ECONOMIC DEVELOPMENT & INSTITUTIONS

IMPACT REPORT



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May 2021

Oxford Policy Management

UKaid from the British people

UNIVERSITÉ DE NAMUR

PARIS SCHOOL OF ECONOMICS ÉCOLE D'ÉCONOMIE DE PARIS

ADE ANALYSIS FOR ECONOMIC DECISIONS

About Economic Development & Institutions

Institutions matter for growth and inclusive development. But despite increasing awareness of the importance of institutions on economic outcomes, there is little evidence on how positive institutional change can be achieved. The Economic Development and Institutions – EDI – research programme aims to fill this knowledge gap by working with some of the finest economic thinkers and social scientists across the globe.

The programme was launched in 2015 and will run until 2022. It is made up of four parallel research activities: path-finding papers, institutional diagnostic, coordinated randomised control trials, and case studies. The programme is funded with UK aid from the UK government. For more information see http://edi.opml.co.uk.



RA3 examples:

- Helped an NGO expand a new women's civics training curriculum strongly aligned with local governance structures and priorities of the Gates Foundation (Prillaman)
- Developed the first-ever list of marriage registrars in Punjab (Field et al.)
- Developed an algorithm to detect "bogus" firms in Delhi (Mahajan et al.)
- Helped the Senegalese tax authority use machine learning to identify firms to audit (Brockmeyer et al.)
- Designed and implemented a digital cadaster to increase property tax collection in Dakar (Gurgand et al.)

Finally, researchers are often successful if they **are patient in waiting for opportunities for their work to have impact.** As reforms move slowly, yet policy priorities may shift and key government personnel may leave their posts suddenly midstream, successful researchers remain flexible. They adapt their research and dissemination plans, while keeping an eye on the fidelity of their experimental protocols, and are patient in the face of political instability.

RA3 examples:

Where researchers persisted during long time periods of partner advocacy:

- Women's civics programme gained national foothold in India long after completion of pilot (Prillaman)
- Waited multiple years and key personnel transitions before policy changes finalized to allow for the training of marriage registrars with the Punjab Commission on the Status of Women (Field et al.)

Where researchers built from existing multi-year collaborations with government partners prior, allowing them to identify new opportunities for institutionally-embedded, impactful evaluation designs:

- Many years working with the Mexican court system (Sadka et al.)
- Many years working on evaluating the impacts of the Last Mile Connectivity Project in Kenya (Wolfram et al.)
- Many years working on evaluating the impacts of Indian states' implementation of MGNREGA social protection (Pande et al.)

Impact Report

from the Economic Development & Institutions programme - Research Area 3 (EDI-RA3)

May 2021

Leah Bridle and Anya Marchenko

Table of Contents

A. Introduction
   - How we define "policy impact"
   - How do we track impacts?

B. Major policy impacts to date from RA3 completed projects
   1. Gender-based civics training for women scaling across India
   2. Making elections more democratic in Sierra Leone
   3. Protecting women's right in marriage
   4. Large labor reform law passed in Mexico
   5. Extending a tax compliance tool to two new states in India
   6. Sharing results with Minister of Education about teacher recruitment in Rwanda

C. Ongoing and anticipated future impacts (by project)
   1. App improving social protection wage payments extended to Bihar
   2. Helping tax authority modernize property tax collection in Senegal
   3. Selecting firms for tax audits in Senegal
   4. Evaluating monitoring and contracting in Kenya's electrification programme
   5. Land titling intervention informed design of financing programme in Uganda
   6. Improving judicial efficiency in Kenya

D. Conclusion
   - Why did we see such compelling impacts from EDI-RA3?
   - What are the common trends among projects with policy impact?

Disclaimer: Please note that all of the impacts reviewed in this report (both existing and anticipated) are the authors' interpretation of details and events over the progression of the program. This information should be considered with this in mind, and we encourage readers to reach out with any questions. Any errors are our own.

A. Introduction

EDI was designed to be a research programme that would impact policy, not tangential to the needs or demands of policy stakeholders. The EDI-RA3 studies that the Center for Effective Global Action (CEGA) at the University of California, Berkeley helped competitively select are responding to *decision-maker demand*. That is, from the outset, the research projects were chosen and subsequently funded because they were not only technically sound, logistically feasible, and promising to contribute to the evidence base, but also directly relevant to ongoing policy and reform debates.

To build a research portfolio that could effectively respond to policy needs, CEGA leadership and the RA3 Scientific Committee made careful decisions, such as prioritizing funding for projects with direct government partners. This prioritization was made possible through significant effort from CEGA to crowd-in high quantity and quality of proposals among which to select the portfolio. In the conclusion we discuss both our research funding selection strategy in greater detail, and identify notable commonalities across projects with impacts thus far. For example, we emphasize the value of embedding an experiment within governmental programme implementation. Where possible and successful, this approach seems clearly more likely to achieve direct contributions to policy decisions.

How we define "policy impact"

CEGA has developed a basic categorization of policy impacts to make useful distinctions between real-world contributions (and underlying engagement activities). We specifically used the following categories for tracking purposes across diverse projects:

> ***Policy Engagement or Dissemination:*** *Researchers engaged partners on the implications of findings, and results are disseminated directly to decision makers (via tailor-made policy briefs, presentations, etc.)*
>
> ***Direct Policy Forum:*** *Researchers made recommendations based on findings, which are then "taken up" by decision makers (e.g. cited or written up in partners' formal statements, press releases, or reports). This may be evident where partners test recommended interventions and pilot them in new contexts or at a larger scale prior to formal sustained "policy change."*
>
> ***Policy Change:*** *A government, NGO, donor (or similar institution) tangibly changes their work based on the research. This could be a change in legislation, policies, programme operations, or budget allocations.*

We also track the scope of the impact (e.g. to distinguish city-wide versus multinational impacts). We built this basic, adaptable tracking framework referring to the work of the UK Aid-funded Building Capacity to Use Research Evidence (BCURE) programme. Elizabeth Brower (EDI's former SRO) and David Rinnert share a related framework in their 2017 Oxfam blog, "How is evidence actually used in policy-making?".

How do we track impacts?

CEGA is able to *see* these instances of policy impact because we built a system of thorough and regular reporting from teams. We created start-up, interim, and final reporting templates designed specifically to get at researcher-policymaker engagements from many angles. For example, we ask teams to describe their *interactions* with government and policy stakeholders, ask which organizations have *demanded* their results, whether they've *presented* their project to non-academic audiences, what barriers they anticipate government might face in *takeup* of their results, among other questions.

To track reported policy impacts in a systematic fashion, CEGA designed a "Policy Impact Tracker" (PIT), using a Salesforce-based database at our host institution, the University of California, Berkeley. PIT allows EDI to capture the policy contributions of RA3 research and observe the trajectories of each funded evaluation, and the portfolio in aggregate.

So far, CEGA has logged 75 impacts from our RA3 research portfolio. The graph below shows the policy impacts, by type, that CEGA tracked over time.

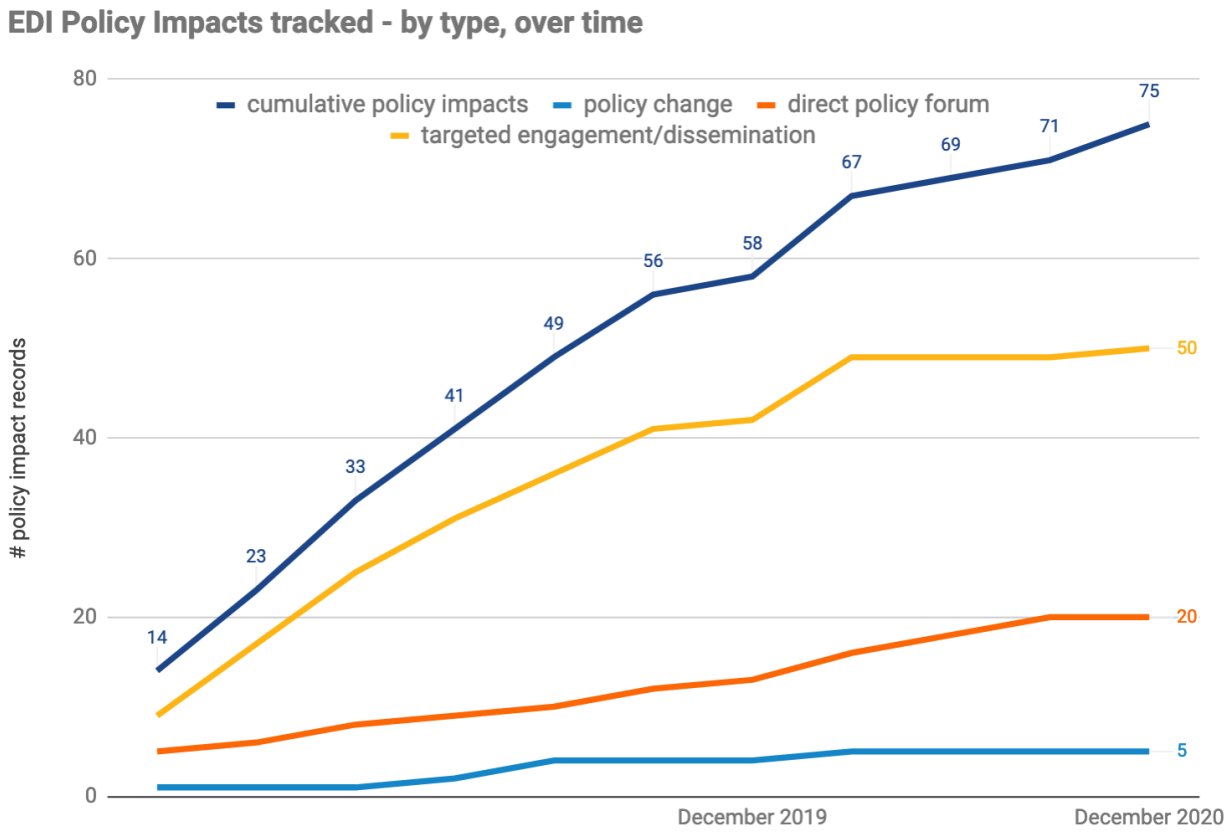


Figure 1. Keeping track of impacts since April of 2018, we documented: 5 instances of policy change, 20 direct policy forums, and 50 instances of targeted policy-relevant dissemination from these studies.

At the very least, many RA3 projects have the ambition to engage with policymakers and disseminate the evidence from their research ("*Policy Engagement or Dissemination*"). We track

these engagements as potential signals to watch for (or think of ways we might be supportive) of future impacts. Some examples not discussed in greater detail in this report include:

- Researchers studying teacher motivation in Pakistan presented to the Secretary of the School Education Department (SED) of Pakistan in April 2019, who expressed interest in staying abreast of the progress of the project and its findings.
- Researchers studying relations between mining companies and communities in South Africa met with municipal officials in several jurisdictions, and engaged with national officials in the Department of Mineral Resources, and other civil society and local representatives of agencies in South Africa, about the inception of the project.
- Researchers studying the effects of community policing in Medellín are planning to conduct "popular" dissemination events, i.e. geared towards citizens, general-interest journalists, and community leaders.

The remaining sections of this report focus on more notable signals of engagement and influence, typically tracked as either "direct policy forums" or "policy changes."

The rest of the report is structured as follows.
Section B delves into the specifics of projects that have finished their EDI contracts and have been very successful in having substantial policy impact.
Section C reviews six other projects that are ongoing with promising successes, and which we anticipate will have large policy impacts based on their current engagement with government partners.
Section D concludes with a discussion of factors that contributed to EDI-RA3 successes achieving real-world policy influence.

B. Major policy impacts to date

The EDI-RA3 programme has generated significant policy impacts, including changes to laws and national policies as a result of close engagement between researchers and government officials. Below, we dive deep into four projects that have demonstrated significant policy impact. Then, we review two projects which have finished, and whose impacts so far signal that additional contributions beyond their reporting periods are likely.

1. Gender-based civics training for women scaling across India

Soledad Prillaman (Stanford) and local NGO Pradan designed and piloted a new "gender training" to inform women in rural India of their rights and encourage them to participate in local politics. **Now, in part based on findings from the pilot and Pradan's advocacy, the Indian government is testing the feasibility of scaling these trainings across the country.**

In India, many rural women participate in Self Help Groups (SHGs). These groups of 10-20 women help participants access credit and save, and meeting regularly also empowers them to

work together on local issues. Pradan collaborated with Prillaman to design and implement a training programme to help more than eight thousand women in SHGs visit local council meetings, and understand their rights and women's under-representation in politics. As a result of the training, women substantially increase their political participation: women in SHGs who received the training were twice as likely to attend village meetings, petition for government benefits or services, and participate in campaigns than women in SHGs who did not receive training as shown by blue vs. green bars in Figure 2.

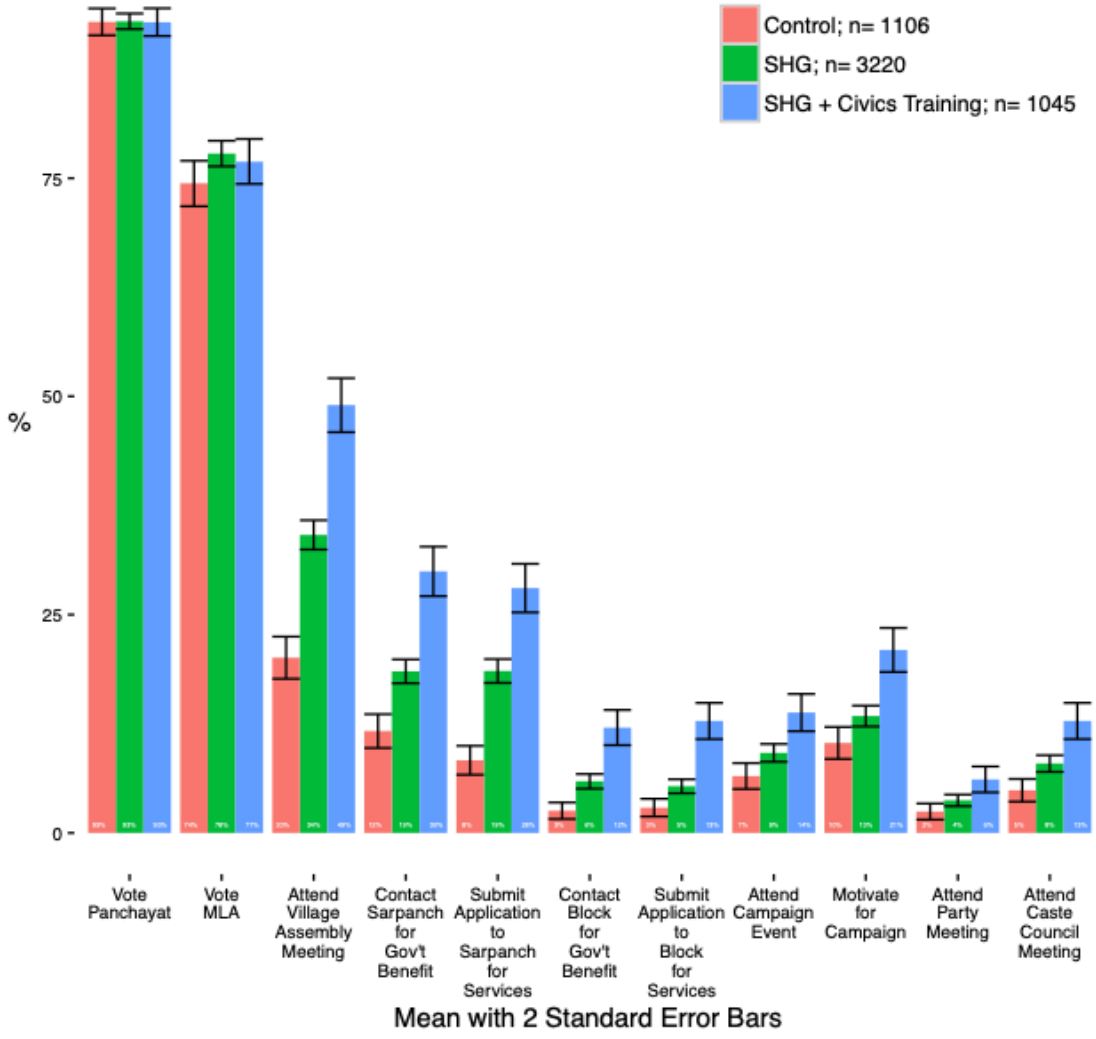


Figure 2. Source: "The power of women's collective action"

Now, drawing on evidence from this research and Pradan's advocacy, **India's flagship poverty alleviation programme—the National Rural Livelihood Mission—plans to implement and scale the programme across *all* SHGs in India. This means the training could reach up to 200 million women across 20 million groups, given that the Indian government has massively expanded the number of SHGs as part of a commitment to making them available to all women in rural villages.** To help guide the expansion, Prillaman will continue to engage with a two-year pilot to

understand how to scale these trainings in SHGs, so that the trainings remain relevant, sustainable, and effective across India.

The foundations of this policy impact were forged through close researcher-implementation collaboration, and direct advocacy of the (civil society) partner to government decision makers. Specifically, the team reported in March of 2019 that they had developed a direct feedback loop of regular meetings with Pradan leadership from the outset, which significantly influenced the ultimate programme expansion. This included meeting with the Pradan leadership team on at least six reported occasions, including a weeklong workshop to discuss the proceedings of the interventions. In general, three to five people from Pradan's management team were present for these meetings.

As of August 2020, Prillaman reported there was a plan to evaluate four different gender programmes (including the Pradan programme studied here) across four different geographies. Prillaman plans to help advise a two year pilot to answer the question, "how do you build these SHG-based gender trainings to scale, not just within an NGO, but within India broadly?" This larger, comparative evaluation will directly inform national government policy beyond what is already being pulled from the RA3 study findings. The goal is to work with four complementary NGOs, and figure out how to implement the evaluations within a government institutional structure. In addition to direct government policy influence, Prillaman has also presented the results to the Bill & Melinda Gates Foundation, an influential development investor and advisor on women's empowerment with deep ties in the region.

We also reflect on impact within the implementation and learning experience of the NGO partner. The research team reported that there had already been a growing focus on directly targeting gender outcomes in women's groups. Recent implementation RFPs designed to support India's national scaling of SHGs were natural entry points for Pradan to work with the national government to inform the design of their gender training programmes, in large part based on the learnings from this study. Pradan applied to donor organizations to expand this scope of work in other states and localities. They have reevaluated their approach to gender interventions, created a new and systematic approach to implementing gender trainings, and made the decision to roll out this training more broadly. They also independently received their own grant to document the programme materials created for the implementation of this gender training, to facilitate take up and scaling elsewhere. Pradan had never implemented a randomized evaluation of their programme before, and reported that working on this project helped them to develop more capacity to do rigorous evaluations of their programming. Pradan leadership reported to CEGA that Prillaman was willing to listen to the needs of Pradan and develop an RCT that was sensitive to local context and needs, influencing Pradan's attitudes to randomized evaluations in a positive direction, and demonstrate the strength of this relationship in part shown through Prillaman's involvement in the larger shaping of Pradan's national and global agendas.

2. Making elections more democratic in Sierra Leone

Katherine Casey (Stanford), Abou Bakarr Kamara (IGC), Niccolo Meriggi (IGC) partnered with both major political parties in Sierra Leone to conduct a novel randomized experiment, varying how much input registered voters have in selecting candidates for the 2018 Parliamentary elections. **Results show that learning which candidates voters prefer in primary races increased representation (defined as the candidates selected by the party being those preferred by voters). The nation's two major political parties are now considering changing their constitutions to make Parliamentary candidate selection more democratic in response to research results.**

In the status quo, party officials, instead of voters, choose potential candidates to run for Parliament in Sierra Leone (and elsewhere). In this experiment, Casey's team helped the parties implement a new way to select candidates in a random subset of primary Parliament races. The interventions included i) a party convention and policy debate that was broadcast over radio; followed by ii) polling of voters about their preferred candidates, which was shared with party officials in a report.

The report shared with party leaders contained preliminary findings (de-identified and aggregated) from aspirant debates. This information included how well aspirants performed, how popular they were with constituents, and helped inform the political parties's internal selection of aspirants. The political parties had the option to share this information publicly or not. The research team went on to host four high-level events with the political parties to present the project and preliminary findings from the study. During the fall of 2017, they presented the intra-party debates to national, regional, and local representatives from both parties (SLPP in October 2017; APC in November 2017). The team then presented the reports on voter preferences for aspirants for MP symbol in January 2018 to national, regional and local representatives from the parties.

Results show that party leaders were not well informed about which candidates voters prefer: while 90% of party leaders assumed that voters agreed with their most preferred candidate, only 55% of these preferred candidates were also voters' top choice. In 34% of races, not a single party leader correctly guessed local voters' first choice candidate when surveyed. **In races still following the status quo primary process, party officials selected the candidate that the voters preferred only 39% of the time. In races with the new system, the rate at which party officials selected the candidate that voters preferred increased to 63%.**

Given these results increased representation, both the sitting president and the presidential flag bearer for the opposition party (at the time, now the ruling party) endorsed this project. **Highly ranked officials from political parties have appreciated the initiative and requested to extend it to the entire country. Officials from both parties have also expressed interest in using this approach as standard practice in the selection of candidates.**

This research has spurred interest in using debates to select more representative candidates for other positions (city mayors, local councillors, members of parliament, and presidential flag

bearers)—both in Sierra Leone, and other countries in West Africa through organizations including the implementing partner Search for Common Ground.

3. Training marriage officials to protect women's rights in Pakistan

Pakistani officials conducted the first ever training of marriage registrars in response to research, sparking an international conversation about protecting Muslim women's rights in marriage.

In Pakistan, the Nikkah Nama is a marriage contract between two Muslim partners, and guarantees the rights of women in marriage, divorce, and inheritance. This contract is perhaps the most important one a Pakistani woman will sign in her life, yet many are not informed of the terms of the contract when they sign it. The importance of having a correctly filled Nikkah Nama (with no columns crossed out or left blank) cannot be overstated. It ensures that the basic rights of women are being fulfilled, it helps in court cases when a woman contests for her rights in a divorce and it also protects the rights of a divorced woman's children since she can use this document to contest for expense money for her children and herself in the Union Council.

Nikkah Registrars (NRs, registered government employees with their individual Union Councils) play a key role in determining women's access to legal rights. More than 80% of the Nikkah registrars advise families on how to fill key provisions in the Nikkah Namah, such as divorce and dowry provisions. Thus it is absolutely crucial that they know and understand this document according to the marriage laws established in Pakistan. But 90% of Nikkah Registrars have never attended any formal training on their responsibilities, and more than 80% of Nikkah registrars of Punjab have an average education level of Matriculation or below. Instead, registrars are often unaware of the details of the law, respond to family or community pressures on what the contract should say, or frequently cross out parts of the contract they or family members disagree with.

Specifically, the first stage of the research showed that before training, almost 30% of NRs did not know that women had a right to ask for divorce in their Nikkah Namah, and after training almost 80% knew the correct answer. In particular, the biggest increase could be found in participants who had the lowest levels of education. For example, Nikkah registrars with a primary education managed to increase their knowledge score from approximately 45% to nearly 70% which is a substantial increase. The increase is very similar for Nikkah registrars with a Matriculation level of education - the average level of education for Nikkah registrars of Punjab.

To address this challenge, Duke University researchers Erica Field and Kate Vyborny **conducted a rigorous evaluation of a program designed and run by the Punjab Commission on the Status of Women, the first ever effort to train all marriage registrars in the province of Punjab. The research enabled the province to compile the first ever listing of all marriage registrars from across the province,** which did not exist previously and was put together during and for the

purpose of the marriage registrar training initiative. This census of all registrars will in and of itself be useful for future research and policy interventions, supporting the work of the PCSW.

The registrar training resulted in a 166% increase in the number of registrars who could correctly identify key rights women have in marriage. The researchers are now measuring whether registrar training leads to more standardized contracts for women that better uphold their rights.

Researchers have been involved with the government partner, the Punjab Commission on the Status of Women (PCSW), every step of the way in the design and rollout of this study. **Extensive descriptive analysis from the administrative and training data allowed the researchers to generate a report for PCSW, subsequently incorporated in a presentation within the provincial government Planning and Development department (P&D) which resulted in their funding being increased for the second phase of the marriage registrar trainings in Fall 2018.** The PCSW would like to expand these marriage registrar trainings. They say given the impact of the preliminary results to date, they are counting on the delivery of final results from the research team to support the case for this impactful intervention to continue as a durable government policy. **Media outlets including the Economist Asia, and a Pakistani talk show from Indus News have also featured results and statements from the research team given the impacts of this project.**

The findings were also shared by PCSW at their annual launch of the Gender Parity Report in front of the media and key stakeholders in the field of women empowerment in Pakistan. PCSW held a number of briefings for government officials to update them on the findings and results. District-wide findings have also been shared with the district level administrators of the Local Government Department and events are planned for this fall to disseminate more of the information with the community leaders. PCSW also piloted a province-wide initiative where they shared information regarding the Nikkah Nama with women from universities across Punjab in order to create more awareness about these issues. PCSW also worked to share results with representatives from women's rights organizations including Aurat Foundation and Shirkat Gah.

As reported in Pakistan Today, the PCSW shared the results of the training and evaluation with the Council on Islamic Ideologies, the authoritative body over the Muslim marriage contract in Pakistan. **The Council is now reviewing the marriage contract to make it more "woman friendly," an important step to improve access to legal rights for millions of women**. One specific act that PCSW proposed to the Provincial government is standardizing and renewing the columns of the Nikkah Nama across Punjab which will a) ensure that the information in Nikkah Nama regarding conditions on divorce or any special conditions are not left blank b) will hold marriage registrars responsible for ensuring that all columns are filled since the project revealed that there were different versions of Nikkah Nama forms being used in different districts.

Given the success working with PCSW and administrative data access and analysis, the researchers have now successfully begun pursuing a new component of this project focused on

women's rights in land inheritance. The team is collaborating with the World Bank and Sabrin Beg (University of Delaware) to study the impact of the rollout of the digitization of land records and land transfer process across Punjab (see details in the below box).

Extension of RA3 project: Women's rights and land inheritance in Pakistan

The researchers will use the staggered rollout of Land Service Centers (LSCs) over the course of four years (2011-2014) to test whether the new reform improved women's access to inherited land.

LSCs were set up in each sub-district of Punjab to service all land transactions using an automated framework and house records on servers. Owners can obtain land titles from the computerized system after biometric verification if they wish to sell, transfer or use their land as collateral in a business arrangement. The new system also requires biometric verification of all heirs for the inheritance mutation process, ensuring that female heirs are physically present at the time of mutation. All Service Centers are accessible using public transport infrastructure and have designated counters manned by female staff to assist women.

The programme thus represents an overhaul of an informal system that is replaced with a more centralized, computerized and accessible system. Automated land transactions are intended to reduce the cost of conducting land transactions, and lower the influence of local officers who initially acted as `middle-men', thereby potentially increasing women's de facto right to land inheritance by making it harder to exclude female heirs. Descriptive evidence from administrative records of transactions at the service centers indicate that the centers are catering equally to male and female heirs and that the actual amount of land that women are inheriting is approximately equal to the expected amount of land that they should be inheriting according to law.

4. Large labor reform law passed in Mexico

Using lessons from the study, researchers wrote parts of legislation that help citizens better navigate the Mexico City Labor Court as part of a labor reform bill that passed in May 2019.

Mexico City's Labor Court, one of the largest in Latin America, experiences extreme backlogs and inefficiencies. Trials can drag on for years: 30% of trials started in 2011 had not finished by December 2015 and 76% of judgments result in zero payments to workers, even if they win. Researchers Joyce Sadka (ITAM), Enrique Seira (ITAM), and Christopher Woodruff (Oxford) sought to address the backlog problem, ultimately contributing to one of the biggest labor law reforms in Mexican history.

Researchers established an information booth on the steps of the court to provide free information to workers about their rights and the judicial process, and used data from past cases to predict whether they were likely to win (using a machine learning "calculator"). They found that telling workers the probability of winning their case led to higher rates of resolution (a settlement out of court, or being reinstated at one's job) and that setting up a meeting with the employer increased the rate of conflict resolution. In short, providing basic information to

individual claimants significantly changed their decision-making and eased strain on the court system overall.

Lessons from this research influenced Mexican law, with Sadka writing parts of the labor reform bill that passed in May 2019 using lessons from the research. The new law requires workers to meet with a conciliator before going to trial, provides workers with more opportunities to settle their cases (lowering the burden of legal fees), and increases transparency around court proceedings. **In addition, the Labor Court decided to keep a permanent booth in front of the court, and the research team is helping the court hire and train staff to take charge of its operation. The government has also expressed interest in scaling the calculator's predictions across routine case management.**

This clear and remarkable policy impact was made possible through extensive engagement between Sadka and the Mexican legal system. Sadka had been working at the Mexico City labor court for years, creating relationships with labor policymakers, judges, and other stakeholders. As a result of her research and expertise, Sadka was part of a larger group effort starting in May 2018 to improve the labour court. This group effort included weekly meetings over a six-month period with approximately 25 high-level stake-holders, such as federal judges and magistrates, presidents of labor courts, state secretaries of labor, academics, members of international organizations, top labor litigation firms, and union and trade association groups. In the end, this group contributed heavily to the reform proposal submitted to the Federal Senate, and later passed in May 2019. This is now Mexico's latest labor reform bill in effect.

As this reform scales nationally from 2019–2023, the research team will continue to work closely with the Labor Courts to evaluate the effectiveness of the new policy.

5. Extending a tax compliance tool to two new states in India

Researchers develop an algorithm to catch "bogus" firms in Delhi, potentially preventing up to $45 million of VAT tax evasion, with other states in India moving to adapt this tool.

Aprajit Mahajan (UC Berkeley), Shekhar Mittal (UC Berkeley), and Ofir Reich (Google) have designed, and are currently implementing, a machine learning tool to help identify "bogus" firms in Delhi. These "bogus" firms are a common VAT tax evasion technique. A bogus firm is set up for the purposes of fraud — they generate false paper trails and sell fake receipts to real firms, so that those "costs" can be subtracted out of what the firms owe the tax authority in VAT taxes.

The Delhi tax authority typically identifies 'bogus' firms by visiting the physical site to see if the firm is conducting legitimate business. However, the tax authority cannot physically visit all of the firms that they have flagged as potentially fraudulent, thus many bogus firms continue to write fake receipts to real firms. While how much revenue the government is losing from bogus firms is unknown, officials in Delhi suggest that it might be as high as $300 million. The machine learning algorithm uses audit data of which firms the Delhi tax officials audited, and whether

they actually turned out to be bogus. The authors then test whether the algorithm would have identified more fraudulent firms correctly compared to the inspection decisions of Delhi tax officials.

The results are impressive. **The researchers estimate that if the tax administration had used the algorithm to predict which firms to audit in the past, rather than relying on physical inspections, they could have prevented enough VAT tax evasion to increase revenue by US$15 - 45 million (Mittal 2018).**

Clearly this project has the potential to have significant policy impact. **Given the successful proof of concept of the evasion detection tool, the researchers have received active expressions of interest from the tax authorities in Punjab and another (anonymous) Indian state to adapt this work. In both states, these projects could start soon as the authorities have agreed to fund local staff costs for the project and enable data access.**

6. Sharing results with the Minister of Education about teacher recruitment in Rwanda

An intervention to incentivize teachers in Rwanda with performance pay shows promise, and lessons learned from the study are relevant for Rwanda's national educational reforms

Clare Leaver (Oxford), Owen Ozier (Williams), Pieter Serneels (East Anglia), and Andrew Zeitlin (Georgetown) evaluate the impact of performance pay on both the composition and the effort of teachers in Rwanda. Partnering with the Government of Rwanda, they implemented the *Supporting Teacher Achievement in Rwandan Schools* (STARS) program, which pays the top 20 percent of teachers a bonus above their usual salary based on student learning gains as well as teachers presence, preparation, and pedagogy. Forthcoming at the *American Economic Review*, results show that performance pay changed the composition of the workforce, drawing in individuals who were more money-motivated (based on performance in a dictator game designed to measure intrinsic motivation), but who went on to teach at least as well. **Newly recruited teachers working under the performance-pay scheme also attended class more often, had more effective classroom teaching practices, and were not more likely to quit during the two years of the experiment, than teachers working under fixed-wage contracts.** Teachers recruited and working under the performance-pay scheme delivered 0.16 standard deviations of learning more than counterparts recruited and working under fixed wages.

Zeitlin met with the Minister of Education during a visit to Rwanda in June 2018, to discuss the ongoing analysis and its potential policy implications, and study results have since been presented to the Senior Management Team at MINEDUC as well as the Minister of Finance. **At the Minister of Education's request, the team wrote a policy brief outlining challenges and policy levers in teacher recruitment and management. This has been disseminated with the government and has been posted online by the IGC**. The Government of Rwanda has this year centralized teacher human-resource management - which was formerly the provenance of District Education Offices - and is actively revising its teacher management policies, including in this discussion the possible introduction of performance-linked financial incentives for teachers.

The research team has been requested to help draft a national Teacher Recruitment Framework, and MINEDUC has signed a letter of intent to evaluate a potential path to scale for the STARS program.

C. Ongoing and anticipated future impacts

In this section we highlight six studies that have not yet finished fieldwork, but have demonstrated intermediate impacts and **are well-positioned to cement lasting impact with their local partner governments, institutions, and/or civil society.** These teams are currently in the midst of rolling out an app to boost efficiency of social protection wage delivery in India, designing tax systems in Senegal, testing the quality of governance and electrification infrastructure in Kenya, informing the design of new credit products to encourage rural investments in Uganda, and analyzing and implementing interventions designed to increase the speed and fairness of justice in multiple countries. We review how these important ongoing projects are poised to have policy impact in their respective country contexts.

1. App improving social protection wage payments extended to Bihar as a result of meetings with Indian government officials across states

Researchers are tackling the issue of wage payment delays in India's federal workfare programme -- one of the largest social protection programmes in the world. Poor, rural households employed by public works programmes critically rely on government wage payments. In India, this is a particularly dire concern for the 50 million impoverished rural households who are paid through a last-resort federal workfare programme, based on the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA). The delivery of wages into workers' bank accounts has been frequently delayed beyond the legally mandated 15 days, and the highest levels of government and the press in India recognize the problem of payment delays.

Eric Dodge (Hanover), Charity Troyer Moore (Yale), Yusuf Neggers (Michigan), and Rohini Pande (Yale) evaluate a reform that leverages the digital features of the wage payment system using a mobile app. This app, named Paydash, aims to improve the flow of information and accountability across individuals responsible for processing payments. Specifically, the researchers test whether wage payments are expedited when low-level bureaucrats get more information through PayDash, and when the costs of monitoring by higher-level bureaucrats are reduced. An extension of this study is currently testing whether providing information directly to local elected officials, who have strong electoral incentives for the MGNREGA programme to function well, further reduces wage payment delays.

Introducing the PayDash app reduced the time required to process wage payments for workers by 24% in high-delay areas. There are also significant, sizable reductions in transfer rates of subordinate officers, a tool regularly used to incentivize better civil servant performance. The team continues to clean data collected from the intervention to further understand these results

and have completed follow-up data collection in Madhya Pradesh to delve into the mechanisms underlying these impacts.

Given these promising impacts and the policy relevance of the issue, **the team has *already* expanded their app to an additional state, Bihar, at the request of senior officials in the Bihar Rural Development Department.** Since the work under this grant began, the researchers have interacted on a regular basis with two to four senior officials in the Bihar Rural Development Department. This expansion to Bihar occurred after senior administrators in the central Ministry of Rural Development invited the research team to share about the tool in a meeting with state officials about innovations in MGNREGA, and the head of MGNREGA for Bihar requested they deploy the tool in his state.

These officers who had requested the PayDash intervention now support the implementation rollout across Bihar, which the researchers supported in 2019. **Since the intervention is policy official-facing, they have also directly interacted with over 1,000 officials at the district and lower block levels in Bihar to train them on how to interpret and use the tool to help them reduce payment delays in MGNREGA. The team remains in talks with other officials and is well positioned to expand their app to new states in India, demonstrating the potential to help decrease wage delays for millions of other impoverished workers.**

2. Helping national tax authority modernize property tax collection in Senegal

Denis Cogneau, Marc Gurgand, and Justine Knebelmann (Paris School of Economics), Victor Pouliquen (Oxford), and Bassirou Sarr (IMF) are midway through introducing a modern tax records and management system that is directly helping the Senegalese tax authority increase property tax compliance rates in Dakar. **The researchers' embedded, ongoing collaboration with the Senegalese administration has led to the administration incorporating the application developed through the project into their IT system and expressing interest in scaling-up the most effective version of the programme per the results of the evaluation.**

The research team has already demonstrated their effective collaboration within the institution, for example through successfully embedding their Property Tax Census as part of DGID's programme of expanding the tax net to increase local tax revenues. The timing of the project coincided with the creation of a local taxation office within the DGID, and a national programme to support municipalities in implementing local tax committees – the committees include representatives of local tax centers, representatives of the treasury which receives payments, staff from the Municipality (both elected officials and technical staff), and neighborhood representatives. Within this framework, the tax authority's local taxation office has the task of training local tax committee members of a given municipality, training property census field agents, and launching sensitization and property tax census activities. In this context, the researchers collaborated with the local taxation office to train field agents on the new Android application, to inform municipalities on the areas to be sensitized and surveyed (the treated sections of the RCT), and to supervise the implementation of the property tax census by daily presence in the field and data monitoring.

At the end of the year, these property tax census campaigns are taken into account in performance indicators both for the different tax offices, and for the municipalities. For the latter, the level of performance is linked to disbursements within the framework of the broader national policy. This gives them incentives to invest in the sensitization and support activities for the census. **The stronger institutionalization of the sensitization and property tax census campaigns, and the partnership with the local taxation office are now enshrined in a national policy which is high up on Senegal's policy agenda – which provides assurance that the programme will be useful, and receive political support, not only during the RCT, but also in the medium and long-term going forward.** The RCT is a good opportunity not only to assess the extent to which the new technology adopted by the administration facilitates tax enforcement, but also to test the concept and functioning of the local tax committees, which is likely to be very insightful for the Senegalese tax authority.

3. Selecting firms for tax audits in Senegal

Another RA3 randomized evaluation in progress also shows promise to influence Senegalese tax policy. Pierre Bachas (World Bank), Anne Brockmeyer (Institute for Fiscal Studies), Denis Cogneau (Paris School of Economics), Alipio Ferreira (Toulouse) and Bassirou Sarr (IMF) are studying the best way to select firms for auditing in Senegal (human auditor's discretion or a rule-based algorithm designed by the research team).

Tax administrations in low-income countries often rely on inspectors' discretion over which firms to audit. In principle, this may work well if tax auditors choose to act fairly based on specific and privately held (and likely poorly documented) knowledge about firms when deciding which to audit. However, this reliance on discretion also increases the risk of unfair practices or corruption.

The researchers work with the universe of (162) tax inspectors in the offices responsible for conducting audits, and the entire population of (over 5,000) registered firms in the corporate and VAT tax regimes in Senegal. The team designed an algorithm that selects firms for auditing. The algorithm predicts the likelihood that each firm is evading taxes, based on data from corporate income tax, value-added taxes, and other data. The tax inspectors then select half the annual audit program based on the traditional discretionary procedure, while the algorithm selects the other half of the program. A small share of cases are randomly selected. The team can then compare the tax collection outcomes across these three types of audit selection to measure which approach more effectively detects non-compliant firms, and increases the financial returns to auditing.

Pending completion of fieldwork, **the team is likely to have high-level input into the design of tax auditing policy for all of Senegal, which is crucial to meeting the government's goal of bringing down the tax evasion rate (higher than 20%).** Mr. Bassirou Niasse, who has been championing the project from the very beginning (as advisor to the Minister of Finance) is now

the Director General of the tax administration, signalling high-level policy potential for this project's implementation and implications of its results.

4. Evaluating monitoring & contracting in Kenya's national electrification programme

Researchers are assessing how different monitoring and contracting policies affect leakage, cost-effectiveness, construction quality, and timeliness of a nationwide electrification infrastructure project in Kenya (The Last Mile Connectivity Project). Researchers Susanna Berkouwer (University of Pennsylvania), Eric Hsu (UC Berkeley), Edward Miguel (UC Berkeley), and Catherine Wolfram (UC Berkeley) are in the midst of data collection, delayed due to COVID-19 and associated delays in LMCP construction. Randomized monitoring, and quasi-random allocation of construction sites across donor contracts, tied to rich administrative data with willing partners should allow for understanding causal impacts of **donor funding conditionalities, third party monitoring, and political incentives on the quality of government service provision.**

The potential impacts of this evidence are wide-reaching. Strong links with policymakers in Kenya Power, the Ministry of Energy, the World Bank, and the African Development Bank suggest that forthcoming results can influence procurement policies across sub-Saharan Africa, improving outcomes when contracting and monitoring private firms for the provision of public goods, potentially affecting livelihoods of millions of people.

5. Land titling intervention informed design of $150M gender-sensitive financing programme in Uganda

Maitreesh Ghatak (LSE), Markus Goldstein (World Bank), and James Habyarimana (Georgetown), Joao Montalvao (World Bank), Michael O'Sullivan (World Bank), Chris Udry (Northwestern) are **providing a cash transfer to households in rural Uganda as part of an ongoing land titling intervention to understand if this added access to capital can stimulate higher levels of productive investment.** This EDI-funded research is part of the Competitiveness and Enterprise Development Project (CEDP), a 5-year project funded by the Government of Uganda (with financing from the World Bank) to support reforms that improve the competitiveness of Uganda by lowering the cost of doing business and improving competitiveness of selected high-value sectors. The land-titling aspect of the **project has already directly informed the design of a US$150 million additional financing operation in Uganda in 2019 from the results of the first-stage RCT by this team**. The RCT conducted by the World Bank's Gender Innovation Lab found that when households are offered fully-subsidized titles and information about the potential benefits of land titling, almost 91 percent proceed with the titles and 62 percent opt for joint titles. The provision of related gender information (via an educational video) raises joint titling with women to 76 percent, and making land titles conditional on joint titles with women raises joint titling to 89 percent. For both approaches, overall land titling demand does not decline. The Additional Financing through CEDP builds on

these findings and integrates gender-related information into the community outreach campaigns at the parish and district levels, through edutainment videos, media messaging and engagement with community mobilizers (like community organizations working on women's access to land). The results from the EDI-funded study on the complementary effects of providing capital to titled households, meanwhile, will inform the design of new land projects from the World Bank and other donor partners. BRAC is also considering using the findings of this study to design new credit products to reach under-financed rural communities in Western Uganda.

6. Improving judicial efficiency in Kenya

The Kenyan Judiciary is working with the World Bank's Development Impact Evaluation (DIME) team and McGill University **to develop cost-effective, innovative solutions to address Kenya's backlog of cases**. DIME is also collaborating with the Kenyan Mediation Committee to develop a case management and analytics platform that facilitates optimal allocation of cases to mediators. The development of this platform is in progress. This project has the potential to improve the efficiency and effectiveness of alternative dispute resolution mechanisms in Kenya through streamlined administrative workflow and AI-powered decision support, which in turn would enhance the services that vulnerable populations receive to resolve their disputes, and increase access to justice throughout the country.

In a separate study, DIME is leveraging publicly available, historical data to evaluate the persistence of gender and ethnic biases in judicial decisions and exploring innovative ways to improve the quality and fairness of decisions in Kenya (similar to their newly available working paper assessing potential for such bias from historical data from India). This work is not only essential to understand whether ethnic and gender biases currently exist in the Kenyan judiciary, but also to explore the ways to address them.

D. Conclusion

EDI-RA3 stands out amongst similar research programmes for the strong government partnerships and real world impact of its projects. But the policy impact successes detailed in this report - both existing and anticipated - are not accidental, and would not have been possible without intention and organization from the outset, and years of dedicated engagement from research teams.

Why did we see such compelling impacts from EDI-RA3?

There are a number of deliberate decisions made by CEGA at the funding stage in 2017 to crowd-in projects and select those most likely to make not only important evidence contributions, but also to have policy impact.

The selection process for both rounds of RA3 funding *specifically* prioritised projects with a strong local implementing partner – most often a government counterpart (otherwise a civil society organization focused on citizen engagement or government accountability). All projects were 'co-created' to design evaluations that met local needs. For example, one of the seven scoring criteria, "Policy Potential", stated:

> *"A strong emphasis will be placed on supporting projects with potential for policy engagement during the design and implementation of the research, not simply upon dissemination of final results. Projects are encouraged to partner with or plan to directly engage in-country government officials and/or non-governmental organizations that have direct involvement in the reform under analysis or potential to be influenced by a study's findings."*

Other selection criteria also stressed that projects must be potentially influential for such partners:

- *"Is there indication that partners or involved stakeholders would be interested for evidence to inform their decision making?"*
- *"Is the programme appropriate for scale-up, and are there both scale-up partners and a plan?"*

But the committee was only able to act on this prioritization given the quantity and quality of proposals submitted to the requests for proposals (RFPs). The eligibility for the two RFP rounds was open to all applicants, and the RFPs were also circulated very widely, directly sent to more than 300 experimental researchers working on related topics. This outreach yielded 79 eligible proposals in 2017, and 104 eligible proposals in 2018, with proposed projects taking place across dozens of countries and implementing partners, and submitted by a total of more than 200 unique researchers.

What are the commonalities among projects with policy impact?

In 2020, CEGA conducted a center-wide analysis of common trends among policy impactful research (summarized in the post "Investigating a History of Impact"). The EDI-RA3 impacts featured here were a significant contribution to that underlying report. We find that policy impactful projects across many of CEGA's portfolios have common characteristics, and the conclusions from that report are consistent with what we observe from EDI-RA3.

First and foremost, researchers leading policy impactful projects **commit to long-term, "embedded" engagement with officials.** Researchers are present "in the room" virtually, or where, possible, physically for long stretches with government officials. This includes but is not limited to: living for years in the relevant country, attending regular (i.e., weekly) meetings with officials, and providing extensive technical and logistical support to partners before, during and after implementation of reforms or interventions.

RA3 examples:

Where researchers partnered to design and roll out the implementation of new interventions within existing institutions:

- Training for marriage registrars, Punjab, Pakistan (Field et al.)
- Candidate debates to inform political party primaries, Sierra Leone (Casey et al.)
- Information booth outside the Mexico City Labor Court (Sadka et al.)
- App tracking social protection wage payments in Indian states (Pande et al.)
- Digital property tax cadaster system in Dakar (Gurgand et al.)

Where researchers partnered to randomize the rollout of interventions already planned as government programs/reforms:

- Hiring and performance-payment for teachers, Rwanda (Zeitlin et al.)
- As electrification infrastructure was built, randomizing infrastructure audits (Wolfram et al.)

We also find that some policymakers, particularly those most involved in designing and implementing reforms, perceive that the implementation of the study is as impactful as the final results that take time to finalize. Projects that **provide valuable technical assistance in addition to "just answering the research question"** are common among those that report notable impact. This may involve investing in documenting and communicating the details of implementation and data collection, which can prove valuable beyond their role in the study to future scale-ups. This is particularly true where **research is designed in direct response to a specific organization or decision-makers' concern**. For example, many NGOs (and their donors) are motivated to generate evidence on key questions, and studies that directly address these have a clear route to impact.