EDI Research Link Up Research Presentation



Center for Effective Global Action

Using Administrative Data Systems to Improve Court Efficiency (India, Kenya, Tanzania) Bilal Siddiqi DIME, World Bank





Data and Evidence for Justice Reform (DE JURE)

I. Data

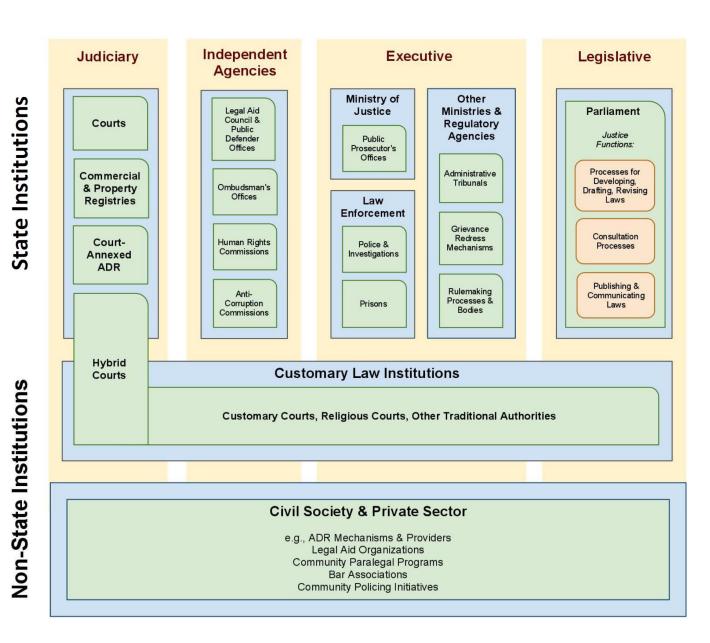
- Courts are 'data-rich' but <u>'information-poor'</u>
- <u>Use data systems</u> where they exist, build data systems where they don't

II. Diagnostics

- <u>Identify core issues</u> in justice system functioning and performance
- Measure and document impacts of justice system reforms

III. Experimentation

- <u>Iteratively test interventions</u> to improve justice systems
- <u>Build government skills</u> and create policy feedback loops









(Expanding) universe of research questions

Reporting

- Information (civic education programs)
- Resources (building and upgrading courts)
- Access (legal aid, mobile courts)

Adjudication

- Rules (changes in laws, management norms, procedures)
- Institutions (specialized courts, other litigation alternatives)
- Capacity (hiring and training judicial officers
- Structure (assignment of roles and responsibilities)

Incentive systems

- What information is created? Who receives the information? What is the (expected) response?
- Electronic systems, dashboards, e-courts
- Rewards (financial, non-financial, status, career concerns)
- Accountability (top-down, peer-based, bottom-up)

Preferences and behavior

- Subjective biases (exclusion, co-affiliation, ideology)
- Behavioral biases/managerial constraints (salience, availability, cognition, time use)







Context and background

India

- 33 million case backlog (> 5 years), 12 judges per million people
- Questions around judicial outcomes of minority groups and judicial independence/corruption
- Active (and contentious) debate over court reform
- Partner with Daksh civil society organization focusing on data-driven judicial reform

Kenya

- Quarter-million case backlog (>1 year)
- Questions around judicial efficiency, case management, quality of judgments
- Ambitious reform program ("Sustained Judiciary Transformation")
- Partner with Judicary's Performance Management Directorate







India: research questions

Judicial independence: Do winning (criminal) politicians get better judicial outcomes?

• What are the relative roles of (i) Members of Legislative Assembly and (ii) political parties?

Institutional bias: Are judges and courts biased against outgroups or vulnerable populations?

• Does supervision by more/less biased judge affect judicial outcomes?

Behavior/management: Can simple nudges improve judge time use and performance?

- Auto-scheduled hearings, time use and performance information
- Do such gains come at the expense of quality?

Incentives: Do judges respond to performance incentives (points system)?

• Can rationalized incentives create better judicial outcomes?

Access: Does judicial access (vacancy filling, zero pendency courts) improve the market for justice?

• Does institutional competition (e.g. through forum-shopping) lead to better judicial outcomes?







India: data

- Daksh: civil society organization focusing on data-driven judicial reform
 - Database of 14 million cases and 62 million hearings from lower courts (and growing!)
 - Random sample of data from eCourts, webscraped using "daily cause lists"
 - Structured metadata on courts, dates, parties, case type, judge
- Indian Kanoon: legal search engine for appellate court cases (http://indiankanoon.org)
 - 2,256,881 high court judgements in 21 high courts over 81 year period
 - Full text of published judicial opinion
 - Structured metadata on court, case title/citation, dates, judges on panel, authoring judge
- Other sources: rich microdata compiled by Asher & Novosad
 - Census data: Socioeconomic and Caste Census (2012), Economic Census (2005, 2012)
 - Association for Democratic Reform
 - Anthropological Survey of India

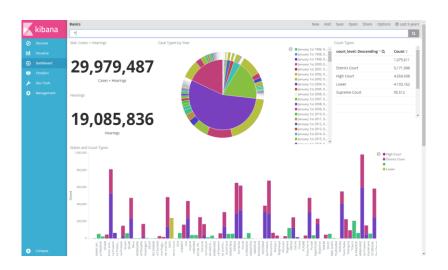


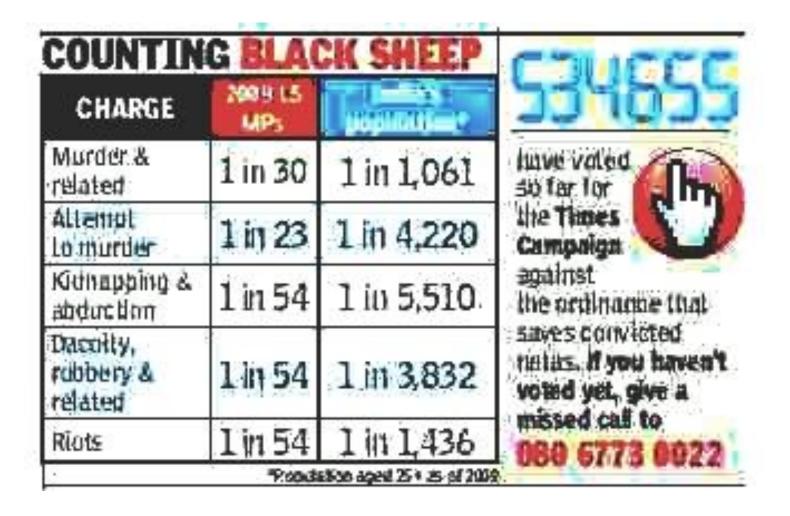




India: are judiciaries independent?













India: are judges biased?

Approach: Analysis of textual, administrative, and socioeconomic data

- Do judges use specific words or adjectives when referring to members of certain population groups? If so, which judges exhibit the most positive or negative bias toward certain groups?
- How do these relate to the direction of rulings & sentencing and downstream socioeconomic outcomes?
- Challenge: case assignment is generally not random
 - "Scramble test" (e.g Abrams, Bertrand, Mullainathan)
 - Alternative: focus on case selection

Sentiment analysis:

- Case text split into tokens (words), parsed using language model (e.g. Word2Vec in Python) to encode context-specific frequencies of neighboring words
- Allows us to examine the proximity of names of marginalized subgroups (e.g. Scheduled Castes and Muslims) to other words in the vocabulary









Muslim defendant



Hindu defendant

steady thoughtful daring suspicious thoughtful deceitful quitting suspicious deceitful quitting

Scheduled C/T defendant







Muslim

defendant

```
Tonfident formal reserved with the confident formal reserved with the confused dominant progressive of the confused domina
```

progressive logical serious of honest curious wiferent effections hostile wise efficient healthy of severe relaxed patient natural silent prejudiced colds of confused resentful progressive logical indifferent curious wiferent effections hostile wise efficient healthy of severe relaxed patient natural confused colds of confused resentful prejudiced resentful prejudiced colds of confused resentful prejudiced rese

Scheduled C/T defendant

```
peculiar tweak silent to the serious practical to the serious withdrawn retiring wise formal complaining deliberate strong attractive frivolous affected frivolous friends frie
```

```
friendly To helpful intolerant serious silent reliable Wary autocratic quiet no least type deceitful prestless x pour least type disorderly or colling independent loud selfish ambitious reflective reckless contented anxious dominant prestless anxious dominant pres
```

Muslim judge

```
simpleslow helpful
practical cooperative helpful
quic kunscrupulous unaffected
complicated demanding reserved precise conventional precise contented precise spontaneous intelligent with drawn was a formal complaining dependent mature determined quiet frivolous process with the complaining dependent determined quiet frivolous process process
```

```
Sensitive cold kind weak suspicious cold weak suspicious cold dissatisfied simple strong confused reservedslow sever eindependent cautious demanding confused initiative cruel coarsepatientserious attractive understanding
```

tactful cynical dreamy witty unselfish thankless headstrong effeminate worrying rebellious persevering impulsive appreciative assertive unassuming forgiving meek sensitive thrifty meek unfriendly distrustful praising dependable resentful conceited cowardly sociable talkative

resourcefulindividualistic esciable sociable intolerant fulquarrelsome tactfulquarrelsome changeable effeminate deceitful persevering headstrong unassuming dependable conceited unassuming dependable impulsive forgiving distrustful talkative sarcastic forceful talkative sarcastic forceful fickle appreciative versatile thankless

ficklesarcasticresentful
tactfuleffeminates
sociable versatile dependables
dependables
reflective thankless sophisticated appreciative
talkative quarrelsome
methodical conceited adaptable resourceful
impulsive headstrong deceitful
individualistic idealistic inventive
distrustful persevering
assertiveunassuming forgetful changeable







Hindu defendant

Muslim

defendant

```
Tonfident formal reserved was anxious dominant progressive of impatient, confused cooperative dissatisfied cooperative dissatisfied withdrawn handsome withdrawn handsome oprejudiced humorous forcefuling of the moody simple peculiar of preoccupied demanding understanding
```

progressive logical sarcastic thankless serious hoonest curious wise more dependable of hoonest curious wise curious wise

Scheduled C/T defendant



```
friendly Tales A helpful intolerant reliable Wary rude More deceitful of autocratical policy of the latest prestless and the latest prestless and
```

simpleslow helpful
practical cooperative helpful
independent original independent original reasonable original reserved processes pontaneous
intelligent with drawn or intelligent with drawn or intelligent original intel

```
Sensitive Cold kind Weak reasonable. Cold weak suspicious dissatisfied simple strong of active hostile active hostile initiative cruel of coar sepatients could be coarsepatients of active coarsepatients of coarsepatients of active understanding the coarse quick attractive understanding
```

tactful cynical dreamy witty unselfish thankless headstrong effeminate worrying rebellious persevering impulsive appreciative assertive unassuming forgiving meek sensitive thrifty meek unfriendly distrustful praising dependable resentful conceited cowardly sociable talkative

resourcefulindividualistic reflective sociable and trace ful quarrels ome forgetful dreamy changeable effeminate deceitful methodical submissive vindictive persevering heads trong unassuming dependable sophisticated unassuming dependable forgiving distrustful talkative sarcastic forceful talkative sarcastic forceful fickle appreciative versatile thankless

tactfuleffeminate dependable dependable dependable forgiving pessimistic thankless sophisticated talkative quarrelsome methodical conceited manageable individualistic idealistic inventive distrustful persevering instruction intolerant assertive unassuming forgetful changeable







Hindu defendant

```
Cooperative dissatisfied withdrawn handsome work jolly complaining preoccupied humorous forcefulion moody simple peculiar of preoccupied determined preoccupied demanding understanding
```

Muslim defendant

```
progressive logical
serious progressive logical
serious promest curious wiferent
curious wi
```

Scheduled C/T defendant

```
peculiar

Weak Silent

Weak Silent

Thorough rigid. In the precise of the precise
```

```
friendly The Ahelpful intolerant reliable Wary restless autocratic disorderly obliging independent loud selfish of ambitious reflective reckless aloof
```

```
simpleslow helpful
quickunscrupulous unaffected y
complicated demanding reserved or seculiar precise spontaneous intelligent with drawn w
formal complaining dependent mature complaining quiet kind lous or suspicious frivolous or suspicious friends or suspi
```

```
Sensitive cold kind weak reasonable. Cold weak suspicious cold dissatisfied simple strong of active nostile cautious demanding confused reservedslow sever eindependent confused initiative cruel coarsepatientserious attractive quiek charactive quiek charactive quiek charactive quiek cold confused coarsepatientserious attractive quiek cold cold confused confused
```

```
tactful cynical dreamy witty submissive enterprising yinfantile alwitty unselfish thankless headstrong effeminate worrying rebellious persevering impulsive afforgetful azy appreciative assertive unassuming fickle outspoken forgiving meek sensitive thrifty meek unfriendly distrustful praising dependable resentful conceited cowardly sociable talkative
```

```
resourcefulindividualistic effective intolerant quarrelsome tactful quarrelsome deceitful methodical submissive vindictive persevering heads trong unassuming dependable assertive forgiving distrustful talkative sarcastic forceful talkative sarcastic forceful fickle appreciative versatile
```

```
tactfuleffeminates

tactfuleffeminates

dependable

versatile dependable

dreamy

pessimistic hankless sophisticated

appreciation

talkative quarrelsome

methodical conceited adaptable resourceful
impulsive headstrong outgoing
impulsive headstrong deceitful
individualistic idealistic inventive

distrustful persevering
intolerant
assertiveunassuming forgetful changeable
```







Kenya: research questions

"Actionable" information: Can simplified, action-oriented performance information improve judicial productivity?

• Is there a tradeoff between judicial productivity and the quality of judicial decisions?

Accountability: Can bottom-up accountability improve judicial performance?

Does bottom-up involvement improve end-user satisfaction?

Institutions: Can court-annexed mediation decongest courts without affecting quality?

Should mediation be compulsory or voluntary?

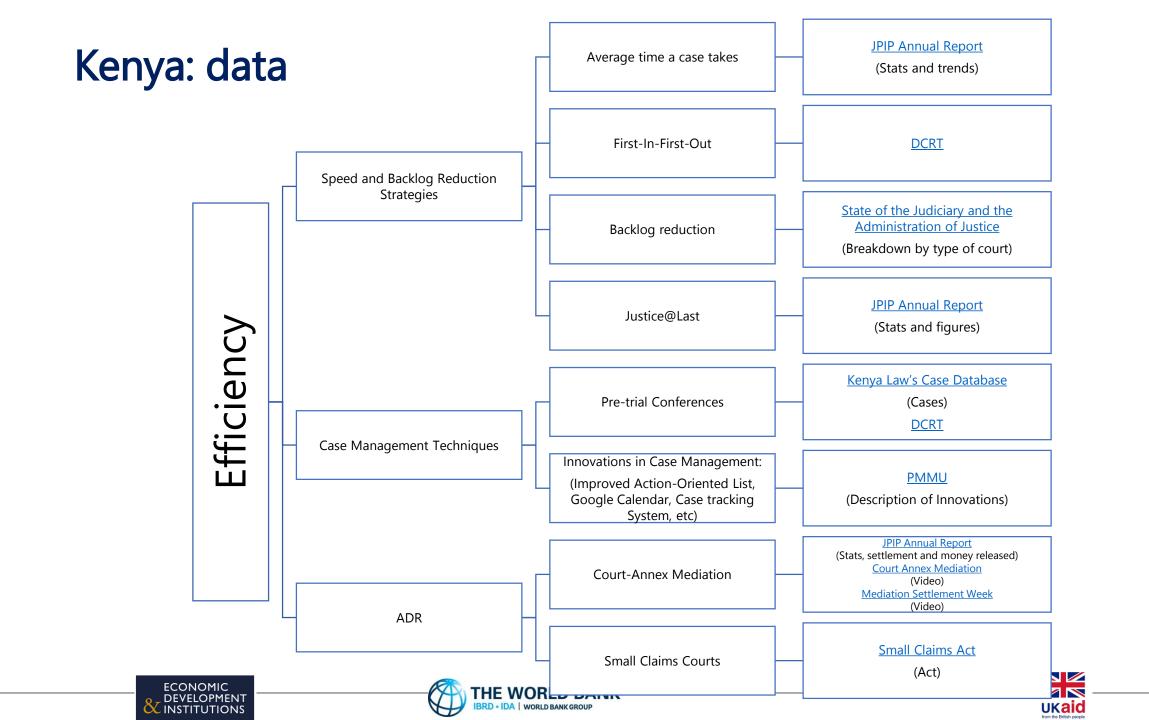
Behavior/management: Can improved ("active") case management (pre-trial conferences, autoscheduled hearings, google calendar improve judicial productivity?

• Does institutional competition (e.g. through forum-shopping) lead to better judicial outcomes?

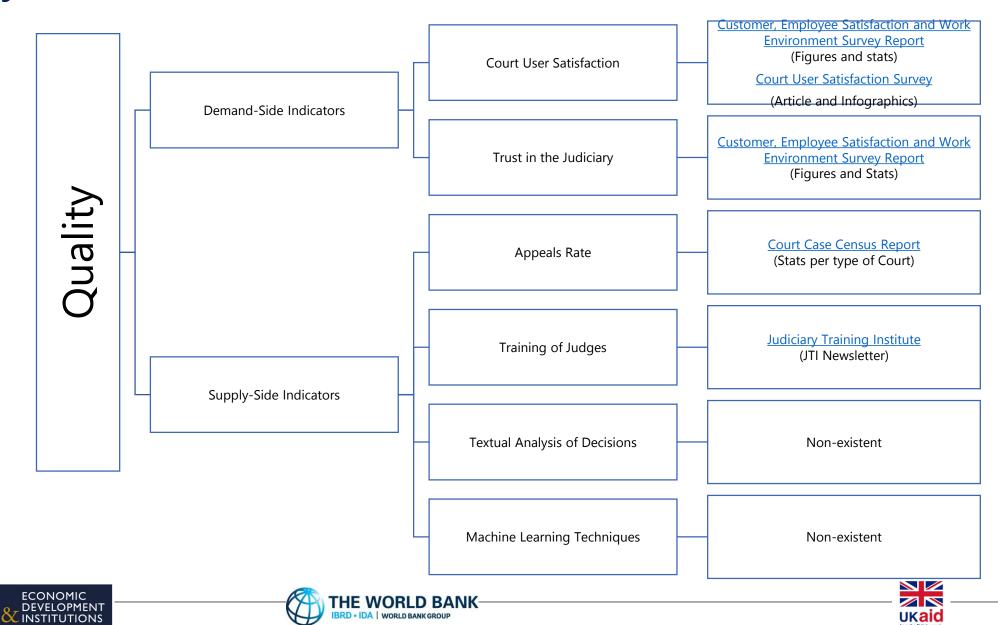


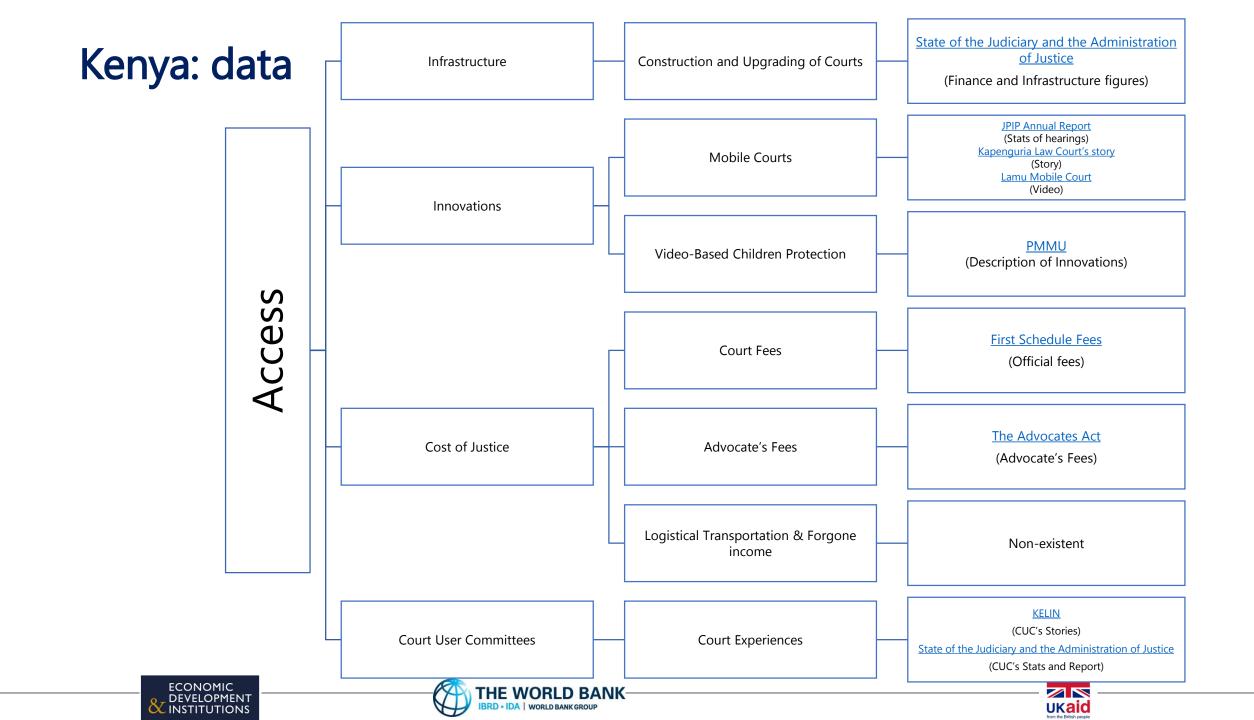






Kenya: data





Kenya: "actionable information" & accountability

- Randomized controlled trial across 126 court stations
- Treatment 1: Simplified court monthly feedback report shared with judges and supervisors
- Treatment 2: Feedback report shared with Court User Committees and is focus of discussion at quarterly meetings
- Control: No change

Court Monthly Feedback Report Baricho Magistrate Court

NOVEMBER

"By the end of my tenure in December 2020, we shall have no cases in court older than 3 years"

Honorable Justice David Maraga, Chief Justice



CIVIL CASES	SUMMARY OF KEY STATISTICS		TOP REASONS FOR ADJOURNMENT		CASE CLEARANCE RATE (Resolved ÷ Filed) × 100		
	Filed	456	Reason not recorded	21%		:::	Ruling
	Resolved	234			Parties		Reasons recorded
	Adjournments	123	Both parties	12%	35%	38%	51%
	Rulings and Judgments	150	Ruling not ready	9%	September	October	November
	SUMMARY OF KEY ST	ATISTICS	TOP REASONS FOR ADJOURI	NMENT	CA	SE CLEARANCE RA	ATE
ASES	SUMMARY OF KEY ST	ATISTICS 678	TOP REASONS FOR ADJOURI	NMENT 30%	CA (Re	SE CLEARANCE RA	ATE
INAL CASES			Prosecutor not present	30%	CA (Re	SE CLEARANCE RA	ATE 100
CRIMINAL CASES	Filed	678			CA (Re	SE CLEARANCE RA	ATE 100 Parties present Prosecutor
CRIMINAL CASES	Filed Resolved	678 378	Prosecutor not present	30%	Proceedil ngs ready	SE CLEARANCE RA	Parties present Prosecutor present





