Encouraging new landowners in Bangladesh to complete the registration of their land

Project report

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THE BEHAVIOURAL INSIGHTS TEAM

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Executive Summary

The Behavioural Insights Team (BIT) and the Government of Bangladesh's (GoB) Access to Information (a2i) Programme formed a partnership in March 2017 to apply behavioural insights and rigorous evaluation to public innovation in Bangladesh. We report here on the first trial implemented as part of our collaboration with a2i.

Policy objective

This first project looked to support an ambitious national programme of land reform led by the Ministry of Land and a2i's Land team.

Land administration is a complex issue: the link between well-protected land property rights and economic development has been well-documented. Yet, land disputes lie behind over 60% of all civil and criminal legal cases in Bangladesh, affecting particularly the most vulnerable parts of society.

The land-reform programme, which relies in part on the introduction of new digital systems for keeping land records, aims to lead to both simplified processes and better protection for citizens, as well as improved state monitoring of land ownership and taxes.

As a first step towards these wider changes, the GoB has built a new digital service for "land mutation". Land mutation, which is the last step in the land registration process, requires that a new landowner approaches the local land office to update their name on the Record of Rights. Mutation is compulsory and should happen immediately after having received a certified deed for the purchase or transfer of a piece of land.

However, in practice, most mutations currently occur only when the landowner requires proof of land ownership, e.g. to sell the land, obtain a loan, or when a dispute has already arisen. As a result, many land records remain out of date – and many landowners expose themselves to risks that they might not be aware of, such as seeing someone claim ownership over their land, or even the previous owner selling the same piece of land twice.

This trial focused on encouraging new landowners 1) to apply for mutation immediately after they purchase or receive a new piece of land, and 2) to do so via the new e-mutation system.

Intervention

We conducted extensive fieldwork to explore the reasons why people might not apply for mutation.

We found that citizens are largely unaware of the compulsory nature and of the benefits of mutation, and/or unwilling to complete the application because of the perceived costs, time or number of visits required.

As a solution, we developed a leaflet designed to be **timely** (the leaflet was given right after certification hearings); to be **easy-to-use,** including simple illustrations and checklists; to make mutation **attractive** by calling onto the identity of recipients as landowners and highlighting that mutation has been adopted by a large number of people across the country; and to **be scalable** if proven successful.

Results

Working closely with a2i's Results Management (RM) team, we designed a two-arm clustered Randomised Controlled Trial (RCT) to evaluate the effects of our intervention on:

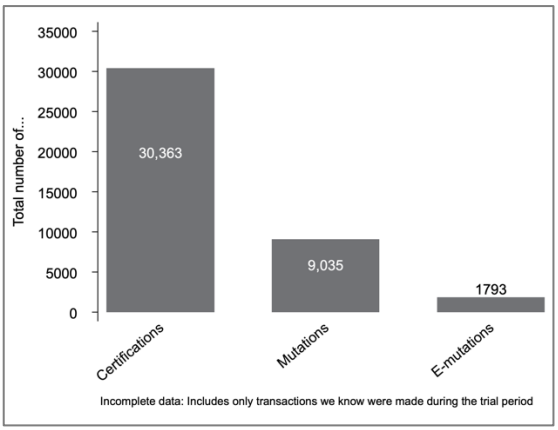
1. the **likelihood that new landowners apply for land mutation** within 3 months; and
2. the **likelihood that mutation applications are made digitally**, via e-mutation.

This trial, which was conducted between January and May 2018, was rolled out in 46 sub-districts ("upazillas") across Bangladesh

and targeted more than 30,000 land transfers which required to apply for land mutation.

Thanks to complex data collection and merging conducted by a2i, we were able to collect some of the first data on mutation rates in Bangladesh: the figure below shows that approximately 30% of new landowners applied for mutation within 3 months, 15% of which applied via e-mutation (although these figures are likely underestimates due to missing data issues).

Figure: *Descriptive statistics – Total number of certifications, mutations and e-mutations observed during the trial period*



This trial, owing to the complexity of field operations, suffered from several data collection issues which limited our ability to draw strong conclusions about the effect of our behavioural intervention. We, however, observed directionally promising effects of the leaflet on the likelihood that citizens apply via e-mutation, which suggests that citizens might indeed lack information on this service.

Recommendations

Despite the difficulty to draw conclusions about the effectiveness of the leaflet we designed, this trial yielded important recommendations for the land reform agenda, and for the scale-up of complex policy innovations.

Recommendation 1: develop adapted communications to inform citizens on complex processes like land registration

The fieldwork we have conducted clearly showed that citizens, especially those less educated and living in more remote areas, did not fully understand the importance of land registration, or the steps involved in the process. Our fieldwork also showed that new digital processes like e-mutation would not alone fully address this issue, as new landowners would still need to make the first step on their own.

As such, it is fundamental to keep developing methods which, like our leaflet, aim to inform and empower citizens. We were therefore very happy to see several of the AC Lands we worked with decide to print and distribute this leaflet more broadly.

Recommendation 2 - Improve coordination between institutions: Improved coordination between local land offices (which depend on the Ministry of Land) and registration offices (which depend on the Ministry of Law) would have avoided many implementation issues. But more importantly, better data sharing between their respective ministries could entirely remove the need for citizens to apply for land mutation, as registrars could simply transfer information about new landowners to the land office. This would represent a significant gain in efficiency, and welfare.

Recommendation 3 - Improve data collection and monitoring: Our research has also made clear the need for improved data collection tools for both land and registration offices. It brought to light the fact that local and central authorities in Bangladesh are not taking advantage of the opportunities offered by the data that is being collected, e.g. for monitoring tax payments, to prioritise the activities of their teams, or to gain a macro-understanding of land transfers.

The e-mutation initiative, and the ambitious land reform programme it is a part of, are great steps in this direction. This first trial with a2i has however showed that it is still an area that would benefit from further investment in tools and capacity building for officials to understand how best to use this new wealth of data.

01 / Introduction

The Behavioural Insights Team (BIT) and the Government of Bangladesh's Access to Information (a2i) Programme formed a partnership in March 2017 to apply behavioural insights and rigorous evaluation to public innovation in Bangladesh. The purpose of the partnership, which is supported by the Global Innovation Fund, is to: (i) apply behavioural insights to support Government of Bangladesh (GoB) priorities; and (ii) train a2i staff to independently apply behavioural approaches and rigorous impact evaluation through 'learning-by-doing'.

The first project undertaken as part of this partnership looked to support an ambitious national programme of innovation around land records, led by the Ministry of Land and a2i's Land team. This programme, which among other things introduces new digital systems for keeping land records, should lead to both simplified processes and better protection for citizens, as well as improved state monitoring of land ownership and taxes.

This project led a2i to conduct its first large-scale field Randomised Controlled Trial, during which more than 30,000 individual land purchasers were encouraged to adequately complete the registration of their land using new digitised processes.

02 / Background

Land administration reform

Land administration is a complex issue: the link between well-protected land property rights and economic development has been well-documented.[i] Yet, land disputes lie behind over 60% of all civil and criminal legal cases in Bangladesh[ii], affecting particularly the most vulnerable parts of society (such as widowed women, or minority tribes).

To improve the administration of land rights, the GoB has launched a large innovation programme, led primarily by a2i. Largely relying on the digitalisation of key land services, this programme aims to improve land administration by: 1) making it easier for citizens to use land services and in particular to update land records, and 2) providing to state actors easier ways of accessing up-to-date land records, helping them resolve disputes faster and at the same time making it simpler for them to collect land-based taxes.

Importantly, this digitalisation programme also aims to improve the coordination between the Ministries responsible for different parts of the land registration process – in particular the Ministry of Land responsible for maintaining land records, and the Ministry of Law, responsible for certifying land transactions. Improved coordination and data sharing would indeed significantly simplify procedures for citizens (who might no longer have to visit a series of different officials along the registration process) and help guarantee that land records are kept up to date.

Land mutation

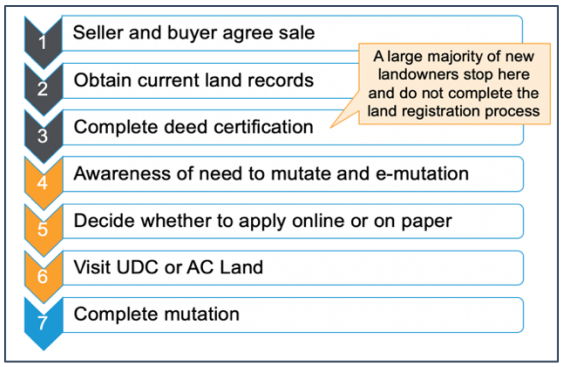
As a first step towards these wider changes, the GoB has built a new digital service for "land mutation". Land mutation, which is the last step in the land registration process, requires that a new landowner approaches the local land office to update their name on the Record of Rights. Mutation should happen immediately after having received a certified deed for the purchase or transfer of a piece of land from the registrar's office (Figure 1 summarises the key steps of certification and mutation).

Mutation applications can be filed in two main ways:

- Traditional "paper-based" applications for mutation are received and processed by the office of the sub-district's ("Upazilla") Assistant Commissioner (AC) Land;
- digital applications can be made via the new "e-mutation" web platform (www.land.gov.bd) directly by citizens. For those who do not have the skills or equipment to use digital services (the majority of landowners in rural areas), entrepreneurs at local Union Digital

Centres (UDCs) have also been trained to provide assistance. E-mutation allows citizens to complete their application faster, in fewer visits to local officials, and at a lower cost (thanks to regulated costs and a reduced number of opportunities for officials or intermediaries to ask for extra money). E-mutation was launched in 7 sub-districts of Bangladesh in February 2017, extended to a further 47 sub-districts in July 2017, and is now implemented all over Bangladesh.

***Figure 1:** Registration process, from certification to mutation*



Mutation is compulsory. However, in practice, most mutations currently occur only when the landowner requires proof of land ownership, e.g. to sell the land, obtain a loan, or when a dispute has already arisen. As a result, many land records remain out of date – and many landowners expose themselves to risks that they might not be aware of, such as seeing someone claim ownership over their land, or even the previous owner selling the same piece of land twice.

This project therefore focused on encouraging new landowners 1) to apply for mutation immediately after they purchase or receive a new piece of land, and 2) to do so via the new e-mutation system.

Barriers to timely land mutation

We conducted extensive fieldwork to explore the reasons why people might not apply for mutation right after receiving a new piece of land. Together with a2i, we interviewed new landowners, sub-registrars, AC lands and land brokers in 4 sub-districts across Bangladesh.

Our research revealed that:

Citizens are largely unaware of the compulsory nature and of the benefits of mutation. This lack of awareness may be explained by the fact that little to no information is given to citizens by the sub-registrars at the time of registering a land transfer, in particular about the risks involved in not completing the mutation of their land.

Even if they know about the need to apply for land mutation, **many new landowners lack information about the process**, and for example cannot readily list the steps involved, what documentation is needed, or when to complete the process. This was particularly true for e-mutation, which is a new process.

Many individuals are unwilling to complete the application until they are required to do so (for example to sell their land). This may be explained by a combination of the costs, time or number of visits to the AC land office required to complete a mutation application.

03 / Intervention

Our intervention: a timely, behaviourally informed leaflet

We developed a leaflet to address the barriers identified above and encourage new landowners to complete the mutation of their land. This leaflet was tested during interviews with landowners and officials from 2 pilot sub-districts. The final leaflet is included in Figure 2 below, and with annotations in the Annex.

We designed this intervention so that it would, among others:

1. Be timely

We know that reactions to prompts can vary depending on the time at which these are communicated – the most effective prompts being sent immediately before an action has to be taken; at a moment of change; or when a specific issue is top-of-mind.[iii]

We therefore designed our intervention so that the leaflet would be attached by the sub-registrar to the receipt given after certification hearings. This is particularly timely as certification is completed for all land transactions and is a necessary precursor to land mutation. Registration moreover represents an important moment of change for new landowners, where they will already be thinking of land registration, will be willing to protect their new property, and will have most of the documents needed in hand.

2. Provide easy-to-use information

We know that making desired actions simpler can often have a disproportionate effect on compliance.[iii]

The leaflet incorporates insights from behavioural sciences to make the information as easy to use as possible, including 1) simple illustrations of steps, 2) checklists, and 3) a clear list of prices.

3. Make mutation attractive

The leaflet uses several insights from behavioural sciences to make mutation attractive:

- It calls onto the **identity of recipients as landowners**, and in doing so uses the fact that individuals care about the image they have of themselves, and about the way others see them. This type of intervention invoking a personal identity has been shown to work for example to encourage prosocial behaviours such as voting[iv], or to discourage cheating[v] ;
- It presents the benefit of mutation by **highlighting potential losses from not mutating**. Indeed, we know that individuals respond more strongly to the mention of potential losses than to that of equivalent gains (what we call "loss aversion").[vi] Highlighting that new landowners could stand to lose their land if they don't complete the registration process could therefore be effective; and
- it highlights that **mutation has been adopted by a large number of people across the country** ("*Bangladeshis like you make over 150,000 mutations per month*"), and frames mutation as an act of civic participation. This harnesses individuals' desire to belong to a group and as a result want to adopt the behavioural norms of this group.[vii]

4. Present e-mutation as the default

We know that individuals are likely to adopt the default option, either because they perceive it as the recommended, socially accepted option, or because they perceive change as an effort (what behavioural sciences call the "status quo bias").[viii] To harness the power of default options, the leaflet presents digital mutation as the first option for land mutation.

5. Be scalable if proven successful

Interventions aiming to promote mutation and e-mutation at the local level are in the future likely to have to be funded and implemented locally by the AC land. It was therefore important to design an intervention that could realistically be scaled up - a leaflet fits that bill.

Figure 2: *Leaflet (front)*

04 / Trial design and implementation

Working closely with a2i's Results Management (RM) team, we designed a two-arm clustered Randomised Controlled Trial (RCT) to evaluate the effects of our intervention on:

1. the **likelihood that new landowners apply for land mutation** within 3 months of receiving their land; and
2. the **likelihood that mutation applications are made digitally**, via the newly introduced e-mutation system.

This trial, which was conducted between January and May 2018, was rolled out in 46 sub-districts ("upazillas") across Bangladesh and targeted more than 30,000 land transfers which required the new landowners to apply for land mutation.

This was a2i's first large field RCT, and one of the largest to date looking at land registration policies.

Randomisation

This trial was run as a clustered RCT, randomly assigning half of the sampled sub-districts to receive the intervention leaflet ("treatment group"), and the other half to proceed with the business-as-usual process ("control group").

We chose this design because the intervention leaflet, as detailed above, was to be delivered by local officials working at sub-district registration offices. This made individual-level randomisation difficult for several reasons:

- Officials are extremely busy – expecting them to be able to rigorously implement and monitor individual randomisation on top of their regular duties would not have been reasonable;
- We could not know in advance who would purchase or receive land over the trial period, and therefore could not have provided officials with a list of individuals to give the intervention to;
- It also became apparent during our fieldwork that new landowners frequently used the same brokers to help with their land registration or registered several transactions simultaneously. They would therefore likely have become aware if others had received more, or different information. Information spill-overs would then have likely biased the results of our evaluation.

Randomising at the sub-district level thus allowed us to minimise risks to trial implementation.

Moreover, to make the treatment and control groups as comparable as possible, we also ensured that these groups would be balanced on:

- The historical number of certifications happening in a typical month – this would guarantee that we obtain similar numbers of land transfers overall in both groups;
- Whether sub-districts are located in or around Dhaka. Indeed, behaviours are likely to be different in the capital city and in the rest of the country; and
- Whether the AC land had recently been named. There was a large wave of nominations in the months just preceding our trial, and we were concerned that new AC lands might act differently from more established ones, either because they would be less familiar with mutation processes, or because they would be more eager to promote new systems like e-mutation.

Sample

This trial was rolled out in 46 sub-districts across the country (see Figure 3). These correspond to the sub-districts where e-mutation had been rolled out at the time of the trial design, but excludes pilot sub-districts, which had seen a lot of pilot activities and in which our intervention might have had a very different impact.

Within these sub-districts, our trial targeted **individuals who visited the sub-registrar office to certify a land transaction over a one-month intervention period.**

All land transactions that required land mutation, i.e. that the name of the landowner be updated in land records, were eligible.

Figure 3: *Map of trial areas (control sub-districts are marked in black, treatment sub-districts in blue and sub-districts who withdrew in red)*

Implementation

This trial was launched on January 1st, 2018.

The intervention period lasted one month, during which sub-registrar offices in treatment areas gave out leaflets to new landowners as they completed the certification of their new piece of land.

To ensure implementation would be conducted appropriately, a2i addressed a letter endorsed by their ministry to the sub-registrars, made initial calls to explain the process directly, and monitored implementation via weekly calls. We finally made spot visits in several sub-districts.

Our monitoring suggests that except for the fact that some areas received the leaflets late due to postal issues, **the leaflets were successfully handed out.**

Data collection started on January 1st, 2018 as well, and went on for 3 more months, until the end of April 2018. [ix]

We collected the following information:

- **Data on certifications completed during the intervention period** (which identifies landowners who should apply for mutation) was collected from sub-registrars. All registration data is still only being collected on paper, without any electronic data entering. The data for this trial therefore needed to be collected from local offices (who sent copies of their books to a2i), and then entered centrally;
- **Data on mutation applications completed over the trial period** was collected from AC lands. While the introduction of e-mutation meant that some of the mutation applications were already digitised, a large majority of mutation applications (approximately 80%) was still done offline. We therefore requested AC lands to send weekly records to a2i by email, using templates we provided at the start of the trial. Data to be reported included information on the date of application, the process used (whether offline or via e-mutation), and a unique identifier for the land transaction.

Over this intervention period, we collected information on a sample of **30,363 transactions requiring mutation** – 13,615 of which were registered in "control" sub-districts, and 17,648 of which were registered in "treatment" sub-districts.

Data collection suffered from several issues

This complex setup, which had to be put in place because digital land records are still largely incomplete, required both detailed instructions from each official's respective ministry (the Ministry of Justice for sub-registrars, and the Ministry of Land for AC lands), and intensive monitoring from the project team.

Despite this close monitoring, our data collection processes suffered from several issues:

1. The AC lands from 3 sub-districts withdrew from the study (2 from the treatment group and 1 from the control group), and the AC lands from 7 sub-districts only sent partial data (4 from the treatment group and 3 from the control group). Based on conversations with the officials from these sub-districts, we believe that this attrition is mainly linked to a lack of capacity at the local level, made more difficult to manage by frequent staff turnover (one of the subdistricts for example did not have an AC land in post for the first half of the trial). In the analysis presented below we i) exclude the 3 sub-districts that withdrew completely, and ii) control for incomplete data by including an indicator variable for the 7 sub-districts concerned.

   While this is not ideal, this should not bias the comparison between treatment and control groups; indeed, all AC lands were required to do the same tasks and not directly involved in the distribution of the leaflet.

2. We had planned to match certifications (in sub-registrar records) to mutation applications (in AC land records) using a *unique certificate number*. This would have allowed us to track mutation rates at the level of the individual transaction. However, the certificate number was systematically missing in data sent by sub-registrars, which was only revealed at the point of data entry.

   As a result, we have to **conduct our analysis at the level of the sub-district**. We use dates of certification (as reported in the mutation data) to identify mutation applications that followed transactions certified during the trial period. In other words, we can count, at the district level, how many of the transactions made during the trial period were followed by a mutation application within 3 months.

   The mutation rates we use in the analysis below are therefore constructed, for each district, as follows:

$$\frac{\textit{Number of mutation applications corresponding to certifications completed during our intervention period}}{\textit{Number of certifications completed during our intervention period}}$$

3. Unfortunately, this approach is limited by the fact that 13% of registration dates are either missing or incomplete in the data sent by AC lands. Importantly, AC lands in treatment sub-districts were more likely (by about 8 percentage points) to report registration dates than AC lands in control sub-districts. While we did our best to ensure that both groups received the same follow-ups and monitoring, this generates bias in our sample, as we have to omit 17% of the mutations recorded in the control group, and only 9% of the mutations recorded in the treatment group.

4. Finally, information about the type of mutation process (manual or digital) is missing for over 25% of mutation applications, but less likely to be missing in treatment sub-districts. We do not believe that treatment AC lands would be disproportionately more likely than control AC lands to report these variables when filing digital over manual mutation applications, which means that while the overall numbers of mutations might be underestimated in the control group, estimates of the likelihood to apply via e-mutation should not be affected. We nevertheless control for this in the analysis to capture differences in reporting quality across districts.

These issues impose strict limits on what we will be able to learn about the effect of our behavioural intervention: our data is incomplete, and it is impossible with the information available to know if the missing data would have been systematically different from the data we did collect. Moreover, having to focus on sub-district-level analysis represents a loss in statistical power; or, in other words, decreases sharply our ability to say with

confidence whether the effects observed are real or just a 'fluke' in the sample.

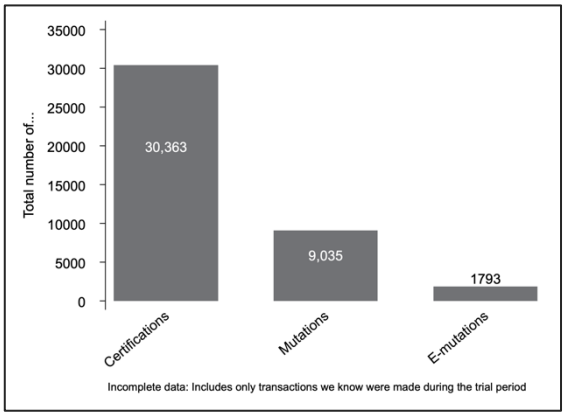
These implementation issues, however, **also provide a cautionary tale for successful programme implementation**, as they highlight that while top-down instructions are necessary, they are not sufficient to guarantee a successful intervention rollout or data collection exercise at scale, especially when these require coordination between local offices linked to different central Ministries. This is important to keep in mind as piloted innovations like e-mutation are taken to scale.

05 / Main findings

Descriptive statistics

We plot first in Figure 4 the overall number of certifications, mutations, and e-mutations received over the implementation period.

Figure 4: *Descriptive statistics – Total number of certifications, mutations and e-mutations observed during the trial period*



We collected data on 30,363 transactions certified during the intervention period, of which we know that 9,023 converted into mutation applications in the 3 months following the intervention period. Of these, 1,735 were recorded as digital applications for mutation. Overall, this corresponds to a 30% mutation rate, and a 6% e-mutation rate.

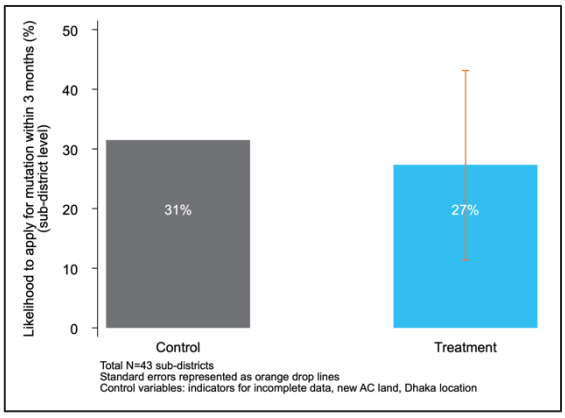
It is worth noting, again, that because of missing registration dates in our data we had to ignore 13% of the mutation applications we collected data on. It is therefore likely that there were overall more mutation applications than recorded here.

Yet, **these are,** to our knowledge**, the first estimates of mutation rates in Bangladesh.** These descriptive statistics are therefore interesting in themselves, as demonstrated by the Ministry of Land's interest for this data.

Results: Likelihood to apply for mutation within 3 months

Despite the data issues described above, we compare in Figure 5 **the fraction of certified transactions leading to a mutation application within 3 months of certifying a transaction** (i.e. the likelihood, at the sub-district level, that a new landowner applies for mutation within 3 months). We conduct this analysis at the level of the sub-district. As mentioned before, this leads to a sharp reduction in our statistical power. As is made evident by the width of the standard error bars displayed in Figure 5, we therefore cannot draw any significant conclusion from this estimation.

Figure 5: *Likelihood to apply for mutation within 3 months (sub-district level analysis)*



Results: Likelihood to apply for e-mutation

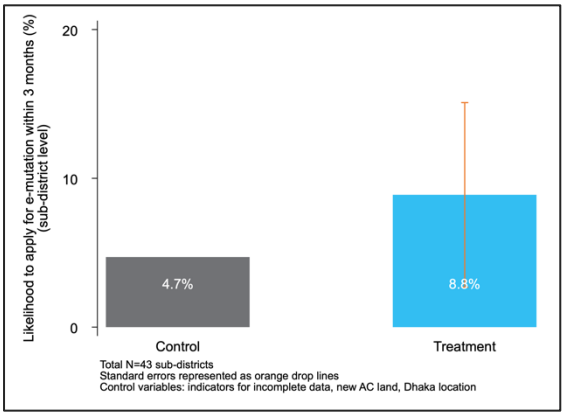
We now compare in Figure 6 the likelihood that recent landowners apply for mutation via the new e-mutation platform, still within 3 months of registering a new piece of land.

The analysis is conducted at the level of the sub-district as well. As noted above, it is likely that our data underestimates the overall fraction

of applications submitted via the e-mutation platform. This applies to both the treatment and control groups though, and therefore does not bias our treatment effect estimates.

The results below show directionally positive effects of our intervention on the likelihood to apply via e-mutation. These results, albeit promising, are however not statistically significant because of low statistical power. They should therefore only be taken as indications.

Figure 6: *Likelihood to apply via the e-mutation system within 3 months (sub-district level analysis)*



06 /Recommendations

It is difficult, because of the implementation issues mentioned above, to draw strong conclusions about the effectiveness of the leaflet we designed. This trial, the first RCT implemented by a2i, however yielded important lessons for the land reform agenda, and for the scale-up of complex policy innovations.

Recommendation 1: develop adapted communications to inform citizens on complex processes like land registration

The fieldwork we have conducted clearly showed that citizens, especially those less educated and living in more remote areas, did not fully understand the importance of land registration, or the steps involved in the process. This makes them vulnerable to abuses of power from local officials and intermediaries, and puts them at risk of facing potentially harmful land disputes.

Our fieldwork also showed that new digital processes like e-mutation would not alone fully address this issue, as new landowners would still need to make the first step on their own.

As such, it is fundamental to keep developing methods which, like our leaflet, aim to inform and empower citizens. While we were not able to rigorously prove its impact on mutation rates, qualitative feedback we got from the field suggests that it helped bridge some of the information gaps landowners suffered from. We were therefore very happy to see several of the AC Lands we worked with decide to print and distribute this leaflet more broadly.

Recommendation 2: Improve coordination

This project made evident that many of the issues and inefficiencies around land record-keeping originate from a lack of coordination between the institutions in charge of the process, and most notably between local representatives of the Ministries of Land and of Justice. Improved coordination between AC lands and sub-registrars would, at the level of this project, have enabled improved compliance with the trial protocol, and likely avoided many of the data collection issues listed above.

More importantly, better coordination and data sharing between these institutions could entirely remove the need for citizens to mutate their land, as sub-registrars could simply transfer information about new landowners to the AC land. This would simultaneously make citizens' lives easier and safer, and ensure that land records are kept up to date by default. We realise that the process of "Land Transfer (LT)" notices already exists, but our research has shown that it is so far very inconsistent. A key recommendation would therefore be to focus on improving the system for writing and sharing LT notices.

Recommendation 3: improve data collection and monitoring

Our research has also made clear the need for improved data collection and digitisation tools for both AC lands and sub-registrars. While the e-mutation platform manages to fill some of this gap by standardising and assisting data collection, it still only covers a subset of all mutation applications and is not yet the default for record-keeping (AC lands are indeed still required to fill paper record books).

Our research has also brought to light the fact that local and central authorities are still not taking advantage of the possibilities offered by the data that is being collected by sub-registrars and AC lands, e.g. for monitoring tax payments, to prioritise the activities of their teams, or to gain a macro-understanding of land transfers. The e-mutation dashboard provides an overview of overall performance in terms of number of e-mutation applications and speed of processing, but as far we know this data is i) not being systematically used centrally to monitor the performance of local offices, ii) not being used to understand overall trends in land transfers, and iii) not being used locally to prioritise tasks and follow-up with specific landowners.

It has been particularly interesting for us to see that the Ministry of Land's main interest in our results lied not only in the development of new communication campaigns, but also in the fact that we built a first combined database that allowed them to monitor mutation rates at the local level.

We therefore hope that the GoB will keep investing both in tools allowing for easy collection and use of data, and in further capacity building for local officials who need to understand how best to use this new wealth of data.

07 / a2i project team

This trial could not have been developed or implemented without our partners in a2i's Land and Results Management Teams. We report below what key members of the team thought of the experience of working on this trial.

Md Enamul Haque, former lead of a2i's Land team

Enamul was quick to put his hand up when we first scoped potential applications of behavioural insights during a workshop we conducted with a2i policy leads in 2017.

He had not heard about behavioural insights or RCTs before but was very open to any innovation which could help make the ambitious programme he was running a success.

Enamul was involved in all stages of the project, and particularly enjoyed having the opportunity to go and experience services directly in the field – although he realised that his position of authority meant that what he saw during his visits was perhaps a bit biased. This has made him think about other ways of collecting insights from the field, e.g. by sending more junior staff "incognito".

Enamul also played a key part in implementation, as his support and influence were essential to get local officials to implement the project. This has made him think carefully about the importance of training and monitoring to implement scale-ups, especially when they have to happen at a very high pace (like it was the case for e-mutation). During his time at head of a2i's Land team, he for example started using monitoring data to better target follow-ups with local officials.

Md. Humayun Kabir, Software Engineer, a2i Land Team

"*This project made me think more about how to build citizen awareness, and how to make sure that the tools and materials we develop are user-friendly and attractive".*

Humayun was in charge of developing and running the e-mutation platform throughout the project. As such, he was familiar with aspects of the project such as using data for monitoring and evaluation, but did not have any prior experience on RCTs, or user-centric design.

Humayun did find it difficult at times for his team to simultaneously manage the requirements of a research project with the day-to-day running of an innovation project, in particular when new developments were needed on the platform.

He did however really enjoy being involved in ideation workshops where we discussed how to develop material with users in mind, making sure in particular that they would have the necessary information and motivation to use new digital tools.

He is, as part of his current role heading a team of software engineers at a2i, now always encouraging his team to put themselves in the users' shoes and experience the tools they develop for themselves.

Farjana Yeasmin Maisha, Young Professional, a2i Land Team

"This project made me realise how important it is to monitor implementation on a day-to-day basis, as otherwise we cannot know how well projects are being run, or identify problems early enough"

Maisha joined a2i's Land team as her first job out of university and was quickly put in charge of monitoring the field implementation of this project.

She particularly enjoyed thinking through the best way to design interventions and communication materials to make them attractive and impactful, and this is something that she is still using in her day-to-day activities, including by referring to workshop materials shared by BIT.

Maisha also realised, thanks to this project, the importance of monitoring implementation, and not assuming it will be enough to give people instructions. The team and her put a lot of effort in following up with local officials throughout the project, but she realises that, collectively, we could have done more to ensure that data collection went better. She therefore now makes sure to think at the start of a project of everything that could go wrong, and to use data to regularly monitor implementation.

08 / Conclusion

We reported here on the first trial we completed with a2i. This was not only the first trial implemented as part of our collaboration, but also the first RCT implemented directly by a2i, and the most complex and large-scale to date. As such, it represented an incredible effort for all the teams involved, for which we thank them again.

This trial suffered from several data collection issues which meant that we could not draw strong conclusions about the effectiveness of the intervention we designed. It did, however, still offer important learning opportunities around: i) the importance of detailed research to decompose a complex policy issue into a series of behavioural problems; ii) the importance of piloting and user-testing

interventions to ensure they are adapted to the people and context; iii) the difficulties of coordinating policy interventions and trials at scale, in particular when good monitoring data is not available; and iv) the importance of good data to monitor and evaluate policy innovations.

Finally, this trial allowed us to open the lid on land reform in Bangladesh, an area which is a key challenge for many low- and middle-income countries. We are happy that the conclusion from our exploratory research and key insights we used to develop our intervention leaflet were taken on by the Ministry of Land – who have now shared the leaflet with all AC lands to encourage them to provide easy, attractive and timely information to the citizens they serve. This is, however, an area that is still undergoing reform, and one where we would encourage a2i and the GoB to keep innovating to improve the lives of citizens. In doing so, we would encourage them to keep our recommendations in mind, as 1) improved coordination between ministries, and 2) improved data collection and monitoring could in the end simplify greatly the land registration process and guarantee complete, up-to-date land records.

Annex: Annotated intervention leaflet

Address "Dear New Landowner"

Simple illustration of process from certification to mutation

Checklist listing the documents needed and steps required

Customise to specific sub-districts by including name and number of AC Land

Full list of applicable prices

Call onto brokers, deed writers, etc. to also encourage mutation

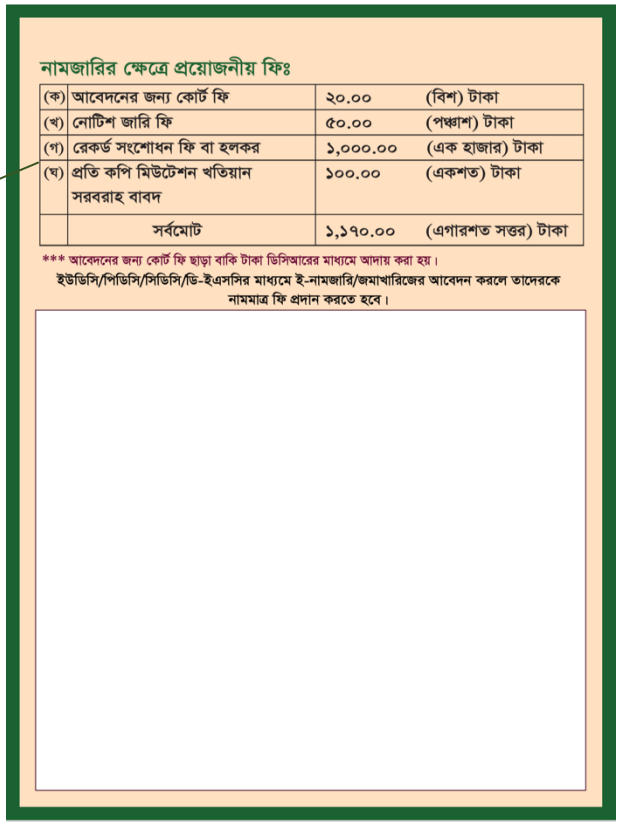
Emphasise importance of mutation to not lose land or face disputes. Customise to sub-district

Highlight social norm: "*Every month, 1.5 million citizens like you apply for mutation…*"

Make e-mutation the default option

Specify price and delay

Highlight pride of identity as a new landowner in Bangladesh



Notes

[i] For example: Dale, P. (1997). Land Tenure Issues in Economic Development. *Urban Studies, 34*(10), 1621-1633.

[ii] BRAC Human Rights and Legal Aid Policy Research Institute (2014). "Socio-Economic Costs of Property Disputes: An Empirical Examination from Bangladesh".

[iii] BIT, "EAST : Fours Simple Ways To Apply Behavioural Insights" (2014)

[iv] Bryan, Christopher J., et al. "Motivating voter turnout by invoking the self." *Proceedings of the National Academy of Sciences* 108.31 (2011): 12653-12656

[v] Bryan, Christopher & Adams, Gabrielle & Monin, Benoît. (2012). When Cheating Would Make You a Cheater: Implicating the Self Prevents Unethical Behavior. Journal of experimental psychology. General. 142. 10.1037/a0030655.

[vi] Tversky, A., & Kahneman, D. (1991). Loss aversion in riskless choice: A reference-dependent model. *The quarterly journal of economics*, *106*(4), 1039-1061.

[vii] Cialdini, R. B., & Goldstein, N. J. (2004). Social influence: Compliance and conformity. *Annu. Rev. Psychol.*, *55*, 591-621.

[viii] Kahneman, D., Knetsch, J. L., & Thaler, R. H. (1991). Anomalies: The endowment effect, loss aversion, and status quo bias. *Journal of Economic perspectives*, *5*(1), 193-206.

[ix] Because of delays in delivering intervention materials, the trial started as late as January 20th in some of the sub-districts. In those cases, we extended data collection by an equal number of days.