

# LOCAL INFRASTRUCTURE SUPPORT PROGRAMME

## Findings from a RENT Yale-LSE Team Survey of Local Officials

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# 1 Introduction

## 1.1 Infrastructure and Governance in Nepal

Resilient infrastructure is critical for economic growth. Nepal's 2017 move to three spheres of government – and, therefore, decentralization of policy decision-making - was predicated on the idea that bringing government closer to the people would give them a greater voice in policy-making. Local municipalities are de jure empowered to deliver local infrastructure to their constituents, yet face resource and capacity constraints. In this context, the Local Infrastructure Support Programme (LISP) aims to improve Nepal's new local and provincial governments' ability to respond to local infrastructure demands; and thereby create jobs and drive local economic development. It will maintain a focus on BEK strategic objectives by increasing the legitimacy, capacity, and accountability of local governments.

LISP Programme activities can increase space for new political actors (via, for instance, community deliberations as infrastructure is planned, and including provisions to empower female politicians), new economic actors (via, for instance, broad-based employment and transparent contracting in the construction of infrastructure), and enable inclusive development. In its scoping phase, the programme aimed to learn about local government capacity, decision-making practices, and coordination with other spheres of government.

In support of this work, this scoping report has three objectives:

- Define a measurement and monitoring framework for government capacity, decision-making processes, and coordination
- Report key findings from a phone survey of government officials using this framework
- Propose a potential impact evaluation of planned LISP implementation activities

## 1.2 Summary of Key Survey Findings

Drawing from our phone survey of local officials conducted within the scope of this exercise, as well as citizen surveys, we report three main findings:

### Local Governance Capacity

- Most local officials report lack of funds as a key constraint in delivering infrastructure, although some had not spent a large proportion of allocated infrastructure funds at this point in the fiscal year, and many approved projects had not yet been implemented. This points to a potential lack of capacity to spend funds.
- Many municipalities also reported a lack of key processes and data collection to enable infrastructure planning, implementation, and construction monitoring. Our analysis suggests that urban municipalities without these processes in place are less able to spend their allocated funds.

- We conclude that technical assistance may be a binding constraint to improving infrastructure services in most local areas. In LISP implementation, indices of several binary process indicators can be helpful in assessing local government capacity to actually complete projects after receiving grants.

### **Local Government Decision-Making Practices**

- Although local elected government officials state that they base infrastructure investment decisions on the preferences of their electorate, we find that elected officials are not significantly more aligned to local demands than Chief Administrative Officers. Instead, all local officials prioritize roads over other infrastructure categories, and new construction over maintenance, suggesting a bias towards visible infrastructure spending.
- Overwhelmingly, User Committees are the primary mechanism for involving citizens in infrastructure decisions. Yet these committees may not be effectively representing the preferences of the majority of citizens, and they may even be sites of conflict that impede infrastructure delivery. Municipalities that report the influence of local elites and high-level politicians as challenges in forming user committees have significantly lower project implementation rates.
- We conclude that training citizens on how to evaluate costs and benefits of different infrastructure items, the relative value of new projects versus maintenance and transparency on project choice could be valuable.

### **Intergovernmental Coordination Processes**

- Local governments overwhelmingly report financial and budgetary assistance (which is constitutionally-mandated) as the main form of support they have received in the past fiscal year. This support is critical to enable infrastructure delivery, as local governments do not have sufficient internal capacity to raise revenue for infrastructure projects.
- There is evidence of demand from local officials for technical assistance from other spheres of government, but it seems largely unmet. Many local officials were dissatisfied with their last interaction with federal or provincial officials on the topic of infrastructure. Although over half (54%) of municipalities have requested technical assistance from the federal government, only 28 percent of requesting municipalities actually report receiving it.

Collectively, our data provide a few key policy recommendations. First, municipalities are not able to spend the funds that they have and still have not put in place the essential processes to provide infrastructure. This points to a clear role for technical assistance focused on setting up basic processes. Second, the preferences for elected officials are as different from those of citizens as unelected bureaucrats. As such, there is a clear need to develop mechanisms to create infrastructure that reflects citizens' preferences.

## **1.3 Methods and Analysis**

In November and December 2021, our research team conducted a 20-30 minute infrastructure-focused phone survey of Mayors, Deputy Mayors, and Chief Administrative Officers from all 753 local govern-

ments. Our team was supported by the Nepal Administrative Staff College (NASC), National Association of Rural Municipalities in Nepal (NARMIN), and Municipal Association of Nepal (MuAN) in order to bolster response rates, and we collected partial or full responses from 1,964 local government officials consisting of 649 mayors, 703 deputy mayors and 612 CAOs. This survey was designed in close consultation with FCDO staff.

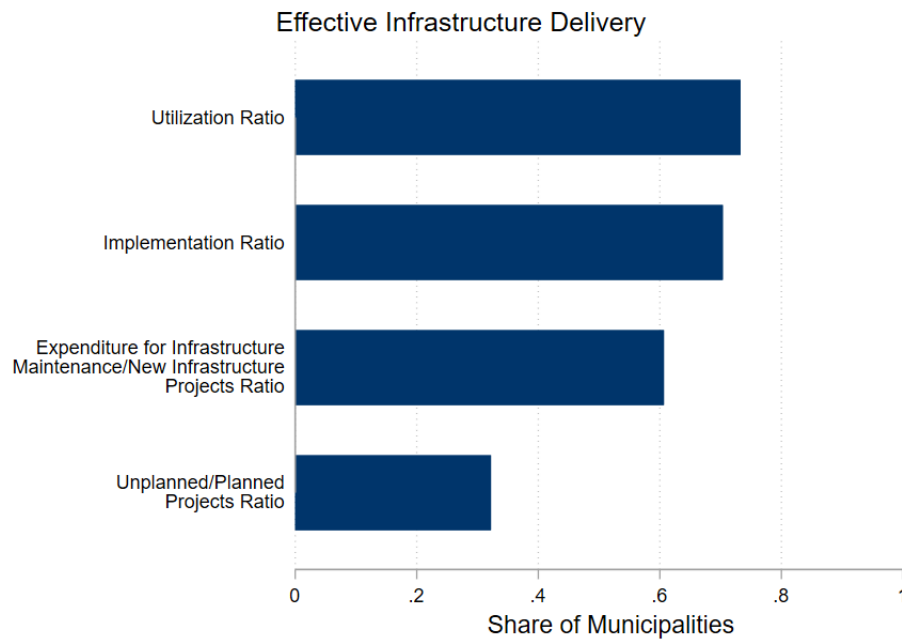
Key modules in the questionnaire included local government capacity, intergovernmental coordination, local government decision-making processes, infrastructure expenditure and capacity, and perceptions of key challenges in delivering infrastructure. Our research team tailored questionnaire modules to local officials' roles in the governance process, and we also randomly assigned each municipality to receive questions on one of four types of infrastructure: road and bridges, drinking water, irrigation, and buildings and urban development. These measures were developed through reviewing relevant academic literature on empirical measurement of federal and governance processes, as well as through consultation with the LISP team.

In our analysis, we also use data from a citizen survey (SNP) conducted by Kathmandu University, Interdisciplinary Analysts and Asia Foundation in Feb-March 2020 to understand the alignment between local officials and their constituents on prioritization of different types of infrastructure categories. In order to correlate measures of local government capacity with measures of quality infrastructure delivery, we ran multivariate regression analysis to control for observable pre-existing differences between municipalities. We also report difference-in-means with confidence intervals to illustrate significant differences in response patterns between municipalities.

We measure outputs of effective infrastructure delivery using two sets of indicators: The first set includes proxies for implementation capacity measured by (1) the proportion of allocated capital budgets that were spent in the past fiscal year (from now on referred to as utilization ratio) and (2) the number of implemented infrastructure projects in the past fiscal year as a proportion of submitted projects (thereafter implementation ratio). The second set includes potential proxies for political and elite capture measured by (1) the proportion of implemented projects that were unplanned (as a share of planned projects) and (2) the proportion of budget allocated to building new infrastructure as opposed to maintaining existing infrastructure in the past fiscal year.

Figure 1 reveals that average utilization and implementation ratios across municipalities are below 75%, that the average expenditure for new infrastructure projects exceeds the allocation of budget towards the maintenance of existing infrastructure by 40% and that roughly one unplanned project is implemented for every three planned projects.

Figure 1: *Outcomes of Effective Infrastructure Delivery*



## 2 Local Government Capacity

### 2.1 Our Measurement Framework

Although decentralization holds great promise for improving the infrastructure of democracy, devolving authority to new levels of government requires significant capacity-building. In other contexts, for instance the massive devolution of authority and funds to panchayats in India, newer elected officials were more responsive to voters, and the inclusion of women actually shifted priorities and social norms.<sup>1</sup> Yet emerging evidence also suggests that inexperienced elected officials may be less able to deal effectively with corruption, and there could still be significant conflict in allocating public goods at the sub-local level.<sup>2</sup> The Community Driven Development literature also documents the trade-offs in representativeness and expertise, which may be especially distortionary in infrastructure planning.<sup>3</sup>

In the context of the LISP programme, measurement of local governance capacity across almost all municipalities in Nepal can be especially helpful in understanding the potential benefits, on the margin, of providing technical assistance as opposed to capital funding. These measures can also indicate in which

<sup>1</sup>Beaman, Lori, Esther Duflo, Rohini Pande, and Petia Topalova. "Female leadership raises aspirations and educational attainment for girls: A policy experiment in India." *science* 335, no. 6068 (2012): 582-586. Chattopadhyay, Raghavendra, and Esther Duflo. "Women as policy makers: Evidence from a randomized policy experiment in India." *Econometrica* 72, no. 5 (2004): 1409-1443.

<sup>2</sup>Afridi, Farzana, Vegard Iversen, and M. R. Sharan. "Women political leaders, corruption, and learning: Evidence from a large public program in India." *Economic Development and Cultural Change* 66, no. 1 (2017): 1-30.

Sharan, M. R., and Chinmaya Kumar. "Something to Complain About: How Minority Representatives Overcome Ethnic Differences." (2020).

<sup>3</sup>Casey, Katherine, Rachel Glennerster, Edward Miguel, and Maarten Voors. "Skill versus voice in local development." *The Review of Economics and Statistics* (2018): 1-46.

municipalities this assistance may be most needed.

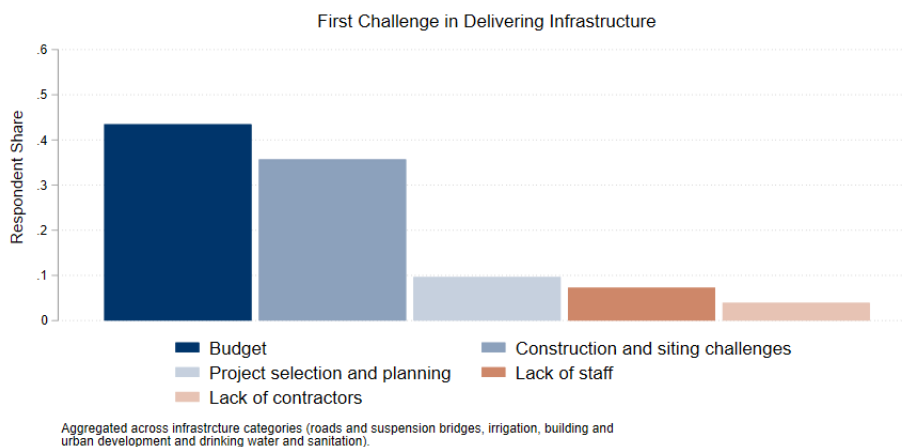
Our primary measures of the inputs of technical capacity in local governments are administrative and technical staffing levels, staff training, the presence of key processes to enable infrastructure planning and monitoring (such as an infrastructure thematic committee, a procurement evaluation committee, and an infrastructure maintenance committee), and the presence of key documentation capacity (such as a periodic plan for infrastructure, an updated list of current infrastructure, and a digital database of infrastructures). This work builds on other surveys that have documented significant unmet demand for capacity at the local level in Nepal. Early assessments had revealed gaps in medium-term planning, managing organizational and individual performance, procurement, and gender and social inclusion at the local level at the onset of country’s federalism transition<sup>4</sup>. More recent studies show these gaps have persisted, and we seek to further explore these challenges, particularly in the policy-making sector of infrastructure.<sup>5</sup>

## 2.2 Empirical Findings

### Local Governments report funding challenges as primary

In terms of existing capacity, local governments primarily cite a lack of funds. Roughly 40% of local government officials name insufficient local budgets as the main obstacle in delivering necessary infrastructure to their constituents.

Figure 2: *First Challenge in Delivering Infrastructure*



### Implementation records and expenditure data point to capacity constraints

Across rural and urban municipalities, most local governments have not exhausted their infrastructure budgets three months prior to the end of the fiscal year. More concerning, there is a backlog of approved

<sup>4</sup>Georgia State University and Nepal Administrative Staff College. “Nepal Capacity Needs Assessment for the Transition to Federalism.” (2019). <https://www.mofaga.gov.np/uploads/notices/Notices-20200506153437737.pdf>

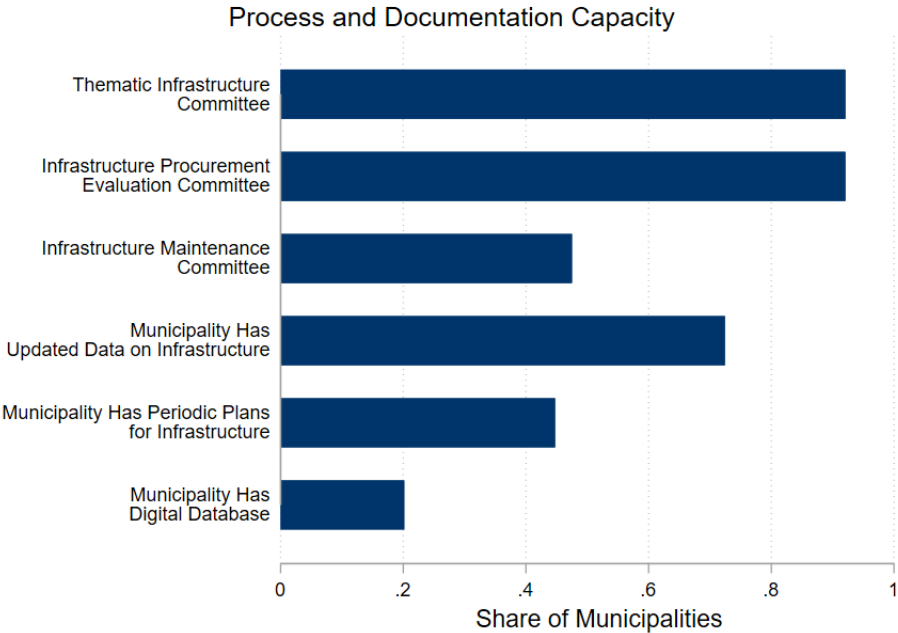
<sup>5</sup>MOFAGA. “Sthaniya Tahako Chyamata Aawashyakta Pahichan Addhyan Prativedan.” [“Local Level’s Capacity Needs Assessment Study Report.”] (2021).

projects that have not been implemented. As of January 2022, municipalities that reported funding challenges had, on average, spent 73% of their allocated budgets in the current year – which is comparable to municipalities who did not indicate budget shortages as a main concern. In municipalities that reported staff capacity as a key challenge, 64% of allocated budgets had been spent – thus, falling short of municipalities with self-reported binding budget constraints.

**Most municipalities have not set up key processes to enable infrastructure development**

Less than 50% of municipalities have periodic infrastructure plans in place and less than 60% of local government agents have received training for infrastructure project monitoring (with a substantially lower share in rural than urban municipalities). Staff capacity is also stretched: on average, municipalities report roughly 0.42 full-time technical engineers per 10,000 residents, but this ranges from 0.35 in rural areas to 0.45 in urban municipalities.

Figure 3: *Indicators of Process and Documentation Capacity*



**The relationship between administrative and technical capacity and infrastructure delivery**

To examine the relationship between municipalities that have not set up infrastructure delivery processes and the usage of funds, we construct an infrastructure committee index that assigns a high infrastructure committee indicator if municipalities possess a (a) thematic infrastructure committee, (b) infrastructure procurement evaluation committee and (c) infrastructure maintenance committee, zero otherwise. Urban low capacity areas are significantly less likely to spend allocated infrastructure funds than are high capacity urban areas. Additionally, municipalities with both periodic infrastructure plans and local officials that are trained in infrastructure monitoring have higher funds utilization ratios.



Figure 4: *Capacity and Infrastructure Delivery (Utilization Ratio)*

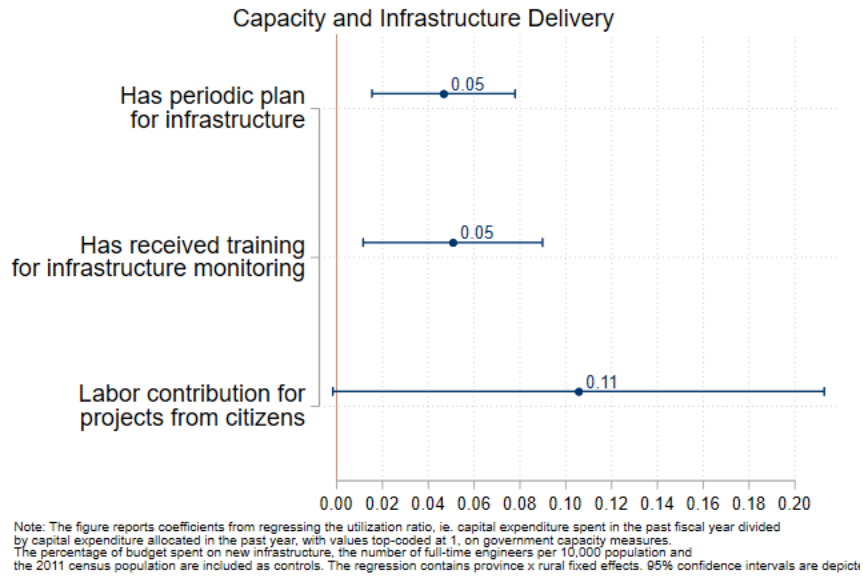
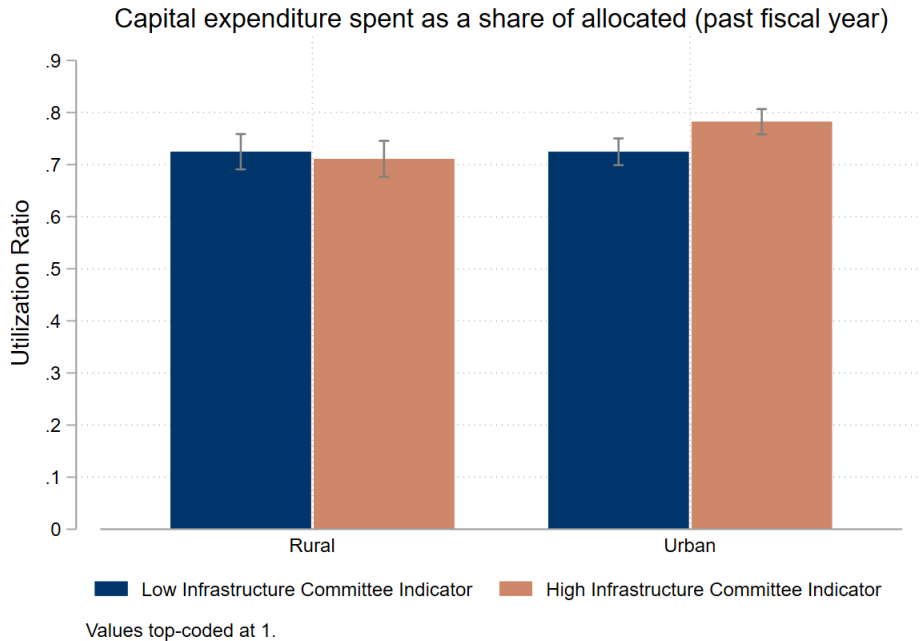


Figure 5: *Relationship Between LG Capacity and Infrastructure Delivery*



### 2.3 Recommendations for Programme Design

As the LISP business case appropriately recognizes, both funding support and technical capacity are complementary to effectively delivering infrastructure, and municipalities may have different binding constraints. The data provide evidence that increasing capacity increases the share of allocated funds that are actually spent. Developing periodic plans and training in infrastructure monitoring appear especially

important. Therefore LISP programming should focus on these aspects. We also recommend rigorous evaluation of technical capacity building and facilitation aspects; maximizing effectiveness is likely to take several iterations, and data can help inform program design.

### **3 Local Government decision-making practices**

#### **3.1 Our Measurement Framework**

The standard political agency framework that views citizens as ‘principals’ who delegate policymaking authority to politicians provides useful guidance. According to this view, healthy institutions require both that politicians are capable, and that there are robust mechanisms for citizens to hold them accountable. In contexts with weak accountability structures, politicians may instead target public benefits to specific groups, thus reinforcing local hierarchies.

Applying this framework to the LISP programme, we are particularly interested in understanding ways to understand how local government officials involve community members in infrastructure policy decisions. In Nepal, where the first post-conflict cohort of local governmental leaders look more like the constituents they serve, we might expect infrastructure planning decisions to be more representative of citizen preferences. However, there is always potential for elite capture. In addition, elected officials’ desires to be electorally rewarded for infrastructure delivery may distort the balance between spending on new assets and maintaining existing assets.

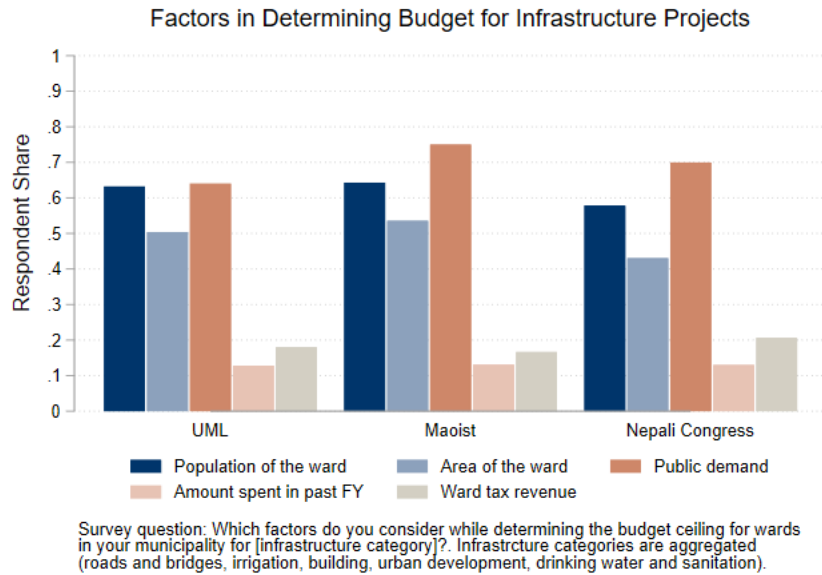
Our primary measures of robust, accountable decision-making practices in local governments are mechanisms for community participation, proportion of projects awarded to user committees, frequency of public hearings in a fiscal year, factors for the selection and prioritization of projects, and reported challenges in forming user committees.

#### **3.2 Empirical Findings**

##### **Local elected officials report public demand is a key factor in budget allocation**

These stated preferences hold across infrastructure categories (roads, irrigation, drinking water and urban development) and across mayoral party (UML, Maoist, NC). Roughly 85% of Maoist mayors indicate citizen preferences as a main factor in making budget decisions for road projects, followed by 58% (52%) of mayors who emphasize that the ward area (ward population) serves as a key decision criteria.

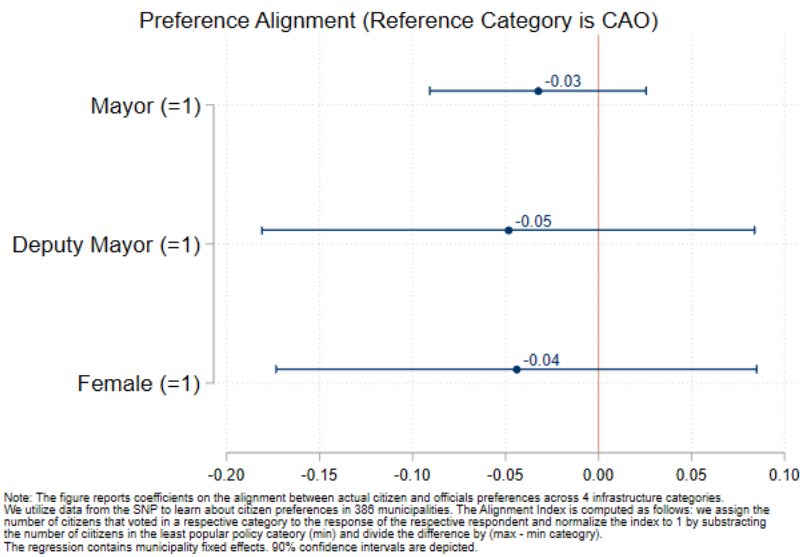
Figure 6: Factors in Determining Project Budgets, by Political Party



**Elected officials and local bureaucrats are equally responsive to citizen preferences**

Using ancillary data from a citizen survey (SNP) conducted by Kathmandu University, Interdisciplinary Analysts and Asia Foundation in Feb-March 2020, we find that mayors and deputy mayors do not score better on a preference alignment index that compares citizen preferences and officials priorities across four infrastructure categories than local bureaucrats that ostensibly do not face the same accountability pressures. Instead, both – elected officials and bureaucrats – prioritize roads over other, less populist and visible infrastructure categories (irrigation, water, sanitation, building and urban development).<sup>6</sup>

Figure 7: Preference Alignment, by Post



<sup>6</sup>Roads are prioritized across ecological belts, provinces, and are also prioritized in periodic plans of the LGs that have prepared the plan.

As noted in the LISP Business case, local officials also prioritize new infrastructure over maintenance of existing projects; further evidence that incentives to provide visible infrastructure may distort decision-making. On average, over 61% of budgets were allocated to new infrastructure projects, as opposed to maintaining existing projects.

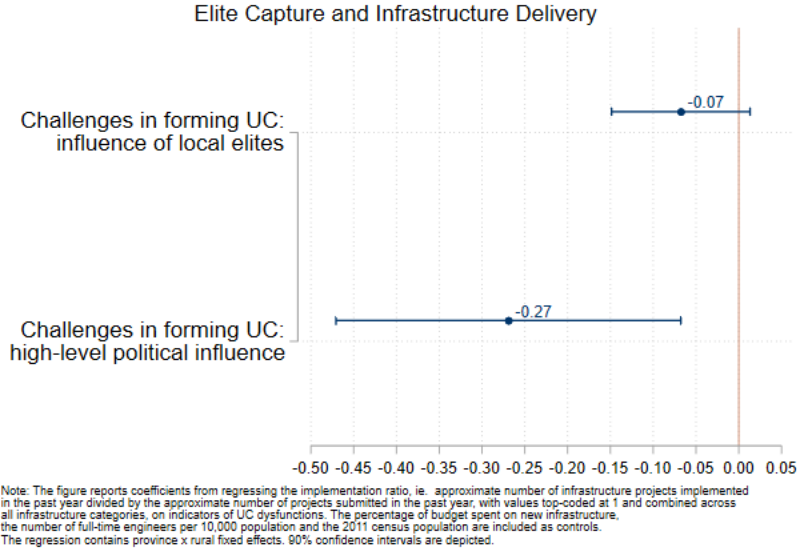
**User Committees face accountability challenges**

Reported challenges in the formation of User Committees (UC) help to shed light on why accountability mechanisms are possibly weak at the local level. User Committees (UC) play a major role in shaping local policies. Government officials award 80.65% of infrastructure contracts to UC (82.02% in rural and 78.32% in urban areas) and mention UC as an important mechanism for soliciting feedback from community members. At the same time, roughly 20% of respondents acknowledge that the influence of local elites and high-level politicians poses a challenge to the formation of UC and recruitment of members in their municipality.

**The relationship between elite capture and infrastructure delivery**

Our analysis further shows that political interference and elite capture potentially predicts substantially lower project implementation rates, providing suggestive evidence that dysfunctional UCs impede accountability. More needs to be done to engage citizens in infrastructure decision-making processes to create an environment in which officials are incentivized to align their infrastructure priorities with the preferences of their constituents.

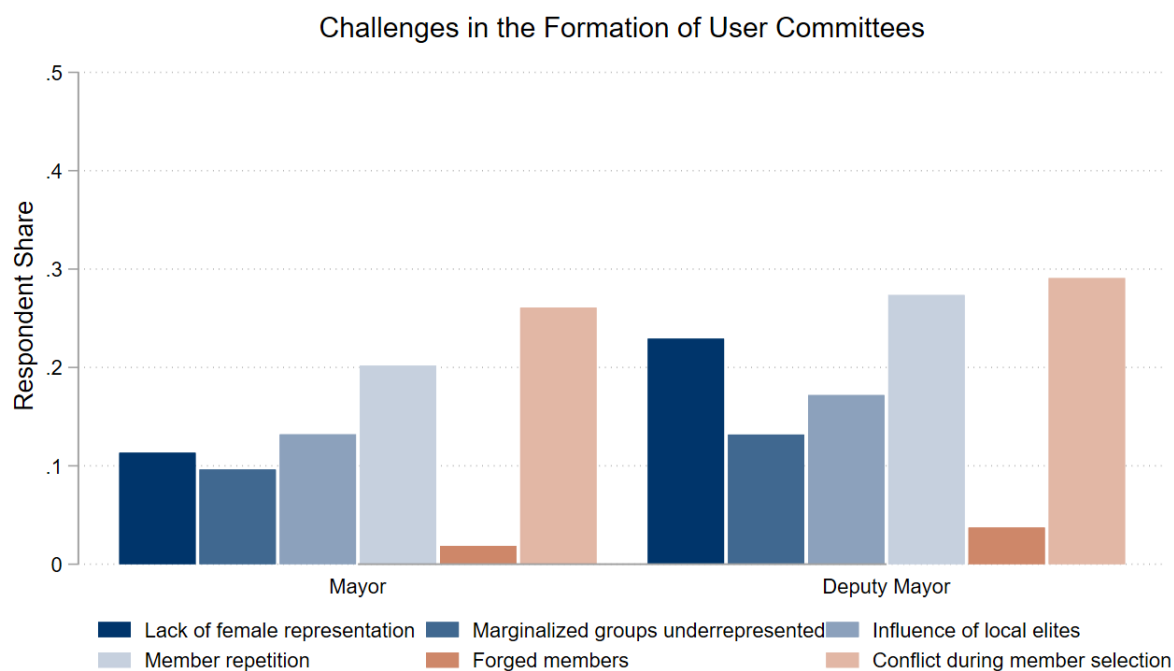
Figure 8: *The Relationship between Elite Capture and Infrastructure Delivery*



**Gender Gap in Policy Preferences**

Deputy mayors are roughly 10 percentage points more likely to flag the lack of female representation in UC as a challenge compared to mayors. This lack of representation is likely to have significant impacts on project selection. In our survey, Deputy Mayors are 8 percentage points more likely to name drinking water and sanitation as their first policy preference compared to mayors.

Figure 9: Challenges in Formation of User Committees, over Post



### 3.3 Recommendations for Programme Design

A strong set of processes to ensure that all citizens have voice in LISP programming will increase impact. It is important to prevent the extreme cases of elites capturing User Committees.. The large literature on the community driven development literature, which the LISP business case thoroughly reviews based on inputs from the chief economist and the Rent Team, provide a number of key insights and also templates for community engagement.

These processes yield additional potential benefits. Municipalities that reported constituents providing labor contributions to infrastructure projects as a method of community participation, as an example, spend 2.7% more of their allocated budgets, on average. Voter or Politician scorecards could also be a potential mechanism for reducing information gaps between politicians and constituents, particularly if politicians have advance knowledge of how their performance will be communicated to voters (Banerjee, Enevelodson, Pande, and Walton 2021).

Strengthening the representation of women in UC is not only a desirable policy goal per se but also likely to translate into direct policy outcomes that better reflect female preferences. Differential policy preferences between men and women have been documented extensively. Duflo and Chattopadhyay (2004) show that the mandated representation of women at the local level in Rajasthan (and West Bengal) directly affects policy choices: in GPs reserved for women, the authors observe more investments in drinking water (and roads).

## 4 Intergovernmental coordination

### 4.1 Literature Review and Measurement Framework

Despite the de jure devolution of most infrastructure functions to local governments, progress in actually delegating authority to local governments has been uneven.<sup>7</sup> In addition, continued coordination at the provincial or federal level may help municipalities focus on infrastructure projects that have positive externalities outside of their constituencies.

Our primary measures of the quality of intergovernmental coordination are reported satisfaction with federal and provincial support and with interactions on infrastructure in the past year, the types of support that municipalities report receiving, involvement in provincial and federal decision-making, and requests for technical assistance.

### 4.2 Empirical Findings

#### **The main assistance that provincial and federal governments provide is financial**

Local governments do not have capacity to generate sufficient internal revenue to deliver infrastructure at the local level. 71 percent of LGs responded that the proportion of internal revenue is less than 10 percent of the total budget for the current fiscal year (FY 2078/79). Also, 57 percent of LGs responded that the revenue collection was deficient relative to the goal they set for internal revenue collection in the last fiscal year (FY 2077/78). Even within constituencies, many local governments are disproportionately spending on smaller scale projects run by Ward Committees.

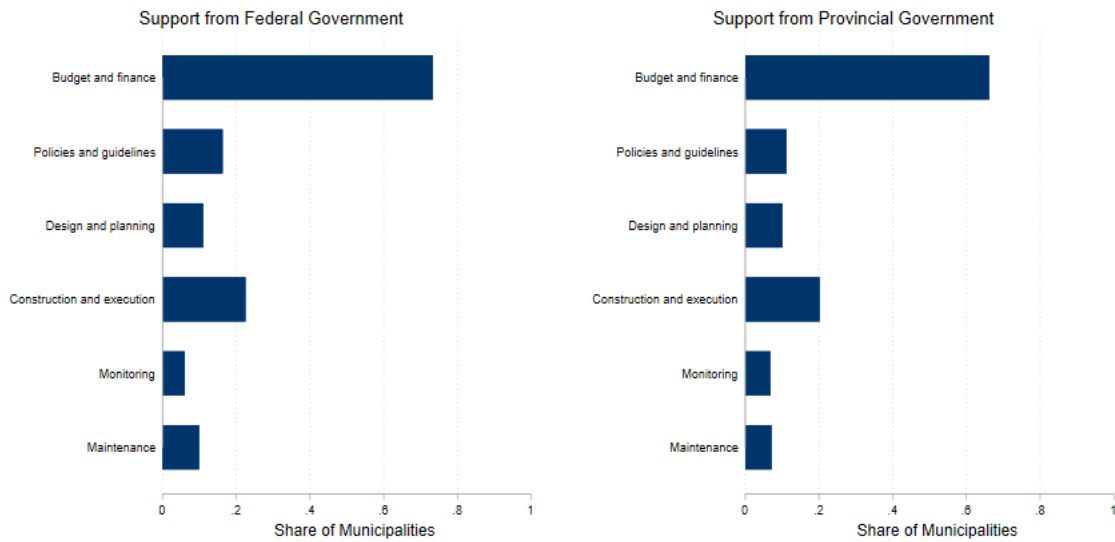
Fiscal transfer from central government, revenue sharing, and grants (conditional and unconditional) make up a large proportion of the budget of local governments. Accordingly, local government officials report budgetary assistance (which is constitutionally mandated transfers from federal and provincial governments) from other spheres of government, but there is clear scope for improvement and additional avenues of collaboration.

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<sup>7</sup><https://kathmandupost.com/national/2021/09/21/small-road-projects-to-be-handed-over-to-provincial-and-local-government>

<https://kathmandupost.com/national/2021/12/18/planned-development-law-to-clear-hurdles-in-infrastructure-projects>

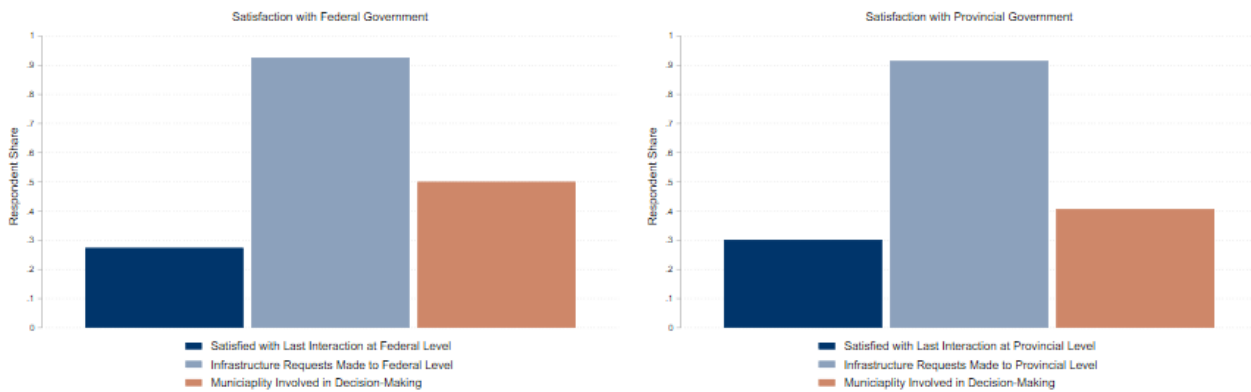
Figure 10: *Types of Support from Federal and Provincial Governments*

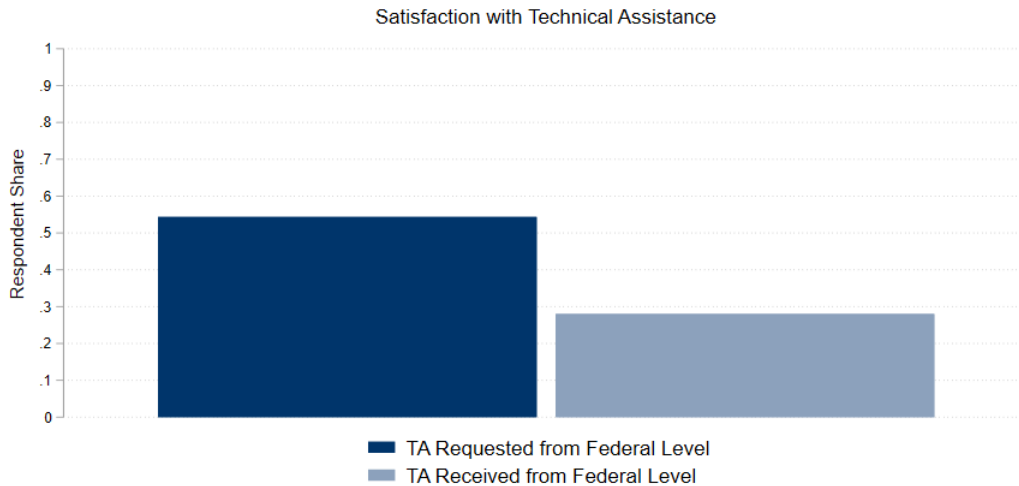


**Local governments are dissatisfied with current levels of non-financial assistance**

Officials from LGs report dissatisfaction from their last interaction with officials from federal and provincial governments regarding infrastructure. Even with the provision that is in place (i.e. the provision of TA to LGs from the federal government on infrastructure funded by conditional grants) the coordination is low. Although over half (54%) of municipalities have requested technical assistance from the federal government, only 28 percent of requesting municipalities actually report receiving it.

Figure 11: *Satisfaction with Support from Federal and Provincial Governments*





### 4.3 Recommendations for Programme Design

Local governments are heavily reliant on the federal government for finance. Yet, they indicate very low levels of satisfaction with the support they receive from the federal and provincial government (Figure 11). About 55% of municipalities have requested assistance, while only around 28% have received any assistance. We therefore recommend that the LISP programming include a substantial component encouraging beneficiaries to articulate and develop a plan for coordination with the federal and provincial governments that would also be agreed to by the federal and provincial counterparts (provided this does not introduce prohibitive delays).

## 5 Best practices in measurement during LISP implementation

Our primary data collection and secondary data analysis yields several key insights for measurement during LISP programme implementation and suggests hypotheses about the impacts of specific features of the LISP programme on desired outputs. As there is substantial existing heterogeneity among municipalities in terms of existing governance practices, it will not be straightforward to understand whether and how the LISP program is impacting decision-making, coordination, and inclusive governance. Fundamental to this problem of causal inference is the need for a counterfactual: what would have happened if these communities did not have access to LISP? We propose to solve this problem through the use of randomized controlled experiments, thus ensuring that, on average, there are no systematic differences between communities that receive some components of the suite of LISP activities and others that receive different variants.

### Key suggestions for measurement

- We have developed several customized indices for local government capacity in our pilot survey, including staff capacity, committee processes, documentation, decision-making, and elite capture. These features are correlated with measures of infrastructure delivery that can largely be collected



through budgetary data. In LISP implementation, we propose continuing to track a subset of these measures, at scale, in LISP and non-LISP municipalities.

- Other sources of data, such as citizen surveys or physical audits can provide additional cross-validation to measures of infrastructure delivery and decision-making processes.
- Since a substantial amount of infrastructure is administered at the ward level, it might also be important to understand coordination between municipality and ward officials.
- Our survey results have validated the importance of supporting municipalities in creating up-to-date digital records of infrastructure; already a specified priority in the LISP Business Case.

### **Key LISP Policy Design Questions**

- A key goal of the LISP program is to take advantage of the current window of opportunity to empower new political and economic actors. Introducing protocols that require that lower caste and female-headed bids for infrastructure can assist both of these goals in at least two ways. First, it would provide these firms with valuable contracts, giving them an opportunity to grow. Second, it might necessarily limit the ability of local governments to direct contracts to their political supporters, potentially breaking down patronage networks.

One can imagine a range of interventions that would increase the input of women elected representatives as they prepare their plans and proposals for LISP infrastructure investments. This could be supported with TA, by creating protocols for women representatives to input into proposals for LISP (and matching) FA, and so on.

Getting this right is extremely important for gender inclusion. It is also very amenable to evaluation (especially randomized controlled evaluation). Natural outcomes to look at are: (i) which interventions result in a different selection of projects; (ii) which protocols meaningfully increase female involvement in decisions; and (iii) which interventions allow women representatives to demonstrate their effectiveness and thereby receive the support of their party to contest for higher office.

- Evaluations of provisions for ensuring female participation in infrastructure construction and maintenance programs. The LISP Business Case notes promising anecdotal evidence that pilot programs like RAP3 have been effective at including women in the building and construction of rural roads, particularly women that had not previously worked outside the home. We believe that these types of employment programs can be crucial to Nepal's post-pandemic recovery, and can also potentially spur lasting changes in female labor force participation and community norms about women working outside the home. Our previous work in South Asia has shown that providing women with their own bank accounts, as well as direct deposit of public workfare wages, increased women's labor force participation in both public and private sectors. In the long run, gender norms also changed: these women became more accepting of female work, and their husbands perceived fewer social

costs to having a wife who works (Field et al. 2019).

Natural outcomes to look at include (i) Do household incomes for disadvantaged groups rise as new infrastructure is built in their communities? (ii) Can financial inclusion programs complement government employment initiatives to encourage more women to join the labor force? (iii) Do social norms about women working change as more women start to work outside the household?

- One of the fundamental trade-offs involved in moving to federal systems is that local governments may have better local knowledge, but also may be less inclined to invest in public goods that generate positive externalities for neighboring administrative units or that require coordination across units. Roads represent the textbook case of an infrastructural investment that requires coordination across administrative units to be efficient. We expect that monitoring and information systems, as well as incentives, must be aligned across governmental spheres in order to foster efficient coordination, and we are interested with the LISP programme to design and evaluate these features.

## 6 Appendix

Table A1: Summary Statistics

**A1 Summary Statistics**

<b>Infrastructure Category</b>	Roads and (Suspension) Bridges	Irrigation	Water and Sanitation	Building and Urban Development	<i>Total</i>
<b>Respondent Position</b>					
Mayor (=1)	160	169	160	155	644
Deputy Mayor (=1)	170	181	179	168	698
Chief Administrative Officer (=1)	152	152	154	153	611
<b>Locality</b>					
Urban (=1)	169	177	214	173	733
Rural (=1)	313	325	279	303	1,220
<b>Geography</b>					
Himalayan (=1)	81	82	81	86	330
Hilly (=1)	230	227	226	218	901
Terai (=1)	171	193	186	172	722

Notes: This table reports summary statistics from the LPGS-4 survey. Values are the number of observations per category. The total number of observations is **1,953**.

## A2 Capital Funding is Not Enough

Table A2: Government Capacity Correlations

	Utilization Ratio		Implementation Ratio		Maintenance Ratio		Unplanned Ratio	
	(1) b/se	(2) b/se	(3) b/se	(4) b/se	(5) b/se	(6) b/se	(7) b/se	(8) b/se
Has periodic plan for infrastructure	0.047*** (0.016)	0.045*** (0.016)	-0.015 (0.028)	-0.018 (0.028)	0.059 (0.083)	0.050 (0.083)	-0.138 (0.162)	-0.154 (0.147)
Has received training for infrastructure monitoring	0.051** (0.020)	0.050** (0.019)	0.007 (0.029)	0.007 (0.029)	-0.012 (0.101)	-0.012 (0.101)	-0.059 (0.157)	-0.070 (0.149)
Labor contribution for projects from citizens	0.106* (0.054)	0.084 (0.055)	-0.029 (0.117)	-0.049 (0.118)	0.534 (0.437)	0.470 (0.440)	0.136 (0.363)	-0.107 (0.406)
Percentage of budget spent on new infrastructure	0.148*** (0.044)	0.147*** (0.043)	0.140** (0.065)	0.140** (0.065)	-1.411** (0.596)	-1.405** (0.596)	0.444 (0.462)	0.393 (0.452)
Full-time engineers per 10,000 populaion	0.005 (0.005)	-0.001 (0.006)	0.034*** (0.008)	0.027*** (0.008)	-0.005 (0.020)	-0.021 (0.015)	-0.076 (0.228)	-0.295 (0.211)
2011 Census district population		-0.000*** (0.000)		-0.000** (0.000)		-0.000** (0.000)		-0.000** (0.000)
Province x rural FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean	.729	.729	.707	.707	.607	.607	.325	.325
N	537	537	501	501	529	529	37	37

**Utilization Ratio:** The outcome is capital expenditure spent in the past fiscal year divided by capital expenditure allocated in the past year, with values top-coded at 1.

**Implementation Ratio:** The outcome is approximate number of infrastructure projects implemented in the past year divided by the approximate number of projects submitted in the past year, with values top-coded at 1 and combined across all infrastructure categories.

**Maintenance Ratio:** The outcome is the share of infrastructure budget spent on the maintenance of existing infrastructure projects in the past year divided by the share of infrastructure budget spent on building new infrastrucutre in the past year.

**Unplanned Ratio:** The outcome is the number of unplanned infrastrucutre projects implemented in the past fiscal year, averaged across infrastructure categories, as a share of the total implemented infrastructure projects in the past fiscal year. Regressions include infrastructure category (roads and bridges, irrigation, drinking water and sanitation, building and urban development) FE. Standard errors are clustered by district and reported in parentheses.

*Levels of significance: \*p < 0.1, \*\*p < 0.05, \*\*\*p < 0.01*

### A3 Populist and Highly Visible Infrastructure Priorities

Table A3: Alignment between *actual* citizen preferences and officials' preferences across 4 infrastructure categories [SNP for actual citizen preferences and LPGS-4 for officials' preferences]

	New Infrastructure Preference Alignment Index	
	(1) All Respondents	(2) All Respondents
Mayor (=1)	-0.034 (0.035)	-0.033 (0.035)
Deputy Mayor (=1)	-0.089*** (0.034)	-0.049 (0.080)
Female (=1)		-0.044 (0.078)
Mean Index	.544	.544
Municipality FE	Yes	Yes
# Respondents	979	979

This table compares the alignment between actual citizen and officials preferences across 4 infrastructure categories. We utilize data from the SNP to learn about citizen preferences in 386 municipalities. The *Alignment Index* is computed as follows: we assign the number of citizens that voted in a respective category to the response of the respective respondent and normalize the index to 1 by subtracting the number of citizens in the least popular policy category (min) and divide the difference by (max - min category). The computation of the *Existing Infrastructure Preference Alignment Index* considers officials' preferences about maintenance of existing infrastructure whereas the *Existing Infrastructure Preference Alignment Index* considers officials' preferences for new infrastructure projects." Standard errors are robust and reported in parentheses. Levels of significance: \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$

## A4 Evidence of Weak Accountability Structures

Table A4: User Committee Dysfunction Correlations

	Implementation Ratio		Maintenance Ratio	
	(1) b/se	(2) b/se	(3) b/se	(4) b/se
Percentage of budget spent on new infrastructure	0.132** (0.059)	0.117* (0.060)	-1.369** (0.558)	-1.347** (0.568)
Full-time engineers per 10,000 populaion	0.028*** (0.008)	0.026*** (0.008)	-0.029** (0.013)	-0.029* (0.015)
2011 Census district population	-0.000** (0.000)	-0.000** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
Challenges in forming UC: influence of local elites		-0.068 (0.049)		-0.190 (0.135)
Challenges in forming UC: high-level political influence		-0.269** (0.121)		-0.171 (0.301)
Province x rural FE	Yes	Yes	Yes	Yes
Mean	.706	.709	.607	.604
N	539	530	565	555

**Implementation Ratio:** The outcome is approximate number of infrastructure projects implemented in the past year divided by the approximate number of projects submitted in the past year, with values top-coded at 1 and combined across all infrastructure categories.

**Maintenance Ratio:** The outcome is the share of infrastructure budget spent on the maintenance of existing infrastructure projects in the past year divided by the share of infrastructure budget spent on building new infrastrucutre in the past year.

*Levels of significance: \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$*