

NRC update, or a dance of data

Data-driven exercise: Villagers get their papers verified by NRC officials in Morigaon district of Assam. Ritu Raj Konwar

The strategy against illegal migration in Assam, specifically from Bangladesh, was planned in run-down hostels of Gauhati University in mid-1979. It did not quite end in success, but gave the State the Assam Accord of August 1985 and a cut-off date — midnight of March 24, 1971 — for detecting and deporting infiltrators.

A quarter century later, the Centre accepted an Assam Assembly resolution to revise the National Register of Citizens (NRC) of 1951, with the 1971 electoral rolls as the basis. But the actual action began only three years later when the NRC Secretariat, on the western bank of the stream-turned-sewer Bharalu, decided to set up a digital army.

“I had two options when I was given the responsibility to steer an unprecedented updating exercise in September 2013: to start from scratch to build a digitised system and improve upon it, or to give up,” Prateek Hajela, Assam’s Principal Secretary, Home, and NRC State Coordinator, told *The Hindu*.

If 2013 was spent in conceptualising the system, the next year was spent on digitised legacy data development (DLDD). Major software system developers in the country did not respond to a tender for the DLDD, but a local firm, Bohniman Systems, took up the challenge with inputs from Mr. Hajela, an M.Tech. in Electronics from IIT, Delhi.

The legacy data are a combination of the 1951 NRC and electoral rolls of Assam from that year till March 24, 1971.

Digital mapping

“The legacy data of the handwritten 1951 NRC and the electoral rolls till 1971, both printed and handwritten, were in lockers at the offices of deputy commissioners and superintendents of police in the districts. In 1951, Assam had only eight districts and included present-day Meghalaya, Mizoram and Nagaland. By 2014, the number of districts had increased to 27 [now 33],” Mr. Hajela said.

Because of migration over the years, it would have been difficult for people to search for certified copies of their legacy data in their places of origin. Even if they knew their places of origin, it would have been impossible to map the original eight districts to the 27 in 2014.

But the legacy data were mapped zone-wise and search-enabled with multiple filtering options. Bohniman digitised all 27,000 village boundaries of Assam and plotted the data in layers for monitoring graphically with an integrated view on Google maps.

The mapping led to 27,000 booklets — one for each village and a page for each family.

The second challenge was to develop a technology to transliterate the legacy data, mostly in Assamese and Bengali fonts, to English (since most people use English keyboards today) and make the entire database available in Assamese, Bengali and English.

The third step was to design a phonetic-based search engine to locate legacy records that would display all similar sounding names, as most people were not sure how their forefathers’ names

were spelt.

The fourth challenge was to scan all legacy documents, many of which were worn out and faded. Photo scanners were used and every image was linked with the data through special authentication tools that Bohniman developed.

About 95% of Assam's population, or about 30 million people belonging to 6.5 million families, used the legacy data while applying for NRC. Each legacy data set was given a unique code that became the base for a family tree.

Hiring a warehouse

The next challenge was to transfer the data to 5,000 laptops — two per Nagarik Seva Kendra. "This entailed transferring 340 GB of data comprising 7,00,000 images and 20 million legacy data to each laptop simultaneously," Bohniman's Abhijit Bhuyan explained. In paper form, this would have translated into 600 truckloads of data.

Mr. Hajela roped in Wipro to supply the laptops and provide 8,000 data entry operators. A warehouse was hired and special racks were built for the data to be transferred to the laptops.

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