



INNOVATIONS FOR SUCCESSFUL SOCIETIES

*An initiative of
the National Academy of Public Administration,
and the Woodrow Wilson School of Public and International Affairs
and the Bobst Center for Peace and Justice,
Princeton University*

Oral History Program

Series: Civil Service
Interview no.: T7

Interviewee: M.N. Vidyashankar
Interviewer: David Hausman
Date of Interview: 16 June 2010
Location: E-Governance Secretariat
Bangalore
India

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HAUSMAN: This is David Hausman, and I'm here at the E-Governance Secretariat in Bangalore, Karnataka, India, with Mr. M N Vidyashankar, the Principal Secretary to Government at the Secretariat.

Mr. Vidyashankar have you agreed to be interviewed?

VIDYASHANKAR: *Absolutely.*

HAUSMAN: Thanks so much. I wanted to start by asking you a little bit about your background, and how you came to be involved in the Bhoomi Kiosk program, and then to be Secretary of E-Governance in Karnataka.

VIDYASHANKAR: *I've been in this department for almost a year now. This is my third stint in the department. I have been associated with many technology-related interventions in the state for the past twenty-and-odd years. So, Bhoomi was the first flagship project of the department, launched close to eight years ago. This project is something that was seen for implementation in the rural areas, which is very important, because normally people say that technology bypasses the rural areas. And this was the first major project of the department that covered the entire rural population in Karnataka State.*

Before we went to the urban areas in a big way, we wanted to prove that technology can make a definite impact for the people living in the rural areas, and that this was the best possible project that the department could think of.

HAUSMAN: Would you say which positions you had before you became Principal Secretary here?

VIDYASHANKAR: *Well, I was also Principal Secretary to the Department of IT, Information Technology, Biotechnology, and Science Technology. I was Commissioner of the Bangalore Development Authority. I was Chairman of Bangalore Water Supply Board. In fact, while I was on the Bangalore Water Supply Board, we had close to forty-plus interventions with technology as the principal input, and we got more than 35 recognitions, statewide, nationally, and globally.*

HAUSMAN: And when did you actually become involved personally with the Bhoomi project?

VIDYASHANKAR: *About five years ago.*

HAUSMAN: At that time, had it already been implemented in all the kiosks?

VIDYASHANKAR: *Yes, I was following up the implementation of Bhoomi, because for the last twenty-and-odd years, I have been in areas where technology has taken a front seat in governance-related issues.*

HAUSMAN: When you first began to have responsibility for parts of Bhoomi, would you describe some of the challenges that you faced?

VIDYASHANKAR: *There was initially some resistance, because any technology intervention, and that was eight years ago, did witness some resistance. The resistance was more to do with the kind of discretionary power that the officials normally had. And that kind of a discretionary power was taken away. Normally, you do encounter resistance and there was some resistance. But I must say that*

the political wing was gung-ho over the project. They knew that this project was going to make a lot of difference, especially in the rural areas, because technology is going to add a lot of value, bringing in a lot of transparency, bringing a lot of accountability, bringing in a lot of answerability. So, the political wing was very much with us, irrespective of the political party. So, the ownership was very good at the political level, which made it easier for us even if there was resistance at the official level.

HAUSMAN: Can you say more about the resistance at the official level? What form did it take?

VIDYASHANKAR: *Basically, suppose the village accountant, or the revenue inspector, or the shirastedar, the head of the block, the Taluk, he or she could oblige a particular person in jumping the queue; especially in giving certificates, in giving the Record of Rights, or the RTC so it was not first in-first out in the manual process. The Bhoomi system introduced discipline, ensured an element of transparency in all the official matters. So, naturally one does come across resistance, more so because this was the first exercise in the country.*

We did have a sort of a recalcitrant attitude on the part of the field-level functionaries that we had to work on that resulted in massive training programs that we embarked upon. We started this pilot in a district close to Bangalore, in the Kolar District. We implemented it through and through in the Kolar district, and then scaled it up through the state.

HAUSMAN: Can you say more about the state of the implementation of the program five years ago when you became involved?

VIDYASHANKAR: *We first had to do a lot of data entry putting all the manual scripts into a digital format. We did this engaging the services of a private operator, outsourcing data-entry operators. Once the data was entered, somebody had to certify that the data entered was truly an authentic copy of the manual version that was available. So, the Revenue Department authenticated the certification, by saying that the digital copy was a true reflection of the manual copy maintained. So, it involved a lot of workflow. It involved a lot of processes and, in fact, massive training inputs at each one of the levels; to the village accountants, to the revenue inspectors, to the Taluk heads.*

HAUSMAN: And can you say more about the training, what form it took exactly?

VIDYASHANKAR: *Yes. The designing of the training, the content of the training was done in-house. And then we went to almost all the districts. We had some valuable participation in getting some resources, resource persons, and help in terms of multimedia and so on. These trainings were organized well, as per a schedule that we drew up for the entire state, going from district to district. Initially the first level of training was training the trainers. These trainers, in turn, went to the districts, who administered a test to be sure the trainees who had undergone the training had fully captured the content that was delivered, and the kind of exercise they had to do post the training.*

So, it was a very detailed exercise that went on for close to 11 to 12 months. And sometimes we had to give these training inputs more than once, more than twice, more than thrice, just to ensure that they were fully into it once the training was administered to them.

HAUSMAN: And in what year did that happen, those 11 to 13 months?

VIDYASHANKAR: *It started off about eight years ago. It went on close to three to four years after the first input of training, because the officials were transferred. It's not that the same person got training. Once an official was transferred, the training had to be re-impacted to the new incumbent in the position. It happened at the grassroots level, which was the village accountant, at the middle level, which was the revenue inspector and the shirastedar, at the block level.*

HAUSMAN: And how did you go about finding the trainers to train for the first group?

VIDYASHANKAR: *It was partly in-house, partly outsourced. We did have some official resource persons on board with us, outsourced from private agencies. They were very good at it because we had given them all kinds of training necessary in the Revenue Department, especially dealing with the Record of Rights.*

HAUSMAN: And about how many trainers did you train?

VIDYASHANKAR: *Ten to twelve in every district and there are thirty districts. So, then we had 16 or 17 master trainers, and these master trainers trained the trainers, and those 300 trainers, in turn, acted as resource persons to train the ground-level officials.*

HAUSMAN: And then, what about the people who were responsible in the districts themselves, how many were there?

VIDYASHANKAR: *Oh, of that, every block. Depending on the number of blocks, for example, the District of Tumkur, which is close to Bangalore, has 11 blocks. Each block has a number of Hoblis. Each Hobli has a number of village accountants. So, close to 9,000 village accountants, close to 250 revenue inspectors, and 176 block officials, because we had 176 blocks.*

HAUSMAN: So, those were the recipients?

VIDYASHANKAR: *Yes. That gives us a number of close to 10,000.*

HAUSMAN: And would you say a little bit about the curriculum of the training? What exactly did it do?

VIDYASHANKAR: *Basically, for example, we took the Record of Rights. In the Record of Rights there are a number of fields. We explained how each field had to be entered, and after entry, how that same thing had to be verified, authenticated. And then, what is it that the server in a block office does; what is it that the block office does? What is it that the front office is supposed to do? And as soon as a person gives an application seeking an RTC, what are the functions that a person has to perform at the front office?*

HAUSMAN: And was this all in the form of seminars, or was there actual on-the-job training?

VIDYASHANKAR: *It was hands on.*

HAUSMAN: So, can you describe to me a typical training?

VIDYASHANKAR: *Basically, there was a desktop with a keyboard, with a processor. We had to teach them even how to open the system, how to boot the system. Physically show what the screen looks like, how to login with a password, giving them a password, how to change the password. And having said that, if an applicant, a farmer, comes making a request for a particular Record of Rights belonging to him or her, how to open that particular Record of Rights, how to get a printout, and how to troubleshoot; some of the basics of troubleshooting, not very complicated ones, because they are not as tech savvy as we expect them to be. They are absolute novices, so in case they can't resolve the problem, how to resolve it.*

HAUSMAN: Was there separate training for the data entry phase, and then for the actual operations phase?

VIDYASHANKAR: *Data entry was done by professionals. We hired from the market, so they were good at it, but they had to be familiarized with the kind of fields that they had to populate the data with.*

HAUSMAN: Once the system was working when you came on board in 2005, what were some of the things you had to tweak or change? Did some obstacles come up?

VIDYASHANKAR: *The obstacle was more in terms of operational work. The server updates whatever changes you do in the Record of Rights. The Record of Rights is a very, very important document. It has the presumptive value of title to a particular property. So, one had to maintain it, and one had to maintain it in such a way that whatever entry is done in the Record of Rights, there is an audit trail. So, maintaining an audit trail was a very, very important component of the entire exercise that we went about.*

And about six-seven years ago, we also came out with a data center of our own. We were the first state in the country to have our own data center. In fact, today the entire Bhoomi data resides in the data center. And what happens is, the transactions from the beginning of the day until the end of the business day, whatever transactions take place, they get replicated in the data center at the end of the day so that the next morning when you open the data center, or when you open the system at the block office, you have all the changes incorporated in them.

HAUSMAN: And is that data center in the Bhoomi monitoring cell or in Bangalore?

VIDYASHANKAR: *In Bangalore. It's in the E-Governance Secretariat.*

HAUSMAN: And what are the respective roles of the Revenue Department and the E-Governance Secretariat in the program?

VIDYASHANKAR: *Right now, Bhoomi has been handed over to the Bhoomi monitoring cell. They do the day-to-day activity of Bhoomi monitoring cell; it's in the Revenue Department, but we do the entire support system in the data center. If they have any issues with the data center, any issues with the application of data, we take care of it. We are waiting for the system to reach a level of sustainability and maturity, and once that is done, the ownership lies with them. So, it's always good to hand over to them.*

Right now it's with another department, but hosting of data is something we do. Replication of data is something we do on a daily basis.

HAUSMAN: Going back briefly to the training, how was it that the training actually overcame resistance from officials?

VIDYASHANKAR: *In addition to training, training was only to make them comfortable operating the system, living with the system, but there were certain changes in management inputs also, which were delivered as a part of the training. We had master trainers who also inculcated the advantages of introducing technology; what were the advantages, even at their level. What about customer satisfaction, what about customer delight? What about issues related to transparency and ultimately, accountability to the society, accountability to the general public?*

HAUSMAN: If I'm a village accountant, and I'm getting lots of money by soliciting bribes for RTC's, do you think I'm going to care so much about customer satisfaction?

VIDYASHANKAR: *What's the way out? What's the option? "Either you do it, or somebody else comes in your place and then does it"; that was the carrot and stick. "Either you fall in line, or somebody else comes, because, you know, there are too many aspirants for this post". So, as things are today, for example, he can work either in a block, or he could be in the Secretariat, or he could be in a different department. "So, if you want to work here, you better fall in line", and we didn't give them a choice.*

HAUSMAN: You also mentioned establishing an audit trail. How did you establish an audit trail?

VIDYASHANKAR: *That was part of the software program that we developed for the Bhoomi, and that was developed by the NIC, the National Informatics Centre. In fact, even today, it's maintained by the NIC. All the patches, all the operations are done by them. What we do is, before it is deployed, we do some sort of a sustainability analysis to see that it meets certain minimum parameters that a software patch should adhere to.*

HAUSMAN: Can you say a little more about your personal role, what things you managed personally in the program?

VIDYASHANKAR: *Today nobody questions why Bhoomi was introduced and why the earlier system was jettisoned? Why was it dispensed with altogether? Nobody questions it. In fact, today, if Bhoomi does not function, then nobody gets a Record of Right. We give 45,000 Records of Rights on a daily basis. So, it is almost an indispensable component of the revenue administration today.*

HAUSMAN: And, in your current position as E-Governance Secretary, does it occupy much of your time, or does it now more or less move on its own?

VIDYASHANKAR: *It is almost stabilized. There are three streams in revenue administration; Bhoomi is only one stream. When you buy a title to land or buy a title to property, the first thing that you look forward to is that you need a Record of Right; you record a title, which is Bhoomi, which is the first stream. After you get the title, you need to transfer the title in your name; that's called a mutation. After you get the title mutated in your favor, the third is, you need a sketch. So, there are three streams. And these three streams, when Bhoomi was introduced, were operating in three silos; they were not talking to each other.*

Today, what has happened is that Bhoomi talks to the second stream, which is the mutation. The third stream of getting a sketch map of the property that you own is now being integrated. It has not happened as yet, but will happen with due course of time. As an individual, suppose you buy an acre of land, or a hectare of land, you first undergo a transaction that is through, and tied to, a sale lead. Now, after you have a sale lead, you need to get the title changed on the basis of the sale lead, that's the second stream. The third stream of getting a sketch map is now being integrated. The first and the second streams have been fully integrated. So, you get your mutation, that means you'll get your title after you're entitled to a sale lead electronically, but you don't get a digital sketch map.

We are now navigating and moving into the third stage where as soon as you buy a title, not only do you get the title in the form of Record of Right, fully mutated in your name, but you also get a sketch map of what you own, or of what you have bought, or what you have been gifted, or what you have taken in as a form of lease.

HAUSMAN: Let me ask you now a little about Nemmadi. Can you describe how the idea for Nemmadi came about?

VIDYASHANKAR: *In Bangalore, we have something called BangaloreOne, which does out close to forty-plus services to the people in Bangalore. It's a one-stop shop. It's a one-stop, non-stop shop. It works 24/7, 365 days; it doesn't close at all. Now, these services are available to the urbanites, but only in Bangalore. A similar service was not available to the people in the rural areas. In the rural areas, in addition to getting the Record of Rights, which is what Bhoomi did, they required birth certificates, they required death certificates, they required ownership certificates. They required some certificates dealing with their income, dealing with their holdings. They also needed computer training. They wanted to pay their insurance premium, and so on and so forth.*

All these services were available in an urban area through this one-stop shop, one-stop, non-stop shop. So, there were operators employed year-round, 24/7.

HAUSMAN: How many of them were there?

VIDYASHANKAR: *We have 60 such centers in Bangalore. We are now increasing it to 100.*

HAUSMAN: When did that begin?

VIDYASHANKAR: *Five years ago. Now, after we introduced BangaloreOne, we wanted to have a similar outfit in a rural area. Nemmadi was the answer. Nemmadi means comfort. We started off about four years ago, after BangaloreOne was started. To be precise, it was October of 2006. BangaloreOne was 2005. Nemmadi was October of 2006. We started off with Nemmadi. As I mentioned, there's Hobli level. A revenue inspector is in charge of the middle tier between the village and the block. So, at the Hobli level, we introduced Nemmadi. We had 745 Hoblis in Karnataka State. Today, we have 799 Nemmadi Centers running, because the transactions are so much more than one Nemmadi Center can take care of we have set up additional ones. So, we have 799 Nemmadi in 745 Hoblis.*

So, that's the equivalent of BangaloreOne. Today we are giving close to 38 services. Most of them are G2C (Government to Citizen) services. Some of them are B2C (Business to Citizen) services, yes.

HAUSMAN: Can you describe what it was like beginning to implement Nemmadi? What was the first step?

VIDYASHANKAR: *Building up an RFP (Request for Proposal). RFP is basically a tender document, a Request for Proposal, then for 38 services. You have a tender document floated, and then ask the bidders to bid for the tender document. Now, it's being run by an agency called Comat Technologies so it's also a PPP, a Public-Private Partnership model where it is run by a private entity, it is manned by a private entity, but doling out services, as I said, G2C, and Government to Customer, and Business to Customer.*

HAUSMAN: And how did you decide on a PPP model instead of just implementing it yourselves through government?

VIDYASHANKAR: *None of the E-Governance initiatives in the state, none, I repeat, are services which are exclusively rendered by the Department, because we know that some of the services can be delivered much better if you have a private partner with you.*

HAUSMAN: Why?

VIDYASHANKAR: *Number one, when it comes to delivery of customer services, the private sector has an upper hand; we know it for sure. I don't think we need to prove it because it's been the case for quite some time now.*

HAUSMAN: So, you didn't consider actually hiring 800 people to man these telecenters?

VIDYASHANKAR: *No, that's not our core competence. In fact, all the thirty-and-odd applications and solutions of the Department of E-Governance are based on a PPP model, all of them without exception, including the State Data Center. We don't own the State Data Center, but we host of our applications in a data center run by a private entity.*

HAUSMAN: Bhoomi, for example, actually required the hiring of more state employees so, why couldn't that have been done for Nemmadi?

VIDYASHANKAR: *Nemmadi required running a telecenter; a telecenter run by government, when you know that a private entity can do the job much better.*

HAUSMAN: But couldn't you have said that about the Bhoomi kiosks?

VIDYASHANKAR: *Yes, and right now all the Bhoomi services are being given through Nemmadi; again, a private outfit.*

HAUSMAN: But originally they were given through government. So, I'm just trying to understand why it made to sense to do Bhoomi through government.

VIDYASHANKAR: *Because it was only one document, here there are 38 documents, 38 services. Giving a printout of a title that doesn't make much of a difference since I'm only giving you a digitally-signed copy, that's it. But here, you are giving a death certificate, a birth certificate, a holding certificate, a cost certificate. I'm also giving computer training to aspiring rural youth. I'm collecting insurance premiums, etc., all those 38 services. And when you are doling out so many*

services, it's run much, much better by a private entity than by a government entity.

BangaloreOne, a PPP model, each runs three shifts a day, it's manned by a private entity. Outsourcing is the best right now. It's fully established now. I don't think anybody doubts hiring a private agency to dole out our services.

HAUSMAN: And how do you go about supervising that agency and making sure that they are actually following through?

VIDYASHANKAR: *There are a couple of ways we do the supervision. One is through the SLA, the Service Level Agreements we have with Comat. One example, the telecenter operator comes at 9:00 in the morning. As soon as the telecenter operator comes, he or she is supposed to log in, and once he or she logs in, we get the message. So, we know who has pinged, who has not pinged.*

HAUSMAN: So, even though they are managing their personnel, you actually know individually who has come in?

VIDYASHANKAR: *We know at each one of these 799 centers, at what time they logged in. Did they log in at 9:00 or did they log in at quarter past 9? What time did they log out? And after having logged in, they are supposed to ping the system every two hours. Because, you know, I can log in and go home. And we also see the number of transactions done in every telecenter, every day. And everything is done centrally. We do it through our data center in Bangalore.*

HAUSMAN: And what do you do when you see that at a certain telecenter not much is getting done? How do you deal with that?

VIDYASHANKAR: *We check with them about what's wrong; if the telecenter operator is present or not present? If he is present, why is there any problem with the connectivity? Is there any problem in bandwidth? Is it a problem with the system? And normally, you know, since they are dealing with farmers and the rural population, we get complaints at the drop of a hat. Suppose a system is down at 9:30 in the morning, I get a call at 9:30 in the morning saying, "The system is down. Something has to be done. The connectivity is broken, something has to be done."*

And we have a help desk here, and people contact the help desk in a minute to give a complaint. And there are penalties. We also ask how do you monitor them? There are very stiff penalties on non-performance and non-conformance to the SLA's

HAUSMAN: What are the penalties?

VIDYASHANKAR: *Huge, financial.*

HAUSMAN: For the company, but you don't you administer any penalties to individual employees yourselves?

VIDYASHANKAR *Suppose if we feel, or we find out, that the telecenter operator is not working to our expectations, is not as cordial to the general public, we change the telecenter operator. The Deputy Commissioner of the district has now been given the powers to change the telecenter operator.*

HAUSMAN: If you were to do all of this again, if you were implementing Bhoomi and then Nemmadi again, are there any things you would do differently a second time?

VIDYASHANKAR: *Yes, I think I'd centralize the whole system. Now, it's a decentralized architecture. We have Bhoomi servers in each one of the districts. The servers, in turn, talk to the data center. Now, if I were to do a new architecture altogether, I would centralize the whole system with every client talking to the state data center directly, because connectivity these days is not an issue at all. We have got robust connectivity. We've got robust bandwidth; that's not an issue.*

When it was implemented, we went through VSAT (Very Small Aperture Terminal). Bhoomi began with a VSAT. Now it's on SWAN (State Wide Area Network). With KSWAN there are limitations in bandwidth, limitations on response time, so, since we are on the case right now, I would go in for a centralized architecture.

HAUSMAN: What does the KSWAN stand for?

VIDYASHANKAR: *Karnataka State Wide Area Network. It's a wide area network. We have it throughout the state.*

HAUSMAN: Great, well thanks so much.