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Trivedi Centre
for Political Data

ANNUAL REPORT
JULY 2016 TO JUNE 2017

tcpd.ashoka.edu.in

Executive summary

This is the 2016-17 annual activity report of the Trivedi Centre for Political Data. It contains a brief description of the Center and its activities this past year, as well as its plans for the coming year.

Overall, we are pleased with the progress of the Centre in its first complete year. The Centre is becoming **a hub in NCR for scholars interested in political data and election analysis**. The former Chief Election Commissioner of India, Dr. S.Y. Quraishi, has joined the Centre as Distinguished Fellow. The Centre has also gained **positive media exposure** this year through various media interventions and collaborations with journalists. On the computer science side, we have identified some problems that can be effectively addressed using innovative software tools.

The Centre's activities this year were concentrated around election data. Apart from tracking and interpreting the state assembly elections during the year, we have been building the **Centre's core dataset of central and state elections in India** and its data interface, the **Lok Dhaba portal**. We consolidated our processes and reworked the entire database. Our ECI-sourced data is now fairly complete and available for download in open access. We continue to clean, vet and improve this data and link it to other data sources.

An achievement of the Centre this year was to obtain the status of **International Associated Laboratory** (LIA) from the CNRS in France, a status that enables us to tie ourselves to three research laboratories at Sciences Po (CERI, CDSP and Medialab) and to get funding for joint projects and mobility for five years (a total of around 75,000 Euros, shared among the partners). While the Sciences Po partnership has taken off, the partnerships with ISR Michigan, CSDS, and the Election Commission of India are ongoing.

The Centre's core team has grown to **six permanent staff**, including us. The Centre has further employed **24 Ashoka students** in ELM teams and as interns at various periods, and has created a **summer internship program**.

Finally, our affiliated students are doing well -- Rajkamal Singh has been admitted in the PhD program in political science at UC Santa Barbara and Venkat Prasath has joined the Masters in Diplomacy at the Fletcher School at Tufts. Our ELM projects have received an enthusiastic response from Young India Fellows, as have internship and course projects. We regularly invite distinguished speakers to conduct talks and seminars on campus, and interact with students, and are in the midst of planning our first summer school in July 2017. The Centre is thus fulfilling its mission of grooming students and future researchers.

Sudheendra Hangal

Professor of Practice in Computer Science
Co-Director, TCPD
Ashoka University

Gilles Verniers

Asst. Professor of Political Science
Co-Director, TCPD
Ashoka University

1. People and Structure

Thirty-six people have been working or associated in various capacities with the Centre this year. The team is divided between a core team, affiliate scholars, ELM teams, and interns (all undergraduate students at Ashoka).

Core team

- **Sudheendra Hangal** and **Gilles Verniers** are the founding Co-Directors.
- **Dr. S.Y. Quraishi, former CEC**, joined the center in July 2017, as **Distinguished Fellow**.
- **Dr. Chinmay Narayan** joined the Centre as Research Fellow and Data Scientist on July 1st. Due to difficulty in hiring CS faculty members at Ashoka, we had to share him 50% with UG teaching in Monsoon 2016.
- **Rajkamal Singh** worked as Research Fellow and Project Manager. He will be leaving the Centre in August, to start his Ph.D. in Political Science at UC Santa Barbara (fully funded)
- **Basim U Nissa** joined the Centre in February 2017 as Deputy Manager. She is a YIF graduate (2016) and spent the monsoon semester of 2016 as an exchange student at Sciences Po. She takes care of admin tasks, website, events and liaison for the center.
- **Sudesh Singh** joined the Centre in June 2016 as software programmer. He filled the gap due to Chinmay being unavailable 100%, and also provided TA support for 2 UG courses.

Affiliate Scholars

- **Maryam Aslany**, a doctoral student at **King's College London**, has joined the centre as Affiliated Research Fellow for a period of one year, starting January 2017.
- **Ambika Yadav** is a Master's student at **University of California, Santa Barbara** who has chosen to do her Master's thesis with us on visualization of election and census data.

ELM teams

- On **election mapping**: Manish Reddy, Vamshi Reddy, Pratyush Rawal, Rohit Rawat, Surabhi Mitra, Yamini Agarwal (both teams won the **best ELM award** this year)
- On the **bureaucracy project**: Nikhil Tripathi, Heena Luthra, Aananth Dakshnamurthy
- On the **Grindmill Songs project**: Sneha Madhuri, Poornaprajna Kulkarni, Meherish Devaki.

Interns

- Asees Puri (web design and development)
- Akashmegh Sharma (data management)
- Shreyas Shinde (data management and ECI)
- Kshitij Kapoor (incumbency project)
- Deva Madala (smart city project)
- Paras Battrai (smart city project)
- Chaitanyashareef Kulkarni (smart city project)
- Akshat Vasher (programming)
- Meera Damaraju (data capture)
- Sukanya Janardhanan (data capture)
- Ahaan Ghosh (data capture - Pakistan data)
- Palomi Vatsayan (data capture)
- Anirudh Rao (data capture)
- Akshat Vachher (research assistance to Dr. SYQ)
- Yash Joshi (web development)

Advisory boards

In addition to the staff at Ashoka, we have assembled a panel of eminent individuals and academics for our executive and scientific boards.

2. Scientific activities

The Centre's scientific activities are divided into two categories: **data work** and **projects**. Data work refers to the work conducted to build the core the Centre's core dataset and the tools necessary for data cleaning, management and dissemination. Projects refer to specific research projects conducted based on our data (though not exclusively).

Data

The main objective for this year was to build **two comprehensive datasets on Indian General and State elections**.

- While we starting partially from the data crawled and cleansed by Francesca Jensenius¹, we have parsed other data published online by the Election Commission of India (ECI) from 1962 onwards. We finally decided to re-parse the entire ECI data

¹ <http://www.francesca.no/data-2>

from scratch, to establish clear provenance and conduct consistency checks on the data.

- We have developed a data verification tool to check data consistency of the elections dataset. The aim of this exercise was to create a protocol for political data consistency checking, and automation of the process for data treatment using R scripts (data organizing, merging and cleaning). This tool has been run on the ECI's General Elections data, where it identified several anomalies. The report has been shared with the ECI so they can fix the problems in their source data and archives.
- We are in the process of characterizing the accuracy of our digital maps. Getting accurate, open source map data for assembly constituencies continues to be a challenge, especially across delimitation boundaries. It is also not easy to map electoral boundaries to boundaries used by the census data. We are investigating different approaches to resolving this problem.

The second objective was to pursue **data collection on Indian legislators**.

- We have updated or completed (at times nearly completed) the legislators' data for the following states: Haryana, Uttar Pradesh, Punjab, Rajasthan, Uttarakhand, Assam and West Bengal.
- We are undertaking the crawling of affidavit data from the Association of Democratic Reforms (ADR)'s myneta.com and are in the process of merging this data with our main legislator's dataset.

Along with building the elections dataset, the Center also develops open source tools to aid in the processing, cleaning and dissemination of this data. These projects are hosted under an Apache 2.0 license at the GitHub repository github.com/tcpd.

Lok Dhaba

Lok Dhaba is a web data interface that the Centre is currently developing. We initially collaborated with a team of developers from Infosys to build a prototype and then moved to a version based on the R-shiny technology, architected by Chinmay. This interface enables users to access the elections dataset (both state and national elections) as well as navigate that data through a dedicated interface. Users can build their own visualizations (charts, graphs and maps) on demand based on their research questions and export them in different format (CSV, R, SVG). We also help users embed these visualizations in their own webpages. The current beta version can be accessed here: lokdhaba.ashoka.edu.in/LokDhaba-Shiny/

Individual Incumbency Project

- This project consists of creating and attributing a unique ID to all individuals in the elections datasets, to code the career trajectory of each person contesting Indian elections. While we hope the unique ID will eventually reach every name, the career

trajectory coding will discard marginal candidates (essentially independents who appear only once in the data).

- This important ID will enable us to quantify and measure phenomenon such as assembly turnover, candidate re-running and re-election patterns and turncoats. It will also improve the association with other data about assemblies, ministries and cabinets.
- Since this data is not available from primary sources, we have embarked upon an effort to generate it ourselves. To code this data efficiently, we have developed an entity mapping tool called Surf that uses approximate name matching algorithms. For example, the tool normalizes Indian names in various ways (e.g. removing honorifics, standardizing spelling variations) and then uses a variety of algorithms to map individuals with probably similar names, along with a confidence score. A human expert can resolve these individuals quickly using Surf's streamlined interface. The tool also captures comments or resources used in the resolution decisions to help track provenance and ensure high data quality. Surf is a general tool that can be used to resolve other kinds of data involving Indian or other names, and we expect ourselves, as well as others, to have use for it in the future on other data sets also.

Projects

Profiling Candidates to Indian elections

This project is a continuation of the "*Rise of Plebeians*" project, in which we collect data on the sociological profile of candidates to state elections. We follow the election calendar and therefore concentrated our efforts this year on four states: Uttar Pradesh, Uttarakhand, Goa, Punjab. We did not cover Manipur.

State elections monitoring

The Centre follows state elections closely and collects data on candidates ahead of elections. We also crawl elections results on the day they are announced and produce quick data-driven analysis that we publish in publications like Scroll.in. We then make the data available to the research community.

Compared to the previous year, we brought two major changes in this project:

1. The data analysis processes have been automated through the digitization of the data and migration to git repositories. This helps us to manage updates and versions more soundly, track provenance of information, and be much faster in the churning of the data.
2. We form dedicated teams ahead of the election with state experts, who help us contextualize and analyze the data, and also help us with data collection. Thus, previously, we collaborated with Neelanjan Sircar and his team at CPR on the Bihar,

Assam and West Bengal elections, and with Andrew Wyatt and his research assistant Mani Chandra for the Tamil Nadu elections. We plan to systematize this form of collaboration with the aim of creating a large network of scholars working on state politics/elections. This will help in the future for collaborative research projects.

The Form 20 Project

The Centre started a project of digitization of form 20 data (polling-booth level data). We used an external data service provider (mquotient) to parse the Form 20 data for Assam. This is done in consultation with Francesca Jensenius and her team (including Pradeep Chhibber and the CSDS), who have parsed Form 20 data for 11 states. The Centre would like to extend this project to 10 other states but will need to find external funding for it as it is a labour intensive effort. We have written R scripts to merge this data with other datasets.

South Asia Electoral Data Repository

This project consists of building a unique repository of constituency-level data for SAARC countries. This year, we have connected with the people in charge of developing the South Asia Institute for Democracy and Election Studies (SAIDES), which will be located in Kathmandu, Nepal. TCPD aims to be the data/knowledge partner of this new institute and to connect with election commissions across South Asia through SAIDES.

The Smart City Project

The Center is developing a data interface to disseminate information about municipal works. This project is meant to help in transparency of public spending by advocating open data formats for cities to adopt, following which sophisticated analysis tools and data can be made available to researchers and the general public about city projects and expenditure. The context of this project is the Pan-City initiatives under Government of India's Smart Cities Project. The system is being tested with one of the nominated smart cities (Hubballi-Dharwad) which is providing us live data, and an initial version of our interface is online at hdworks.org.

In addition, 3 undergraduate CS students did an internship in summer 2016 at the [Karnataka Municipal Data Society](#) in Bengaluru, which develops software for use in all urban local bodies in the state of Karnataka. The students developed an appreciation for software development in a government setting, and won accolades from their mentors for their innovative and fast-paced work. In summer 2017, 2 CS students are carrying out an internship through McKinsey and Co. on the Pune Smart City project.

3. Partnerships

The Centre is meant to be a collaborative platform and in that spirit, we have developed a series of meaningful and active partnerships in order to both develop the Centre and carry its missions forward.

Institute for Social Research (ISR), University of Michigan

We established in 2015 a broad partnership with the **Centre for Political Studies, Institute for Social Research, University of Michigan**, to collaborate on their constituency-level election results data repository (CLEA).

We provided them with the 2014 Indian General Election data for CLEA, as well as reviewed and checked the consistency of their pre-existing India data.

Sciences Po, Paris

A partnership has been established last year between the Centre and various laboratories at Sciences Po, Paris. An achievement of the Centre this year was to obtain the status of **International Associated Laboratory** (LIA) from the CNRS in France, a status that enables us to tie ourselves to three research laboratories at Sciences Po (CERI, CDSP and Medialab) and to get funding for joint projects and mobility for five years (a total of around 75,000 Euros, shared among the partners). The CNRS funding enables us to organize two annual events – one in Delhi, one in Paris – and to host field researchers from Sciences Po through the year, for data collection.

1. The **Centre for International Research and Studies** ([CERI](#)) is Sciences Po's largest research center, dedicated to the research and study of international affairs. We are essentially collaborating with Christophe Jaffrelot on the building of socio-political datasets on Indian elected representatives and candidates.
2. The [Medialab](#) is a research laboratory that develops web-based tools for social science research. They will be our main partners for the development of our data interface and for the application of data mining and data visualization tools onto our data. They will host our data scientists for short stays to get training on their tools.
3. The **Centre for Social and Political Data** ([CDSP](#)) is a research laboratory whose aim is to disseminate public information about French elections as well as the outcome of political surveys conducted at Sciences Po. Their expertise lies in the coding of socio-political data and they will help us with the codification of our data.

CSDS, New Delhi

The **Centre for the Study of Developing Societies** (CSDS) was the repository of the data compiled for the volume "the Rise of Plebeians", the first study co-edited by Christophe Jaffrelot and Sanjay Kumar on the sociological profile of Indian MLAs (data on caste, education and occupation background of MLAs).

We have now become the repository of that data and lead the effort, with Lokniti and the CERI Sciences Po to update these datasets, through fieldwork. This will lead to the creation of a joined dataset, publicly available on the Centre's website.

Centre for Policy Research (CPR), New Delhi

We have established a good working relation with three researchers at the **Centre for Policy Research** (CPR) – Neelanjan Sircar, Ashish Ranjan and Bhanu Joshi – who collaborate on the state election monitoring project. They conduct lengthy fieldwork in states ahead of elections, help us with data collection and with data analysis. Several articles in The Hindu and a working paper on the Bihar elections have come out from this partnership.

Election Commission of India

The Centre has been in regular touch with the **Election Commission of India** on the question of cleaning of public data and data management.

We submitted to the Commission a report on data inconsistencies in ECI data on the General Elections, and suggested ways to fix those inconsistencies, as well as to organize and release data going forward.

Media collaborations

The Centre has collaborated extensively with various media, either on data provision, or in terms of contributions. We provided Hindustan Times with the base data they needed to cover the 2017 elections

We contributed data to various publications including Hindustan Times, The Hindu, The Quint, Huffington Post (India), Scroll.in, Counterviews, The Wire, Livemint, Tribune India, and The Economist.

New and ongoing discussions

Various organizations have visited the center and expressed interest in working with us.

- **USAID** would like to build a partnership with us on Afghan data. This could include funding to bring to Ashoka young Afghan scholars, who could study at the Young India Fellowship and get trained on data with the Centre.
- **Microsoft India** is interested by our method of connecting fuzzy public data with non-technical users.
- **Facebook South Asia** would like to commission a report on the profile of women politicians in India. They have expressed preliminary interest in funding our data collection effort on the profile of legislators, for 2018.

4. Events

Lecture Series

The Centre holds two lecture series. One on political data, the other on State and Regional Politics. The Centre has organized **five Public lectures** this year:

- 09.02.17 - **Milan Vaishnav** - When Crime Pays. Money and Muscle in Indian Politics
- 08.03.17 – **Shamika Ravi** - The political economy of gender inequality in India
- 14.03.17 – A panel on the Uttar Pradesh Elections 2017 (**Neelanjan Sircar, Shivam Vij, Bhanu Joshi, Radhika Ramaseshan and Gilles Verniers**)
- 13.04.17 – **Christophe Jaffrelot** – The Patel Agitation in Gujarat
- 19.04.17 – **Nandini Sundar** - Institutions on Trial

Workshops

The Centre conducted on May 5th a one-day workshop for the political section of the U.S. Embassy on political data and the interpretation of election results.

The Centre also conducted a training program on data and quantitative methods for the founding batch of CMGGA Program.

Summer Internship Programme

The Centre organized a six-week summer internship last year, in which ten students (mostly from Ashoka) participated. The interns have contributed to the Centre's core data project (data cleaning, parsing, data entry, etc.).

Interns also get training in various skills in aspects of data work (Statistical computing (R), Basics of coding (Python), How to write scripts and conduct data consistency checks, using R, using OCR for data parsing, Basic data visualization)

External participation

Gilles Verniers has presented papers and the Centre's work in various conferences:

- IBTEDA, TISS, Mumbai
- Centre for Multilevel Federalism, Delhi
- India Foundation Symposium on "One nation, one election", Teen Murti
- Panel on the UP results, IIT-Delhi
- Conference on the UP elections, ISAS, National University of Singapore
- Political Economy workshop at the University of Namur, Belgium
- India's democracy conference at King's College, London

Rajkamal Singh

- Presented his paper on clientelism in Namur, Belgium
- Presented a paper at CSDS conference titled '*Explorations in Indian Democracy*'
- Participated in the CSDS workshop on Quantitative Methods in Political Sciences.

Sudheendra Hangal

- Has been speaking about the benefits of Open Data in multiple venues including at the Deshpande Foundation.
- Was a member of the Executive Committee for the Smart City proposal for the city of Hubballi-Dharwad.

5. Next steps and objectives for 2017-18

Staffing

As we are losing 2 of our key staff members, Chinmay and Rajkamal, it is necessary to find replacements. Luckily, we have already found 2 people who are worthy successors:

- **Ashish Ranjan** will join the centre on July 1st, 2017 as a Research Fellow and Project Manager. He is a Political Science graduate from Delhi and Patna University, with extensive electoral research and fieldwork experience. He is a former Research assistant, Lokniti, and Research Associate, Centre for Policy Research. Ashish writes extensively in the Hindu and is has a visible presence in the Hindi media (print and television) on electoral analysis.
- **Mohit Kumar** will join the centre on July 24, 2017 as a Research Software Engineer. He has a Masters degree from IIIT-Hyderabad Computer Science graduate and is a native of Sonapat. He has extensive research experience, especially with GIS data.

The increased scope of the Centre and the development of its activities justify the hiring of a full-time Associate Director. This should be a young person with good managerial experience and who understands data. We are in the process of calling candidates for interviews.

We are fielding two ELM projects this year (on state elections and on women legislators) and can take up to four ELM teams.

In addition, in AY 2017-18, the Centre will have two MLS students (Master in Liberal Arts), Huzaafa, who will work on a political ethnography of Srinagar (J&K), and Saloni Bhogale, an engineering graduate.

Projects

Developing Lok Dhaba and the collection of data for the legislators' dataset are our two main priorities for this year.

- This means intensified data collection through fieldwork and hiring of interns for data entry and cleaning. The partnership with Sciences Po will be of great help for this objective.

- The hiring of Mohit Kumar will help to refocus attention on the development of Lok Dhaba as well as GIS infrastructure and datasets, which should integrate our ECI and legislators' datasets.
- We will continue to champion the cause of Open Data and work with agencies to distribute data in reusable and consistent formats that can tie well with other data sources.
- The centre will cover all incoming state elections: Himachal Pradesh, Gujarat, Karnataka, Rajasthan, Madhya Pradesh and Chhattisgarh. We will also extract from that a specific dataset on the profile of women legislators.

The South Asia data repository will depend on the ability of SAIDES to take-off. Until then, we provide the data the ISR needs for its CLEA database. Dr. Quraishi will take the lead of this initiative.

Summer School & Summer Internship Programme

The Centre is organizing its first summer school, on data-driven methods for political science, from July 10 to July 14.

- Participants: 24 people (students, scholars and data journalists)
- Training team: Sudheendra Hangal (TCPD), Gilles Verniers (TCPD), Rajkamal Singh (TCPD), Francesca Jensenius (NUPI, Norway), Neelanjan Sircar (CPR), Alexandre Chevallier (CDSP, Sciences Po), Jeremy Richard (CDSP, Sciences Po), Aafaque Raza Khan (IUCAA).

The Centre has hired fourteen interns to work on various data projects through July and August 2017.

Fundraising

- We need to set a target of fundraising for specific projects that need additional funding. As of now, Facebook South Asia is our most promising lead.
- We must pursue the conversation with USAID to develop a program on Afghanistan election data.

Outreach

We need to work on outreach, to make the Centre better known and our data better used.

- Participation in large events (The centre will contribute to a large conference on the centenary of the Dravidian movement in Delhi, in January 2018).
- We will also advertise better our guest lectures.
- Developing our collaboration with the media is another priority.
- We need to work on a regular publication. We have started collating election analysis reports. These should be improved and diffused widely.

APPENDIX I – Publication and media appearances

Authored pieces

Macron has all the characteristics of the French elite – so can he really offer an alternative?

Gilles Verniers, Scroll, May 09, 2017

Macron win reassures the world that the Far Right has been halted – but his battle is far from over

Gilles Verniers, Scroll, May 08, 2017

Has the emergence of Emmanuel Macron changed the face of political life in France?

Gilles Verniers, Scroll, April 24, 2017

Punjab election 2017: These 12 charts analyse the big wins and upsets

Gilles Verniers, Scroll, March 23, 2017

Uttar Pradesh 2017: These 13 Charts Examine the BJP's Surge in India's Heartland

Gilles Verniers, Scroll, March 23, 2017

Upper Hand for Upper Castes in House

Gilles Verniers, Indian Express, March 20, 2017

Uttar Pradesh 2017: These 13 charts examine the BJP's surge in India's heartland

TCPD, Scroll, Mar. 14, 2017

Punjab election 2017: These 12 charts analyse the big wins and upsets

TCPD, Scroll, Mar. 13, 2017

The rise of the floating voter

Gilles Verniers, Indian Express, March 13, 2017

The lawmakers we need

Gilles Verniers, S.Y. Quraishi, Indian Express, March 8, 2017

Should elections be state-funded?

S.Y. Quraishi, The Hindu, February 17, 2017 (with Yogendra Yadav and Manish Tiwari)

Backward, Forward

Gilles Verniers, Indian Express, February 11, 2017

The bicycle and other stories

Gilles Verniers, Indian Express, January 19, 2017

In it for the short haul

Gilles Verniers, Indian Express, December 23, 2016

UP assembly is more representative of various castes than it used to be

Gilles Verniers, Indian Express, November 28, 2016

How demonetisation will affect parties' campaigns in Uttar Pradesh – and why BJP will be unaffected

Rajkamal Singh, Scroll, , Nov. 26, 2016

Samajwadi Party, family, continuity

Gilles Verniers, Indian Express, September 30, 2016

Mayawati has two choices

Gilles Verniers, Christophe Jaffrelot, Indian Express, September 10, 2016

As the Yadav family feud rages, the Samajwadi Party is cracking at the base

Rajkamal Singh, Scroll, Oct. 29, 2016

The good crisis

Gilles Verniers, Indian Express, October 26, 2016

Gilles Verniers and S.Y. Quraishi have been interviewed and quoted in various publications: Financial Times, AFP, Reuters, US News, Hindustan Times, Business Today, The Quint, Huffington Post (India), Business Standard, Daily News and Analysis, The Tribune, The Hindu, Le Monde (France), France 24, la Depeche (France), La Croix (France), RTL (Belgium), Enmayuscula (Brazil), Publico (Portugal), Dhaka Tribune

Data specifically quoted in various publications: Hindustan Times, The Hindu, The Quint, Huffington Post (India), Scroll.in, Counterviews, The Wire, Livemint, Tribune India, The Economist.

Appendix II – Glimpses of the Centre's activities



At Congress office with Uttar Pradesh party chief, Raj Babbar, after UP elections results, 2017.



At Ambedkar Memorial, Lucknow.



With *Mapping Indian Elections* ELM teams after final ELM presentation.



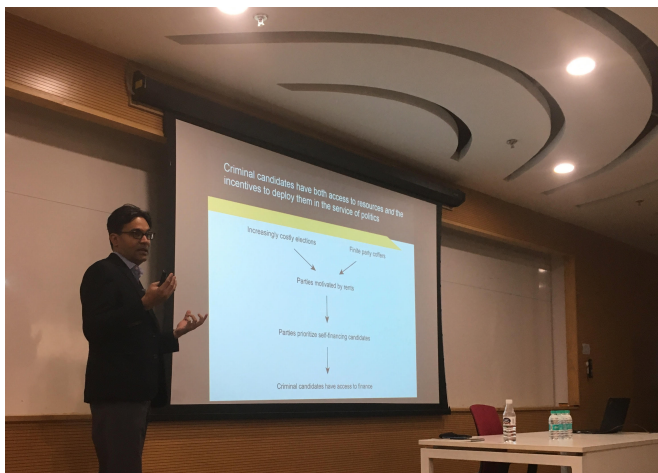
At Ambedkar Memorial Park, Lucknow after UP elections.



Mapping India Elections ELM team at fieldwork, in Punjab.



Undergraduate students in conversation with Congress Party workers, at Lucknow office, 2017.

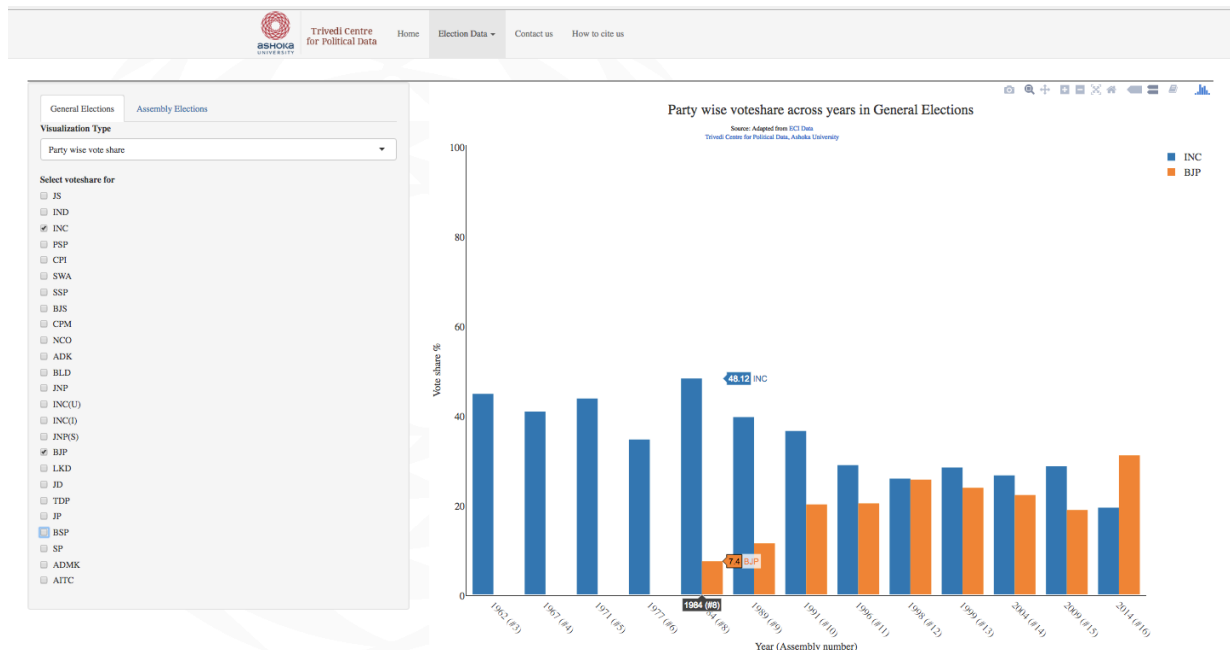


Milan Vaishnav's guest lecture on Crime and Politics.



Gilles Verniers' article in Scroll.in on UP state elections-2017

Appendix III – Some open source tools developed by the center



The Lokdhaba tool for on-demand visualization of Indian elections data.

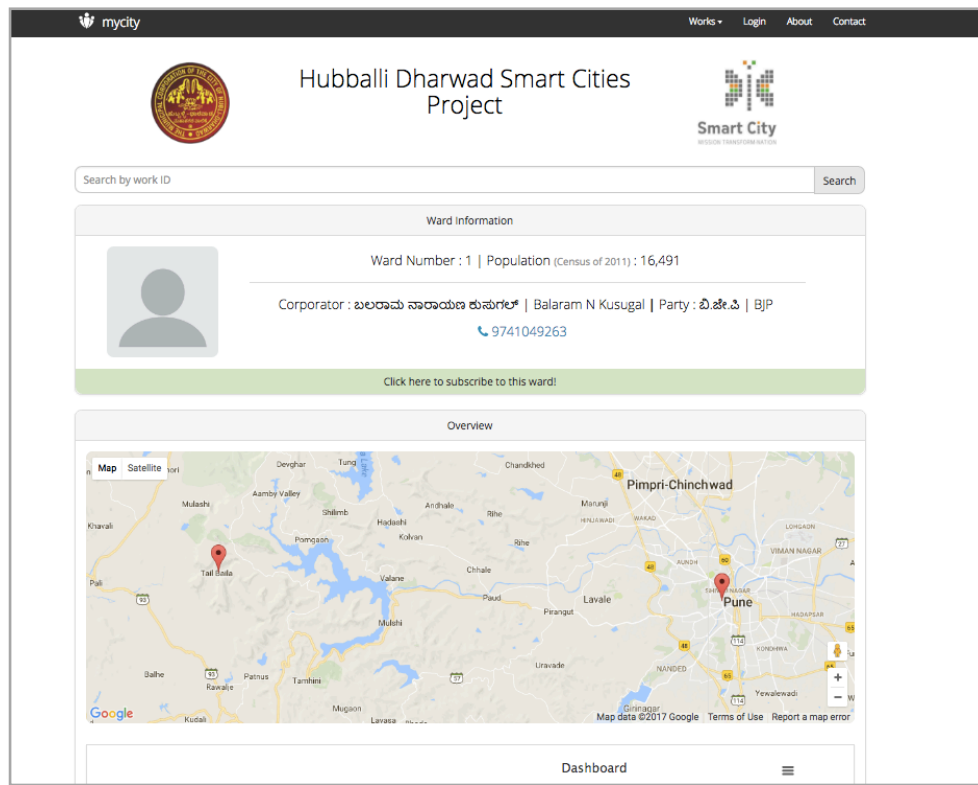
Surf

Search Name... [Reset] [Settings] [Force Merge] [Save]

State / [All Records] 4757 Total Groups 52008 Total Records 0 Records Reviewed

Merge	Name	Sex	Year	Constituency	Party	State	Position	Votes	Comments	UnMerge	Done
Select all for Merging											
<input type="checkbox"/>	SATYA PRAKASH AGARWAL (KAILASH DAIRY WALE)	M	2002	MEERUT CANTONMENT	BJP	Uttar_Pradesh	1	55952		<input type="checkbox"/>	<input type="checkbox"/>
	SATYA PRAKASH AGARWAL (KAILASH DAIRY WALE)	M	2012	Meerut Cantt.	BJP	Uttar_Pradesh	1	70820		<input type="checkbox"/>	
Select all for Merging											
<input type="checkbox"/>	PREM PRAKASH ALIAS JIPPY TEWARI	M	1993	DOMARIAGANJ	BJP	Uttar_Pradesh	1	49359		<input type="checkbox"/>	<input type="checkbox"/>
	PREM PRAKASH ALIAS GIPPY TIWARI	M	2007	Domariaganj	BJP	Uttar_Pradesh	3	28836		<input type="checkbox"/>	
	PREM PRAKASH ALIAS JIPPI TIWARI	M	1989	DOMARIAGANJ	BJP	Uttar_Pradesh	1	41511		<input type="checkbox"/>	
Select all for Merging											
<input type="checkbox"/>	KAKA JOGINDER SINGH ALIAS DHARTI PAKAR	M	1993	AHIRORI	IND	Uttar_Pradesh	9	367		<input type="checkbox"/>	
<input type="checkbox"/>	KAKA JOGINDER SINGH ALIAS DHARTI PAKAD	M	1991	AURAIYA	IND	Uttar_Pradesh	15	194		<input type="checkbox"/>	
<input type="checkbox"/>	KAKA JOGINDER SINGH ALIAS	M	1989	BAHERI	IND	Uttar_Pradesh	18	215		<input type="checkbox"/>	

The Surf data cleaning tool that does approximate Indian named entity mapping.



The Smart City Forum software to monitor municipal works and spending.