Digital And The Everyday: From Codes To Cloud

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Lecture - 18
Digital and our everyday interactions with the state-Part 02

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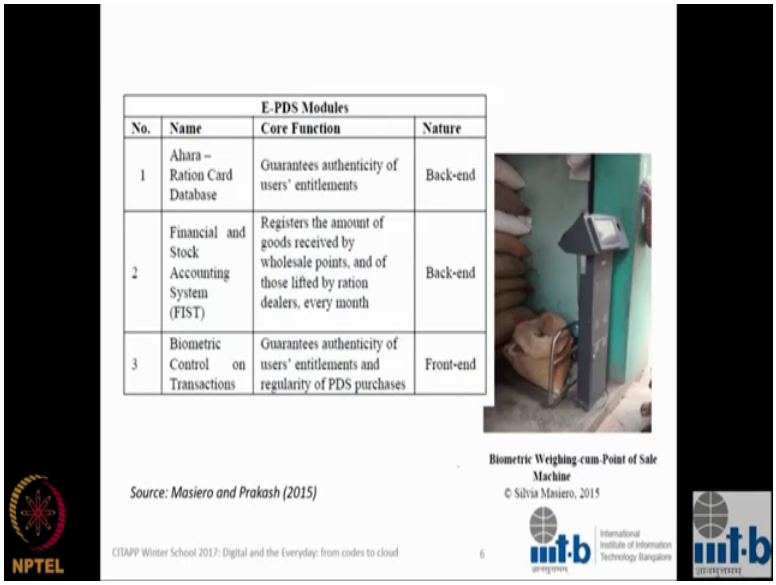

So, again with all this background this is what this scheme about 3-4 years back was doing and we will talk a, what is happening to its variants in other states now yeah. So, this scheme was called Ahara. So, the first one was a ration card database and the expectation through that database to take care of most of these concerns yeah.

So, you have biometrics at that point aadhar was not that prevalent because this start around 2010-11. So, you this had a biometrics, so fingerprints were there yeah. So, there was a attempt to ensure that at least these things do not happen, yeah. So, there was a physical verification you had to go and enroll yourself in the photo bio centres which your set up in every word in urban areas and in panchayath in rural areas. So, households or family members at to go there get their fingerprints captured yeah, so there was a one there was one attempt of trying to weed out all those bogus duplicate ghost cards yeah.

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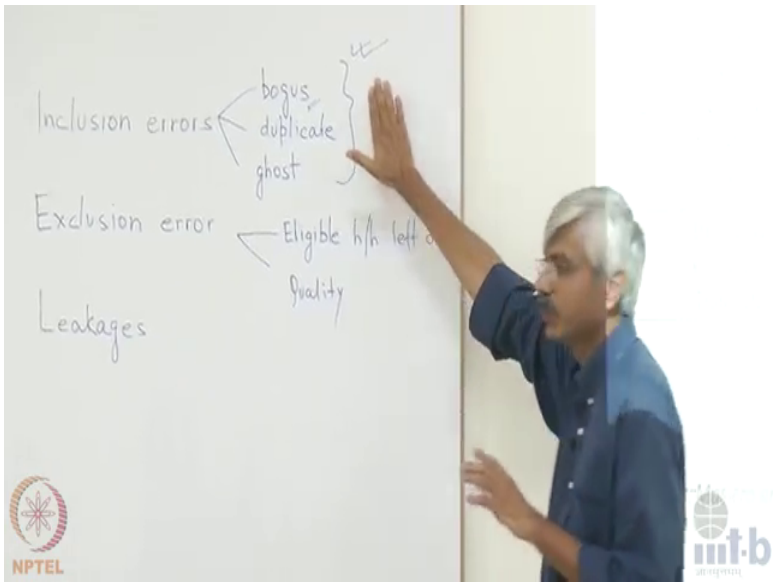

Bogus to a certain extent suspect through this because that process does not account for APL, BPL, it only says that there is a physical person who is attached to this ration card yeah, but there was some attempt because there was a lot of say lot of human cry at that point around 2012-13. The total number of households in Karnataka was about 1.2 crores, the population was 6, 6, around 6 crores and the total number of ration card was about 1.8 crores yeah. So, when you get into that state; obviously, there is something that is not happening properly, yeah. So, because of that we went into all that stuff and a lot of ration cards bogus, ghost were weeded out.

So, almost 50-60 lakhs ration cards got eliminated in this processor. So, came down from about 1.6, 1.7 crores to about 1, 1 crore or say 90 lakh,still on the higher side if you consider the planning commission at that that point in time there poverty statistics because they said that BPL households in Karnataka should be around 30 percent not more than that. But then the state had a certain more accommodative policy of identifying BPL households for ration cards and therefore, the numbers could have been slightly higher yeah.

So, this ahara this ration card database which was biometric which use fingerprints was designed to ensure a lot of inclusion errors are taken care of. The way this was designed did not do a lot too yeah, to the exclusion error.

The second component, and this was done pretty well yeah. So, this was there was a state wide campaign and lot of effort lot of buying from the political establishment using the CM yeah. All of that went into a lot of media coverage yeah, in to ensuring that the ration card data base of eligible households was cleaned up yeah. The second one was a a financial and stock accounting system. This was to ensure that leakages during the supply chain they are taken care of yeah.

So, this was, this had to register the amount of food grains received at all the authorized wholesale points and those lifted by the ration dealers every month. This does not like, this was not done as extensively as the first one yeah this was more or less discover the entire state all the beneficiaries after a particular point in time where denied ration from ration shops if they did not have a biometric enabled card at that point in time yeah. And the case that say Professor Shrishara was talking about Jharkhand is an instance of a similar case there its aadhaar enabled, but beyond a particular time there were households that were denied ration if they did not have a card which was biometric, which had a biometric say data embedded into it.

And the third one was you invoked that biometric database to provide food grains at the front end. So, at the right ration shops as I when I went to claim my ration and I give my ration card number and my authentication through fingerprint one of the household members it said oh you are entitled for this much and this is what you are going to get yeah. And they were these kinds of devices that were kept the I think in a few district, about 5 districts it was pretty widespread , but then it can repeated out after sometime.

So, this is an electronic weighing machine yeah. So, it weighs and the this is also a pass kind of device. So, this is where you enter the say the card details and the kind of authenticate through your fingerprint and it says oh you are entitled for so much and it also speaks, speaks out yeah. So, for those who are not able to read, for those who cannot see what is written there its speaks out saying that this is the household you are entitled for so much and when the weight was taken it would also announced that the weight is 20 kgs and it is 20 kgs rice yeah and then this had to be given to the kind of the household there.

So, this was, so this was done pretty kind of seriously. This was enforce pretty seriously in a few contact. It did not work for various reasons 100 percent of the time because of

issues with fingerprint, because of issues with connectivity with, because of various other aspects yeah I am not only related to the technology, but also related to the other say other incentives and disincentives, intensives, incentives that are embedded in a system design like this yeah.

Now, what is happened? So, so this is what the design looks like yeah and this is Karnataka about 2-3 years back. If you look at if if if some of your followed the debates around aadhar and PDS. What is it that you have anyone has been following those discussions? What kind of designs are coming out in terms of PDS and aadhar? The claims are that aadhar is going to take care of all the problems in PDS yeah.

So, if you happened to go and see the aadhar, the initial aadhar say papers the two things that it says yeah it says PDS and NREGA, the rural employment guarantee act that scheme a lot of leakages in these two schemes yeah that is a drain on the state exchequer and through a robust way of digital identification, will take care of they do not I do not think this say all, but the sense that you get by reading those two three page documents which were which were very strong in terms of or which were used to make a legitimate case for pumping in a lot of public money into a scheme like aadhar. The premise was that it will take care of, it will pay for itself by plugging in the problems that schemes like PDS and NREGA have yeah.

So, yeah sorry any anyone following the debate what is happening? What is how is aadhar being used in PDS? Largely this yeah. So, this is what they are trying to do, 1 and 3 not this, 1 and 3 and this is what happened here also yeah. It started with 1, 2 and 3 yeah, the focus on one and three remain this lost out yeah while this was a part of the original design nothing much happened with 2 yeah, most of the focus was on 1 and 3 yeah ensuring that the database is weeded out of inclusion errors yeah and ensuring that at the front end when you have to say give those grains there is a proper authentication that is carried out yeah.

So, in terms of PDS and digital technologies more or less most of the states are moving towards, moving towards a similar design what they have done is replaced a local database in this case with a authentic authentication database provided by aadhar, yeah. Now, given that what do you feel happens to all those issues and what do you feel happens to this.

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Student: (Refer Time: 10:20)

So, the technology that is right now the these are the concerns with PDS yeah, these are the concerns with PDS as we some of the concerns with PDS. The technology design in case of Karnataka the ahara project was like this yeah, there are 3 important elements, one was to ensure that you had a database which was weeded out of bogus duplicate entries yeah and you use that when you were releasing the food grains to the beneficiaries.

So, that is on the user side yeah where is it. Largely concerned with here, this this interface yeah at the last mile yeah. This one to is also concerned with yeah. It is not only concerned with this it is concerned right from 1 2 3 all here. So, given this and given where we are in terms of use of aadhar in PDS, what do you think the states sees as a big concern in terms of a scheme like PDS?

Student: First of all is the (Refer Time: 11:57).

The states see is these two as the biggest concern yeah, the state does not see those as concerns or those as bigger concerns at least in terms of its choice of technology design yeah. When it says that we are going to ensure that the problems of PDS will be plugged, it feels that this is where the problems are yeah. It does not feel that problems could exist elsewhere yeah and some of those problems did not only be at this level yeah, unless you

are able to may not be under this persons control all the time yeah. If this person gets a poor quality grain from the higher godowns how can he or she leverage digital technologies to question the food corporation of India that the grain that you are giving to me is not good.

Student: Sir take whatever the questions (Refer Time: 13:05) which is (Refer Time: 13:05) Like because there should be a concerned right from the supplier, supplier side I say should be concerned about the how much it should supply probably they can be time (Refer Time: 13:20) they do not have the inner supplies and they know like requirement is this much and (Refer Time: 13:25)

Fortunately that is not the case.

Student: Yes, sir.

They are oh they flooded with supplies. So, we still not reach the position where the FCI godowns have a run out of food grains.

Student: Sir, (Refer Time: 13:41) and if it is safe to (Refer Time: 13:45) or the states much more the occupying concerned with inclusion errors than (Refer Time: 13:54) errors in terms of it. So, where it is understand (Refer Time: 13:58) technology and so on.

Yes, that that is what I also feel yeah, that is what I also feel that what it is. So, given this what it tells us about not the state not only the state, but also the way technologies are being invoked in a program like this is it still to humanitarian and welfare focused yeah and yes.

Student: (Refer Time: 14:29) the problem face like (Refer Time: 14:33) eligible consoles are refer and its (Refer Time: 14:37) So, all these schemes while they target the inclusion errors mainly they also in a very covered problem for exclusion error (Refer Time: 14:46)

That is being done through the through Adam Smith invisible hand yeah. How is it being done? The argument that is being invoked is that if you have lesser inclusion errors, you will have more food grains to be supplied to those who needed.

Student: But (Refer Time: 15:07) you said supplier is not an issue.

So, right now there is no evidence to suggest that we are running short on supplies, but this is the argument that is invoke yeah, to say that we should focus on inclusion errors because if we are able to weed out say 20 percent of the ineligible ration cards and assuming that the food grains are getting into those 20 percent households we will at least open up space for 20 percent more eligible households to part take of or participate in this scheme yeah.

So, what I am trying to come to is that the, that the design logic yeah at or the governance logic that is being invoked in a technology design like this yeah is yes inclusion errors. Inclusion errors to ensure that these inefficiencies at this level are taken care of without a lot of inefficiencies; At higher levels of the state machinery being considered. One is the higher levels of the state is not considered inefficient. When you say that is the state is inefficient the state at the lower levels is inefficient yeah, it is not the minister sitting in Delhi, it is not the secretary sitting in Delhi, it is not anyone in Bangalore yeah. The village in Tumkur, the fair price shop owner in Tumkur, the people who live in Tumkur they are corrupt they are inefficient they engage in un-ethical behaviour yeah. So, that is what this perspective of technology design is trying to propagate yeah.

Student: I just want to add one thing I mean just (Refer Time: 17:13) So, what will happened when the foods (Refer Time: 17:16) it was (Refer Time: 17:18) parliament when argument was (Refer Time: 17:20) that (Refer Time: 17:22) was not happy in the details how much food grains they have on the real time basis. So, it was a (Refer Time: 17:28)

Yes, correct.

Student: Yeah.

And therefore, you need that yeah therefore, you needs. So, who was concerned?

Student: Phase one, I mean (Refer Time: 17:37)

FCI.

Student: FCI, phase one.

Did anyone ask them anything yeah when this was designed who were consulted? Them, where the secretary sitting in Delhi yeah. In many cases they were not consulted and the design came out in a manner as it has and it is and because of certain or because of the logic embedded into that kind of design it can do certain things it can probably not do a few things ok.

Student: (Refer Time: 18:15) question.

Yes.

Student: You need it in that structure (Refer Time: 18:18)

We may not.

Student: In yesterday (Refer Time: 18:28)

We may not or why do we need FCI at all yeah at that level why do we need the wheat, grown in Punjab to be consumed by a household in Mandya who has never seen wheat in his or her life yeah. They have consumed ragi they have consume something else why should the excess wheat of Punjab or some other northern states we pushed to change the enter food behaviour of a contact of a household in say Karnataka or Kerala or Andhra Pradesh yeah.

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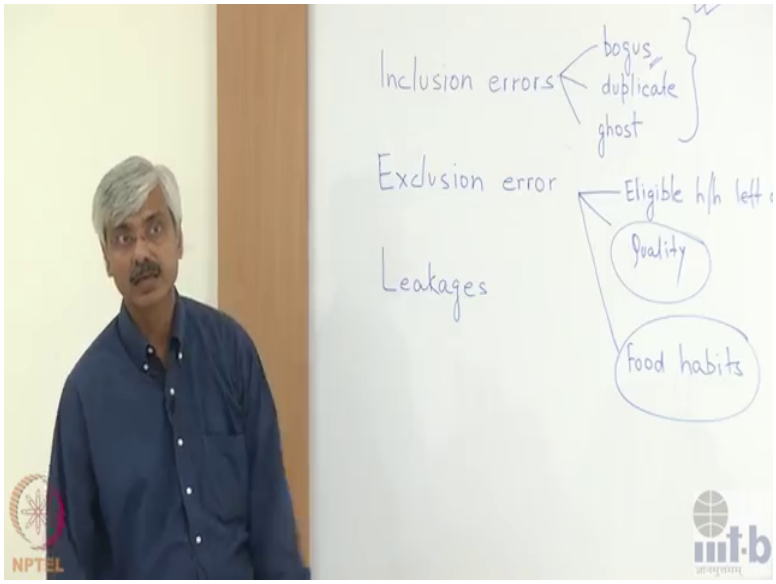

So, again that is another area of concern that we should look at. Again that is something that is a exclusion error. I do not eat wheat and you are trying to give me wheat what will I do with that wheat yeah. So, that is another error which is not on the radar of the of the state at this point in time to certain extent it is because they certain states like Karnataka has started say incorporating ragi and jowar and some of these minor millet us into the say PDS system yeah. But at say national level this is not a big concern and therefore, our choice of technology does not have anything to do with this yeah.

If we had these things yeah if we had these as greater concerns we may not need UID yeah, UID has if if you go through the initial documents the legitimacy of UID comes from PDS and NREGA.

Student: Yes.

And this is what it is doing to PDS and NREGA. Let us looking at this to certain extent, if these are concerns and if these are concerns of an equally important magnitude you do not need a technology design like a universal identity that is not to bigger concern.

Student: Sir, in biometric control transactions your third part is not is coming (Refer Time: 20:55) machine that we talked about is it same across I mean wherever this is being implemented. So, this same not just in Karnataka was just let say a Jarkhand, Chattisghad.

Yes, specification should be same.

Student: Ok, probably if because if your authentication process is divorced from (Refer Time: 21:14) maintained which indicates quantity and other then (Refer Time: 21:18)

Yes. So, so it is not like this. So, so interestingly in Karnataka this is what they started with here, then they did away with this they removed this. They said will do the authentication and will do the weighing separately we will not link both of them yeah. So, there are certain probably they able to figure out who are the kind of people who would benefit from something like this yeah.

But I think what my take away from this example is that there is a scheme yeah scheme that the government formulates with certain say governance objectives in mind yeah, when it comes to designing technologies we have we can exercise a choice there is

nothing very deterministic in the way technology can be designed or should be design yeah. As designers of technology or as designers of any of these governments program is a lot of choice that is exercised yeah. So, that is one of the takeaway and then let us move on and then we can come back to this discussion.

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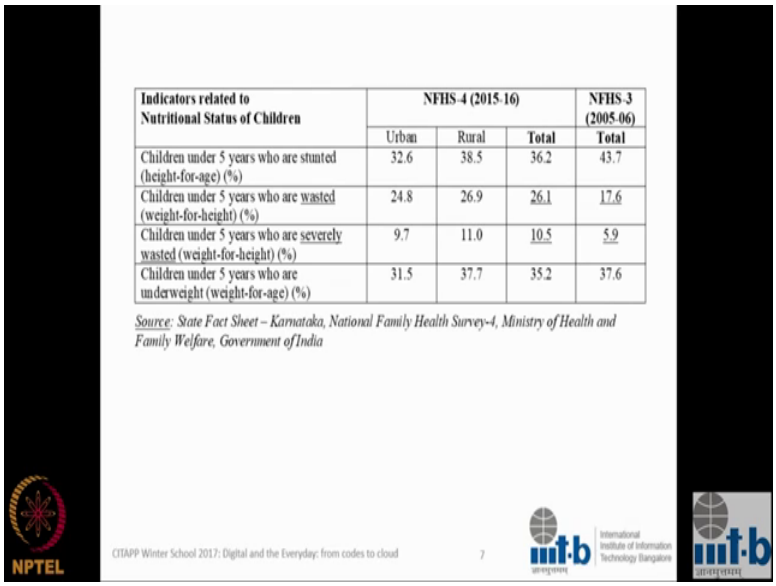

So, at say outcome impact level if you look at malnutrition, if you look at hunger; not much difference there.

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The second project that this is slightly dated kind of field work, but I will still I talk about this is agricultural land records yeah. And this project which was done in Karnataka in the late 90s and again this derived from a national mandate on reforming land records across the country. It was done simultaneously in a few states, Karnataka was the pioneer this is a much awarded project not only in India, but across the world not only even, even world bank. So, all sorts of organizations that are significant in the world today have looked at this and field that this is a good way of using technology in governance yeah.

So, what does this do? Are you aware of land records anyone has anyone has engaged or any direct contact with agriculture farming, none of you ok. So, what happens, in a lot of see rural areas there is a you have a records for the land that you own and this the way farming happens it requires a lot it requires credit for farmers because a lot of investment needs to be sunken right towards the beginning of the sowing period and you get start getting returns only after 4 to 6 months once you have harvest at the crop and have sold it in the market yeah and then you get. So, you have to rely on that short term 6 month credit for your working capital yeah.

Now for the smaller farmers and most of the agricultural land holdings in India are which small and marginal farmers. So, small farmers are those who have land holding of less than 2 hectares, 2 hectares marginal have less than one hectare. So, most all almost three-fourths of the land, agricultural land in the country is for maybe more is held by small and marginal farmers. Most of the small and marginal farmers they are also low income households yeah. So, they do not have a surplus which they can invoke for their working capital during farming yeah. So, they depend on credit and that for carrying out their farming activities.

Now, this is a record, this record of rights tenancy and crops which says which gives a snapshot of their land parcel. It say this is extent of land this is irrigated by this canal or this is this has a bore well and this is a kind of irrigation facilities available this is the crops that have been grown, that are being grown in this land, this is a kind of yields that have happened and these are the liance on this land. So, this farmer has taken a loan by mortgaging this land of this amount, so it more or less carriage a snapshot.

And in case of India RDI, Nabard and the government what they say is for small magnitude crop loans up to 50,000 now having a RTC should be enough yeah, you do not need a collateral, the farmers need not more mortgage the land yeah having a valid RTC without any encumbrances yeah should be good enough for a farmer to access formal sector credit yeah.

So, this is what the source of this project is trying to, so there assumption behind the project design was that the way in which these records were maintained earlier it was done at the in every village there is a person called village accountant who is in the revenue administration in the closest to the farming household yeah. The village accountant would maintain the record of this rights tenancy in crops in his or her register it is moon mainly his register and whenever a farmer required and extract of that record the former would go to the village accountant in the village accountant would on a piece of paper give all those details. And then that document is what the farmer would take to a bank yeah to access any credit that the bank had to provide.

Now, you could see that the so many village accountants yeah across the country. There could be so many different ways in which they would maintain the records and they would put it on a piece of paper yeah. So, lot of, so it was not a uniform piece of paper that all you had all these fields written in this way in this font with the spacing all that yeah. So, different village accountant depending on what was the practice in their area would provide these records in different ways yeah. Sometimes it was also difficult to ascertain whether the record has been provided by a valid village accountant or not yeah because you may not have a stamp, you would not know that this is the village accountant because there was no registry to say this is the village accountant this is his or her signature and therefore, this is how you can match that yeah.

So, because of that and then the other assumption was that the village accountant would engage in extortionary practices when farmers approach them for this extract yeah. So, in many cases they were assume not to be present in the village, difficult to access by the farmers yeah and I am saying assumed with underline yeah, difficult to access by the farmers yeah and whenever the farmer had to get an extract he or she would have to pay some something extra to the village accountant to get that extract yeah. So, at one level there was this corruption charge on the village accountant the extortion that the rent

seeking behaviour that the village accountant was expected to engage in because he had to constantly interact with the farmers yeah.

On the other hand the banks had an had had an issue in terms of validating whether the extract has come from authentic source or not yeah. So, these were largely the concerns that at that point in time the state felt and the various agencies of the state felt was restricting formal credit. Going into the agricultural sector going into the agricultural sector which was of relevance to the small and marginal farmers yeah because the most to the small and marginal farmers would not take say loans for buying a tractor yeah they would take crop loans yeah which was less than 50,000 yeah. And at that point in time it was believed that all because of this you still have a lot of money lenders in practice and money lenders charge (Refer Time: 30:25) say interest rate 36 percent per annum etcetera and that leads to further discuss for the farmers.

So, there was a, so there was a welfare livelihood kind of logic that was invoked. There was another thing of leakages corruption being engaged by the village accountant yeah being invoked and with all that this was attempted that. What will do is will computerised all this land records yeah.

So, there some 20 fields, 25 fields. Again what was not considered was that land records have a have a strong historical say linkage. In India, in Karnataka for example, they there are different areas and which have followed different types of land administration systems. For example, the old Mysore state yeah part where we are all in went into a present based record system pretty early you are doing the Wadeyas it went into a record system where presents were given by the cultivators that iths were given the land record. The Hyderabad, Karnataka area the Raichur, the Koppal there the zamindari system continued for a long time, for a long time it was ten and cultivation that was practice yeah.

So, I own land, but I would get it cultivated by your tenant because land ownership was concentrated in a few casts yeah. In the old Mysore state and that has been across the country, land ownership is not only does not only have a economic what did not only have a economic kind of basis it was a indicator of your social status yeah. So, unless you are a Brahmin or unless you were one of those cause you could not own land yeah. But if you were of that caste you would definitely not do physical work yeah. So, you

have to engage some on to do that work. So, a lot of teen and cultivation was practiced, continued to practice in the Hyderabad, Karnataka region.

In the old Mysore state the ownership of land passed onto the teen ends pretty early yeah. So, they are different variants in the whale and administration has been practiced in different parts of the state in the country because of that what is a valid record or what is that should be should go into an into something like a RTC was different in different regions yeah. So, there are at that time someone figured out that the more 105; there was more than 500-600 different formats in which RTC is well being produced yeah. And some of it had genuine linkages with the kind of say lad and land administration system that existed.

Now, all of that one was a rationalized into one set yeah. So, from a 500 format if you have to get into one format, you have to exercise choice yeah. What are some, what could be some of the drivers of that choice. Again your power relations, if you have more powerful yeah you will ensure that the fields that matter more to you get into that formats. So, again that is a political exercise going on at the time of that database design itself yeah.

So, that happened. So, this project what is this what I tried to do was tried to rationalize all those 500 formats into one yeah and then said that now we will have a uniform data base, this is these are the 20 fields or 25 fields that will capture that will consider are valid yeah. And then what we will do is will remove the village accountants from the entire chain because they are the most corrupt and what will do is will push this to a to this. So, will remove the village accountant, we will replace the village accountant by a computer which is sitting in the Taluk headquarters operated by a data entry operator, once you have all that record you can go apply for RTC and then you stand in a line get an RTC without any anyone say exerting unnecessary influence on you an[any]-any anyone seeking rent out of you yeah. So, that is what this project was about.

And again something like this has been is being replicated across the country. So, agricultural land records with the motive of enabling more and more formal sector credit is being computerized yeah, digital technologies are being used there and the again the design logic that is being invoked is just as in the case of the fair price shop owners, the inefficiency lies at the grassroots, the village accountants are to be removed from the

process are to be monitored, and therefore, you will bring and digital technologies to replace or substitute for the villages accountants.

Now, these are the two places that my findings, and this is what I I was referring to. I will not get into a lot of details maybe I will refer you to the paper here , you can look at that.

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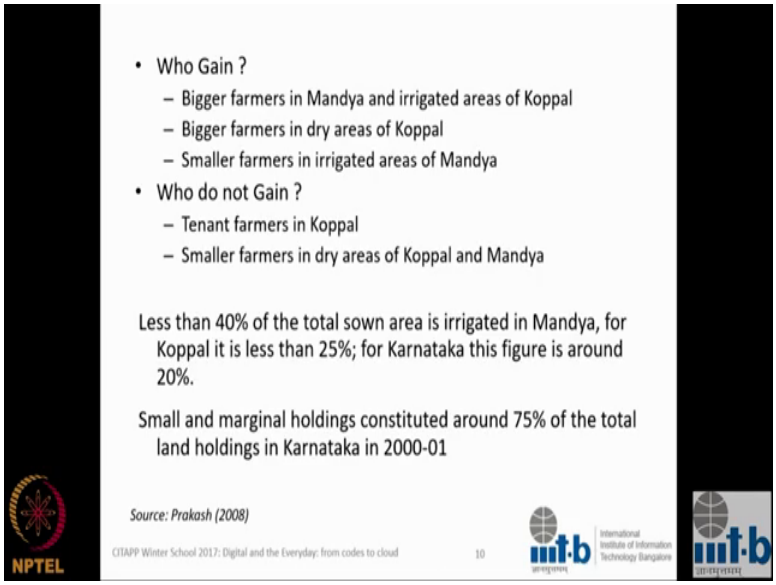

But broadly the findings are because of a design like that the gains and this is only in to districts of Karnataka that I have study. The gains were not uniform yeah because the people who are using it they come with different and a say capacities, endowments all that yeah. So, at least what I found I conducted some 200 or interviews across 20 villages in both these districts and what I found was that the bigger farmers in Mandya and irrigated areas of Koppal yeah, Koppal is a rather a dry area, Manday is a more irrigated area is just downstream of this of the KRS dam yeah.

So, the bigger farmers in Mandya and the bigger farmers in irrigated areas of Koppal they gained. So, they were better off after the computerization than they were before. The bigger farmers in dry areas of Koppal, the smaller farmers in irrigated areas of Mandya yeah. So, these were the three groups broadly which I found gained or had a positive differences to to their incomes and to the way they were interacting with the state and former credit organizations. Who did not gain? The tenant farmers in Koppal,

yeah. Though tenancy is illegal it is still practiced whitesp [widespread] in a widespread manner in a place like Koppal. So, they did not gain.

The smaller farmers in dry areas of Koppal and Manday did not gain yeah and then to put that into perspective less than 40 percent of the total sown area is irrigated in Mandya yeah, for Koppal it is less than 25 percent, for Karnataka this figure is around 20 percent that is roughly what it is for India not lot of difference. So, Karnataka that way is a median state yeah. The small and marginal holdings constituted about three fourths of the entire yeah.

So, that is what that design had has implications on some of these groups. I will I will go up bit fast we can come back to this if you want, yeah.

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The third one and I will cover this quickly is the property registration project that Madam was talking about yeah. So, again this is something that has been going in on in Karnataka for the last 15 years yeah, but you have similar variants in Maharashtra, in Andhra Pradesh and various other states that are trying to immolate something like this yeah. What happens is whenever there is a transaction whenever there is a transaction of property yeah immovable property, and you want a legal sanction or you want that transaction to be considered in a court of law at a later date you have to get it registered in one of the sub registrar offices of the state.

And by doing that the state; what is the state say saying? The state is saying that I am witness to this transaction that is the only thing that the state says when you go and get your say transaction document register. And because the state is witness to the transaction in a court of law if there is any dispute that occurs because of the transactions you can you can you can produce that document, yeah. In fact, a lot of other documents also need to be registered marriage documents have to b[be] or marriage has to be registered, will has to be registered in a returns all of that has to be registered and the state bears witness it does not guarantee anything. That does not comment on what is inside that agreement that is between the transacting parties.

So, the owners of when you engage into a say immovable property registration the owners of finding the legality of the transaction is; on the buyers and the sellers. The state does not bear witness or does not guarantee that. In India we have a system of land titling or property titling which is in conclusive, yeah; it is so the state does not say. So, even if I own a piece of land it is a prism tip titling.

So, it is not conclusive. So, none of our properties are conclusive titles yeah. State has not said that yes you are the owner of this piece of land. What does the states say? I have, I am witness to the transaction between you as a buyer and you as a seller. In a different context what does the state say? I am providing this water service for this electricity service to your property and for that I am collecting tax. I am providing civic facilities to this area and for that I am collecting tax from you as residing in that property. So, none of our state transactions which deal with property the state says that you are the owner of this property.