

Improving LGED Performance by Considering Management Practice, Motivation, and the Mission Match of Employees

Final Report, Phase 1 Baseline Survey

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Sustaining high levels of performance while high levels of trust in citizens/end-users and high levels of motivation among employees is a challenge for many public sector organizations. The Local Government Engineering Department (LGED) in Bangladesh also faces this challenge despite its well-earned reputation as a well-functioning organization. This report presents the findings from a baseline survey conducted by a research team collaborating with LGED in improving its performance through inducing or creating mission match by ensuring that LGED staff's goals and mission are closely aligned with the organizational mission.

This report seeks to describe the current state of the agency and the motivation, orientations, attitudes, and constraints of LGED engineers. This report has four primary sections. The first provides institutional context and background on LGED. The second describes the context for our baseline survey while the third section shares our data and presents preliminary findings. The final section outlines the policy implications of our findings.

A primary finding we believe emerges from the baseline survey is the importance of motivation, and the possibility that changing management practices can further enhance organizational performance. Research that suggests that intrinsic motivation can be nurtured¹ or suffocated² by management practices, and that in particular, aligning agent mission with organization mission — a sense of mission match — and giving motivated agents more autonomy and discretion can improve performance.³ The results point to different ways in which LGED can improve its performance, a topic we return to in the discussion of the findings.

I. Institutional Context and Background

The Local Government Engineering Department (LGED) is one of the largest public organizations in Bangladesh. The infrastructure development projects and activities managed by the organization not only contribute to the development of communication and market networks but also create short and long term employment opportunities and livelihoods for

¹ Grant, Adam and Berry, James. (2011). "The Necessity of Others is the Mother of Invention: Intrinsic and Prosocial Motivations, Perspective Taking, and Creativity." *The Academy of Management Journal*.

² Gneezy, Uri and Rustichini, Aldo. (2000). "Pay Enough or Don't Pay At All." *Quarterly Journal of Economics*. Belle, N & Ongaro, E. (2014). "NPM, administrative reforms and public service motivation: improving the dialogue between research agendas." *International Review of Administrative Science*.

³ See Bandiera et al (2020). "The Allocation of Authority in Organizations: A Field Experiment With Bureaucrats" *NBER*; Honig, D. (2018) *Navigation by Judgment*, Oxford University Press; Rasul & Rogger (2016) "Management of Bureaucrats & Public Service Delivery: Evidence from the Nigerian Civil Service", *Economic Journal*; Rasul, Rogger, & Williams (2018) "Management & Bureaucratic Effectiveness: Evidence from the Ghanaian Civil Service", *World Bank Policy Research Working Paper*.

rural people. LGED receives substantial funding from the government⁴ and is responsible for implementation of 10% of the annual development program.⁵ It operates under the Ministry of Local Government, Rural Development and Co-operatives (LGRD).

LGED is widely perceived as an effective public organization by its donors and domestic actors (MOFA 2006⁶, World Bank 2009⁷). Fujita (2011) attributes LGED's main strength to the organizational behavior elements, an efficient division-of-labour system, and a mechanism for coordination.⁸ While there is considerable debate about how to measure the performance of a public organization (Ashworth et al. 2010)⁹, in Fujita's assessment the performance of LGED has consistently been higher than that of GOB as a whole (LGED 98% and GOB 90% in FY2009-10). Such consistent effectiveness over 30 years has helped LGED to receive assistance from prominent global donors, including the Asian Development Bank (ADB), the Swedish Government, the World Bank and the Japanese Government.

History

LGED traces its history to the early 1960s through the implementation of the Works Program (WP) that was developed from the 'Comilla Model,' which was first conceptualized and pioneered by the famous Akhtar Hamid Khan at Bangladesh Academy of Rural Development (BARD). Using this model, in the 1970s, an 'Engineering cell' was established under the Local Government Division (LGD) of the Ministry of Local Government, Rural Development and Co-operatives (MLGRD&C). In order to administer the WP effectively across the country, the Works Program Wing (WPW) was created in 1982 through the Development Budget.

Subsequently, the WPW was converted into the Local Government Engineering Bureau (LGEB) under the Government's Revenue Budget in October 1984.¹⁰ Throughout the 1980s and 1990s, the organization expanded rapidly under the leadership of Mr. Quamrul Islam Siddique. The needs for public infrastructures in the rural areas and allocation of revenue budget for maintenance, as well as, performance by the organization prompted the then government to upgrade the LGEB as the Local Government Engineering Department (LGED) in August 1992, and Mr. Siddique was appointed as the first Chief Engineer (CE).

Organizational Mandate

LGED's principal responsibility is planning, implementing, maintaining, and monitoring infrastructures at rural localities. The organization has derived its mandate from the Comilla model, which included the provision of rural infrastructure, irrigation, training and urban

⁴ The organization receives Development budget for construction of infrastructure development projects, and Non-Development budget for maintenance, office expenses, asset management, interest payment, etc.

⁵ Annual Reports. Available at: <http://oldweb.lged.gov.bd/LibraryReports.aspx?digitalLibraryType=1>.

⁶ Ministry of Foreign Affairs (MOFA) of Japan. 2006. GOJ-GOB Programme level evaluation -- Japanese assistance to LGED related sectors (final report). Tokyo: MOFA.

⁷ World Bank. 2009. *Bangladesh - Operational Risk Assessment (ORA) for Local Government Engineering Department (LGED): Final report, volume one (English)*. Washington, DC: World Bank. <http://documents.worldbank.org/curated/en/788751468201559152/Final-report-volume-one>

⁸ Fujita, Y., 2011. What Makes the Bangladesh Local Government Engineering Department (LGED) So Effective?

⁹ Ashworth, R.E., Boyne, G.A. and Entwistle, T. eds., 2010. *Public service improvement: Theories and evidence*. Oxford University Press.

¹⁰ Rahman, A., Rahman, T. and Rahman, T., 2007. The role of organizations in the growth of the rural non-farm sector in Bangladesh: The case of LGED.

development activities (Raper 1970).¹¹ LGED also adopted its mandate from the Strategy for Rural Development Projects, prepared by the Planning Commission (1984).¹² However, in recent years the organization has significantly increased its involvement in areas outside its original focus and mandate. LGED is now a major public agency for developing primary schools, upazila complexes, and cyclone centers in rural areas, as well as urban infrastructures like bridges and flyovers in cities and townships.

LGED's Functions

The core function of LGED is public infrastructure development. It also provides assistance to municipalities and city corporations through various projects for better service delivery. It is also involved in small scale water resources development programs to increase agricultural production using surface water. Furthermore, LGED is involved in the implementation of rural infrastructure development work of other ministries like Education, Cultural, Disaster Management, Agriculture, etc. LGED's major functions are depicted in Figure 1.

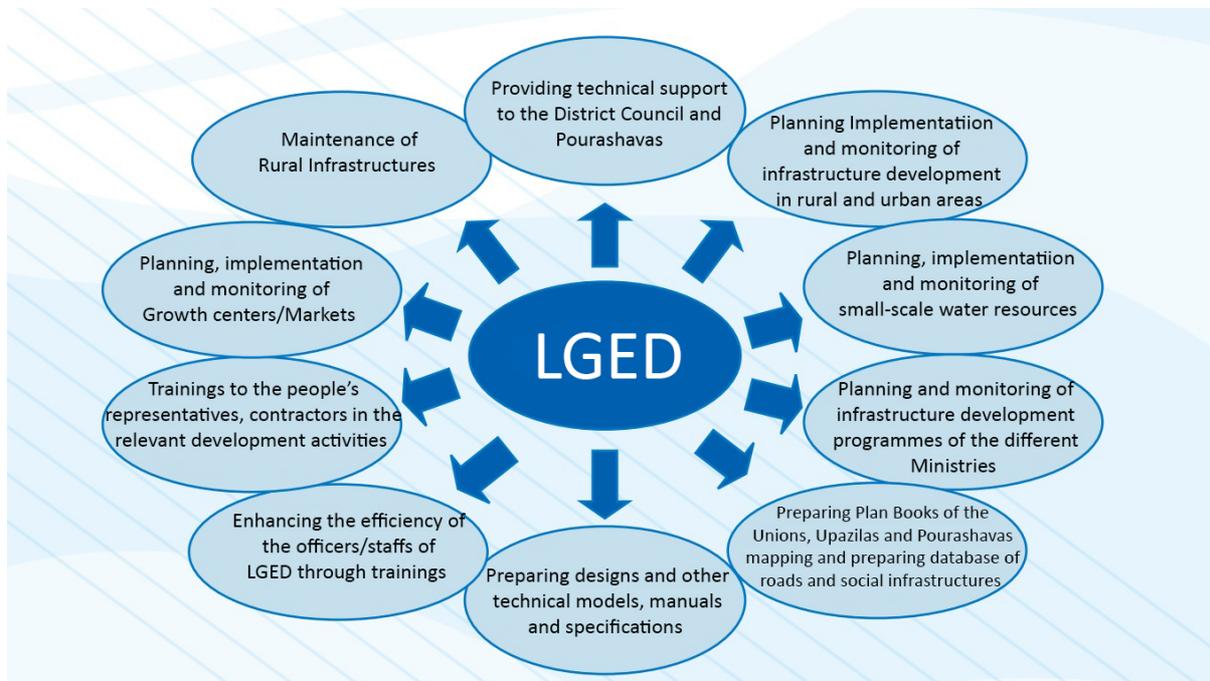


Figure 1: LGED's Core Functions (Drawn from LGED Annual Report 2017-18)

In the fiscal year 2017-18, the total amount of allocation for LGED under the Development and Revenue budget of the Local Government Division (LGED) and other Ministries was Tk. 16,433.00 crores. Of the allocated fund, the organization implemented Tk. 15,421.95 crores in development activities, about 9.59% of the government's ADP for that fiscal year.

LGED Administration

LGED employs 13,394 people, of which more than 1,000 are engineers.¹³ Of the total workforce, 319 personnel (2.3%) are now posted at the Headquarter and the rest 13075

¹¹ Raper, Arthur F. 1970. *Rural Development in Action: The Comprehensive Experiment at Comilla, East Pakistan*, Cornell University Press: Ithaca.

¹² Planning Commission. 1984. *Strategy for Rural Development Projects*. Dhaka.

¹³ LGED Organogram. Available at: <http://www.lged.gov.bd/site/page/e66db6f5-aca3-488c-92d7-1c833ff4448e/Organogram,-Approved-in-Year-2018>

employees (almost 98%) is stationed at field level. The Upazilas are LGED’s frontline implementation areas where the organization employs nearly 77% (10305) of its total workforce.

| Operational units | Total Number of Positions | Percentage (%) |
|--------------------------|----------------------------------|-----------------------|
| HQ | 319 | 2.38 |
| Division | 110 | 0.82 |
| Region | 300 | 2.24 |
| District | 2156 | 16.10 |
| Upazila | 10305 | 76.94 |
| Deputation | 204 | 1.52 |
| Total | 13394 | 100.00 |

Table 1: LGED workforce by operational unit

As per rules, the Chief Engineer (CE) is the final decision-maker in the organization and is vested with executive authority on all finance and administrative matters.¹⁴ Currently, eight Additional Chief Engineers (ACEs) are serving as supporting roles to the Chief Engineers in coordinating, procurement, supervising, and monitoring regular activities of the HQ units. Under them are 14 Superintending Engineers (SEs) who are in charge of the various units and sub-units of the Headquarter.

The Field Level comprises eight Divisions.¹⁵ Each division is led by one Additional Chief Engineer (AC), two or three Executive Engineers (XENs), Senior Assistant Engineers (SAEs), Assistant Engineers (AEs), and Sub-assistant Engineers. Under the Divisions, there are twenty Regions which are headed by Superintending Engineers (SEs). The supporting staff in regions are Executive Engineers, Assistant Engineers, and Sub-assistant Engineers. The responsibilities of the Divisional and Regional offices are to coordinate with the HQ and monitor all the LGED field level activities. The Divisional and the Regional offices do not have any authority to approve any development scheme.

There are 64 districts each led by an Executive engineer supported by Senior Assistant Engineer, Assistant Engineer, and Sub-assistant Engineer. Although the District offices are under the authority of Regions, in some cases, the District XENs directly report to the CE. At the bottom reside the Upazilas (currently 492), which are operated by Upazila Engineers (UE), Upazila Assistant Engineers and Sub-assistant Engineers. The UEs report directly to the

¹⁴ By law, the CE can approve tender of any scheme of any civil works up to a value of Tk. 30 crores. Any value over that ceiling has to be approved by the Planning Ministry or needs approval from the Cabinet. (Mof.portal.gov.bd. (2019). Finance Division, Ministry of Finance. [online] Available at: <https://mof.portal.gov.bd/site/page/4d3099c2-5b34-4a65-8368-df5b6c2054a2/Delegation-of-Financial-Power> Accessed 8 Sep. 2019].)

¹⁵ Eight divisions are Barisal, Chittagong, Dhaka, Khulna, Mymensingh, Rajshahi, Rangpur, and Sylhet.

District XENs. However, the Upazilas being an integral part of the Upazila Porishods (Council), UEs also work under the authority of Upazila Nirbahi Officers (UNO) and Upazila Chairmen.

Further, there are separate project units for every ongoing development project. Each project unit is headed by one Project Director (PD) who directly reports to the Chief Engineer. The District and Upazila offices play as supporting roles for the PD in the implementation process.¹⁶

LGED's Field Activities

The Upazila offices are the frontline unit of implementing all of the LGED's development activities. The other field level offices (Districts, Regions, or Divisions) play mostly the supervising and monitoring roles. The Upazila Engineers have three functions: construction of new structures (under the development budget), maintenance of old structures (under the Non-development), and training. The engineers provide training and technical aids to Local Government Institutions (LGI), contractors, and other governmental departments. At the same time, the UEs are assigned to implement separate development projects initiated by the Upazila Chairmen or International donor organizations.

In carrying out their work, the UEs regularly deal with various kinds of stakeholders like supervisors, district administration and officers from other ministries, political leaders, citizens and contractors. Contractors are an important constituency for UEs as project implementation depends on them and that is why the UEs engage most of their resources in monitoring and supervising the contractors.¹⁷ Anecdotal evidence suggests that UEs considers this a hard job owing to problems in monitoring and political pressures.

The lack of workforce and versatile nature of the project works also hinder the UEs in monitoring all the activities. At the same time, an increasing number of schemes have extended the level of required paper works and related visits to the sites. All these obstacles are constantly affecting the efficiency and motivational level of the upazila engineers.

Staff Recruitment & Training

The majority of LGED engineers are non-cadre government officials with B.Sc. degrees in civil engineering. LGED also recruits computer, mechanical, and electrical engineers. But it is the civil engineers who work in the frontline development activities and hold most of the administrative positions. Engineers are usually recruited either through the Bangladesh Civil Service (BCS) examination or directly through the Bangladesh Public Service Commission (BPSC).¹⁸

The new officers start their careers as Upazila Assistant Engineers. Normally, they are appointed on a temporary basis with a two-year probation period. Within this period, the

¹⁶ By law, the PD is vested with an authority to approve any tender work up to a value of Tk. 20 crores. However, in practice, the PD requires permission from the CE to continue with the approval.

¹⁷ An UE is supported by an UAE, as well as other supporting employees like Sub-Assistant Engineers (SAEs), Work Assistants, and Surveyors. Some of the SAEs were transferred from other public engineering departments (Road and Highways, Public Works Department, etc.) A few SAEs are assimilated from various projects.

¹⁸ The BCS Exam is a nationwide competitive examination in Bangladesh conducted by the Bangladesh Public Service Commission (BPSC) to recruit public officials. The cadre positions are awarded only to the best performing candidates in the BCS examination. Other candidates are offered non-cadre positions in various government departments, including the LGED. The Cadre Engineers usually join other engineering departments like Roads and Highways, Railway, Public Health, etc.

engineers are required to pass a Departmental Examination that is held under the LGRD ministry. Successfully passing engineers are then appointed permanently.

The officers receive their mandatory fundamental training from the Bangladesh Public Administration Training Centre (BPATC) and Bangladesh Academy for Rural Development (BARD) right after joining the LGED. Apart from the fundamental training, through a yearly training calendar, LGED officers receive training related to procurement, ICT, quality control, office management, etc. all the year-round. A dedicated training unit arranges training and other related capacity-building activities in 14 Regional Training Centers (RTCs).

Staff Evaluation, Promotion and Award Policy

As per government law, the LGED engineers receive their promotion according to seniority and merit list. The officers with excellent results in the BCS and Departmental exam stay on the top of the merit list. Although there are other criteria like performance evaluation and Annual Credential Report (ACR)¹⁹ which apply to all government officers, in reality, the merit list plays the most critical role in the promotion process.

Although LGED does not have a standard performance assessment system, it uses various measures to evaluate the activities and performances of their officers. For example, 25 monitoring teams from the Headquarter regularly visit and submit reports on the ongoing project activities. In their reports, they also provide necessary information on the performance of the related field level engineers. Training is another mode of evaluation where the authority monitors the progress of their officers. Further, the LGED administration utilizes its procurement process as an indicator to measure the efficiency and performance of the officers with the efficiency of its officers measured by the amount of time they take to complete evaluating a tender. Currently, LGED does not have an official award policy for extraordinary performance.

Monitoring and Quality Control

The Project Monitoring & Evaluation (PM&E) Unit at the LGED Headquarters functions as the centre of monitoring and overseeing the implementation activities of development projects. The unit is heavily involved in the budgetary allocation for various projects and reviews the physical and financial progress of the projects through a monthly meeting at the Headquarter.

At the implementation stage, the upazila and district offices usually check whether design and other technical guidelines stipulated in the Development Project Proposal (DPP) are being followed. As a part of the monitoring process, the UEs send specific monthly progress reports to the District offices. Additionally, 25 teams from the PME unit of the HQ separately visit the ongoing projects for quality inspection all year round.

As for quality control, there are 54 district labs, 10 regional labs, and one central lab at the LGED HQ, which regularly examines the required quality of any project activity. All tests are undertaken as per the requirement of the specifications and as per the provisions of the Quality Control Manual.²⁰

¹⁹ The ACR is a standard governmental performance assessment process that every public organization must follow. Usually, at the end of every year, the supervising officer prepares this mandatory report on his/her junior officers and sends it to the administration department.

²⁰ 2005b, *Quality Control of Construction Works*, Dhaka, LGED.

LGED Projects and Schemes

LGED implements all its development and maintenance work through projects. In the fiscal year 2017-18, the organization has implemented 148 projects funded by its Annual Development Program (ADP), 28 projects under the ADP of other Ministries and 3 funded under the Revenue allocation.

A project starts with a needs assessment of development works that leads to the formation of the Development Project Proposal (DPP). The need or demand for a development work can arise from several sources - for example, requests from ministries or the Members of Parliament, local people, government plans, the media, or LGED's assessment. However, it is the LGED ministry and the Chief Engineer who jointly determine the required budget and implementing areas for the project. To develop the DPP, the CE appoints an officer who divides the proposed project into many schemes and starts collecting information on those schemes from the concerned district and upazila offices.²¹ With the list of schemes and considering other necessary expenditures, the officer then prepares the draft DPP.

The planning unit of the Headquarter then reviews this draft DPP and submits it to the LGRD Ministry following due procedures. The Project Scrutiny Committee (PSC) of the Ministry further reviews the DPP and sends it to the planning commission. After another level of revision, if no further change is required, the DPP is then submitted to the Executive Committee of the National Economic Council (ECNEC) meeting for the final approval.

Upon receiving the approval of the DPP, the LGED promptly assigns a Project Director (PD) who forms a Project Director Office with supporting staff. The office starts the project works by receiving detail cost estimates about the schemes from the field offices. Using these cost estimates along with related implementation costs and other expenses, the PD then develops detailed cost estimates for the entire project. If the tentative cost exceeds the allocated budget, further adjustment is made. After that, the PD distributes the schemes in 'Packages.' Several schemes comprise a Package, and several packages form the entire project. The PD then orders the district offices to float the tender of the packages to assign contractors.

All the contractors are selected through the Electronic Government Procurement (EGP) system.²² The selected contractors are then sent to the concerned Upazila Engineers to initiate the project. During the implementation stage, the UEs send monthly progress reports (usually in percentage) to the district offices. The district offices, combining with the progress reports, send financial progress reports to the PD. After the project, the PD submits a closure report to the CE. If there is a delay in the implementation, the district office (as in charge of floating tender) can extend the project completion time by 20%, whereas the CE can extend the time by 70-80%. After the completion, LGED develops a Project Completion Report (PCR) and submits it to the Planning Commission.

²¹ A scheme is a single civil works. It can be the development work of single or multiple roads. The formation of the schemes depends on the nature of the project. Usually, roads and bridges are included in different schemes. But sometimes both the infrastructures can be included in a single scheme. A project could comprise of thousands of smaller schemes.

²² All projects use the Open Tender Method (OTM) where contractors must meet some specific requirements (Experience, bank solvency, equipment, etc.). Another is the List Tender Method (LTM) which is used in emergencies where bank solvency is the only requirement.

After completing the project, contractors contact the district offices for payment. The district offices visit the sites to verify their claims. If the implementation process and the final infrastructure pass the required technical conditions set by the DPP, the district offices approve the payment. If not, then the district offices order the upazila offices to redo or fix the problems. One year after the evaluation, tender or security money can be claimed by the contractors.

If a contractor has not worked properly or has done severe violation to the overall design of the scheme, the UE can take necessary steps against him. However, such actions can also bring delays in the implementation process. As a consequence, the authority can drop the contractor if the law permits. In that case, the district offices re-estimates the project and hire a new contractor. The defect liability duration in LGED project implementation is one year which means, the contractor will pay within one year if any defect is found after the project completion.

II. Context of Diagnostic Survey

LGED is widely seen as a particularly effective public organization and has consistently received strong support from the government as evidenced by its increasing annual budget allocation. The current study investigates the motivation of field engineers in an effort to identify opportunities for further enhancing performance in this already high performing organization.

This project started in 2018 when the research team engaged with the Secretary and Chief Engineer at LGED. This led to a more formal and ongoing engagement with the Planning Wing of the LGED and after expression of support by the senior tiers of LGED, it led to a signing of Memorandum of Understanding (MoU) between LGED and the BRAC Institute of Governance and Development (BIGD) on June 19th, 2019. As outlined in the MoU, the primary objective of this project is to find ways of assisting LGED in its critical work by gaining a deeper understanding of un-tapped ways that LGED's performance can be enhanced.

As a follow-up to the MoU, a diagnostic, baseline survey of LGED staff was designed and conducted by the research team in close collaboration with the LGED which set up a Working Committee under an Additional Chief Engineer. The working committee, deliberated on the survey over multiple sittings and provided valuable context to the training of enumerators. Teams from LGED's headquarters travelled to all the locations where the survey was fielded, and their presence ensured cooperation from the respondents

The survey took place in July 2019. The initial plan was to survey all field level engineers who are posted either in District or Upazila offices of LGED. However, engineers from 16 districts were excluded from the survey at the last minute due to an unanticipated flood that affected those districts significantly in displacing millions of people and resulting in a big loss of lives of more than hundred people. Older engineers, more than 57 years of age, were also excluded as they were closer to retirement. All the remaining engineers who were posted either in upazila or district offices in 48 districts were invited to join the survey in their respective regional offices. Since the survey took place in regional offices, the engineers from those regional offices were also invited. In total, we invited 477 engineers from 228 upazilas of 48 districts of 17 LGED regions of Bangladesh.

Each of the engineers received an email from the headquarters with a letter signed by the Chief Engineer to attend the survey. The Superintending Engineers, head of the regional office, received direction from the headquarters to arrange the survey event in their respective offices. Our survey team also called the engineers prior to the survey reminding them about the event.

The surveys were arranged in 17 regional offices of LGED across the country on five consecutive days. The survey started on July 27, 2019 in five regional offices (Dinajpur, Rangpur, Barishal, Patuakhali and Noakhali). Following four days, the survey were held in the remaining 12 regional offices.

Introductory sessions took place prior to the actual survey where various aspects of the questionnaire and survey were discussed with the presence of higher ranked engineers from the headquarters and the regional office. After the introductory session, the higher ranked engineers from the headquarters and the regional office left the room and all the participants started the survey at the same time using tablets. The enumerators appointed by the researchers were present there the entire period to provide any technical or other assistance needed by the participants.

As demonstrated in Table 2, the survey was ultimately completed by 413 engineers. 364 of the initially invited 477 attended, as did an additional 49 uninvited engineers. Non-attendance was relatively balanced by rank and office. Attendance was slightly lower on the first day of the survey's administration (due to short notice to attend).

The uninvited respondents are engineers from divisional offices or older than 57 or recently posted/transferred at current location who were encouraged by their colleagues to attend the survey even though not invited. Uninvited respondents appear similar to those respondents who were invited in terms of their characteristics (see Table 3).

Summary statistics for each item in the survey questionnaire are included as Appendix II of this report; we discuss here findings we think of particular interest. One caveat to all these findings is that these are not causal estimates but based on reported levels of motivation and satisfaction. While we think these measures capture some interesting underlying parameters, these are based entirely on self-reported measures. As such these estimates are potentially subject to a variety of biases.

III. Data and Findings

Motivation

The findings largely confirm the high level of motivation and work ethic of LGED Engineers.

Table 4 suggests that the motivation of engineers is consistent with a high-performing organization. LGED engineers' reported pro-social motivation²³ and public service motivation are high with an average of 4.74 and 4.78 respectively on a 5-point scale.

In addition to a focus on benefiting society in their work, as a group engineers are also very highly motivated by intrinsic factors like challenge and enjoyment. Engineers are comparatively less strongly motivated by compensation. This finding - that engineers value

²³ The four items for prosocial motivation were "Because I care about benefiting others through my work," "Because I want to help others through my work," "Because I want to have positive impact on others," and "Because it is important to me to do good for others through my work".

their work for intrinsic reasons - is further supported by their responses to a question where they selected three factors that influenced them to join LGED. The largest group - 77% - of engineers selected “serving the country” as one of the three factors for joining LGED while only 8% reported “income and benefits” as one of the factors for joining (see Table 5).

Most LGED engineers, perhaps due to their strong commitment to the public service and intrinsic motivation, expect to stay in the LGED in the long run. 91% of the engineers (365 of 399 who are not required to retire) expect to stay at LGED in five years which gives LGED stability and scope to engage in long-term planning and thinking (see Figure 2). However almost half (49%) of those who expect to be at LGED in five years are not satisfied with the future career path.

Job and Career Satisfaction

Engineers are broadly highly motivated individuals who want to serve their country. However, this does not mean that engineers are broadly satisfied with their present careers. While 81% (334 of 413) of the participants mentioned that if they could start over their career again, they would still work in the public sector, only 45% (187 of 413) of the participants mentioned that they would work at LGED (see Figure 3a and 3b).

Employees are highly motivated towards wanting to deliver on LGED’s mission, and serving the public more generally. They overwhelmingly plan to stay at LGED. But they are not satisfied with their job, suggesting there may be opportunity for future performance gains to be unlocked by changing in management practices.

More engineers are dissatisfied (answering 1 or 2) than satisfied (answering 4 or 5) with regards to current postings, opportunities for self-improvement, rewards for performance, and other benefits (vehicles, facilities, etc.). Working conditions, authority, and job status also have substantial levels of dissatisfaction (see Table 6).

One of the areas of their job with which engineers are dissatisfied is what engineers perceive to be a lack of recognition of good performance. 93% engineers agree/strongly agree that they will feel “more motivated if there is awards for quality works, management or any innovation.” As Table 7 demonstrates, not only is support for greater recognition strong, it is strongest amongst those with greater levels of motivation (both intrinsic and extrinsic). Note that these “awards” need not be monetary – given LGED engineers’ motivational makeup, recognition or changes in job conditions (e.g. more flexibility) might also be “awards” worth considering.

While LGED engineers are dissatisfied with a number of aspects of their job, they see many potential ways their work environment could be improved, as reported in Table 8. Some of these potential areas of improvement (increased salary, budget increase) require additional resources. However, a number of potential changes – namely giving engineers more authority, potential changes in performance assessment schemes, and potential changes in reporting requirements – are management practices LGED may be able to alter (relatively) more easily.

Indeed, more authority was the factor engineers felt would most improve their current posting/job. Table 9 suggests that those who want more authority are differentially those with more prosocial motivation, attraction to public service, and those more motivated by challenge, recognition and enjoyment. This provides further support for the suggestion that increases in

field authority may improve performance, inasmuch as those who desire it are those we might imagine most likely to put said authority to use in serving LGED's goals.

Daily Responsibilities

Most LGED engineers are satisfied (mean rating of 3.7, median 4 out of 5) with their daily responsibilities. This may be because their duties are very well-defined as evidenced by their response to question "When you arrive at work each day, do you broadly know what your individual tasks are for that day?" 95% engineers (391 of 413) responded yes to this question. The majority of the tasks they perform on a daily basis are set by themselves (46%) or their supervisors (33%). Only around 21% of the tasks performed by them are due to external circumstances (see Figure 4).

The job of LGED engineers requires not only sound technical skill but also managerial and professional skills to effectively engage with their team and various local stakeholders as evidenced in Table 10. The engineers view managerial skill as important as technical skill for their profession. Their self-evaluation of their skills indicates there is scope for further improvement of those skills.

The three most important tasks they perform daily are site visits, preparing reports and administrative works. "Site visit" is reported as the most important priority by 87% engineers, followed by "preparing reports" and "administrative works" by 70% and 57% engineers, respectively (see Table 11). These three tasks together take around 5 hours daily by most engineers with around three hours (median) spent on site visits, suggesting engagement and investment in the field. 82% engineers mentioned they engage often (44%)/always (38%) with the communities (e.g., public representatives, local people) in which they implement LGED's projects.

Engagement with Local Stakeholders

One of the reasons for engineers' frequent engagement with various local stakeholders may be that LGED engineers view local stakeholders as significantly affecting the success of the implementation of LGED schemes. As reported in Table 12, many local stakeholders (e.g., contractors, local MP, etc.), in addition to the people within LGED (e.g., engineers in field offices, LGED management), significantly influence the outcome of LGED projects in the view of engineers.

As shown in Table 13, more than half of the engineers reported that various local groups (e.g., local MP/chairman/leaders/administration) had at least some intervention in LGED schemes. Notably, while LGED engineers found the majority of interventions by outsiders were a positive influence on success, a substantial minority - 42.4% - of engineers reported that interventions from "local leaders" felt that those interventions obstructed rather than assisted their work.

Examining the Interplay Between Motivation, Job Satisfaction, and Feelings Towards Local Stakeholders

Engineers who are more motivated by challenge (e.g., love solving complex and new problems) are more likely to be more satisfied in their profession, as shown in Table 14. Those who have

higher prosocial and public service motivation are also more satisfied with various aspects of their job.

Engineers' satisfaction towards their job is also related to how they feel about various group of people they engage on a regular basis (e.g., colleagues, contractors, communities, etc.). In general, LGED engineers, as shown in Table 15, feel very positively and high levels of trust in their colleagues, LGED management, and local communities. While engineers identify strongly with their colleagues and LGED management, they feel relatively less positively towards contractors and politicians. The better LGED engineers feel about a given group, the more satisfied they are about their job, as shown in Table 16. This correlation is strongest with engineers' feeling towards LGED management – those who report being satisfied with their jobs also report feeling the most positively towards LGED management, all else equal.

Examining Specific Potential Policy Changes

We sought engineers' opinion on some potential policy changes that would affect authority of some engineers. Consistent with the results on “more authority” reported above, Table 17 demonstrates that engineers overwhelmingly support a policy change that would give upazila engineers more freedom in cost estimates. Cost estimate revision was the most frequently chosen “top priority” for reform. Notably, support for this reform was strong not only from engineers at upazila offices, but also from engineers who are currently posted in district offices (whose authority would be reduced, if a policy like this were implemented). Engineers at upazila offices also supported a policy change that would allow them to amend schemes.

A policy change enhancing community engagement that would require “a consultation meeting with the participation of local people, contractors, local representatives, NGO worker, teacher/religious leader, etc. should be arranged before the contractor starts the work” also received a high level of support from respondent engineers. LGED engineers' support for citizen engagement is consistent with their relatively high degree of feeling/trust in local people (as shown in Table 15). Engineers who feel more positively about local stakeholders were more likely to support a change in policy requiring consultation with communities (Table 18).

Motivational Messaging

One question this study explored is whether simple motivational messaging might improve engineers' motivation and thus performance. To provide initial evidence on whether this kind of intervention was viable, each participant watched a randomly assigned video as an early part of the survey. There were four videos. Three videos had very similar message but the persons delivering the message varied (minister, engineers and citizens). One video presented similar messages but in written text form, to allow us to examine the added value of the “messenger” – the speaker – over and above the content. See the Table 19 for a summary of those videos.

We find only very modest relationships between the videos seen and reported motivation. Table 20 shows that while the more an engineer is motivated by compensation the less likely they are to support citizen engagement, being shown a video with motivational messages from the Minister or from citizens mitigates this effect. This is weak, but suggestive, evidence that those currently expressing high levels of motivation by compensation are still open to other sources of motivation – that is, that their motivation might change in response e.g. to a change in management practice. Motivational messaging from the LGED Minister may nonetheless have positive effects, though not on motivation; Table 21 suggests that engineers who watched the

Minister's message are more likely to express a desire to stay in LGED in the long run (more than 5 years), and Table 22 suggests the same message had a positive effect on how those who saw it felt about LGED management. This suggests the importance of appropriate messaging from the leadership with the caveat that this has to be perceived as credible to have a real impact.

Performance

The discussion so far has discussed LGED Engineers' motivations and intention, but not how these factors relate to performance. The research team has not yet been able to access a sufficient number of schemes to be able to associate actual field performance outcomes with particular engineers. As such, we can make only very suggestive conclusions regarding performance, which we draw from two (far from complete) measures of performance:

- 1) The evaluations of other engineers. Each respondent was asked to evaluate the performance of engineers at various ranks in their jurisdiction in a 0 to 100 scale. Engineers evaluated each position/rank in their district except their own.
- 2) Engineers' decisions and behavior in assessing a proposed scheme as part of the survey. In the survey, engineers were asked to assess a cost estimate for improvement of a typical village road which introduced random variation in the amounts (see the estimate in Appendix 1B).²⁴

Performance as-Evaluated by Other Engineers

The assessments of other engineers suggest LGED is a highly functional organization with high levels of performance by engineers at all levels, especially Upazila Engineers and district Executive Engineers (Figure 5). Both these groups were rated around 82 out of 100 by other engineers – notably higher than the ratings engineers gave themselves in terms of their knowledge of the skills they felt necessary for their jobs in Table 10).

There is some variation in performance by rank and location, as shown in Figures 5 and Figure 6. Performance evaluations also vary across districts as shown in Figure 7. While some districts are seen by other engineers as performing very well, there are other districts where engineers perceive greater room for improvement.²⁵ This suggests that peer effects and offices matter (rather than any given individual performing similarly in any office in which they might be placed).

Performance based on assessment of a cost estimate

In evaluating cost estimates, 87% of engineers (correctly) suggested a change in the flawed cost estimates, and 66% thought the estimate was “missing something”. Engineers on average selected 4.43 items for adjustment. However, very few engineers in fact selected the items that were over/under stated for adjustment (see Table 23).

²⁴ This was based on an actual cost estimate. All field engineers are familiar with this type of construction scheme. The cost estimate included 13 items with specification provided for relevant items. The estimate as seen by engineers over-allocated (around 50% higher than usual) funds for one item (Compacted WBM) and under-allocated (around 50% less than usual) fund for another item (Dense Carpeting). The scheme also overstated the total amount by a million taka (around 14% of the total). The survey respondents were requested to make necessary adjustments to the cost estimate for “the better execution/improvement of the scheme”.

²⁵ In particular, engineers at all ranks in Dhaka region are performing relatively better than others (Figure 8).

We also examined whether the motivational videos discussed above were associated with differences in performance in assessing the draft scheme. We find no significant effect of videos on how engineers performed in their assessment of the cost estimates, as shown in Table 24.

Summary of Findings

In general, then, these results suggest a high-performing group of engineers, but with major opportunities for further improvement – particularly given the substantial levels of dissatisfaction amongst engineers. Perhaps the easiest possible solution - simple motivational messages – seems unlikely to be sufficient to shift LGED engineers’ behavior, given these results.

However, there are promising avenues for potential changes in managerial practice. Greater engagement with communities has potential promise, as do revisions that give field engineers more flexibility over cost estimates and/or scheme revision. That the most intrinsically motivated engineers are those who most desire this greater flexibility further suggests that such a change may further improve LGED’s already high level of performance.

That performance (as evaluated by other engineers) seems to vary substantially between districts also suggests that an intervention which, for instance, makes pilot changes in management practice at the district level (thus potentially altering motivation in some districts but not others, to allow for comparison across districts) is worth serious consideration.

Greater access to existing LGED scheme and administrative data would also allow exploring the relationship between survey findings and performance with more confidence, as well as potentially identify other evidence-based suggestions for further improvements at LGED.

IV. Policy Implications

Literature suggests that the transmission of mission throughout an organization can allow it to use its mission for agents to “satisfy personal ideals relating to nonmaterial, future, or altruistic relations.”²⁶ Agents with strong public service and pro-social ethics can also be managed toward improved productivity by giving them more freedom in operating, whether that be via autonomy over decision-making processes, longer timeframes to accomplish their agency’s goals in an innovative manner, or insulation from higher-level political interference. This has implications for LGED as agent autonomy can be beneficial for its performance: comparative analysis of productivity in public sector agencies finds that management style and autonomy in personnel management (along with a sense of organizational mission) was highly correlated with productive agencies.²⁷

As noted in the introduction, one primary reason for pursuing this study stemmed from the suggestion that there might be motivational challenges at LGED. If motivation can be aligned with the organization’s goals, the need for monitoring is largely minimized and the benefit is seen through better performance in tasks that are difficult to monitor, such as the kinds of things LGED engineers do in the field. From our preliminary discussions with staff at LGED’s headquarters in Dhaka in the run-up to jointly developing the study we came to believe that

²⁶ Barnard, Chester. (1938). *The Functions of the Executive*. Harvard University Press.

²⁷ Grindle, Merilee. (1997). “Divergent cultures? When public organizations perform well in developing countries.” *World Development*.

motivation is a relatively untapped area, and thus examining engineers' motivation might reveal opportunities for improvement in this already high-performing organization.

The survey findings provide support for this, suggesting that incorporating engineers' motivation into the design of management practice may indeed lead to substantial additional performance gains. LGED is an agency whose engineers exhibit very high levels of intrinsic motivation, but where more than half of those who plan to stay in the organization in the long term are unsatisfied. Given the very high levels of motivation, it seems very likely that greater autonomy will give engineers the ability to take performance-enhancing actions, which simultaneously might have the effect of giving engineers greater job satisfaction. Greater job satisfaction may also itself encourage even greater effort and thus further increases to performance. This study thus suggests the possibility that supporting agents' autonomy (perhaps e.g. through greater authority to revise cost estimates and/or schemes) will simultaneously improve LGED's performance and make engineers more satisfied.

In noting LGED engineers' dissatisfaction we do not mean to suggest that we believe LGED is uniquely troubled in this regard; much the opposite. That is, our survey confirmed that the LGED is a largely high-functioning and relatively high-performing organization. In initial conversations with LGED regarding the survey, and discussions of potential work to follow, what is striking is that senior management has a sense of how the workforce needs to be highly engaged for a government agency like itself to successfully deliver on its mandate.

LGED has certainly demonstrated that it is willing to ask itself difficult questions to further improve on its high currently levels of performance. The survey incorporated within it questions that tease out what engineers feel about unsolicited interference from elected representatives in the community, bureaucrats in the government's civil administration, law enforcement officers or even religious leaders. LGED would like to know further about what these difficult dynamics are that their engineers in the field grapple with. The department is mobilizing its own funds and other resources to conduct focus group discussions (FGDs) that will dig deeper into unpacking these issues. The LGED, from its central headquarters, will liaise with their line ministry and other government agencies that have presence in the districts and *upazilas* to resolve tensions that hinder LGED engineers' work.

The LGED is also keen to understand and adopt better practices when it comes to managing engineers in the field, and is open to altering current management strategy to enable an optimal environment that induces better performance.

Improvements in Support to Field Teams.

Of the over 400 engineers from field operations that took part in the survey, nearly half of them were those posted at *upazilas* – sub-districts. Engineers understand that their duty stations in the field imply that they will have to devote the bulk of their time to visiting sites where construction is taking place. Not trailing by far is the priority of preparing reports and other administrative work that are vested upon them. The administrative burden on engineers is something that the decision makers at the helm of the LGED are keen to find ways to relieve them of. This has come up quite prominently in our extensive consultation with the Planning wing in the headquarters.

When, in the survey, we asked engineers at different ranks to evaluate colleagues in other ranks but their own, we observed that they all generally have a high regard for colleagues while there

is still room for improvement. What remains critical is the relationship between those in the field with their superiors based in the central headquarters (in the capital, Dhaka).

Going beyond the findings in the survey itself, our conversations at LGED suggest that the volume of work that an engineer in an upazila is entrusted with has exponentially grown over the recent two decades. Relevant from this to LGED's field operations is how this impressive growth has left engineers starved of proportionate resources (like motor vehicles for greater efficiency with site visits) to carry out their roles with satisfaction. The LGED feels that they are often unable to retain some of their most qualified recruits because how other government engineering departments (i.e. Roads and Highways Department and, to an extent, Department of Railways) have more lucrative benefits, facilities and a clearer career trajectory.

Going Forward:

There are a number of puzzles that remain from our results. The biggest is how to make sense of individual-level performance, for which we currently primarily use other engineers' perceptions of their coworkers' performance. The study offers a number of intriguing tentative relationships with performance – including the large degree of district-level variation in performance (suggesting it may make sense to think of districts as “teams” for some purposes); the differential performance of assistant engineers and those at district headquarters; and the relationships between motivation and performance.

In all of these cases, currently available data precludes any analysis of performance that incorporates past performance. In our current dialogue with LGED's management we propose accessing fuller scheme-level records, which would enable us to address questions like these (and any others that might be of interest to LGED) more fully.

Further access to administrative data would also allow the research team to increase our confidence in what we see as the key potential opportunity for further improvement: giving more authority and autonomy to field staff. In preliminary conversations with LGED the agency has seemed admirably open to exploring the possibilities for further engagement in this regard. As we have noted in that dialogue, if LGED were to wish to undertake a pilot change in management practice we remain ready and willing to discuss the details of that change, and how we could support rigorous evaluation to enable LGED to understand whether, why, and for whom a change in management practice is leading to improved performance.

Table 2: Attendance by Rank

| Rank | Total Invited | Invited but absent | Invited and present | Uninvited but present | Total Present |
|-----------------------------|----------------------|---------------------------|----------------------------|------------------------------|----------------------|
| Assistant Engineers | 56 | 7 | 49 | 10 | 59 |
| Upazila Assistant Engineers | 93 | 45 | 48 | 7 | 55 |
| Upazila Engineers | 214 | 30 | 184 | 10 | 194 |
| Senior Assistant Engineers | 40 | 10 | 30 | 2 | 32 |
| Executive Engineers | 74 | 21 | 53 | 7 | 60 |
| Additional Chief Engineer | 0 | - | 0 | 1 | 1 |
| Superintending Engineer | 0 | - | 0 | 5 | 5 |
| Others | 0 | - | 0 | 7 | 7 |
| Total | 477 | 113 | 364 | 49 | 413 |

Table 3: Characteristics of the respondents

| | All (N=413) | | Invited only (N=364) | | District & Upazila (N=369) | |
|-------------------------------------|-------------|----------|----------------------|----------|----------------------------|----------|
| | Mean | St. Dev. | Mean | St. Dev. | Mean | St. Dev. |
| Age | 41.4 | 8.6 | 40.8 | 8.1 | 40.7 | 8.2 |
| LGED Tenure (year) | 12.2 | 9.8 | 11.5 | 9.1 | 11.3 | 9.3 |
| Rank Tenure (year) | 4.4 | 7.3 | 4.3 | 7.3 | 4.7 | 7.6 |
| Location Tenure (year) | 2.1 | 3.7 | 2.0 | 3.3 | 2.3 | 3.8 |
| Hired through PSC | 65% | 0.5 | 65% | 0.5 | 66% | 0.5 |
| Satisfaction | 3.4 | 1.0 | 3.4 | 0.9 | 3.4 | 0.9 |
| Will Stay at LGED | 90% | 0.3 | 90% | 0.3 | 90% | 0.3 |
| Time spent (seconds) | 6678.3 | 1813.9 | 6635.0 | 1801.8 | 6651.8 | 1781.6 |
| Perception about LGED's performance | 76.5 | 20.7 | 76.8 | 20.4 | 76.3 | 20.5 |
| Identification | | | | | | |
| Avg. Feeling | 73.6 | 16.3 | 72.9 | 16.1 | 73.8 | 16.1 |
| Avg. Trust | 68.1 | 17.6 | 67.6 | 17.5 | 68.1 | 17.3 |
| Avg. Feeling Respected | 77.8 | 15.6 | 77.9 | 15.4 | 78.0 | 15.0 |
| Motivation | | | | | | |
| Prosocial | 4.7 | 0.4 | 4.7 | 0.5 | 4.8 | 0.4 |
| WPI Extrinsic | 3.9 | 0.8 | 3.9 | 0.8 | 3.9 | 0.8 |
| WPI Intrinsic | 4.2 | 0.7 | 4.2 | 0.7 | 4.2 | 0.7 |
| Public Service Motivation | 4.8 | 0.4 | 4.8 | 0.4 | 4.8 | 0.4 |

Table 4: Summary Statistics of Motivation Measures²⁸

| Variable | All (413) | | Invited (364) | | Upazila (261) | |
|---------------------------------|-----------|------|---------------|------|---------------|------|
| | Mean | SD | Mean | SD | Mean | SD |
| Prosocial Motivation | 4.74 | 0.45 | 4.74 | 0.45 | 4.76 | 0.43 |
| WPI Extrinsic | 3.90 | 0.80 | 3.88 | 0.81 | 3.86 | 0.82 |
| <i>Outward</i> | 4.07 | 0.84 | 4.04 | 0.85 | 4.02 | 0.87 |
| <i>Compensation</i> | 3.65 | 1.08 | 3.64 | 1.08 | 3.63 | 1.08 |
| WPI Intrinsic | 4.23 | 0.70 | 4.22 | 0.70 | 4.22 | 0.70 |
| <i>Challenge</i> | 4.28 | 0.81 | 4.27 | 0.81 | 4.25 | 0.80 |
| <i>Enjoyment</i> | 4.17 | 0.94 | 4.14 | 0.97 | 4.18 | 0.96 |
| Public Service Motivation (PSM) | 4.78 | 0.38 | 4.77 | 0.40 | 4.79 | 0.34 |
| <i>PSM APS</i> | 4.83 | 0.42 | 4.83 | 0.43 | 4.85 | 0.37 |
| <i>PSM CPV</i> | 4.82 | 0.40 | 4.81 | 0.42 | 4.84 | 0.33 |
| <i>PSM COM</i> | 4.82 | 0.43 | 4.81 | 0.44 | 4.82 | 0.41 |
| <i>PSM SS</i> | 4.65 | 0.58 | 4.63 | 0.59 | 4.65 | 0.57 |

²⁸ Statements used to measure this are in Appendix 1a.

Table 5: One of the Top Three Factors for Joining the LGED

| Factors | Number of engineers selected as one of the top three factors | Percentage |
|---------------------------------------------|--------------------------------------------------------------|------------|
| Job relevant to my degree and work interest | 304 | 73.6% |
| Prestige associated with LGED | 146 | 35.4% |
| Job security | 118 | 28.6% |
| Career development opportunity | 75 | 18.2% |
| Income and benefits | 34 | 8.2% |
| Opportunity to work with professional e | 171 | 41.4% |
| Only job I could get | 64 | 15.5% |
| Serving the country through LGED | 319 | 77.2% |
| Others | 8 | 1.9% |

Table 6: Satisfaction with various aspects of current posting/job with 1 being “very dissatisfied” and 5 being “very satisfied”

| <i>Aspects of the job</i> | <i>Number of Respondents with this Level of Satisfaction</i> | | | | |
|--------------------------------------------------------------|--------------------------------------------------------------|-----|-----|-----|-----|
| | (1) | 2 | 3 | 4 | (5) |
| Current responsibilities | 16 | 31 | 109 | 157 | 100 |
| Current salary scale | 19 | 54 | 120 | 155 | 65 |
| Working conditions | 37 | 72 | 159 | 115 | 30 |
| Other benefits (e.g., pension, gratuity etc.) | 13 | 35 | 138 | 170 | 57 |
| Other benefits (e.g., vehicles facilities, home loans, etc.) | 140 | 96 | 104 | 54 | 19 |
| Opportunities for self-improvement | 54 | 108 | 143 | 80 | 28 |
| Rewards for performance | 112 | 112 | 114 | 55 | 20 |
| Authority | 26 | 64 | 136 | 142 | 45 |
| Job status | 24 | 62 | 116 | 163 | 48 |

Table 7: Support for awards for quality works, management or any innovation and its correlation with motivation measures

| | | A. Degree of agreement (5 for strongly agree) | | | | | |
|-----------------------------------------------------------------------|---------|-----------------------------------------------|----------------------|---------|--------------|-----------|-----------|
| | | 1 | 2 | 3 | 4 | 5 | |
| Frequency | | 5 | 5 | 18 | 42 | 343 | |
| B. Correlation of support with age, tenure, motivation measures, etc. | | | | | | | |
| Age | Tenure | Public Service Motivation | Prosocial Motivation | Outward | Compensation | Challenge | Enjoyment |
| -0.162* | -0.163* | 0.274* | 0.312* | 0.373* | 0.265* | 0.194* | 0.328* |

Table 8: Relative Importance of Factors That Would Improve the Work Environment as Seen by Respondents with 1 being the least important.

| Areas of improvement | 1 | 2 | 3 | 4 | 5 |
|-------------------------------------------------------------|----|----|-----|-----|-----|
| Increased salary | 6 | 15 | 64 | 140 | 188 |
| A budget increase (increase of office expenses/contingency) | 15 | 16 | 67 | 168 | 147 |
| More authority | 7 | 12 | 59 | 139 | 196 |
| Enhanced community engagement | 3 | 18 | 87 | 173 | 132 |
| Changes in the performance assessment scheme | 4 | 12 | 83 | 156 | 158 |
| Changes in reporting requirements/Harmonized reporting | 4 | 14 | 103 | 175 | 117 |
| Standard workload | 10 | 19 | 70 | 119 | 195 |

Table 9: Correlation of authority seeking and motivation

| Motivation sub-factors | More Authority |
|------------------------------------|----------------|
| Prosocial motivation | 0.1207* |
| Attraction to public service (APS) | 0.1053* |
| Outward | 0.1126* |
| Compensation | 0.0246 |
| Challenge | 0.1250* |
| Enjoyment | 0.1042* |

Table 10: Importance of various skills and the ability of engineers

| Skills | Distribute 100 based on their importance | Ability (each one out of 100) |
|----------------|------------------------------------------|-------------------------------|
| Managerial | 38.77 | 63.87 |
| Technical | 40.25 | 66.42 |
| Inter-personal | 20.98 | 51.84 |

Table 11: How daily works are prioritized and amount of time spent on those

| | 1st priority | 2nd priority | 2nd priority | Avg. time spent daily (hours) |
|-----------------------------------------|------------------------------------|--------------------------------|--------------------------------|----------------------------------------------|
| Preparing reports | 93 | 120 | 79 | 1.649 |
| Site visits | 177 | 115 | 67 | 4.111 |
| Meeting with contractors | 1 | 28 | 35 | 1.023 |
| Meeting with upazila council/district c | 16 | 23 | 34 | 1.037 |
| Administrative works | 92 | 55 | 88 | 1.301 |
| Preparing tender | 15 | 28 | 39 | 1.797 |
| Scheme preparation/evaluation | 3 | 19 | 42 | 1.674 |
| Evaluation of tenders | 14 | 24 | 28 | 1.861 |
| Others | 2 | 1 | 1 | 1.208 |

Table 12: Influence of various parties on the success of LGED schemes

| Influence on the success of scheme | Least | Less | Some | Significant | Most | Mean |
|------------------------------------|-------|------|------|-------------|------|------|
| Engineers at upazila level | 89 | 21 | 6 | 49 | 248 | 3.84 |
| Engineers at district level | 61 | 42 | 44 | 166 | 100 | 3.49 |
| Contractor | 39 | 67 | 93 | 131 | 83 | 3.37 |
| Consultants | 40 | 84 | 175 | 92 | 22 | 2.93 |
| Local leaders | 43 | 102 | 152 | 92 | 24 | 2.88 |
| Rest of community | 36 | 103 | 160 | 87 | 27 | 2.92 |
| LGED Management | 45 | 68 | 85 | 124 | 91 | 3.36 |
| Local MP | 41 | 68 | 83 | 141 | 80 | 3.37 |
| Other gov. agencies | 50 | 100 | 137 | 96 | 30 | 2.89 |
| Local administration | 56 | 108 | 124 | 95 | 30 | 2.84 |
| Upazila council | 42 | 106 | 130 | 104 | 31 | 2.94 |
| Local political leaders | 50 | 110 | 135 | 91 | 27 | 2.84 |

Table 13: Intervention of various local stakeholders in the implementation of a scheme

| Intervention of local stakeholders | None | Very few | Some | Most | All | Obstructed |
|------------------------------------|------|----------|------|------|-----|------------|
| Local MP | 65 | 112 | 131 | 86 | 19 | 14.7% |
| Local government chairman/member | 33 | 115 | 187 | 68 | 10 | 20.5% |
| Local Administration | 33 | 115 | 187 | 68 | 10 | 13.9% |
| Community or religious group(s) | 130 | 153 | 90 | 35 | 5 | 14.1% |
| Local leaders | 40 | 152 | 155 | 58 | 8 | 42.4% |

Table 14: Correlation of satisfaction with various aspects of jobs and motivation

| Satisfaction with various aspects of jobs | Motivation sub-factors | | | |
|--------------------------------------------------------------|------------------------|-----------|---------------------------|----------------------|
| | Challenge | Enjoyment | Public service motivation | Prosocial motivation |
| Current responsibilities | 0.1727* | 0.0113 | 0.1886* | 0.1587* |
| Current salary scale | 0.1160* | 0.0246 | 0.1185* | 0.1296* |
| Working conditions | 0.1403* | -0.0612 | 0.1027* | 0.0519 |
| Other benefits (e.g., pension, gratuity etc.) | 0.0542 | 0.0657 | 0.1153* | 0.0931 |
| Other benefits (e.g., vehicles facilities, home loans, etc.) | 0.0474 | 0.0146 | 0.0229 | -0.0023 |
| Opportunities for self-improvement | 0.1211* | 0.0397 | 0.1144* | 0.0970* |
| Rewards for performance | 0.1012* | 0.019 | 0.0393 | 0.0498 |
| Authority | 0.1426* | -0.0551 | 0.1527* | 0.0585 |
| Job status | 0.1002* | 0.0059 | 0.1236* | 0.0408 |

Table 15: Identification²⁹ with various groups

| Groups | Feeling towards | Trust in | Respected by |
|-----------------------------|-----------------|----------|--------------|
| Neighbor | 78.46 | 71.42 | 78.29 |
| Junior colleagues | 81.09 | 74.15 | 82.72 |
| Senior colleagues | 81.07 | 77.89 | 79.95 |
| LGED management | 74.41 | 74.25 | 76.89 |
| Contractors | 61.91 | 52.92 | 74.41 |
| People from where you are | 79.92 | 73.93 | 82.64 |
| People where you are posted | 73.59 | 67.30 | 79.68 |
| Other public officials | 74.89 | 68.69 | 78.69 |
| Politicians | 60.43 | 52.88 | 69.99 |
| Local MP | 74.23 | 70.47 | 78.09 |
| Local administration | 69.70 | 65.24 | 74.72 |

²⁹ We asked how the engineers feel about various parties, how much they trust them and how much they feel respected by them on a scale of 0 to 100.

Table 15: Correlation of satisfaction with elements of the job and feeling towards various groups.

| Groups | Current responsibilities | Current salary scale | Working conditions | Other benefits |
|-----------------------------|------------------------------------|-------------------------|--------------------|----------------|
| Neighbor | 0.1590* | 0.1597* | 0.2273* | 0.1640* |
| Junior colleagues | 0.2533* | 0.2719* | 0.2746* | 0.2307* |
| Senior colleagues | 0.3125* | 0.2392* | 0.3473* | 0.2490* |
| LGED management | 0.3895* | 0.2373* | 0.3973* | 0.1833* |
| Contractors | 0.2767* | 0.2715* | 0.3884* | 0.2337* |
| People from where you are | 0.2162* | 0.1739* | 0.2164* | 0.1622* |
| People where you are posted | 0.2807* | 0.2081* | 0.2980* | 0.1881* |
| Other public officials | 0.2290* | 0.1720* | 0.2157* | 0.1804* |
| Politicians | 0.2529* | 0.2860* | 0.3325* | 0.2246* |
| Local MP | 0.2088* | 0.1901* | 0.2742* | 0.1681* |
| Local administration | 0.3277* | 0.2779* | 0.3831* | 0.2182* |
| | Opportunities for self-improvement | Rewards for performance | Authority | Job status |
| Neighbor | 0.1038* | 0.0941 | 0.1907* | 0.1717* |
| Junior colleagues | 0.1704* | 0.1394* | 0.2693* | 0.1891* |
| Senior colleagues | 0.2231* | 0.2306* | 0.4108* | 0.2709* |
| LGED management | 0.3073* | 0.3284* | 0.4907* | 0.3663* |
| Contractors | 0.2744* | 0.2427* | 0.3624* | 0.2948* |
| People from where you are | 0.1526* | 0.1085* | 0.2080* | 0.1789* |
| People where you are posted | 0.1841* | 0.1864* | 0.3155* | 0.2614* |
| Other public officials | 0.1401* | 0.1273* | 0.2413* | 0.2229* |
| Politicians | 0.2563* | 0.1724* | 0.3050* | 0.2027* |
| Local MP | 0.2109* | 0.1594* | 0.2938* | 0.1475* |
| Local administration | 0.3239* | 0.2987* | 0.3867* | 0.2955* |

Table 17: Relative support for various potential policy changes³⁰

| Policy Change | Mean | | | Priority (frequency) | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------------|------------------|----------------------|-----------------|------------------|
| | All (N=413) | Upazila (N=261) | District (N=108) | All (N=413) | Upazila (N=261) | District (N=108) |
| Upazila engineers need more freedom in cost estimates. | 4.35 | 4.46 | 4.27 | 174 | 116 | 46 |
| Upazila engineer should be able to amend/revise the schemes to certain extent if needed. | 4.14 | 4.36 | 3.70 | 85 | 59 | 17 |
| Tendering method for all upazila level works should be determined by the upazila engineers | 3.63 | 3.87 | 3.06 | 37 | 21 | 9 |
| All upazila level works, including the ones funded by upazila council, should be channeled through LGED headquarters. | 3.06 | 3.13 | 3.02 | 32 | 21 | 11 |
| External/Third party auditor should be used in all cases to monitor contractor's work. | 2.71 | 2.70 | 2.52 | 18 | 10 | 7 |
| A consultation meeting with the participation of local people, contractors, local representatives, NGO worker, teacher/religious leader, etc. should be arranged before the contractor starts the work. | 3.75 | 3.70 | 3.80 | 60 | 30 | 18 |
| A committee consisting of citizens and local representatives should be formed as a watchdog. Their approval will be required for fund disbursement to contractors. | 2.07 | 2.05 | 1.87 | 7 | 4 | 0 |

³⁰ We asked the engineers to what extent they would agree with the various policy change statements for the better execution/governance of the scheme with 5 being strongly agree.

Table 18: Correlation of support for citizen engagement and feeling/trust for local stakeholders

| Local stakeholders | Feeling | Trust |
|-----------------------------|---------|---------|
| Neighbour | 0.0549 | 0.1676* |
| People where you are posted | 0.1691* | 0.2361* |
| Other public officials | 0.1803* | 0.2196* |
| Politicians | 0.1870* | 0.2321* |
| Local MP | 0.1662* | 0.2238* |
| Local administration | 0.2118* | 0.2307* |

Table 19: Summary of videos seen by engineers

| Treatment | Statement by | Video content | Number of people receiving this treatment arm |
|-----------|-------------------------------------------------------|-----------------------|-----------------------------------------------|
| Minister | LGD minister | Factual and normative | 93 |
| Engineers | an Upazila Engineer and an Upazila Assistant Engineer | Factual and normative | 90 |
| Citizen | a school teacher and a member of local government | Factual and normative | 98 |
| Control | None. Just written text | Factual | 132 |

Table 20: Effect of video treatment on support for citizen engagement

| | (1) | (2) | (3) | (4) | (5) | (6) |
|----------------------------------------------------|-------------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | District and Upazila | | | Upazila | | District |
| | Dep. Variable: Support citizen engagement | | | | | |
| Panel A: WPI Compensation is demeaned by subgroups | | | | | | |
| Engineers | -0.175 (0.202) | | -0.187 (0.203) | -0.200 (0.237) | -0.094 (0.285) | -0.502 (0.436) |
| Minister | 0.116 (0.201) | | 0.113 (0.201) | 0.348 (0.225) | 0.517* (0.283) | 0.082 (0.382) |
| Citizen | -0.163 (0.196) | | -0.158 (0.196) | 0.059 (0.214) | 0.107 (0.269) | -0.008 (0.362) |
| WPI Extrinsic Compensation ³¹ | | -0.080 (0.101) | -0.083 (0.102) | -0.387** (0.177) | -0.422** (0.214) | -0.286 (0.321) |
| Engineers* Compensation | | | | 0.066 (0.277) | 0.123 (0.336) | -0.071 (0.495) |
| Minister* Compensation | | | | 0.619** (0.275) | 0.853** (0.357) | 0.258 (0.442) |
| Citizen* Compensation | | | | 0.659** (0.277) | 0.667* (0.360) | 0.579 (0.446) |
| Constant | 2.059*** (0.127) | 1.977*** (0.083) | 2.029*** (0.133) | 1.920*** (0.142) | 1.920*** (0.170) | 1.908*** (0.264) |
| Observations | 363 | 363 | 363 | 363 | 256 | 107 |
| R-squared | 0.007 | 0.002 | 0.009 | 0.034 | 0.038 | 0.041 |

³¹ See footnote 3.

Table 21: Effect of video treatment on whether the engineers will stay in the long run at LGED

| VARIABLES | Stay | Stay | Stay | Stay |
|--------------|---------------------|---------------------|---------------------|---------------------|
| Age | | -0.035* (0.018) | -0.034* (0.018) | -0.035** (0.018) |
| BUET | -0.622* (0.363) | | -0.601 (0.366) | -0.730* (0.376) |
| Engineers | | | | 0.010 (0.405) |
| Minister | | | | 0.811* (0.479) |
| Citizen | | | | 0.175 (0.405) |
| Constant | 2.126*** (0.174) | 3.501*** (0.797) | 3.573*** (0.796) | 3.443*** (0.815) |
| Observations | 413 | 413 | 413 | 413 |

Table 22: Impact of treatment on feeling towards various groups

| VARIABLES | Junior colleagues | Senior colleagues | LGED management | Contractors | Local people | Politicians | Local MP |
|--------------|----------------------|----------------------|----------------------------------|----------------------|---------------------------------|----------------------|----------------------|
| Engineers | 1.652 (2.572) | 1.783 (2.617) | 1.823 (3.050) | 5.276* (2.962) | 4.109 (2.667) | 1.859 (3.565) | 2.202 (3.450) |
| Minister | 1.131 (2.548) | 1.442 (2.592) | 6.078** (3.021) | 4.646 (2.934) | 4.053 (2.641) | 1.491 (3.531) | 0.822 (3.416) |
| Citizen | -0.084 (2.509) | -0.348 (2.553) | 4.297 (2.975) | 4.715 (2.889) | 4.927* (2.601) | 0.653 (3.478) | 1.360 (3.365) |
| Constant | 80.492*** (1.638) | 80.439*** (1.666) | 71.621*** (1.942) | 58.591*** (1.886) | 70.614*** (1.698) | 59.530*** (2.270) | 73.242*** (2.196) |
| Observations | 413 | 413 | 413 | 413 | 413 | 413 | 413 |
| R-squared | 0.002 | 0.002 | 0.011 | 0.011 | 0.011 | 0.001 | 0.001 |

Table 23: Items selected for adjustments

| Item | Allocated Amount ('000) | No. of engineers selected for adjustment | Percent | Mean Adjusted Amount ('000) | Standard Deviation | Median Adjusted Amount ('000) |
|-------------------------------|-------------------------|------------------------------------------|--------------|-----------------------------|--------------------|-------------------------------|
| Traffic maintenance | 0 | 215 | 52.1% | 2332 | 43258 | 100 |
| Earth filling works | 50 | 231 | 55.9% | 243 | 655 | 200 |
| Box cutting | 180 | 44 | 10.7% | 201 | 485 | 178 |
| Sand filling | 315 | 70 | 16.9% | 314 | 119 | 315 |
| Sand sub-base | 1350 | 39 | 9.4% | 1350 | 0 | 1350 |
| Compacted WBM | 3375 | 72 | 17.4% | 3236 | 1004 | 3000 |
| Prime coat | 360 | 26 | 6.3% | 349 | 62 | 150 |
| Dense carpeting | 750 | 88 | 21.3% | 840 | 599 | 1025 |
| Structure Works | 0 | 135 | 32.7% | 173 | 518 | 300 |
| Protective works | 600 | 193 | 46.7% | 651 | 869 | 500 |
| Road Safety Works | 0 | 277 | 67.1% | 94 | 225 | 75 |
| Environmental Mitigation | 0 | 254 | 61.5% | 112 | 523 | 58 |
| Public display of information | 0 | 189 | 45.8% | 130 | 2460 | 10 |

Table 24: Effect of treatment on performance of estimate assessment

| | | Panel A | | | | | | | |
|--------------|---------------------------|----------|----------------------------------------------|------------------------------------------------|----------------|----------|----------------------------------------------|------------------------------------------------|--|
| VARIABLES | Broad Count ³² | | | | Narrow count | | | | |
| Engineers | 0.179* | 0.169* | 0.157 | 0.083 | 0.054 | 0.061 | 0.077 | 0.038 | |
| | (0.095) | (0.097) | (0.105) | (0.109) | (0.063) | (0.064) | (0.070) | (0.073) | |
| Minister | 0.079 | 0.051 | 0.028 | 0.009 | 0.026 | 0.031 | 0.008 | -0.002 | |
| | (0.094) | (0.097) | (0.106) | (0.110) | (0.063) | (0.064) | (0.071) | (0.073) | |
| Citizen | -0.064 | -0.095 | -0.140 | -0.118 | -0.019 | -0.037 | -0.056 | -0.047 | |
| | (0.092) | (0.095) | (0.101) | (0.106) | (0.061) | (0.063) | (0.068) | (0.071) | |
| Constant | 0.394*** | 0.391*** | 0.440*** | 0.382* | 0.205*** | 0.197** | 0.219** | 0.093 | |
| | (0.060) | (0.138) | (0.144) | (0.222) | (0.040) | (0.091) | (0.097) | (0.148) | |
| | | Panel B | | | | | | | |
| VARIABLES | Broadest Count | | | | Broadest | | | | |
| Engineers | -0.100 | -0.139 | -0.080 | -0.036 | -0.178 | -0.253 | -0.024 | 0.164 | |
| | (0.130) | (0.130) | (0.139) | (0.149) | (0.283) | (0.296) | (0.317) | (0.347) | |
| Minister | -0.009 | -0.083 | -0.061 | -0.086 | -0.071 | -0.221 | -0.079 | -0.022 | |
| | (0.129) | (0.131) | (0.141) | (0.150) | (0.279) | (0.295) | (0.322) | (0.352) | |
| Citizen | 0.109 | 0.031 | 0.100 | 0.120 | 0.255 | 0.116 | 0.309 | 0.317 | |
| | (0.127) | (0.128) | (0.135) | (0.145) | (0.270) | (0.284) | (0.303) | (0.336) | |
| Constant | 1.932*** | 1.728*** | 1.784*** | 1.524*** | -0.399** | -1.081** | 1.101** | -1.416* | |
| | (0.083) | (0.186) | (0.192) | (0.303) | (0.178) | (0.459) | (0.467) | (0.800) | |
| | | Panel C | | | | | | | |
| VARIABLES | Error 2 Broad | | | | Error 2 Narrow | | | | |
| Engineers | 0.303 | 0.276 | 0.472 | 0.482 | 0.041 | 0.069 | 0.212 | 0.222 | |
| | (0.395) | (0.412) | (0.430) | (0.467) | (0.513) | (0.542) | (0.561) | (0.617) | |
| Minister | -0.111 | -0.127 | 0.049 | 0.158 | -0.343 | -0.193 | -0.063 | 0.036 | |
| | (0.428) | (0.451) | (0.481) | (0.517) | (0.566) | (0.595) | (0.612) | (0.658) | |
| Citizen | 0.115 | 0.032 | 0.247 | 0.410 | 0.221 | 0.182 | 0.333 | 0.479 | |
| | (0.400) | (0.418) | (0.434) | (0.473) | (0.480) | (0.511) | (0.527) | (0.579) | |
| Constant | - | - | - | - | - | - | 2.635** | - | |
| | 1.981*** | 2.205*** | 2.245*** | -2.340** | 2.501*** | 2.628*** | * | -1.717 | |
| | (0.267) | (0.650) | (0.658) | (1.073) | (0.329) | (0.785) | (0.791) | (1.162) | |
| Fixed effect | No | Region | Region District and upazila only | District District and upazila only | No | Region | Region District and upazila only | District District and upazila only | |
| Sample | All | All | only | only | All | All | only | only | |

³² See Appendix 1C to look how this aggregate performance measure is constructed.

Figure 2: Career outlook at LGED

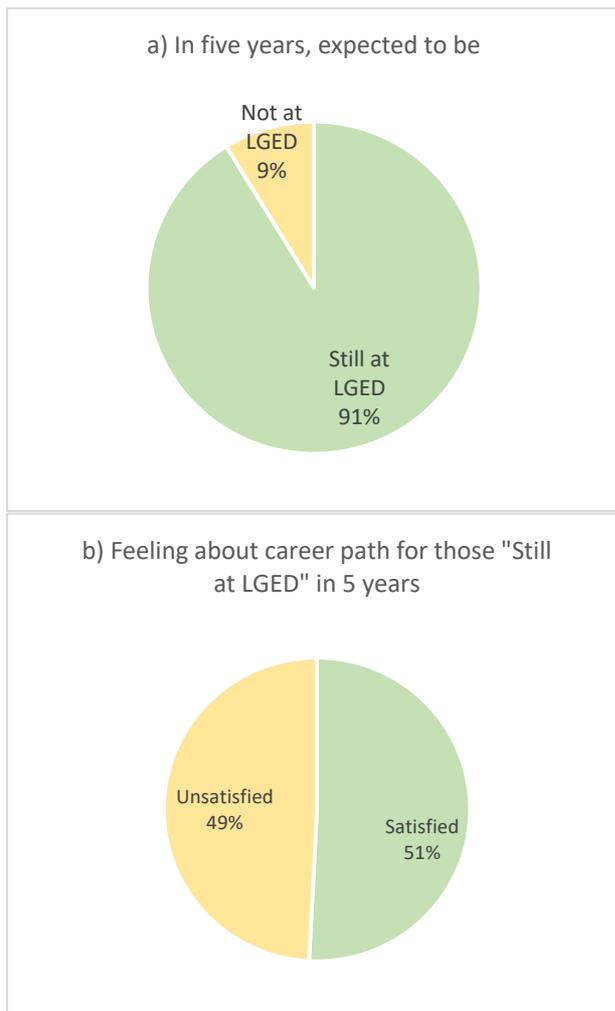


Figure 3a: If you could go back and start over your career again, would you ...

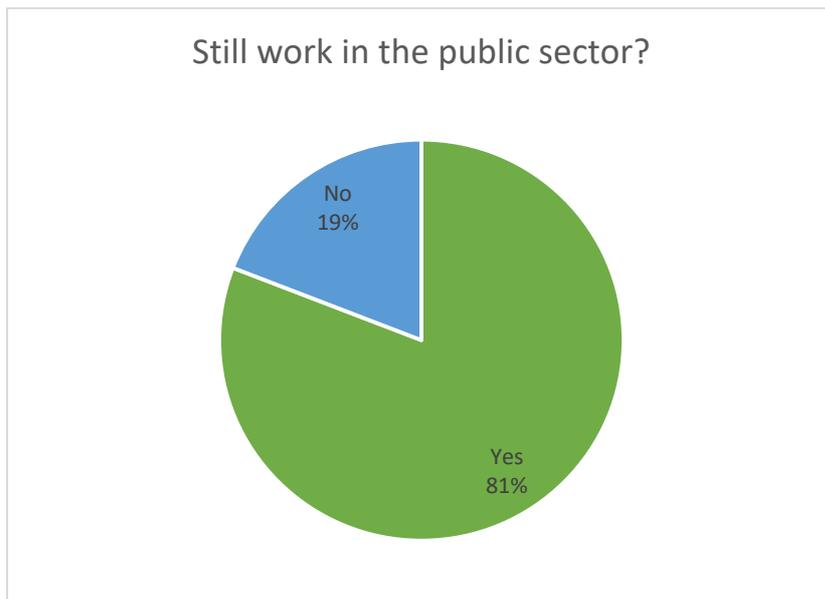


Figure 3b: If you could go back and start over your career again, would you ...

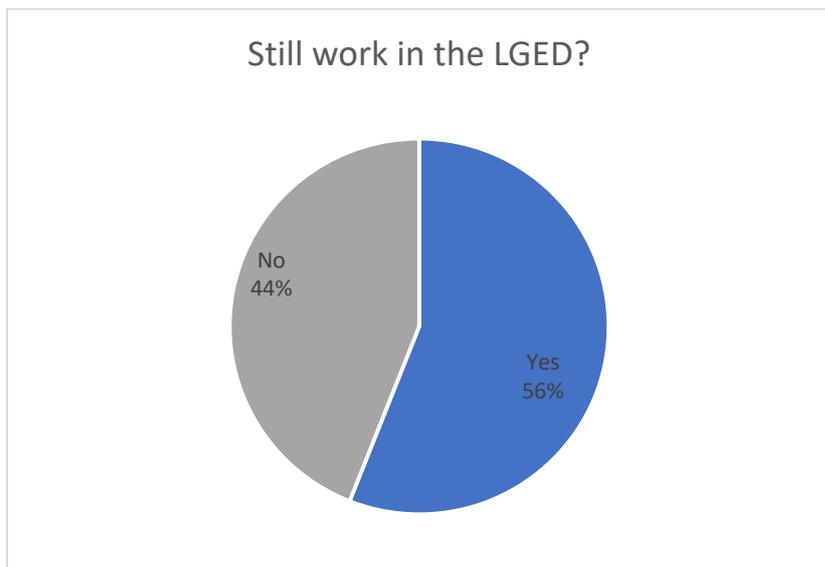


Figure 4: The average percentage of daily tasks set by

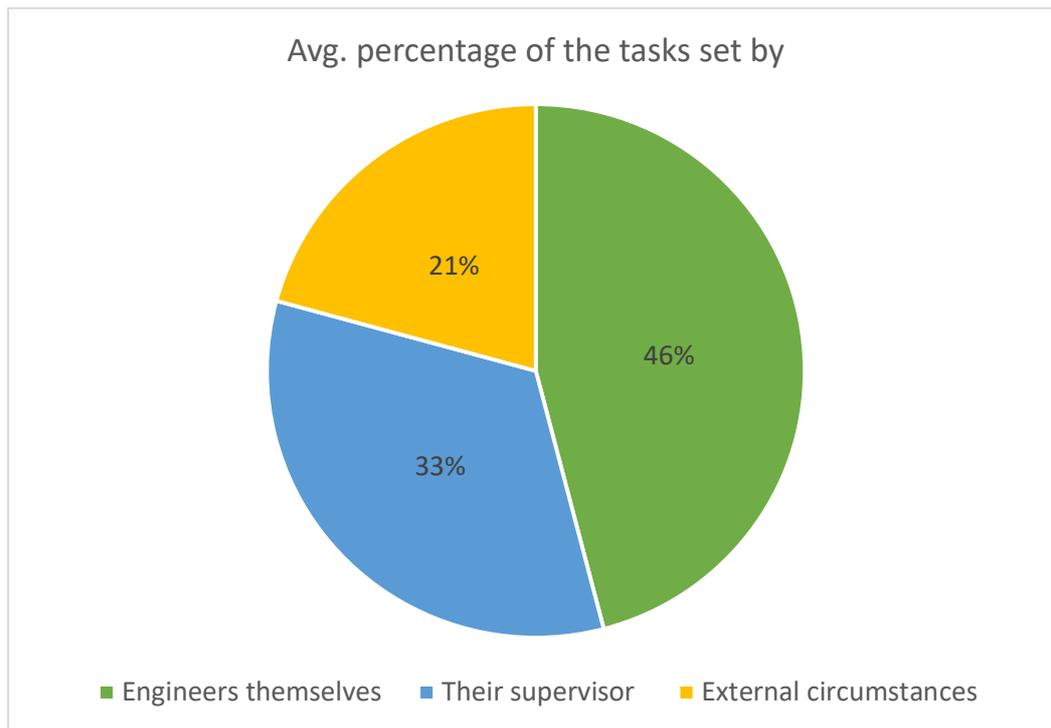


Figure 5: Performance of engineers across ranks

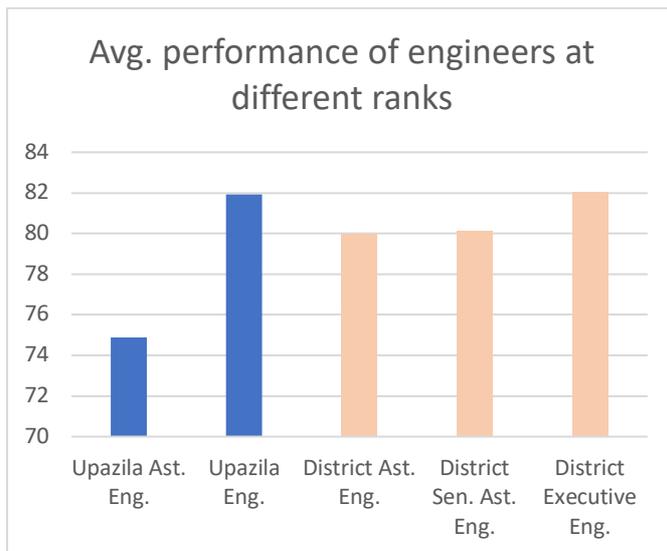


Figure 6: Performance of engineers across offices

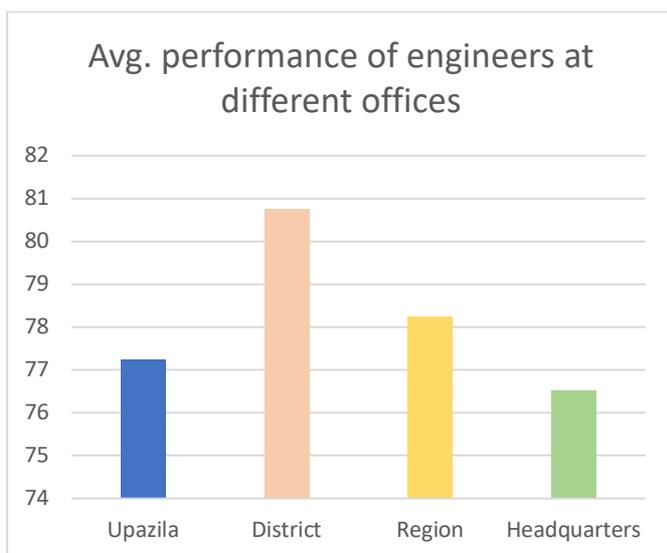


Figure 7: Performance of engineers across districts

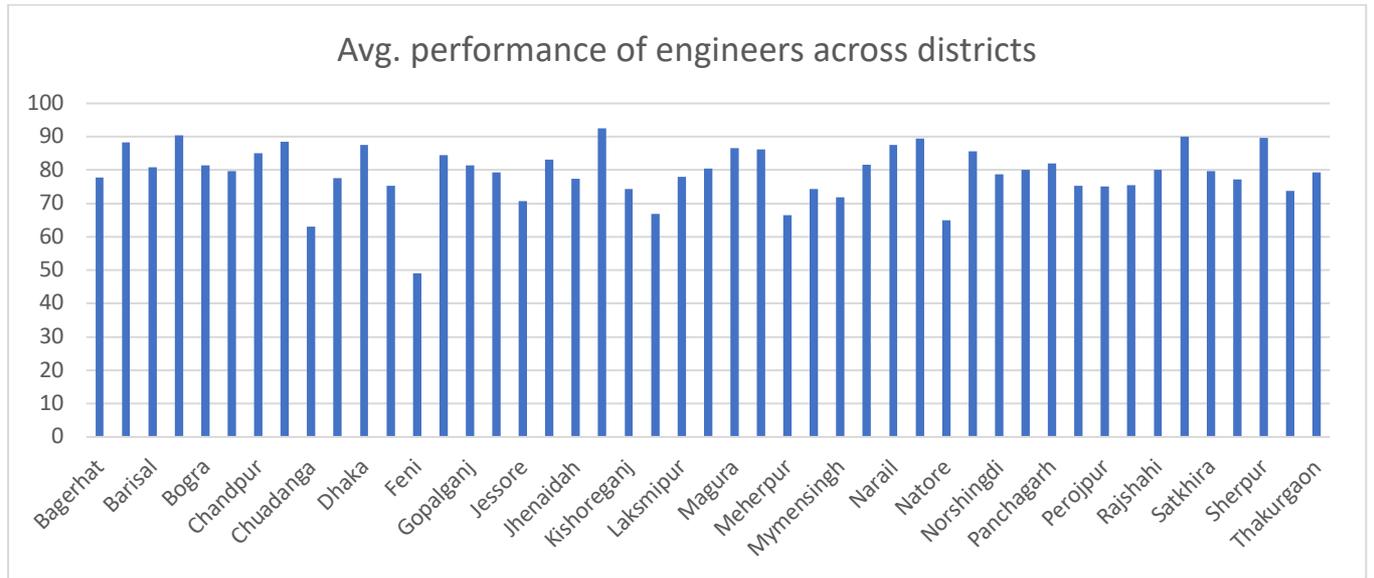
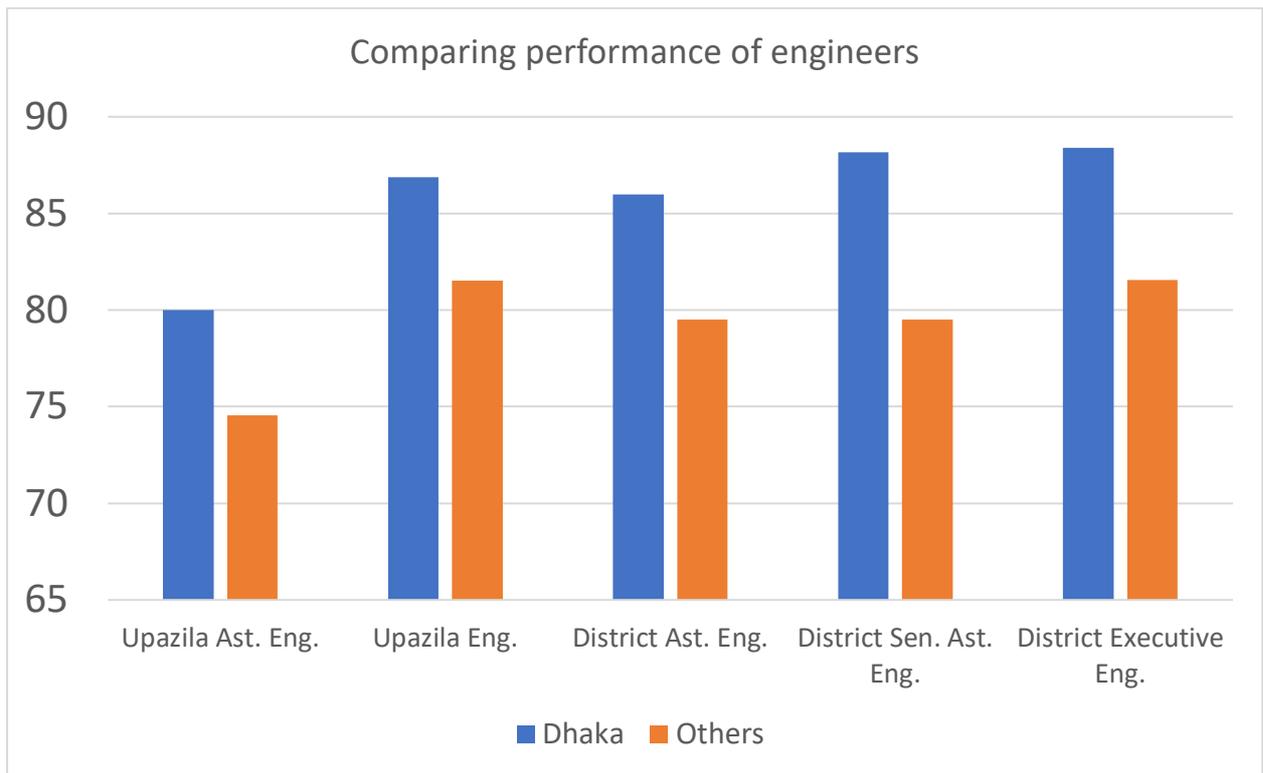


Figure 8: Comparing performance of engineers in Dhaka and other regions



Appendix 1A: Motivation Measures

Public Service Motivation (PSM), Prosocial Motivation and Work Preference Inventory (WPI) are measured based on the following items using a 5-point Likert-type scales with 1 for strongly disagree and 5 for strongly agree:

PSM APS: Attraction to public service (APS)

- I admire people who initiate or are involved in activities to aid my community
- It is important to contribute to activities that tackle social problems
- Meaningful public service is very important to me
- It is important for me to contribute to the common good

PSM CPV: Commitment to public values (CPV)

- I think equal opportunities for citizens are very important
- It is important that citizens can rely on the continuous provision of public services
- It is fundamental that the interests of future generations are taken into account when developing public policies
- To act ethically is essential for public servants

PSM COM: Compassion (COM)

- I feel sympathetic to the plight of the underprivileged
- I empathize with other people who face difficulties
- I get very upset when I see other people being treated unfairly
- Considering the welfare of others is very important

PSM SS: Self-sacrifice (SS)

- I am prepared to make sacrifices for the good of society
- I believe in putting civic duty before self
- I am willing to risk personal loss to help society
- I would agree to a good plan to make a better life for the poor, even if it costs me money

Prosocial Motivation

- Because I care about benefiting others through my work.
- Because I want to help others through my work.
- Because I want to have positive impact on others.
- Because it is important to me to do good for others through my work.

WPI Extrinsic: Outward

- I am strongly motivated by the recognition I can earn from other people.
- I want other people to find out how good I really can be at my work.
- To me, success means doing better than other people.

Extrinsic: Compensation

- I am keenly aware of the promotion goals I have for myself.
- I am keenly aware of the income goals I have for myself.

WPI Intrinsic: Challenge

- I enjoy tackling problems that are completely new to me.
- I enjoy trying to solve complex problems.
- The more difficult the problem, the more I enjoy trying to solve it.

WPI Intrinsic: Enjoyment

- What matters most to me is enjoying what I do.
- It is important for me to be able to do what I most enjoy.

Appendix 1B: Cost estimate given for improving project implementation

Scheme description: Improvement of a Village-B type road, currently in earthen/unpaved condition. Length 1 kilometer. Width 3 meter. Earth shoulder and slope of this road is severely damaged in many parts. Located in a flood-prone area.

Review the following cost estimate to make necessary adjustments using the tab for the better execution/improvement of the scheme.

| Works | Specifications | Quantity | Rate | Amount |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------|------------------|
| Earth filling works | 4.5 m lift from toe embankment | | | 50,000 |
| Box cutting | 450 mm depth | 1,000 x 3 = 3,000 sqm | 60 | 1,80,000 |
| Sand filling | FM 0.50, Soak CBR \geq 8%, Compaction \geq 98% of MDD | 1,000x3x0.15 = 450 cum | 700 | 3,15,000 |
| Sand sub-base | 38mm down crusher run 1 st class bricks and sand (minimum FM 0.8) mixed in ratio of 1:1. Sub-base CBR \geq 32%. | 1,000 x 3 x 0.15 = 450 cum | 3,000 | 13,50,000 |
| Compacted WBM | 50mm downgraded crusher run 1st class and picked brick chips, 12mm downgraded chips. Soaked CBR \geq 80%. Degree of compaction \geq 98% of MDD. | 1,000 x 3 x 0.15 = 450 cum | 7,500 | 33,75,000 |
| Prime coat | @1.2 liter/sqm with cut back sqm 109.62 bitumen prepared by cutting back 60/70 or 80/100 penetration grade straight run bitumen (ASTM/AASHTO in the ratio of 100 parts by volume of bitumen to 40-60 parts by volume of kerosene | 1000 x 3 = 3,000 sqm | 120 | 3,60,000 |
| Dense carpeting | Minimum 25mm thick compacted pre-mixed bituminous surfacing - wearing course with 16mm down graded crushed stone chips. The bitumen in the mix shall be between 5.0% to 5.5% by weight of total mix. | 1,000 x 3 = 3,000 sqm | 250 | 7,50,000 |
| Structure Works | Not required | | | 0 |
| Protective works | | | | 6,00,000 |
| Road Safety Works | | | | 0 |
| Environmental Mitigation and Enhancement Works | | | | 0 |
| Public display of scheme information | | | | 0 |
| Total | | | | 79,80,000 |

Appendix 2: Summary Statistics for All Survey Questions

Section A

A1. Age

| | Mean | Stand. Dev. | Median |
|-----|-------|-------------|--------|
| Age | 41.39 | 8.62 | 42 |

Age by ranks

| Ranks | Count | Mean | Median | Stand. Deviation |
|-----------------------------|------------|-------------|-----------|------------------|
| Assistant Engineers | 59 | 33.8 | 31.0 | 7.4 |
| Upazila Assistant Engineers | 55 | 37.5 | 34.0 | 9.2 |
| Upazila Engineers | 194 | 40.5 | 41.0 | 6.8 |
| Senior Assistant Engineers | 32 | 43.1 | 43.0 | 4.0 |
| Executive Engineers | 60 | 51.8 | 51.0 | 2.4 |
| Additional Chief Engineer | 1 | 55.0 | 55.0 | |
| Superintending Engineer | 5 | 55.4 | 55.0 | 2.2 |
| Others | 7 | 52.3 | 54.0 | 3.5 |
| Total | 413 | 41.4 | 42 | 8.6 |

A2. Gender

| Gender | Freq. | Percent |
|--------|-------|---------|
| Male | 395 | 95.64 |
| Female | 18 | 4.36 |

Gender by ranks

| Rank | Male | Female |
|-----------------------|------|--------|
| Assistant Engineer | 47 | 12 |
| Upazila Assistant Eng | 50 | 5 |
| Upazila Engineer | 194 | 0 |
| Senior Assistant Engi | 31 | 1 |
| Executive Engineer | 60 | 0 |

| | | |
|-----------------------|------------|-----------|
| Additional Chief Engi | 1 | 0 |
| Superintending Engine | 5 | 0 |
| Others | 7 | 0 |
| Total | 395 | 18 |

A3. Ranks

| Position/Rank | Freq. | Percent | Cum. |
|----------------------------|-------|---------|-------|
| Assistant Engineer | 59 | 14.29 | 14.29 |
| Upazila Assistant Engineer | 55 | 13.32 | 27.6 |
| Upazila Engineer | 194 | 46.97 | 74.58 |
| Senior Assistant Engineer | 32 | 7.75 | 82.32 |
| Executive Engineer | 60 | 14.53 | 96.85 |
| Project Director | 1 | 0.24 | 97.09 |
| Superintending Engineer | 5 | 1.21 | 98.31 |
| Others | 7 | 1.69 | 100 |

A4. Nature of Assignment

| Nature of duty | Freq. | Percent |
|-----------------|-------|---------|
| Appointed | 323 | 78.21 |
| In Charge | 24 | 5.81 |
| Additional Duty | 66 | 15.98 |

A5. Office

| Office | Freq. | Percent |
|----------|-------|---------|
| Upazila | 261 | 63.2 |
| District | 108 | 26.15 |
| Division | 5 | 1.21 |
| Region | 39 | 9.44 |

A6. and A7. Tenure at current rank and location

| | Mean | Stand. Dev. | Median |
|----------------------------|------|-------------|--------|
| Tenure at current rank | 4.43 | 7.34 | 1.75 |
| Tenure at current location | 2.14 | 3.67 | 0.917 |

Section B

IIIB1. To what extent do you agree with the following statements? 1 for strongly disagree and 5 for strongly agree.

| | | Mean | Median |
|----|-------------------------------------------------------------------------------------------------------------------|-------|--------|
| 1 | I admire people who initiate or are involved in activities to aid my community | 4.799 | 5 |
| 2 | It is important to contribute to activities that tackle social problems | 4.801 | 5 |
| 3 | Meaningful public service is very important to me | 4.903 | 5 |
| 4 | It is important for me to contribute to the common good | 4.831 | 5 |
| 5 | I think equal opportunities for citizens are very important | 4.785 | 5 |
| 6 | It is important that citizens can rely on the continuous provision of public services | 4.702 | 5 |
| 7 | It is fundamental that the interests of future generations are taken into account when developing public policies | 4.889 | 5 |
| 8 | To act ethically is essential for public servants | 4.893 | 5 |
| 9 | I feel sympathetic to the plight of the underprivileged | 4.879 | 5 |
| 10 | I empathize with other people who face difficulties | 4.763 | 5 |
| 11 | I get very upset when I see other people being treated unfairly | 4.874 | 5 |
| 12 | Considering the welfare of others is very important | 4.763 | 5 |
| 13 | I am prepared to make sacrifices for the good of society | 4.586 | 5 |
| 14 | I believe in putting civic duty before self | 4.695 | 5 |
| 15 | I am willing to risk personal loss to help society | 4.564 | 5 |
| 16 | I would agree to a good plan to make a better life for the poor, even if it costs me money | 4.758 | 5 |

IIIC1. What motivates you to do your work?

| | | Mean | Median |
|----|--------------------------------------------------------------------------|-------|--------|
| 1 | Because I care about benefiting others through my work. | 4.801 | 5 |
| 2 | Because I want to help others through my work. | 4.787 | 5 |
| 3 | Because I want to have positive impact on others. | 4.542 | 5 |
| 4 | Because it is important to me to do good for others through my work. | 4.831 | 5 |
| 5 | I am strongly motivated by the recognition I can earn from other people. | 4.801 | 5 |
| 6 | I want other people to find out how good I really can be at my work. | 3.847 | 4 |
| 7 | To me, success means doing better than other people. | 3.562 | 4 |
| 8 | I am keenly aware of the promotion goals I have for myself. | 4.031 | 4 |
| 9 | I am keenly aware of the income goals I have for myself. | 3.262 | 3 |
| 10 | I enjoy tackling problems that are completely new to me. | 4.542 | 5 |
| 11 | I enjoy trying to solve complex problems. | 4.361 | 5 |
| 12 | The more difficult the problem, the more I enjoy trying to solve it. | 3.935 | 4 |

| | | | |
|----|----------------------------------------------------------------------------------------------|-------|---|
| 13 | What matters most to me is enjoying what I do. | 4.492 | 5 |
| 14 | It is important for me to be able to do what I most enjoy. | 3.845 | 4 |
| 15 | I would be highly motivated if I could attain an international post-graduation degree | 4.511 | 5 |
| 16 | I would be more motivated if there is awards for quality works, management or any innovation | 4.726 | 5 |

Section C

C1., C2. and C3.

| | Yes | No |
|--------------------------------------------|-----|-----|
| Do you suggest any changes to the estimate | 360 | 53 |
| Is the estimate missing something? | 271 | 142 |
| Does the costing look reasonable to you? | 245 | 168 |

C4. Suppose, you have the freedom to make some changes for the better execution/ improvement of the scheme. How would you change?

| Item | No. of engineers selected for adjustment | Mean Adjusted Amount ('000) | Standard Deviation | Median Adjusted Amount ('000) |
|-------------------------------|------------------------------------------|-----------------------------|--------------------|-------------------------------|
| Traffic maintenance | 215 | 2332 | 43258 | 100 |
| Earth filling works | 231 | 243 | 655 | 200 |
| Box cutting | 44 | 201 | 485 | 178 |
| Sand filling | 70 | 314 | 119 | 315 |
| Sand sub-base | 39 | 1350 | 0 | 1350 |
| Compacted WBM | 72 | 3236 | 1004 | 3000 |
| Prime coat | 26 | 349 | 62 | 150 |
| Dense carpeting | 88 | 840 | 599 | 1025 |
| Structure Works | 135 | 173 | 518 | 300 |
| Protective works | 193 | 651 | 869 | 500 |
| Road Safety Works | 277 | 94 | 225 | 75 |
| Environmental Mitigation | 254 | 112 | 523 | 58 |
| Public display of information | 189 | 130 | 2460 | 10 |

Section D

D1. To what extent do you agree with the following statements for the better execution/governance of the scheme. 5 for strongly agree.

| Policy change | Mean | Median |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|
| 1. Upazila engineers need more freedom in cost estimates. | 4.354 | 5 |
| 2. Upazila engineer should be able to amend the scheme if needed. | 4.136 | 5 |
| 3. Tendering method for all upazila level works should be determined by the upazila engineers | 3.630 | 4 |
| 4. All upazila level works, including the ones funded by upazila council, should be channeled through LGED headquarters. | 3.058 | 3 |
| 5. External/Third party auditor should be used in all cases to monitor contractor's work. | 2.707 | 3 |
| 6. A consultation meeting with the participation of local people, contractors, local representatives, NGO worker, teacher/religious leader, etc. should be arranged before the contractor starts the work. | 3.751 | 4 |
| 7. A committee consisting of citizens and local representatives should be formed as a watchdog. Their approval will be required for fund disbursement to contractors. | 2.068 | 1 |

D2. Suppose the government is considering making some changes for the better execution of LGED projects. Which three of the above should be the priority? Choose the highest priority one first.

| | Frequency |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| 1. Upazila engineers need more freedom in cost estimates. | 174 |
| 2. Upazila engineer should be able to amend the scheme if needed. | 85 |
| 3. Tendering method for all upazila level works should be determined by the upazila engineers | 37 |
| 4. All upazila level works, including the ones funded by upazila council, should be channeled through LGED headquarters. | 32 |
| 5. External/Third party auditor should be used in all cases to monitor contractor's work. | 18 |
| 6. A consultation meeting with the participation of local people, contractors, local representatives, NGO worker, teacher/religious leader, etc. should be arranged before the contractor starts the work. | 60 |
| 7. A committee consisting of citizens and local representatives should be formed as a watchdog. Their approval will be required for fund disbursement to contractors. | 7 |

D3. Which of the above the government should never do? If done, that will surely hurt.

| | Frequency |
|--|-----------|
| | |

| | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 8. Upazila engineers need more freedom in cost estimates. | 22 |
| 9. Upazila engineer should be able to amend the scheme if needed. | 17 |
| 10. Tendering method for all upazila level works should be determined by the upazila engineers | 35 |
| 11. All upazila level works, including the ones funded by upazila council, should be channeled through LGED headquarters. | 47 |
| 12. External/Third party auditor should be used in all cases to monitor contractor's work. | 38 |
| 13. A consultation meeting with the participation of local people, contractors, local representatives, NGO worker, teacher/religious leader, etc. should be arranged before the contractor starts the work. | 20 |
| 14. A committee consisting of citizens and local representatives should be formed as a watchdog. Their approval will be required for fund disbursement to contractors. | 234 |

Section E

IC1. Use the feelings thermometer to indicate whether you have positive or negative feelings about the following groups. 100 degrees indicates very positive or warm feelings, with zero degrees indicating very cold or negative feelings.

| Groups | Mean | Std. Dev. | Median |
|-----------------------------------------------|------|-----------|--------|
| Your neighborhood | 78.5 | 19.2 | 80 |
| Your junior colleagues | 81.1 | 18.8 | 85 |
| Your senior colleagues | 81.1 | 19.1 | 85 |
| LGED management | 74.4 | 22.4 | 80 |
| The contractors with whom you work | 61.9 | 21.7 | 60 |
| People from your region of the country | 79.9 | 17.7 | 70 |
| People in the region you are currently posted | 73.6 | 19.5 | 80 |
| Other public sector professionals | 74.9 | 19.3 | 60 |
| Politicians | 60.4 | 26.0 | 65 |
| Local MP | 74.2 | 25.2 | 80 |
| Local administration | 69.7 | 24.8 | 75 |

IC2. I'd like to ask you how much you trust people from various groups. Could you tell me how much you trust people from each of the following group?

| Groups | Mean | Std. Dev. | Median |
|-----------------------------------------------|------|-----------|--------|
| Your neighborhood | 71.4 | 20.4 | 80 |
| Your junior colleagues | 74.2 | 20.4 | 80 |
| Your senior colleagues | 77.9 | 20.5 | 80 |
| LGED management | 74.2 | 22.7 | 80 |
| The contractors with whom you work | 52.9 | 24.3 | 50 |
| People from your region of the country | 73.9 | 19.2 | 80 |
| People in the region you are currently posted | 67.3 | 20.9 | 70 |
| Other public sector professionals | 68.7 | 20.3 | 70 |
| Local MP | 70.5 | 25.5 | 80 |
| Politicians | 52.9 | 26.2 | 50 |
| Local administration | 65.2 | 24.8 | 70 |

IC3. To what extent do you feel the job you do is respected and appreciated by each of the groups below:

| Groups | Mean | Std. Dev. | Median |
|-----------------------------------------------|------|-----------|--------|
| Your neighborhood | 78.3 | 18.5 | 80 |
| Your junior colleagues | 82.7 | 16.6 | 85 |
| Your senior colleagues | 80.0 | 19.4 | 80 |
| The contractors with whom you work | 74.4 | 19.3 | 80 |
| People from your region of the country | 82.6 | 16.2 | 90 |
| People in the region you are currently posted | 79.7 | 17.3 | 80 |
| Other public sector professionals | 78.7 | 16.9 | 80 |

| | | | |
|----------------------|------|------|----|
| LGED management | 76.9 | 21.4 | 80 |
| Member of Parliament | 78.1 | 20.3 | 80 |
| Politicians | 70.0 | 22.8 | 75 |
| Local administration | 74.7 | 21.9 | 80 |

IC6. How would you evaluate the performance of the following people associated with your jurisdiction (upazila/district)?

| Variable | Obs | Mean | Std. Dev. |
|-------------------------------------|-----|-------|-----------|
| Staff at LGED Upazila offices | 406 | 74.95 | 19.20 |
| Upazila Assistant Engineers | 351 | 74.89 | 23.09 |
| Upazila Engineers | 212 | 81.94 | 16.38 |
| District: Executive Engineer | 346 | 82.04 | 17.08 |
| District: Senior Assistant Engineer | 374 | 80.12 | 18.66 |
| District: Assistant Engineer | 347 | 79.98 | 17.68 |
| Engineers at LGED regional office | 406 | 78.24 | 18.48 |
| LGED management | 406 | 76.52 | 20.71 |

Section F

IA1. Select three factors from below that influenced you to join LGED. Select the most important one first.

| Factors | Frequency | % |
|-------------------------------------------------|-----------|-------|
| Job relevant to my degree and work interest | 150 | 36.32 |
| Prestige associated with LGED | 20 | 4.84 |
| Job security | 38 | 9.2 |
| Career development opportunity | 8 | 1.94 |
| Income and benefits | 18 | 4.36 |
| Opportunity to work with professional engineers | 39 | 9.44 |
| Only job I could get | 137 | 33.17 |
| Serving the country through LGED | 3 | 0.73 |

IA2. Who most influenced/motivated you to take up a career in the LGED? (select the most important only.) এলজিইডিতে যোগদানে কে আপনাকে সবচেয়ে বেশি অনুপ্রাণিত করেছে?

| Persons | Frequency | % |
|---------------------------------------------------|-----------|-------|
| My family | 153 | 37.05 |
| My social network (e.g. friends, relatives) | 55 | 13.32 |
| My professional community (e.g. fellow engineers) | 49 | 11.86 |
| Myself, independent of influence by others | 149 | 36.08 |
| Others | 7 | 1.69 |

IB1. When you arrive at work each day, do you broadly know what your individual tasks are for that day? আপনি যখন প্রতিদিন কর্মস্থলে আসেন, আপনি কি মোটামুটি অবগত থাকেন যে ওইদিন আপনাকে কি কাজ করতে হবে?

| | Frequency |
|-----|-----------|
| Yes | 391 |
| No | 22 |

IB1a1. If yes,

| | Frequency |
|--------|-----------|
| partly | 27 |
| mostly | 229 |
| fully | 135 |

IB1a2. Do you maintain daily activity plan?

| | Frequency |
|-----|-----------|
| Yes | 368 |

| | |
|----|----|
| No | 45 |
|----|----|

IB1a3. If yes, when do you plan this?

| | Frequency |
|---------------------------|-----------|
| a) One day ahead | 165 |
| b) A couple of days ahead | 148 |
| c) A week ahead | 44 |
| d) A month ahead | 11 |

IB1a4. How often can you stick to your plan?

| | Frequency |
|-----------|-----------|
| Always | 40 |
| Mostly | 259 |
| Sometimes | 62 |
| Rarely | 7 |
| Never | |

IB1b. If no, who determines the priorities?

| | Frequency |
|-------------------|-----------|
| My supervisors | 26 |
| Politicians | 2 |
| Unexpected events | 16 |
| Others | 1 |

IB3. When you arrive at work each day, what percentage of the tasks that you perform are set by you or by your supervisor or external circumstances outside your control?

| | Mean | Median |
|------------------------|------|--------|
| You | 45.9 | 50 |
| Your supervisor | 33.3 | 30 |
| External circumstances | 20.8 | 20 |

IB7. How do you prioritize your daily work in the office on a typical day? Please rank 3 from below based on priority. Select the one you prioritize most first.

| | 1 st priority | 2 nd priority | 2 nd priority |
|--------------------------|--------------------------|--------------------------|--------------------------|
| Preparing reports | 93 | 120 | 79 |
| Site visits | 177 | 115 | 67 |
| Meeting with contractors | 1 | 28 | 35 |

| | | | |
|-----------------------------------------|----|----|----|
| Meeting with upazila council/district c | 16 | 23 | 34 |
| Administrative works | 92 | 55 | 88 |
| Preparing tender | 15 | 28 | 39 |
| Scheme preparation/evaluation | 3 | 19 | 42 |
| Evaluation of tenders | 14 | 24 | 28 |
| Others | 2 | 1 | 1 |

IB8. How much time do you allocate for the following tasks on a typical day?

| | Mean | Median |
|-----------------------------------------|-------|--------|
| Preparing reports | 1.649 | 1 |
| Site visits | 4.111 | 3 |
| Meeting with contractors | 1.023 | 1 |
| Meeting with upazila council/district c | 1.037 | 1 |
| Administrative works | 1.301 | 1 |
| Preparing tender | 1.797 | 1 |
| Scheme preparation/evaluation | 1.674 | 1 |
| Evaluation of tenders | 1.861 | 1 |
| Others | 1.208 | 1 |

IB10. How satisfied are you with your current posting?

| Issues | Very dissatisfied 1 | 2 | 3 | 4 | Very satisfied 5 |
|--------------------------------------------------------------|------------------------|-----|-----|-----|---------------------|
| Current responsibilities | 16 | 31 | 109 | 157 | 100 |
| Current salary scale | 19 | 54 | 120 | 155 | 65 |
| Working conditions | 37 | 72 | 159 | 115 | 30 |
| Other benefits (e.g., pension, gratuity etc.) | 13 | 35 | 138 | 170 | 57 |
| Other benefits (e.g., vehicles facilities, home loans, etc.) | 140 | 96 | 104 | 54 | 19 |
| Opportunities for self-improvement | 54 | 108 | 143 | 80 | 28 |
| Rewards for performance | 112 | 112 | 114 | 55 | 20 |
| Authority | 26 | 64 | 136 | 142 | 45 |
| Job status | 24 | 62 | 116 | 163 | 48 |

IB11. To what extent would the following improve your current posting/job?

| Factors | Least 1 | 2 | 3 | 4 | Most 5 |
|-------------------------------------------------------------|------------|----|----|-----|-----------|
| Increased salary | 6 | 15 | 64 | 140 | 188 |
| A budget increase (increase of office expenses/contingency) | 15 | 16 | 67 | 168 | 147 |
| More authority | 7 | 12 | 59 | 139 | 196 |

| | | | | | |
|--------------------------------------------------------|----|----|-----|-----|-----|
| Enhanced community engagement | 3 | 18 | 87 | 173 | 132 |
| Changes in the performance assessment scheme | 4 | 12 | 83 | 156 | 158 |
| Changes in reporting requirements/Harmonized reporting | 4 | 14 | 103 | 175 | 117 |
| Standard workload | 10 | 19 | 70 | 119 | 195 |

IB12. When you need something done that is justified, how strong would you say your network of contacts in LGED is? (select one answer only.)

| | Frequency |
|---------------------------------------------------------------------------------------------------------------------------|-----------|
| I am confident that I have the network to get things done if it is justified. | 198 |
| I find that sometimes I cannot achieve a task though it is justified, as I do not have access to the right people in LGED | 134 |
| I am highly constrained in my ability to achieve justified tasks by not having access to the right people | 81 |

IB13. Now think about your career in five years. Do you expect to be working for: (select one answer only)

| | Frequency |
|------------------------------------------------------------|-----------|
| Still at LGED at the same position/rank | 8 |
| Still at LGED, but at a higher position | 325 |
| Still at LGED, but in lien | 31 |
| A different organisation, in the Government | 19 |
| A private company (local or foreign)/ international agency | 5 |
| Yourself; that is, self-employed | 11 |
| Expect to be retired | 14 |

IB14. If you stay at LGED, which of the following best characterize how you feel about your future career path? (tick one answer only.)

| | Frequency |
|----------------------------------------------------------------|-----------|
| I am satisfied with my likely future career path at LGED. | 185 |
| I am unsatisfied, but I don't want to leave the public sector. | 117 |
| I am unsatisfied, but I have no better option. | 62 |

IB15. If you answered 'unsatisfied, but don't feel I can leave the public sector', why do you feel this way? (tick one answer only.)

| | Frequency |
|--------------------------------------------------------------------------|-----------|
| The wage I would receive in the private sector is much lower than in the | 3 |

| | |
|----------------------------------------------------------------------|-----|
| public sector | |
| The job security is much lower in the private sector | 101 |
| The work isn't as interesting. | 5 |
| I don't know anything about how to run or work in a private business | 1 |
| I wouldn't be able to get a job in the private sector | 7 |

IB16. How often, if at all, do you *personally* engage with the communities (e.g., public representatives, local people) in which your organization implements its projects? (tick one answer only.)

| | Frequency |
|----------|-----------|
| Always | 158 |
| Often | 181 |
| Sometime | 71 |
| Rarely | 3 |

IB17. Think about the schemes you have worked on recently. What is your reaction regarding the citizen you've dealt with as part of your official duties: (tick one number only for each question). 1 for none and 5 for all.

| | Never | Rarely | Sometimes | Often | Always |
|-----------------------------------------------------------------------|-------|--------|-----------|-------|--------|
| Assist you in improving the effectiveness of the development project? | 15 | 48 | 104 | 199 | 47 |
| Accept your decisions even when they were dissatisfied with those? | 19 | 38 | 100 | 197 | 59 |
| Argue with you? | 93 | 158 | 109 | 43 | 10 |
| Threaten you with violence? | 168 | 128 | 68 | 38 | 11 |
| Complain against you to your bosses? | 178 | 138 | 61 | 23 | 13 |
| Complain against you to an elected politician? | 193 | 130 | 61 | 18 | 11 |

IB18. Think about the schemes and/or programmes you worked on for LGED. In what proportion of the schemes have the following parties intervened in the implementation of a scheme? (tick one number only for each question.)

| Intervention of local stakeholders | None | Very few | Some | Most | All | Obstructed |
|------------------------------------|------|----------|------|------|-----|------------|
| Local MP | 65 | 112 | 131 | 86 | 19 | 14.7% |
| Local government chairman/member | 33 | 115 | 187 | 68 | 10 | 20.5% |
| Local Administration | 33 | 115 | 187 | 68 | 10 | 13.9% |
| Community or religious group(s) | 130 | 153 | 90 | 35 | 5 | 14.1% |
| Local leaders | 40 | 152 | 155 | 58 | 8 | 42.4% |

IB19. Think about the schemes and/or programmes you worked on for LGED. What is your reaction regarding the cooperation of contractors/suppliers you dealt with as part of your official duties (tick one number only for each question?)

| | Never | Rarely | Sometimes | Often | Always |
|-------------------------------------------------------------------|-------|--------|-----------|-------|--------|
| Assist you in the project? | 6 | 24 | 113 | 212 | 58 |
| Accept your decisions even when they were dissatisfied with them? | 4 | 30 | 98 | 217 | 64 |
| Argue with you? | 60 | 157 | 119 | 56 | 21 |
| Threaten you with violence? | 140 | 150 | 76 | 32 | 15 |
| Complain against you to your bosses? | 129 | 165 | 77 | 30 | 12 |
| Complain against you to elected representative /politicians? | 151 | 151 | 68 | 32 | 11 |
| Approach you through the contact? | 121 | 124 | 123 | 32 | 13 |
| Behave in a friendly way, just to get better treatment? | 72 | 91 | 123 | 91 | 36 |

Think about the whole process of delivering services to citizens. Rate the influence you think each of the following type of person has on the success of a typical scheme implemented by your organization: (tick one number in each column)

| | Most Influence (5) | Significant Influence | Some Influence | Less Influence | Least Influence (1) |
|--------------------------------------------------------------|--------------------|-----------------------|----------------|----------------|---------------------|
| Engineers at upazila level | 89 | 21 | 6 | 49 | 248 |
| Engineers at district level | 61 | 42 | 44 | 166 | 100 |
| Contractors/suppliers | 39 | 67 | 93 | 131 | 83 |
| Consultants | 40 | 84 | 175 | 92 | 22 |
| Local elite(s)/head(s) of community | 43 | 102 | 152 | 92 | 24 |
| Rest of community | 36 | 103 | 160 | 87 | 27 |
| LGED Management | 45 | 68 | 85 | 124 | 91 |
| Relevant member(s) of Parliament | 41 | 68 | 83 | 141 | 80 |
| Officials from other government agencies (e.g., IMED, Audit) | 50 | 100 | 137 | 96 | 30 |
| Officials from other field level public office (UNO) | 56 | 108 | 124 | 95 | 30 |
| Upazila council | 42 | 106 | 130 | 104 | 31 |
| Local political leaders | 50 | 110 | 135 | 91 | 27 |

ID1. With whom do you work most closely? Select all that apply.

| | |
|-------------|-------|
| Party | Freq. |
| Supervisor | 300 |
| Subordinate | 347 |
| Contractors | 221 |
| Consultant | 148 |

| | |
|-------------|-----|
| Communities | 187 |
| Others | 23 |

ID2. With whom do you discuss work-related issues? Select all that apply.

| Party | Freq. |
|----------------------|-------|
| Supervisor | 367 |
| Subordinate | 320 |
| Contractors | 225 |
| Family | 80 |
| Friends/ peer groups | 67 |
| Others | 17 |

ID3. Who would you talk to if something upset you at work? Select all that apply.

| Party | Freq. |
|----------------------|-------|
| Supervisor | 199 |
| Subordinate | 160 |
| Contractors | 32 |
| Family | 249 |
| Friends/ peer groups | 186 |
| Others | 9 |

ID5. When you have a question at work, who do you ask? Select all that apply.

| Party | Freq. |
|-------------|-------|
| Supervisor | 390 |
| Subordinate | 181 |
| Contractors | 68 |
| Consultant | 154 |
| Peer group | 12 |

ID6. When your peers have a question at work, who do they ask? Select all that apply.

| Party | Freq. |
|-------------|-------|
| Supervisor | 383 |
| Subordinate | 146 |
| Contractors | 58 |
| Consultant | 127 |
| Peer group | 13 |

ID7. Do you personally prefer to manage your own projects independently?

| | Freq. | Percent |
|-----|-------|---------|
| Yes | 388 | 93.95 |

No 25 6.05

ID8. Do you think that other engineers are personally affected by “red tape?”

| | Freq. | Percent |
|-----|-------|---------|
| Yes | 289 | 69.98 |
| No | 124 | 30.02 |

ID9. How many engineers think that is typical to dive into a project without specific instructions?

| | Freq. | Percent |
|----------|-------|---------|
| All | 6 | 1.45 |
| Most | 52 | 12.59 |
| Some | 111 | 26.88 |
| Very few | 179 | 43.34 |
| None | 65 | 15.74 |

ID10. How many engineers you think would prefer to design their own strategic planning?

| | Freq. | Percent |
|----------|-------|---------|
| All | 31 | 7.51 |
| Most | 281 | 68.04 |
| Some | 70 | 16.95 |
| Very few | 26 | 6.3 |
| None | 5 | 1.21 |

ID11. How many you think would prefer to be given instructions by their supervisors?

| | Freq. | Percent |
|----------|-------|---------|
| All | 59 | 14.29 |
| Most | 226 | 54.72 |
| Some | 108 | 26.15 |
| Very few | 18 | 4.36 |
| None | 2 | 0.48 |

Section G

A) Tenure at LGED

| | Mean | Stand. Dev. | Median |
|----------------|-------|-------------|--------|
| Tenure at LGED | 12.24 | 9.80 | 12 |

B) Joining rank

| Joined as | Frequency | Percent |
|------------------------|-----------|---------|
| Sub-Assistant Engineer | 32 | 7.75 |
| Assistant Engineer | 367 | 88.86 |
| Other | 14 | 3.39 |

C) Recruitment type

| Joined through | Frequency | Percent |
|----------------|-----------|---------|
| PSC/GOB | 267 | 64.65 |
| Absorbed | 146 | 35.35 |

D) Have you worked anywhere else before joining LGED?

| Worked before? | Frequency | Percent |
|----------------|-----------|---------|
| Yes | 214 | 51.82 |
| No | 199 | 48.18 |

E) Have you ever taken a study break from LGED?

| | Frequency | Percent |
|-----|-----------|---------|
| Yes | 6 | 1.45 |
| No | 407 | 98.55 |

F) Did you take a lien from LGED?

| | Frequency | Percent |
|-----|-----------|---------|
| Yes | 1 | 0.24 |
| No | 412 | 99.76 |

Section H

H1. Are you satisfied with the delegated power you enjoy at your current position? Rate between 1 (least satisfied) to 5 (most satisfied).

| | 1 | 2 | 3 | 4 | 5 |
|-----------|----|----|-----|-----|----|
| Frequency | 22 | 51 | 162 | 131 | 47 |

H2. If you were given more delegated power at the current posting, do you think you could use it wisely?

| | Frequency |
|-----|-----------|
| Yes | 390 |
| No | 23 |

H5. Do you think if more authority were given to engineers at your current position, that some engineers would mis-use that authority, or be taken advantage by other people who do not have community welfare at heart?

| | Frequency |
|-----|-----------|
| Yes | 190 |
| No | 223 |

H7. How satisfied are you with your job at LGED? Rate between 1 (least satisfied) to 5 (most satisfied).

| | 1 | 2 | 3 | 4 | 5 |
|-----------|----|----|-----|-----|----|
| Frequency | 17 | 47 | 139 | 168 | 42 |

H8. If you could go back and start over your university education again, would you still study engineering?

| | Frequency |
|-----|-----------|
| Yes | 243 |
| No | 170 |

H9. If you could go back and start over your career again, would you still work in the public sector?

| | Frequency |
|-----|-----------|
| Yes | 334 |
| No | 79 |

H10. If yes, if you could go back and start over your career again, would you still be an LGED engineer?

| | Frequency |
|-----|-----------|
| Yes | 187 |
| No | 147 |

H11. If no, which of the following profession would you choose?

| | Frequency |
|----------------|-----------|
| RHD Engineer | 17 |
| Administration | 97 |
| Police officer | 11 |
| Customs/Tax | 2 |
| Education | 14 |
| Others | 6 |

Section I

| | Mean | Median |
|--------------------------------------------------------------------------|-------|--------|
| 1.How would you evaluate your overall performance? | 83.75 | 85 |
| 3.How would you evaluate the overall performance of your supervisor? | 79.66 | 80 |
| 4.How would you evaluate the overall performance of your subordinate? | 74.14 | 80 |
| 6.How would you evaluate the performance of an average engineer at LGED? | 78.68 | 80 |
| 7.Your performance is better than ___ of engineers at your rank at LGED? | 70.34 | 80 |
| 8.You ability is better than ___ of engineers at your rank at LGED? | 71.14 | 80 |

10.Do you think you have the necessary skills (needed for an engineer at field level to perform effectively)?

| | Frequency |
|-----|-----------|
| Yes | 393 |
| No | 20 |

11.How did/will you learn those skills?

| | Frequency |
|------------------|-----------|
| Training by LGED | 273 |
| Self-training | 98 |
| Supervisor | 19 |
| Colleagues | 11 |
| Others | 12 |

Distribute 100 between the following skills based on their importance in your job?

| | Mean | Median |
|-----------------------|------|--------|
| Managerial | 38.8 | 40 |
| Engineering/technical | 40.3 | 40 |
| Inter-personal | 20.9 | 20 |

On a scale of 1-100 with 1 minimum and 100 maximum how much of those skills do you think you have?

| | Skill(দক্ষতা) | Mean | Median |
|---|-------------------------------------------------|------|--------|
| 1 | Managerial (ব্যবস্থাপনা) | 63.9 | 70 |
| 2 | Engineering/technical(ইঞ্জিনিয়ারিং/টেকনিক্যাল) | 66.4 | 75 |
| 3 | Inter-personal(আন্ত:ব্যক্তি) | 51.8 | 50 |