology, which weeds out duplicate or fake beneficiaries. For example, for subsidy on domestic cooking gas cylinders, 4.25 crore duplicate, fake, non-existent or inactive connections have been eliminated till date. In addition, there are now 1.86 crore non-subsidised LPG consumers, including 1.05 crore 'Give It Up' consumers.

Similarly, for the distribution of foodgrains under the public distribution system, 2.98 crore duplicate, fake, non-existent ration cards (including some due to migration, death etc) were eliminated. Under the Rural Employment Guarantee programme, 10 per cent on wages on account of the deletion of such beneficiaries is estimated.

<https://www.thehindubusinessline.com/economy/govts-savings-from-dbt-grow-multifold-in-19/article27705539.ece>

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3

And what it says is, it also reveals that savings were made possible through the use of information technology which weeds out duplicate or fake beneficiary. Suppose I am eligible for a scholarship scheme and I can so using this direct benefit transfer and information technology in direct benefit transfer, what I can do is, I can weed out those who claim, I cannot have 2; as Amit Prakash if I am eligible for a scholarship, I cannot put 2 applications and get 2 scholarships.

So it is one way of weeding out duplicate say beneficiary. The other is fake. Fake means I am not eligible, right? But I have created a ghost imaginary person in my name or someone else's name and I have linked or maybe my bank account or someone's bank account I have linked to that ghost non-existent beneficiary. So one is duplicate and fake is not eligible but I am putting that thinking and that third is also ghost where no one exist.

So what it says is information technology is being used and it is largely been used to weed out duplicate, fake, non-existent or inactive beneficiary. How would it be, how would Information Technology do all this? How would you be able to use IT to eliminate some of these say beneficiaries if there is duplicate or if there are fakes, if there are nonexistent etc, what is being done? Aadhar. What is Aadhar doing? There is unique ID that is being assigned to an individual and that unique ID is linked to this person's biometrics namely fingerprint or Iris.

One is because it is Unique you cannot have 2 ID's for the same file and then you cannot have ghost ID's because when you die, you cannot give your biometrics. Therefore persons

who do not exist you cannot make unique ID's for those persons. You can remove non-existent people you can remove duplicate people. Fake is a concern but duplicate is non-existent people can be removed if you have a database of all the persons in the country with unique IDs and IDs linked to the state of being alive, which is captured through biometric. Okay?

So what we will be interested in is one part of this DBT and that is distribution of food grains. Distribution of food grains under the Public Distribution system and there also similar claims of duplicate, fake, non-existent ration card. This is a bit of bit of a stretch, we will see why this cannot be done, duplicate a non-existent yes. Fake can be because of various reasons, fake can be because I am ah in this case I am not a poor households. But I claim to be a poor household.

Aadhaar does not do anything to that; Aadhaar does not do that you can still identify fakes. We have a better way of say identifying who is poor and who is not. So their claims being made that is a lot of saving that the government is incurring on account of benefit transfer to citizens and most of the savings are because information technology is being used. And information technology that is being used is largely for the Central element of that information technology is this Unique Identity which is linked to the state of being alive.

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Press Information Bureau
Government of India
Ministry of Consumer Affairs, Food & Public Distribution

28-July-2017 17:12 IST

Linking of Aadhaar with PDS

In pursuance of the provisions of the Section 7 of the Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits and Services) Act, 2016 the Department has issued a notification dated 8th February, 2017 for the use of Aadhaar as identity document for delivery of services/benefits/subsidies that simplifies the Government delivery processes, brings in transparency and efficiency and enables beneficiaries to get their entitlement directly in a convenient and seamless manner and Aadhaar obviates the need for producing multiple documents to prove one's identity. An individual eligible to receive the subsidized food grains/Cash Transfer of Food Subsidy under NFSA and having valid Ration Cards issued by State Governments/UT Administration is required to furnish proof of possession of Aadhaar number or undergo Aadhaar authentication. Any new eligible

<https://pib.gov.in/newsite/PrintRelease.aspx?relid=169225>

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4

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And so this is what that scheme actually is, if you look at this. So, linking of Aadhaar with PDS this is actually a question in Rajya Sabha and this is the answer to that question by the then minister of state for food and civil supplies and what he had to say was Aadhaar as

identity document for delivery of services that simplifies all this brings in transparency efficiency and enables beneficiary all that stuff. But more important is this.

This is what this scheme is, end to end to end to end computerization of targeted Public Distribution in operation. So this is what the scheme is. The component one of the scheme comprises digitisation of ration cards and beneficiaries and other data bases, online allocation computerization of supply chain management, setting up of transparency portal and grievance redressal mechanism.

And the state the central government has asked the states to offer any of the 2 modes of DBT with respect to a public distribution system one is cash transfer of food subsidy in to the bank account of beneficiary. Second one is fair price shop automation, automation at PS level which involves installation of point of sale device at price shops for authentication of beneficiaries and electronic capturing of transactions.

That is what this particular program is trying to do. So what it is doing is using information technology in the public distribution system and states which have not opted for cash transfer. In fact none of the the states had opted for cash transfer only 2 or 3 union territory where cash transfer is happening. States have been asked to engage in automation of the fair price shops. Are you aware how many of you are aware Public Distribution system and audit. Who is not aware of Public Distribution system, many of you.

Public Distribution in India is started about 30-40 years back and it was started when there was a need felt for providing subsidized food grains to certain household who could not afford food grains in the open market. So they are households in the country who do not possess the required or who are not earning enough, now which allows them to buy enough food grains from the open market.

And these households in the absence of a subsidize publicly provided food grain say mechanism would otherwise go hungry. So, lot of households in the country who fall under that category and therefore the state felt that it was morally bound now it is a right earlier it was not a right now it as become a right the state had its duty towards its citizens to provide food so that they do not die of hunger.

So this scheme has been in operation in different forms in the states in different states for about 30, 40 years now and what happens in this scheme is you have fair price shop or ration shop as she would call them in locations in various locations catering to about 500 to 1000 households and this fair price shops they obtained the ration which is largely food grain rice or wheat in most cases depending on which area you are in.

And this is subsidized by the government. So the government sells at a much lower price than what would be available in the market. So if the market price for rice say is Rs.30 per kilogram that rice will be cost, one could get at about 2 rupees,3 rupees 1 rupees free of cost all that. As I said the it is subsidised programme and these fair price shop are licensed. Depending on which states you are in , the state government could give licence to certain private parties or cooperative societies to run the fair price shops.

Food grains in this shops comes from elaborate public procurement mechanism which is consist of food corporation of India at centre level and at state level you 2 separate and this is was the public distribution system is subsidised provision of food grain now it was targeted earlier it was not; to below poverty line households. And below poverty line there is a definition for which kinds of households would qualify to be in the below poverty line category.

If a household is found to be in the below poverty line category and depending on how many members are there in this households they can go to a fair price shop and gets subsidized food grains. So, what is what this component 1 is doing its digitisation of ration cards. So, what you need is you need a ration card. It says you are a below poverty line household. Now there is also the concept of extremely below poverty line these are the Antyodaya Anna Yojana they were classified as AAY households.

Either you are a BPL or you are extremely BPL so poorest of the poor is what you may call them so you get a particular type of card and depending on how many people are there in your house in that household you will get X are whatever I think you will get 6 kg or 5 kg of food grain for every member. In case of BPL households and if it is 4 members you may get 20 to 24 kg of rice. If you are Antyodaya you will get a bit more.

So, you have a ration card this FPS automation scheme is one is digitisation of the ration cards. And the second part is digitisation of ration cards and beneficiaries and then the process of issue. Process of issuing the food grains to the eligible household that is also to be automated so, these 2 things. So if you look at the ration card automation or ration card digitisation, why would you want to do that? Why would you want to digitise the ration card?

Leakage through; what kind of leakage? How would that leakage happen? Right. So you cannot put anyone else's name in your; yes, you cannot put names of people who are not eligible to get that ration in your ration card. Similarly if members who were there earlier and they want another card to be build one will have to remove the name from one card. We cannot have duplicate those who are not eligible cannot put their names there.

Those who are already there cannot put their names in other card, that means you cannot have duplicates. People who were not there. So what what was also reported as happening earlier was that people did not exist but we would include their names also in ration card to get more because it is linked to the number of member if I have only 3 members in my household if I included one more name, I would get 5kg extra.

So, now; because it is linked to the state of being alive because it is biometrics I cannot include someone's name who does not exist. So this ration card digitisation was and linking to Aadhaar is expected to take care of problems arising due to duplication of entries or ghost entries non-existent persons entries. And how do you think ineligible? If I am not eligible if I am a BPL household you are not a BPL household but you want to get a ration card? How does presence of a biometrically control database ensure that you are not provided the ration.

Are all of your bank accounts being monitored at this point, and still you can do that. You can link your bank account and assuming most of our transactions are through the bank, we can find whether this person is this kind of income or not. But of the total workers in the Indian labour force how many are in the formal labour force? How many are in the formal economy any idea, 10% not more than 10%.

Is the reason to believe those are not in the in formal economy may not be drawing salaries through the bank account. So that may not be the; even if you are doing that you are only looking at 10% not more than that but the neighbourhood would also know that this officer is

going to my neighbour and neighbour is expected to certify whether I have that or not. So you will get into some game-theoretic position and PAN that is only for income tax. That is not even 10%.

So there can be many ways in which technology help, but Aadhaar does not do anything to this process. And therefore in terms of fake claims, I do not subscribe to the claims that information technology today is doing anything to eliminate fake claims. Fake in the sense in terms of PDS someone who is APL but colludes with this officer and get their household classified as a BPL or and when you when you have something like this.

Suppose I am APL I collude with the officer and get in as a BPL category. And then there is a ceiling which is only 30% of the households can be classified as BPL. What will happen? when APL households collude to be BPL and there is a ceiling of some X person someone who is a BPL goes out. So, this process of APL household getting BPL card and BPL households not getting BPL card is something that Aadhaar is not doing, cannot do much.

So it is a very localised process. OK then you have to go talk to that person may be talk to the neighbour talk to a few more people. So it is not a centralised process which is ensuring that your identity is a unique number. So the Aadhaar the centralise Aadhaar what it can do it can ensure that you are unique you exists but it cannot say whether your BPL or you are APL. Is your BPL, APL classification requires still requires a lot of human contact.


At least in an economy, which is largely informal where we do not have everyone, we do not have bank account reflecting the correct financial position of every house. So, this is the scheme that will be talking about now.

So the scheme has been there for some time in different variants this was a response in 2017. But, is the fair price of automation, Aadhaar linkage to PDS it has been talked for about 10 years now that one of the two reasons why Aadhaar was argued is required for a country, like India is PDS and the other was NREGA. They stopped talking about NREGA and PDS this now, but that was in the initial period of Aadhaar the two schemes being talked about where Aadhaar is going to transform.

Which Aadhaar is going to transform was PDS and NREGA and one of the transformation objective was to arrest leakages. And arresting leakages means savings to the government. One way of measuring leakage prevention is that the government has saved some money that is not the only way to measure leakage prevention. And in that account what we saw in the Hindu say article seems to corroborate FPS automation or Aadhaar PDS linkage leading to savings for the central exchequer.

But we look at this scheme and what is this scheme doing to its supposed or expected beneficiaries in Bangalore urban district. We are not going to any rural area. We are in the heart of what you would call among the best IT Infrastructures in the country today and we will look at what is happening to this PDS-Aadhaar linkage. And what is it doing to essentially two types of people. The people who are expected to get the subsidize food grains and the people who were expected to give it to them the fair price shop owner. They have not talk to other people in the chain.

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Aadhar-PDS linkage in Bengaluru Urban


- Apoorva Bhalla's MSc (Digital Society) dissertation
- Field work carried out during Nov 2018 – April 2019

Taluk	Fair Price Shop/Household location
Anekal	Anekal Town, Chandapura, Hebbagodi
Bangalore North	Jalahalli, Hegganahalli, Peenya Industrial Area, Dasarahalli, Laggere
Bangalore South	Nanjappa Layout, Pattalana Street, Someshwar Nagar, Adigesli, Anepalya, Sggalya, Ejjipura, Doodla Thogur, Koopen Agrahara, Bommasandra, Kompepura Agrahara, Doodla Begur, Mangannapalya, Nilsandra, Medivala, Koramangala 10th block, Sarakki, I.R Nagar, Sggalya, Tiak Nagar, Chikka Begur, Vveek Nagar, Rajendra Nagar, Umarbagh, Shakambari Nagar, Kaveri Nagar, Sarkehalli, Kanakpura Main Road, Rajeswarinagar, J.P. Nagar, Rajendra Nagar, Vinayak Nagar, Mahalingeshwara Layout, A.K. Colony
Bangalore East	Bhas Nagar, Kanka Nagar, Devachikkanahalli, Bilcakahalli, Yantur, Masur, Immadhalli, Vijaya Nagar, Gandhipur, Hoodi


Ref: Bhalla (2019)

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7



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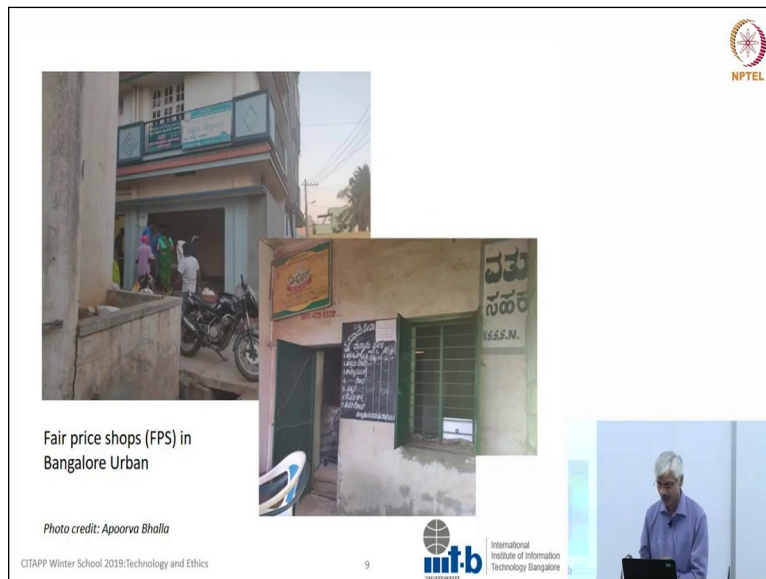


This is as I said this is largely based the field work was carried out by Apoorva and she was doing a part of our digital society Masters dissertation. And it was done roughly over 6, 7 month period between November 2018 and April 2019 and she covered Bangalore North, Bangalore South, Bangalore East Anekal about 4 taluks in Bangalore and all these locations. It was largely it has a Bangalore South bias.

She talk with along with the field assistant, she went to all these places and she talked with 139 BPL Ration card holders and 6 AAY card holders most of them were women but she also

talked to private dealer, fair price shop owners and cooperative societies. So the observations are based on this field work.

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These are your typical fair price shops. I do not know if it is clear but this is what a fair price shop would look like from the outside. See some people gathered here and some board here. This is what the typical fair price shop would look like. This is a board with this says what the stock position is; this is the price at which people can get their grains.

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These are some of the locations or household where the survey was conducted. This is one, this is another just hold on to this picture and will come back to it towards the end.

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These are the types of location where the; so the interviews were conducted in the household this kinds or this kind or at the fair price shop which look like this. Most of these interviews were conducted in Kannada but also in Hindi. Some of the people would also there are also compatible with an English very few in which case it was the preference for Apoorva was English, Hindi and Kannada. But mostly interviews were conducted in Kannada some in Hindi and some in English.

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So, essentially we are looking at three major categories of say processes that are involved at the fair price shop with respect to the public distribution system. One is the entire process of Ration card issue. So there has to be the ration cards need to be issued to the eligible beneficiary. So, that is the one, that is the first set of processes. The second is at the shop.

There is something that happens during the issue of food grains. And then certain things that need to happen and that can happen after the issue of food grains.

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"We had applied for ration card during the election time. Food Officers and ration dealers had put a camp here and asked everyone to come and enroll. We took one government ID card, Aadhaar card, and photographs. I don't remember if we paid or not. We waited for 6 months, then 1 year and then went to the Food Office to check the status. They told that the application has been canceled. We, then, applied again and the ration card came after 1.5 years."

"We had applied 3 years ago and received an APL card instead of BPL. My husband went to the Food Office many times to request that we don't earn that much and that's why we need a BPL card and not APL. We submitted the application again after submitting an income statement and then received the BPL card. It took more than a year."

Ref: Bhalla (2019)
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13
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So we will go through some of what the respondents have said. Again most of them are women and women in the late 30s, 40s where this quotes had been taken from. So if you look at the first one: "We had applied for ration card during the election time. Food officers and ration dealers had put a camp here and ask everyone to come and enrol." What do you think election time is important here or do you think that is election time just a coincidence or do you think that could have any bearing. That is the time when citizen can enjoy their rights.

Another interesting angle, ration cards are it is not only about rights. It is also about for election you need votes. Votes, many a times can come by not only because you are doing what you are supposed to do. What you have seen as doing something more than what you are supposed to do. So if you are APL household and if I get you a ration card in exchange of votes, I am seen as doing something more than...what ration card being issued to all BPL household is routine.

I am doing more if I can manage BPL card for APL household and because of that favour I may get some votes. So, ration cards throughout India are very potent political tool to that votes. So, one is a very blatant form of giving cash and liquor but you have these kinds of benefits being exploited by all sorts of political parties and candidates to get votes during election this has been, there are people who have studied this and it has been documented.

So most of our responded said that their application happens during that time, the camps are held during that time and that is where we go and apply. But there is some relevance of elections to ration cards. You also remove the other you can do both. What you can do is you can do a camp it says all the ration card linked to these 5 fair price shops are getting updated and some BPL's are coming APL and some APL's are becoming BPL's.

So what you do is this process ensures people are going to vote for you are given a BPL card and those who are not their BPL get cancelled you can do that no. That is a possibility and it also it has also been happening because of which at a particular point in time before this linkage happen we had... So in Karnataka for example, population of Karnataka in 2011 was about 6 crore 6 and half or 7 crore.

Number of ration cards in 2009-2010 almost 1.8 core if you assume a family size average family size of about 3 and half or 4 it is more than population and that had come to be because of this kind of; this is what was happening. So, to ensure that 1.8 crore came down to some reasonable number, there were these biometrics linkages. And now we still we have about 60 to 80 lakh, which may not be say 60, 80 lakh ration cards. What we do not know whether these are all BPL families or not because Aadhaar does not do anything there.

It is definitely ensure that it is unique and has no duplicate that it does it ensures that no ghost because you cannot go and authenticate by yourself that it does. But we have seen those kinds of inflated number which have given rise to say this kind of technology being used to weed out a lot of these ration cards. But what is equally important here is it took about 1 and half years for the ration card to come to that. And even in the second case if you see: "We had applied 3 years ago and received APL card instead of BPL. My husband went to the food office many times to request that we do not earn that much and that is why we need a BPL card and not APL. Submitted the application again after submitting an income statement and then received the BPL card." So, all that has been reported.

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"When we checked the status online, the application was canceled for some reason (didn't remember). Then we applied again through an agent. My husband knew someone who worked as an agent. He charged a fee of Rs. 2000 and also asked for an income certificate. We got the certificate made and then submitted the application. In 15 days, the new ration card was delivered."

Ref: Bhalla (2019)

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14




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"When we check the status online the application was cancelled for some reason. Then we applied again through an agent, my husband new someone who worked as an agent. He charged a fee of rupees 2000 and also ask for an income certificate. I got the certificate made and then submitted the application in 15 days the new ration card was delivered." Ao, it takes anywhere between 15 days to 1 and half years, no visit to the food and civil supplies office to multiple visits to disable them food and civil supplies office depending on who you know, you do not know, so the social relationships in the local context are still very important for you or our respondent to procure a ration card.

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Application Filing	Application Verification	Ration Card Delivery
Submitting the required documents, correct applicant details, and choosing a FPS and card holder name.	Be available for the official visit by the concerned officials.	Collect the ration card at the doorstep by paying Rs. 70 to the postman.


Ref: Bhalla (2019)

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15



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As per the guidelines as per the process they are supposed to get it in 15 days or so and the ration that there has to be an official visit verification by someone, someone needs to go to

their say houses and see whether they fall into that category on and it is to be delivered by post only 70 rupees is what needs to be paid.

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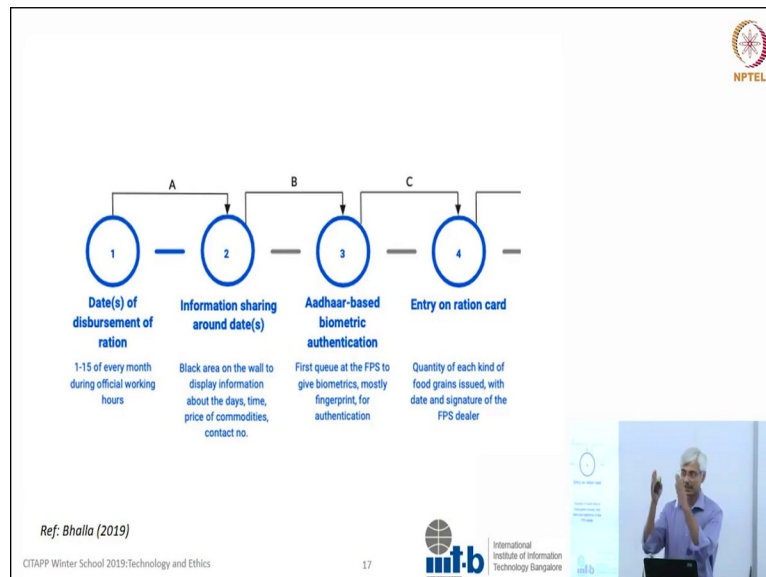
Application Filing	Application Verification	Ration Card Delivery
<ol style="list-style-type: none">1. Happened at booths during election, Internet Cafes, via intermediaries such as agents2. Application fee paid more than Rs. 50; to intermediaries, it depends on your relation and status3. Re-applied in case of wrong card issued or application rejected	<ol style="list-style-type: none">1. Nobody came for verification2. Beneficiaries moved to a smaller house just to look eligible3. FPS Dealers go for verification, which they say is out of their purview	<ol style="list-style-type: none">1. None of the respondents got their ration card delivered at home, rather they visited Food Office/Taluk Office to collect it2. No notification about when the delivery would be done3. None of the respondents got the card in 15 days as per the guidelines4. No knowledge about the reason(s) why the applicz like which docu missing.

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15
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But actually what we saw is there is no verification. None of our respondents said that this was a process that was carried out with the required due diligence. Ok if you know new and agent if you were able to give 2000 rupees he would probably not required someone coming to your house and doing verification. You will get it within 15 days. So a lot of ways through which both ration card holders and people in that social context where still navigate through this process.

And there is no evidence of Information Technology or Aadhaar playing for making any difference in the way ration cards were being issued or are being issued to PDS under the PDS scheme.

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Let us look at the process that happens during issue of food grains. A lot more steps, but will look at only these 3 or 4. This is one example this is date of; there is fair price shop and if you remember the photograph there was a blackboard outside the fair price shop which need to say when the, in fact not when the shops will be open is a guideline by the government which says that all the shops have to be open from this time to this time on these days for disbursement of, for issuing rations.

Even then there is a board that outside the fair price shop and that these dealers are expected to write when the issue will happen which dates? What time? That is expected to happen then once I know that issued on this date and when I go there is a process by which I am authenticated as I have a ration card. I need a BPL card and then my fingerprint is linked to the BPL card. When I go there and I give my biometric impression if it matches then I get ration.

And then I have a ration card and there is entry that needs to be made on that ration card or I need to be given a slip or some received with you have been given 20 kg of rice on this day. And you paid 10 rupees for that. This is an expectation from any transaction. There are other things but you will not get it.

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"We are happy with what they give. We are getting it for free, that is enough for us. We know we get 5.5 or 6 kgs and not 7 kg per person but we dont have the energy to fight with them. They can get our card canceled."


"There is no one in my family. I go alone to get the ration. Fingerprint didnt come. They made me wait but it still didnt match. In the end, I just left and didnt go again. I cant go that far and stand in queue for long hours."

"We have nothing here. No bus service, no hospital. Even autorickshaw drivers drop us at the main road and charge Rs. 100. It takes us more than two hours to reach the shop and sometimes, we have to go 2-3 times in a month to get the ration because of many reasons."

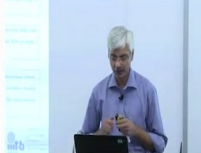
Ref: Bhalla (2019)

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18



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Let us see what people had to say: "We are happy with what they gave. We are getting it for free that is enough for us. We know we get 5.5 or 6 kg is and not 7 kg per person, but we do not have the energy to fight with them they can get our cancelled. There is no one in my family. I go alone to get the ration fingerprint did not come they made me wait but it still did not match." It is interesting that she says fingerprint did not come and so what she is referring to is so when you go there is a point of sale machine you put your say finger.

The biometric impression is captured it goes and get verified in the Aadhaar database. So there could be various issues in the entire process. One issue would be your finger is not clean or the impression that it has made on the device is not what was made earlier and it is not within the tolerance limits that the design has accepted. During transmission there could be some losses. So even if even if your finger is clean, your impressions are intact the device may not have captured it properly, may not have transmitted it properly. At the matching at the database level there might be something going on which did not match it properly because is it all a black box. We do not know how does that matching happens here, it is a proprietary technology that this algorithm is not revealed so we do not know whether this problem is because of the finger, because the device or because of the data transmission or the algorithm that uses that is being used in the central database to do this matching that is not made transparent.

So when the fingerprint does not come we do not know why the fingerprint has not matched. So most of our respondents whose fingerprint did not come in the first instance did not know why it had not come. And therefore what they would do is they would do all these different

things. They will go wash their hands and they will go apply certain things on the finger. They will rub it on the wall. They will come on a different day.

Some say garment factory workers not only that they will get their children. So, children would go to school. After school or the next day the children would not go to school, they will come, give the fingerprint to get their ration. So, all these different permutations and combination will happen when the fingerprints would not come. And there were reasonable number of people for whom the fingerprint would not come on the first go.

Then the people who have to travel long distances. "So we have nothing here no bus service no Hospital even auto rickshaw drivers drops at the main road and charge rupees hundred takes us more than two hours to reach the shop. And sometimes we have to go 2-3 times in a month to get ration because of various reasons."

So that is from the ration card holder's perspective. Here is a transformed PDS setup which has employed technology in terms of ration card issue process we would not see much of change when it comes to the beneficiaries. In terms of the issue process we do not see too much of a positive change when it comes to the beneficiary. So, quantity fraud continue to happen. So, if they are eligible for 7 kg they get at 5 and half kg.

They know they are getting less but still do not complain. They do not have the energy to go and complain to anyone and this is where it issues of power and politics start coming in , kicking in. And this is where local agency becomes very important acknowledging the agency of the local that the local context through these various dimensions can lead to a particular way of enacting Technology.

Even if the technology is designed with an intention to reduce leakages because in the local context ration dealer is in a position that is higher in the power hierarchy than the ration card holder he or she is still able to go away with a quantity fraud not to mention of the quality fraud.

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"This is not our work to do. After the introduction of Aadhaar, we have been doing extra work and what do we get from it? We spent our money on these devices, this laptop, that printer, the fingerprint machine. Creating new applications, updating address, adding new members takes a lot of time. We work till late to help these people get their ration." (Rajan, M, 45)

Ref: Bhalla (2019)

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19



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From Ration cards, from this FPS owners perspective this is what one of them had to say: "This is not or work to do after the introduction of Aadhaar we have been doing extra work. And what do we get from it? We spend our money on these devices this laptop, that printer, the fingerprint machine. Creating new applications, updating address, adding new members takes a lot of time and we work till late to help these people get their ration.

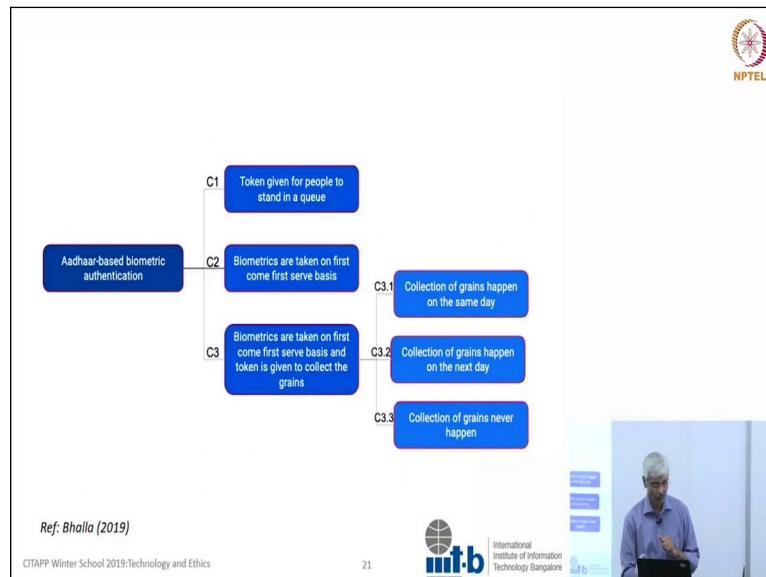
So this is what this is the kind of response that the some of the fair price shop owners provided to us. That this is leading to extra work of various types. And what happens for example in many cases even in a place like Bangalore where we have no reason to believe that connectivity should be a problem. We have people not... there are two locations where the entire process happened. One place where the ration card beneficiaries to give the biometrics because at that requires a more stable better connection.

And other place where you are going to get their food grains. In the process what is happening is the application is so designed and again, I would feel that this is because the design process is not appropriate, we will come to it later. It is so designed that when you give your biometric the biometric is in a sense an acknowledgement that you have received the food grains.

There is no way in which the biometric is again demanded for you to say that the first one is to say I am eligible and the second one is to say I have received what I was entitled for. So the first time biometric is what is considered as a proof that this person had come to the shop and because this person had come to the shop he or she was given t the entitled amount of

ration. So what is happening in...some for the respondent what they said is; in fact I will come to that.

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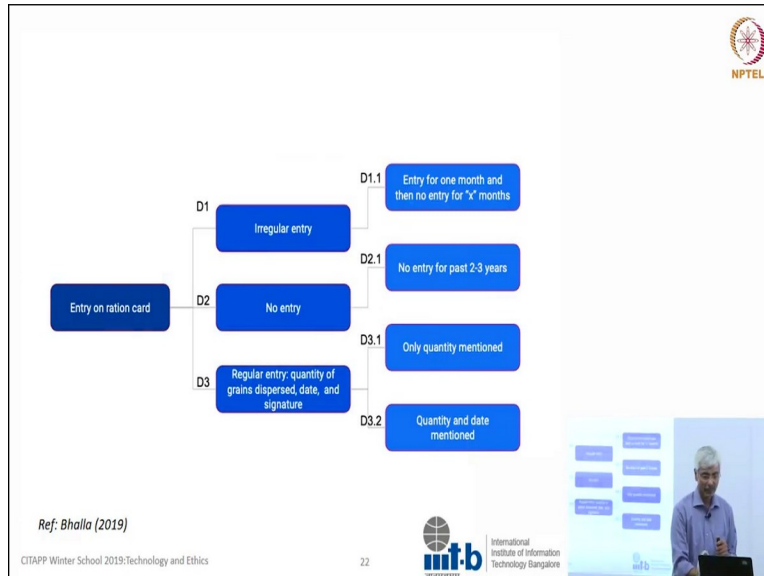


This is what for example, happens. So different, different places collection of grains happens on the same day happens on the next day or collection of grains never happened. So you still have a group of people home through the entire biometric authentication process. But because the biometric authentication and issuing of grains is now delinked it is in two different physical spaces. Even when they are the same physical space because the biometric authentication is fraught with uncertainty, it takes a lot more time than what the designers have built into their design.

Because of which the people have asked to come either wait for longer time or come the next day or and when they come on the next day and the shop is closed and the day after next then in certain cases there is no issue of food grains. And the dealer can get away with that because biometric has already been captured. And that biometric capture is a proxy for the purse or is is a reflection of the person coming to the shop.

And a person coming to the shop is a proxy for what is taken as a proof of the person having received the entitled food grains.

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And then entries on the ration card, after you are issued you should be it should be acknowledged and it should be given a receipt. So, you have a ration card and all sorts of ways in which entries are made or not made.

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Aadhar-PDS linkage in Bengaluru Urban

- No evidence of respondents (both ration card holders and FPS owners) being better-off after Aadhar-PDS linkage
- Non-trivial effort required on part of the respondents to get their ration cards linked to Aadhar
- For many card holders, the authentication process remains uncertain and unclear leading to anxiety, multiple trips to FPS and, in a few cases, denial of ration
- FPS owners exercise discretion/override Aadhar based authentication depending on their relationship with the ration card holders
- Ration card holders and FPS owners exercise their agency on their local social relationships to navigate through 'unfriendly' changes

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23

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So briefly, if we look at this field work and 150 people that we spoke with there is no evidence of the respondents both ration card holders and the fair price shop owners being better off after the Aadhaar PDS link. So, we did not find any evidence that they were any of them either shop owner said it is taking a lot more of our time. Ration card holder said that we continue to get less as we were getting earlier.

We have to struggle more with our ration cards you have to struggle. You have to probably make multiple trips to get ration. Lot of effort required on part of the respondents to get the

ration card linked to the Aadhaar. For many cardholders authentication process remains uncertain. And unclear leading to anxiety it is also something....so when you are old you are also much more anxious. If this does not happen... people prepare to get a biometric capture to succeed in the biometric capture a day or two in advance.

So they will not do certain things which will make their finger which they feel will make the biometric not coming, the probability of that is high and all. So, there is lot of anxiety people have, multiple trips to the shop and in few cases denial of rations. I think in tomorrow's talk Sakina will talk about what can happen when ration get denied. The shop owners exercise discretion, they override Aadhaar based authentication.

There is provision here that if that authentication does not happen you can still override it but it requires a lot more effort on part of the ration shop owners. So they do it depending on the social relationship and in certain cases the 1 and 1 and half kg less quantity that is given is also used for diverting to those whose biometric do not matched. There is old lady where the ration shop owner knows she lives here, she is in need of food.

She is in need of grain and she is a BPL person but her biometric does not match. In which case the 1 and 1 and half kg that the shop owner hold from every other person goes towards taking care of this person. So what you see is Ration card holders and shop owners exercising their agencies and they are relying on the local social relationship to navigate through these changes which are considered unfriendly.

So, that is about the case, anything any clarification that is bothering you. So they did not say that they are very concerned...could possibly be, they did not have to go back to that was not required on a daily basis. So, that the Minister when he had responded in the Rajya Sabha; he only talked about FPS automation. If you remember he did not talk of the entire supply and still not done. So when the Supreme Court said we should use IT in PDS.

Supreme Court meant the entire chain right now the Technology that is being that is introduced or this FPS automation is only at the level of FCI. There are some States which have ensured that it is linked to the whole sales and to the FCI but it is still not done that part is still not done.

If it is perfectly functioning are you able to find out where the delays are? As the secretary sat on the order for 10 more days than what he was he was supposed to.

So it is largely at the; it is the misbehaviour of ration card holders and shop owner that is being controlled through this design of Technology. It is not the misbehaviour of the Godown manager or the secretaries or the ministers that is being controlled through this design of Technology. And it is no reason to believe that misbehaviour or what is considered unethical can happen only at the only by those who are poor. I do not think there is anything to prove ethical behaviour with income or with wealth.

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On 6 October 2015, Professor Stephen Hawking conducted a special Reddit "Ask Me Anything" session. One of the questions was on technological unemployment:


[Question]
Have you thought about the possibility of technological unemployment, where we develop automated processes that ultimately cause large unemployment by performing jobs faster and/or cheaper than people can perform them? Some compare this thought to the thoughts of the Luddites, whose revolt was caused in part by perceived technological unemployment over 100 years ago. In particular, do you foresee a world where people work less because so much work is automated? Do you think people will always either find work or manufacture more work to be done? Thank you for your time and your contributions. I've found research to be a largely social endeavor, and you've been an inspiration to so many.

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You just keep that in mind you just take 15 minutes. So there was a question that all of you know Prof.. Stephen Hawkins, there was a question that was asked to him when it was in 2015 this was largely in the context of automation of jobs. The question was around this: have you thought about the possibility of technological unemployment where we develop automated processes that ultimately cause large unemployment by performing jobs faster and cheaper than people can perform them.

In particular do you foresee a world where people work less because works are automated? Do you think people will always either find work or manufacture more work to be done. So it is largely around automation whether it is good or not good will it lead more employment or less employment. I think it was largely looking at these kinds of examples right, something around Fastag than whether this person needs a job or these people need to move faster.

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Answer [Prof. Stephen Hawking]:
 If machines produce everything we need, the outcome will depend on how things are distributed. Everyone can enjoy a life of luxurious leisure if the machine-produced wealth is shared, or most people can end up miserably poor if the machine-owners successfully lobby against wealth redistribution.

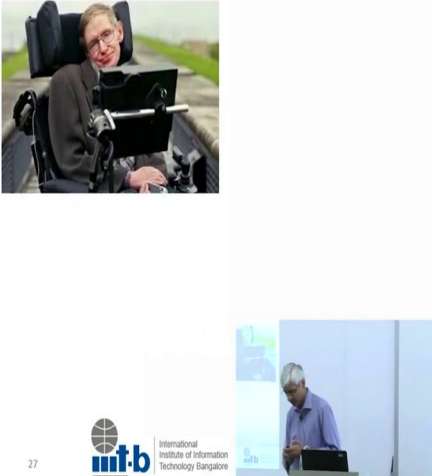
So far, the trend seems to be toward the second option, with technology driving ever-increasing inequality.

https://www.reddit.com/r/science/comments/3nyn5i/science_ama_series_stephen_hawking_ama_answers/?st=jerkraav&sh=1ef87b47

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27





So, those kinds of questions that was being asked but I think it is interesting what they responded. What he said is if machines produce everything we need the outcome will depend on how things are distributed. Everyone can enjoy life of luxurious leisure if the machine produced well this year for most people can end up miserably poor if the machine owners successfully lobby against wealth redistribution.

So the 50000 crore that has been saved by government of India goes into making lives of the ration card holders better, or fair price owner better. May be all of us people in Delhi people in Bangalore and in these household can be better off. But he said that trend seems to be towards second option with technology driving ever-increasing inequality. So it requires distribution so you need to look at what do we gain out of automation?

And at what cost is that game coming to and whether that cost gain offset is being done through a proper way of redistributing gain that has come. So, looking at whether; for example the 50000 that is saved as it gone to make the trips of the ration card holders to the shop less, so, at least they spend 4 hours lesser and therefore they can earn hundred rupees more or it is going to someone else who is already in a position where...or is it going to make someone else's live much easier.

That is where the question of politics starts kicking. Who gains at whose cost? And what happens to what is gains. The first is who bears the burden of the; or who incurs the cost; who gets the benefits. And if the costs are incurred if the benefits are not accrued to people who bear the cost of this change then is it distributed. So in this case there is some gain at least a

sum 50000 thousand crores gained, the cost to a certain extent is people spending more time to get their ration. Now the cost that people have borne in terms of their time is nothing that is being made up for the cost that people have gained in the way this particular technology is designed.

So the cost is being incurred by some, the benefits are being taken by others and there is no way in which the benefits can get passed on to those who have borne that cost. So that is what may not entirely fit in the notion of fairness and justice.

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India slips to 102nd rank in Global Hunger Report 2019

PTI New Delhi | Updated on October 16, 2019 | Published on October 16, 2019

India has slipped to 102 position in the Global Hunger Index 2019 of 117 countries, slipping from its 2018 position of 95 and behind its neighbours Nepal, Pakistan and Bangladesh.

Seventeen countries, including Belarus, Ukraine, Turkey, Cuba and Kuwait, shared the t

Prevalence of undernourishment owing to inadequate food, the report said (file photo). - Reuters

<https://www.thehindubusinessline.com/news/india-slips-to-102nd-rank-in-global-hunger-report-2019/article29638494.ece>

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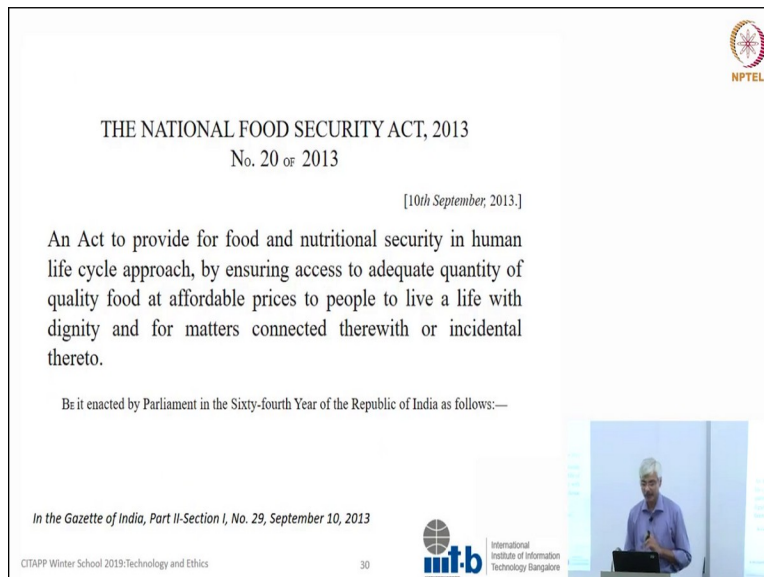
29

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And therefor, this is what we are. We are 102nd in out of 117 countries in terms of Hunger index. So we have saved 50000 crores probably we have saved 100000 crores and we are still hungry.

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And that is despite having a food security act which is supposed to guide this particular Technology design. And a Technology design is not supposed to be guided through the FRBM act. It is not supposed to, FRBM act the Fiscal Responsibility And Budgetary Management Act through which our fiscal deficit is to be controlled should not be the design or should not be the guiding principle for introducing information technology in Public Distribution scheme, the right to food security act should be.

This is a question of ethics, should FRBM the given precedence or should the right to food security be given precedence in designing Technology solution of this type. And in this understanding we have to we have to bring in politics who gains at whose cost. Are the centralising forces gaining at the cost of local level institutions and if that is so and if that is leading to these kinds of outcomes, should we be concerned or should we be happy with these kinds of saving.

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So that gets us to the last segment. Looking at development with dignity: This, I think Bidisha did briefly mention, talk about dignity. This, I am taking from Amit Bhadri, he is an economist, a development economist. This requires recognising the right of every person to participate in the development process. If you are looking at development and; if you look at food security as development concerned already in the realm of development. And if we are concerned with dignity in the way we go about our development endeavours and then we need to recognise the right of every person to participate in this process. The right to be valued and respected and to be treated ethically whatever we discussed in the morning. With

fair and just processes of participation; leading to equitable distribution of resources and development outcomes are...And I am not saying equal distribution of resources and development outcomes, but equitable distribution. So the benefits that should come to me should be consistent with the cost I am expected to bear.

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Development with Dignity

- Recognizing the right of every person to participate in the development process; the right to be valued and respected and to be treated ethically
- With fair and just processes of participation
- Leading to equitable distribution of resources and development outcomes

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So that gets us to the last segment. Looking at development with dignity: This Bidisha did briefly mint talk about dignity. This I am taking from the Amit Bhadri economic development economist. This requires recognising the right of every person to participate in the development process. If you are looking at development and; if you put food security as development concerned already in the realm of development.

And we are concerned with dignity in the way we go about our development endeavours and then we need to recognise the right of every person to participate in this tasks. The right to be valued and respected and to be treated ethically whatever we discussed in the morning. With fair and just processes of participation; leading to equitable distribution of resources and development outcomes are not equal distribution of resources and development outcomes equitable distribution. So the benefits that should come to me should be consistent with the cost I am expected to bear.

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Social Shaping of Technology

- Influenced by a desire to democratise technological decision-making; subject it to forms of social accountability and control
- Concerned with exploration of possible implications of different choices within and during technological development
- SST research investigates ways in which social, institutional, economic and cultural factors shape:
 - the *direction* as well as the rate of innovation
 - the *form* of technology: the content of technological artefacts and practices
 - the *outcomes* of technological change for different groups in society

Ref: Williams and Edge (1996)

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33



Activate Wind




That is what the earlier presentation, Bidisha was talking about, the second quadrant. So the human beings have the agency to produce technology without, every human being has this agency to contribute in technology production not all types of technology. So when you make a big dam, you do not expect people who can only work with an axe to go and building dams. You would not expect someone who does not know how to say who has going to education in advanced mathematics to design algorithms or encoding data.

So, not all forms of technology, so but that does not mean that technology only can be that. Only big dams are technology and only centralised digital identity projects are technology. Technologies can be of multiple types and multiple forms and technologies can be simple and need not be complicated and complex as a big dam or a metro rail project or a centralised biometric identity system.

If you only want to establish identities at a local level, a local fair price shop which caters to 500 family you do not need a centralised sophisticated de duplicating algorithm to tell me whether this person lives here or not. Perhaps he has lived here for the last 50 years and you still have a technology which allows you to ensure that keep track of how much people have consumed or taken from the shop, but it requires an acknowledgment that technologies can be produced locally.

That people irrespective of their income levels or their education levels or their social status can contribute to produce technology can contribute in the process of development. So that is what the social shaping the second quadrant is about.

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Social Shaping of Technology

- Influenced by a desire to democratise technological decision-making; subject it to forms of social accountability and control
- Concerned with exploration of possible implications of different choices within and during technological development
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33

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Just to summarise. What I am trying to argue is that development with dignity is important when we are concerned with questions of ethics. So, dignity becomes important and dignity is not giving doles to people. I would not want someone to be charitable to me or I would not want to survive on charity without being able to contribute in production. Why should I expect someone else to be happy with my charity.

And therefore dignity would require providing an opportunity to contribute meaningfully as producers and not only as consumers. And use of Technology for development outcomes such as food security program that we just now saw should provide a greater representation and more voice and that is why I call this selective inclusion or positive discrimination to affected social group.

So we need to provide or we need to discriminate against or we need to ensure that our design teams are consists more have greater voice of people who are affected or who bear the cost and more than those who do not directly incur a cost. In this case ration card holder and the fair price shop owners and all this different people which in the current design has not happened at all.

Current design of entire Aadhaar PDS linkage has happened in Bangalore and Delhi and nowhere else. Bangalore and Delhi also in some select offices without an understanding of what is going on the ground and if we were to look at selective inclusion positive

discrimination. I do not think a centralised complicated looking technology is going to help because that will not get people; because it is very exclusive.

It says only those who have these qualifications can come into the design. It will exclude it will not say people have been consuming subsidised ration for the last 15 years should have a say more than the secretary of Ministry of food and civil supplies and therefore it needs to, we need to bring in discrimination we need to actively ask for discrimination if we want the outcomes of this technology to be equitable.

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So, this is an example. Have any of you heard of Paani foundation, what do they do? So, sorry this slightly older, it is 2016, in 2019 they have about 5000 villages has developed so what they are doing is?

(Refer time: 1:16:17)

The screenshot shows a presentation slide with the following content:

- Paani Foundation** logo in the top left.
- Navigation menu: ABOUT US, OUR WORK, WATER CUP, IMPACT STORES, GET INVOLVED, CONTACT.
- NPTEL** logo in the top right.
- A people's movement to fight drought** as the main heading.
- Text on the left: "Paani Foundation is a not-for-profit company set up in 2008 by the team of the TV series Satyamev Jayate to fight drought in rural Maharashtra. Water scarcity is largely a man-made condition, and we believe that only people's efforts can solve the crisis. Paani Foundation aims to harness the power of communication to mobilise, motivate and train people in this mission to eradicate drought. Offering training in scientific watershed management, leadership and community-building, Paani Foundation is now working in roughly 60% of drought-hit Maharashtra. Our flagship project, the Satyamev Jayate Water Cup was instituted in 2008 as a way to encourage villages to apply their training in watershed management. Water Cup 2016 was held from 8th April to 27th May 2016."
- A map of Maharashtra with a legend:
 - Yellow: Vidarbha
 - Green: Western Maharashtra
 - Blue: Talukas in competition
- Statistics: 3 Talukas, 3 Districts, 116 Villages.
- Satyamev Jayate Water Cup 2016** banner.
- URL: <https://www.paanifoundation.in/>
- Page number: 35.
- Logos for **mit.b** and **सत्यमेव जयते**.
- Text: "Activate Wind".
- A small video inset in the bottom right corner showing a man speaking.



So what they are doing this, they are doing this and I use this because people in the villages are producing this technology. It is not Sardar Sarovar dam. They will have no say when you are constructing a Sardar Sarovar dam or when you are constructing a Tehri dam you need a different kind of say, your production system will exclude them but what you are doing Sardar Sarovar Dam is irrigation. What they are also doing is irrigation and it is being they are not consuming the water that comes from that dam.

Rather they are producing it and when they have a greater say in producing the technology. The Technology would be one is it signify technology production processes dignified for them. They do not have to depend; they do not have to depend on some external charity provider or state as a ...whatever in that sense or any other CSR entity who will come and say that they will give you a RO plant. They are producing their own technology and this technology in terms of water conservation and in terms of serving irrigation needs which can be compared to a Sardar Sarovar Dam.

In my last presentation I used a charka and someone came and told me are you serious? Is charka still relevant for us as a technology? I thought okay I will use something that is more current. So that is what I thought I will talk on and I hope I did not talk a lot of ethics but a certain issues which you find could resonates the overall concept of the workshop.