

**How Capital Projects are Allocated in Papua New Guinean Villages:
The Influence of Local Collective Action, Local-level Institutions, and
Electoral Politics**

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Zahid Hasnain (EASPR), Philip Keefer (DECRG) and Nicholas Menzies (LEGJR)



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Errors of fact and interpretation are ours alone, as are the views expressed in this paper, which should not be attributed to the World Bank, its executive directors, or the countries they represent.

Acronyms

AusAID	Australian Agency for International Development
DSG	District Support Grant
DSIP	District Services Improvement Program
JDPBPC	Joint District Planning and Budget Priorities Committee
LLG	Local Level Government
LPV	Limited Preferential Voting
MP	Member of Parliament
OLPGLL	Organic Law on Provincial Governments and Local-level Governments
WDC	Ward Development Committee

Abstract

Papua New Guinea (PNG) has implemented numerous institutional changes over the past fifteen years with the avowed aim of bringing government closer to the people, improving accountability and, by extension, local infrastructure development and service delivery. To date however, there has been little empirical evidence to establish whether these changes have impacted the provision of local infrastructure. Similarly, there is little empirical evidence revealing the main political economy factors that influence the way that resources are actually planned, spent, and impact communities at the sub-national level.

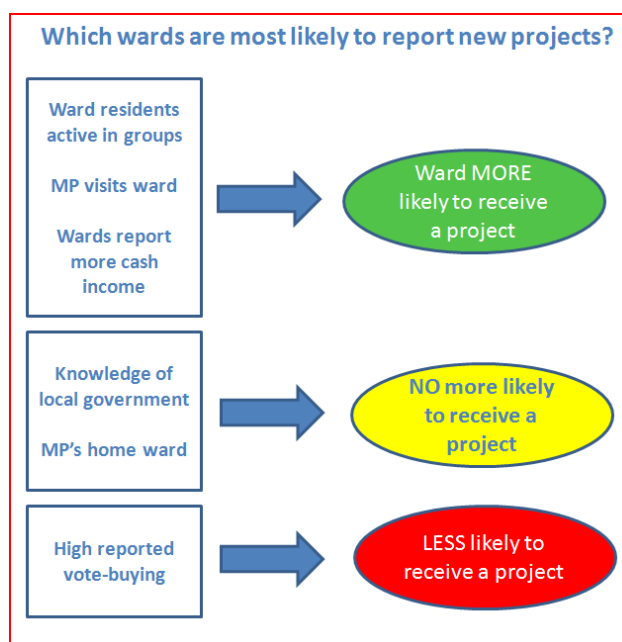
This report investigates the determinants of local infrastructure projects at the ward level, the lowest level of government in PNG, to assess the impact of these institutional changes and to identify the importance of other factors, in particular local collective action. It does this through a survey covering more than 1000 households across 49 wards in nine PNG districts. It also presents descriptive statistics on the basic characteristics of the households that were surveyed, their knowledge of local level institutions, their participation in groups, and their voting behavior.

The main findings from the survey suggest that the extent to which communities are organized for collective action, as measured by reported membership of groups, particularly non-church groups, is the strongest and most consistent predictor of whether a ward receives a project. The effect of group membership on the presence of new local public works projects is far stronger *outside* of Highlands' districts. However, it is no different across districts that exhibit the most electoral violence, nor across mining versus non-mining districts. Participation in local associations and groups differs significantly within and across the nine districts. Emerging scholarship on civil society in PNG suggests that civil society organizations may be bridging customary social groupings; the survey appears to confirm this for the organizations which households report belonging to. However, wards in which such multi-clan groups are reported to be more predominant seem to be less successful in securing outside financing for local public works projects.

The report explores especially the determinants of variation within districts in terms of the presence of new projects. Common wisdom in PNG suggests that the home wards of Members of Parliament (MPs) should be especially favored with projects. In six districts, the data includes this ward; these six home wards are no different from other wards in their district with respect to the presence of new projects.¹ The survey asked questions about electoral behavior, the provision of cash and other gifts in exchange for votes and electoral violence. The survey found significant inter-district variation, with vote-buying dramatically higher in the three Highlands districts, where 42% of respondents report receiving cash, compared to 9% in the other districts. Within districts, vote-buying and the provision of local public works projects are inversely related. Vote-buying is also far more common in the three districts that exhibit the most electoral violence.

¹ Supporting qualitative research suggests that in Koroba Lake-Kopiago District the MP's home ward *is* an important factor in the presence of projects.

A summary of the findings are presented in the schematic below:



The study has several **implications for the Government of PNG and development partners**:

- First*, although Government and donors have placed considerable emphasis on changing the institutions and procedures for making and implementing public policies at the local level (such as changes in electoral laws or the introduction of district level planning bodies), these seem not to have affected which wards receive projects. For example, wards in which households have better knowledge of the local government system are no more likely to have projects; the effect of group membership on projects is also unaffected by average knowledge of local governments. The results are consistent with the continuing dominance of the MP and traditional modes of interaction between MPs and their constituencies, which transcend and are largely unaffected by such innovations as the Joint District Planning and Budget Priorities Committee (JDPBPC).
- Second*, in a political environment in which MP influence is strong yet groups have an impact on development, there could be merit in developing accountability and feedback measures to link MPs and the district development committees they chair more closely with citizens. These could include relatively straightforward measures to increase transparency, such as policies to publicize JDPBPC allocations, budgets and meeting minutes in the newspaper, on radio and by posting them on church notice boards and at other community points. More involved measures such as performance monitoring and citizen/community scorecards, participatory budgeting and expenditure tracking have been implemented in many countries but remain largely absent from the service delivery landscape in PNG. (The box on page 36 provides an example of social audits of Kenyan constituency development funds). These measures also warrant consideration to see whether they can capitalize on a citizenry which, along some measures, is relatively active, informed and engaged. Implementation would need to focus on building a compact between service

providers and citizens and not unduly raise demand-side expectations given significant supply-side constraints which are unlikely to be swiftly ameliorated.

- *Third*, it seems that District Support Improvement Program (DSIP) and District Support Grants (DSG) do not get transformed into development projects as effectively in wards that are under-endowed with groups. To address this, it may be worth considering programs that target grants directly to wards, such as block grants to Ward Development Committees (WDCs).² Ward Councilors are already well known by both men and women and significantly the most popular site of complaint by residents for poor (and non-existent) service delivery. Such grants could be married with matching grants to Local Level Governments (LLGs) and districts to encourage collaboration across wards and better integration between levels of government. A process of direct grants would have to consider means of mitigating potential costs, such as a weakening of linkages (and associated oversight and implementation support) between Provincial and District officials and the wards.

Conducting research of this type invariably presents challenges, many of which were amplified in this case. As a result, any conclusions based on the survey results alone need to be carefully drawn and ideally supported by other empirical work.

Significant questions remain for further research and understanding. For example, why do some wards exhibit more group activity? And what are the precise dynamics through which group activity (in disparate pursuits that include sports) leads to more projects? Other questions require a larger sample of wards to answer. For example, are the types of projects systematically different in "more group" wards? And are the maintenance and utilization of projects higher in "more group" wards? These remain important issues for further research.

² Reportedly tied grants direct to LLGs were historically part of the inter-governmental financing system in PNG.

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I. Introduction

1. Despite rising mineral prices that have triggered an economic recovery after years of decline, development remains a significant challenge in Papua New Guinea. Human development indicators are below those of other countries in the region and urban-rural disparities remain significant. The World Bank estimates that the percentage of the population below the national poverty line increased from 37% in 1996 to 53% in 2006; life expectancy at 56 years is significantly below the East Asian average of 71 years; the literacy rate for individuals 15-24 years old declined from 67% in 2000 to 64% in 2007; less than half of primary school age children are enrolled in primary schools and, of these, only 60% complete six years of education. Civil society organizations, business leaders, donors and many government officials agree that this deprivation is primarily a failure of the state and that the challenge of development is in large part a challenge of improving governance. The Bank's Country Assistance Strategy underlines the centrality of improvements in governance to the twin strategic pillars of promoting and maintaining sound economic and natural resource management and improving livelihoods and service delivery, especially for the rural poor.

2. Recognizing that improved accountability is key to better governance, the Government of Papua New Guinea (PNG) has instituted numerous institutional changes over the past fifteen years that aim to bring government closer to the people and, by extension, to improve local infrastructure development and service delivery. These changes include an elaborate three-tier local government structure, with considerable decentralization of authority for planning and allocating funds for local infrastructure projects to these new institutions, in particular to the Joint District Planning and Budget Priorities Committee (JDPBPC) at the district level, the apex of the three-tier system. The funds flowing to sub-national tiers of government have also increased considerably over the past five years.

3. To date however, there has been little robust empirical investigation into whether these changes have affected the provision of local infrastructure nor whether they have changed the political economy factors that influence accountability: the way resources are actually planned, spent, and affect communities at the sub-national level in PNG. This report presents results from the analysis of a survey, covering more than 1000 households across 49 wards in 9 districts in PNG that was undertaken with the explicit aim of answering some of these questions. To our knowledge this is the first such detailed empirical analysis of its kind in PNG, and one of the first anywhere that compare localities' access to outside public works financing depending on the group organizations of the localities, the electoral behavior of candidates in the locality, and households' own knowledge of the formal institutional arrangements through which projects are distributed.

4. The main issue that this report investigates is the determinants of projects at the ward level, with the ward being the lowest administrative tier in PNG and consisting of at most a few villages. Local infrastructure projects are an important ingredient of any effort to improve service delivery, and are well suited to this form of empirical examination precisely because local institutions have considerable *de jure* decision-making authority over them. The survey also allows us to examine numerous other, related questions that are also of importance, including household knowledge of and participation in the new local

government institutions; household participation in local group activities; the nature of these groups, in particular their clan representation; voting behavior; the interactions of the MPs with communities; and the impact of the Limited Preferential Voting (LPV) system, introduced for general elections in 2007³, on voting behavior and MP incentives.

5. To summarize, the main findings of this report are as follows:

- Villagers display a high degree of participation in groups, both church and non-church, including school boards, producer cooperatives, and women's groups, as measured by group membership and frequency of meetings. Households that belong to non-church groups are not systematically different, in terms of income, assets, gender, occupation, or education, from those that do not.
- The extent to which communities are organized for collective action, as measured by membership of villagers in groups, particularly non-church groups, is the strongest and most consistent predictor of whether or not a ward receives a project.
- By contrast, neither the economic characteristics of wards nor average ward knowledge of the formal institutional arrangements of the local level government system (specifically, the JDPBPCs), nor the presence of an active Ward Development Committee, appear to influence project allocation.
- The clan composition of local groups is important. While the apparent proliferation of multi-clan groups is a positive sign for the prospects of bottom-up pressure for broadly beneficial local public goods, group participation in wards has a smaller effect in wards with more multi-clan groups than in those with fewer.
- Vote buying — i.e., the exchange of cash or other gifts for votes — is prevalent in most districts (but with significant variation between districts) and appears to have been unaffected by the introduction of LPV. Moreover, while local collective action improves the provision of local infrastructure, it is also linked to greater, not less vote buying.

6. These findings are of particular relevance to the policy community. The Government of PNG, civil society and other stakeholders, as well as PNG's development partners have tended to focus heavily on institutional changes to improve service delivery, ranging from new electoral rules (i.e. the LPV system) to the new, decentralized institutions for delivering projects to Districts, LLGs and wards. The strategies of electoral mobilization that politicians use depend on more than formal institutions, however, and these institutions may be less likely to have the desired effects in electoral environments like PNG's, where clientelist and clan-based appeals may matter more than service delivery.

7. Though the changes were intended to drive allocation decisions down to more local levels and to involve village officials more directly, we see little evidence that the formal attributes of these local institutions matter. In particular, wards that know more about the JDPBPC or that have a Ward Development Committee are not more likely to have projects.

³ The LPV system was introduced following the 2002 general election and piloted in 10 by-elections in the lead-up to its first use in a general election in 2007.

Instead, differences among communities in their capacity to engage in collective action appear to have the strongest effect on service delivery and the receipt of infrastructure. The main findings from the survey suggest that there is indeed considerable participation in local associations and groups across the nine districts and this participation has a large and significant association with whether communities receive projects.

8. The study has several implications for the government of PNG and for donor assistance to the country. First, although government and donors have placed considerable emphasis on de jure changes to laws and procedures regarding public policies at the local level (such as changes in electoral laws or the introduction local level planning bodies), these seem not to have affected which wards receive projects. For example, wards in which households have better knowledge of the new local government scheme are no more likely to have projects; the effect of group membership on projects is also unaffected by average knowledge of local governments. The results are consistent with the continuing dominance of the MP and traditional modes of interaction between MPs and their constituencies, which transcend and are largely unaffected by such innovations as the Joint District Planning and Budget Priorities Committee.

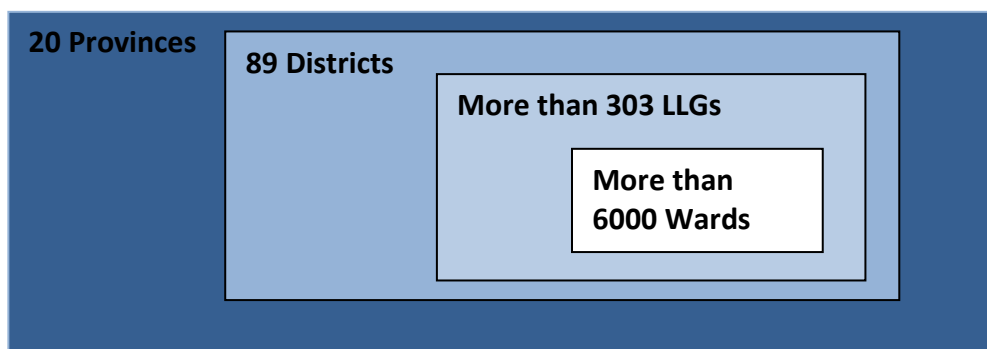
9. Second, in a political environment in which MP influence is strong, yet groups have an impact on development, the focus should be on strengthening mechanisms that better link the MPs to citizens and to strengthen these groups ability to hold MPs accountable. Third, it is likely that wards that are under-endowed with groups will be best-served by programs that target grants directly to wards, rather than funding sources that work through intermediate entities.

10. This report is organized as follows. The next section briefly describes the formal local level government institutional arrangements. Section 3 describes the survey instrument, and presents some descriptive statistics on the basic characteristics of the households that participated, their knowledge of local level institutions, their participation in groups, and their voting behavior. Section 4, the analytical core of the paper, presents the results from the regression analysis on the determinants of infrastructure projects in PNG wards.

II. The Planning and Budgeting Process for Local Projects

11. PNG is divided into 20 provincial-level divisions, each one of which contains one or more districts, for a total of 89 nationwide. Each administrative district is also an electoral district, with a single seat in the National Parliament (called an "Open" seat). An additional 20 seats in Parliament are held by members elected from province-wide constituencies ("Regional MPs"). These Regional MPs also serve as the governors of the province from which they are elected. Every district contains one or more Local-level Governments (LLG), which in turn are constituted by a number of wards.

Figure 1: Governmental Units in Papua New Guinea



12. The 1995 Organic Law on Provincial Governments and Local-level Governments (OLPGLLG) provides the overarching framework for the planning and budgeting of local project delivery. Within this broad framework, a detailed set of cascading plans and budgets are mandated to be produced, starting at the bottom with the wards. Each ward elects a ward councilor, who sits on the LLG. Each ward is also meant to have a ward development committee and prepare a ward development plan outlining the development priorities for the ward. Each LLG is tasked with preparing five year LLG-level plans taking account of the ward development plans in their area. District-level plans are then prepared incorporating the plans of the constituent LLGs.

13. In reality, many gaps exist in this hierarchy of plans. For example, one report has noted that in the province of New Ireland, only one of the many required ward, LLG and District plans existed.⁴ From our own research, almost half of the ward officials and over a quarter of LLG officials interviewed reported an absence of ward and LLG plans, respectively, which is probably an under-estimate, since they are responsible for preparing these plans and have an incentive to over-report their existence. These results have emerged despite significant efforts by the Government of PNG and development partners to assist local officials in making this structure work.

14. The OLPGLLG was a response to the lack of local level infrastructure and service delivery. The creation of the JDPBPC (by an amendment to the OLPGLLG in 1996) and District Treasuries, it was argued, would bring government 'closer to the people' when compared to the efforts of national and provincial service providers. It would do this by concentrating resources and decision making power at the District level.

15. The JDPBPC is responsible for overseeing all aspects of planning and budgeting for each District. The JDPBPC is chaired by the MP and constituted by the heads of each LLG and up to three other members appointed by the MP. The JDPBPC has access to considerable resources, especially the DSG and monies under the DSIP. The latter involved appropriations of K4m⁵ in 2007, K6m in 2008 and K4m in 2009,⁶ with reports of significant additional financing for selected districts. In contrast to this, funding for LLGs appears to

⁴ Kalinoe, Lawrence (2009) *A Review of the OLPLLG: The New Ireland Provincial Government Experience 2002-2007*, unpublished paper.

⁵ K1 = US\$0.40 (approx.)

⁶ Allen, Mathew and Zahid Hasnain (2010) "Power, pork and patronage: Decentralisation and the politicization of the development budget in Papua New Guinea", *Commonwealth Journal of Local Governance*, Issue 6: July 2010, p18.

have fallen away, with LLG officials regularly reporting a lack of funds beyond the bare minimum to pay the salaries of a handful of core staff and sitting fees for council meetings. LLG and ward officials interviewed during this research commonly questioned the utility of preparing development plans, when so little money was in the hands of LLGs and wards to actually implement projects. The lack of both plans and resources are closely linked.

16. In effect, the result of ‘decentralization’ under the OLPGLLG has been the concentration of decision making power and resources with national MPs, who chair the JDPBPCs, at the expense of Provincial and Local-level Governments. This appears to confirm some assessments that the real objective of the 1995 reforms was a drive by Open MPs to substantially increase the resources at their disposal (and hence their ability to gain re-election) at the expense of Provincial Governors and local level officials.⁷

Limited Preferential Voting

17. Another attempt to enhance the provision of local public goods through alterations to the institutional structure involved amendments to the voting system introduced after the 2002 national elections. The system was changed from one of ‘First Past The Post’ to LPV, whereby voters mark, in order, their top three preferences on the ballot paper.

18. It was hoped that the amendments would encourage more inclusive, and hopefully less conflict-prone, campaigning because candidates would seek the support not only of their immediate ‘base’, often their own clan, but would also be encouraged to make overtures to other sections of the electorate in an effort to secure the second and third preference votes of those who may also have their own ‘home’ candidate. As many districts (and thus electorates) in PNG contain more than one ethno-linguistic group, it was thought that such campaigning would increase inclusion by nudging candidates to campaign for the support of more than one group. Secondly, it was hoped that not only campaigning but governing by the successful candidate – including the provision of public goods – would be more inclusive as MPs delivered upon the promises they made to a wider range of groups during the campaign, and also embedded support for future elections.

19. The focus group discussions and key officials interviews revealed some interesting developments in response to the implementation of LPV. These findings will be reported separately, but in short they seem to suggest (from the two Districts where useful data was collected) that voters have internalized the changes and are casting their votes as the system would expect. However, this is not – in the eyes of the populace – being met with corresponding changes in the delivery of public goods by successful candidates.

III. Descriptive Statistics: Who was Surveyed and What are Their Characteristics?

20. The household survey was conducted during April 2010 in nine districts (Namatanai; Kairuku-Hiri; North Fly; Kokopo; Chuave; Usino-Bundi; Goroka; Koroba-Lake Kopyago, and

⁷ May, Ron (2004) *State and Society in Papua New Guinea: the First Twenty-Five Years*. Canberra : ANU E Press in Allen and Hasnain 2009, 14.

Maprik) and covered approximately 1100 households. The districts were chosen to represent a range of experiences across a number of criteria, including: access to services; reputed performance of resource allocation processes; access to benefits from mining; regional representation (Highlands, Islands, Papua and Momase), and overall disadvantage (a fuller rationale for district selection is presented in Annex 1). The survey consisted of six sections (the questionnaire is separately attached). Section 1 asked for basic respondent information; section 2 covered questions about household assets; section 3 delved into social organization and community activities; section 4 raised questions about household perceptions of service delivery; section 5 consisted of knowledge and media questions; and section 6 examined household voting behavior.

21. Additional instruments used in the research include a key officials' questionnaire, a ward profile, and focus group discussions with local communities. The data from these other instruments are still being analyzed, following which further analysis will be presented on questions of local resource allocation, voting behavior community participation, and impact of the new electoral system. That analysis will also provide insights into the gender differences in relation to the issues mentioned above.

22. This research was conducted as a collaboration between the PNG Institute of National Affairs, academics from the Australian National University, and the World Bank and was implemented by a team of Papua New Guinean researchers. Conducting research of this type invariably presents challenges, many of which were amplified in this case (including translating interview questions and concepts across multiple languages and contexts, remoteness of many research localities, security issues and the challenges of implementing a mixed-methods research methodology within a limited timeframe). As a result, any conclusions based on the survey results alone need to be carefully drawn and ideally supported by other empirical work.

Basic Respondent Information

23. Most of the households interviewed were rural, with limited means and education. As the following summary statistics indicate, the respondent households appear to be representative of the types of households that service delivery reforms intend to benefit:

- *Demographics*: 67% of respondents were men, which is not surprising given that 75% of the respondents were heads of the household. The median age of the respondents was 40.
- *Respondent religion*: 18% Catholic; 17% United Church; 17% Seventh Day Adventist; 19% other.
- *Respondent employment*: 45% farmers; 20% self-employed (other than farming); 15% housework (these are almost entirely women).
- *Education*: 64% of respondents had primary education (up to grade 8) or less; only 10% had some form of post-secondary education (vocational or university).

- *Housing*: The median household size was six. 42% of the respondents lived in a house made from bush material, and another 34% lived in a semi-permanent house. 18% of the households were connected to an electricity grid.
- *Household assets*: Half the households had pigs, most had mattresses, half had radios, and, interestingly, 64% had a cell phone. Fewer than 20% had other durable assets such as refrigerators, televisions, vehicles, generators, or cookers.

Media Access and Knowledge of Institutions

24. Despite the rural and poor nature of the households and all the infrastructure challenges that local communities face in PNG, access to information sources is high. Over 50% of households stated that they listened to the radio, and a third stated that they read the newspaper (daily or several times a week). This pattern of reporting was fairly uniform across the districts (Table 1). There was some variation between male and female respondents on both radio listening (58% of men compared to 44% of women) and newspaper usage (37% to 28%).

25. Almost all respondents (93% overall: 97% for men; 83% for women) knew the name of their MP, the pivotal government figure for localities. Knowledge of the MP's political party was much lower (although with considerable inter-district variation), reflecting a commonly held view about the weakness of political parties in PNG. The only other actor who is even nearly as familiar to respondents as the MP is the Ward Councilor. However, it is not surprising that 95% of respondents (97% of men; 91% of women) know their Ward Councilors, since they are almost always from and live in the ward.

Table 1: Media Access and Knowledge
(Percentage saying "yes")

District (Province)	Listen to radio ¹	Read newspapers ²	Know MP's name	Know MP's political party	Know Ward Councilor's name
Namatanai (New Ireland)	37	33	87	83	98
Kairuku-Hiri (Central)	61	60	96	11	99
North Fly (Western)	77	54	85	10	88
Kokopo (New Britain)	60	34	86	23	97
Chuave (Chimbu)	56	12	100	27	100
Usino Bundi (Madang)	52	36	96	20	93
Goroka (Eastern Highlands)	62	57	91	25	78
Koroba-Kopiago (Sth H'lands)	39	5	97	19	99
Maprik (East Sepik)	40	21	92	50	100
Overall	53	32	93	31	95

1. Daily or several times a week; 2. Daily or several times a week

26. Knowledge of other aspects of local government arrangements was markedly lower (see Table 2). 52% of respondents had knowledge of when and where LLG meetings take place. Under the Organic Law for Provincial Governments and Local Level Governments, however, and also in practice, the entity with the most resources to allocate for local

infrastructure is the JDPBPC. However, many fewer respondents, only 39%, report even having heard of it, with a significant difference between men (47%) and women (20%).

Table 2: Knowledge of LLG institutions
(Percent saying “yes”)

District	Knowledge of LLG Meetings	Heard of the JDPBPC
Namatanai	35	33
Kairuku-Hiri	33	45
North Fly	83	18
Kokopo	79	52
Chuave	92	72
Usino Bundi	30	44
Goroka	41	24
Koroba-Lake Kapiago	19	12
Maprik	77	57
Overall	52	39

27. In terms of the functionality of local governance bodies, less than half of respondents (41%) stated that a Ward Development Committee (WDC) was functioning in their ward and only 17% of all respondents had ever attended a WDC meeting. This is significant because the WDC is charged with preparing and submitting proposals for local public works to their Local Level Government and then on to the JDPBPC. The inter-district variation on this point is considerable — Chuave, Koroba-Lake Kapiago, and Goroka, the three surveyed districts in the Highlands, appear to have largely non-functional WDCs. Of note, however, is the fact that in those wards where WDCs are operating, almost half (43%) of people reported having attended a meeting. This suggests that where opportunities to participate in local development processes exist, residents are willing to take them up.

Table 3: Participation in Ward Development Committees
(Percent saying “yes”)

District	Is there a WDC?	Have you attended a WDC meeting?
Namatanai	76	35
Kairuku-Hiri	65	23
North Fly	52	23
Kokopo	49	22
Chuave	9	3
Usino Bundi	59	20
Goroka	17	8
Koroba-Lake Kapiago	1	0
Maprik	47	17
Overall	40	16

Group Participation

28. Local "social capital" — more precisely, the degree to which communities are organized for collective action — should have a positive effect on the community's ability to attract resources from outside. For example, organized communities can condition their political support on incumbent performance more effectively than can fragmented and disorganized communities. Households report active involvement in local associations in the surveyed areas, and these groups appear to be participatory (see Table 4 below).

29. The survey made a distinction between statutory local associations, such as landowner associations, and other local bodies such as school boards and producer cooperatives. Sixty-4% of respondents stated that they were active in a local group such as a producer cooperative, school board, or church, and about half stated that these groups met on a weekly basis. Unsurprisingly, church participation was by far the most common group activity (45% of respondents — though this would seem to be low given what is known about PNG), followed by youth groups (22%), women's groups (18% overall and 43% of female respondents), and sports clubs (17%). Chuave was the only district that had limited group activity, with only 12% of respondents stating that they belonged to a group.

Table 4: Group Membership

District	Active in a group ¹	Frequency of group meeting		
		Weekly	Monthly	Other
Namatanai	92	62	15	23
Kairuku-Hiri	85	30	40	30
North Fly	57	64	13	23
Kokopo	60	20	47	33
Chuave	12	31	15	54
Usino Bundi	46	44	18	38
Goroka	59	41	44	15
Koroba -Lake Kopiago	57	68	14	18
Maprik	90	37	8	55
Overall	64	47	23	30

1. Producer cooperative, school board, hospital board, microfinance organization, church, youth group, women's group, or sporting club

30. One would expect, given PNG's considerable fragmentation along ethno-linguistic and kinship or clan lines that groups that bridge these social divisions would be rare. Acknowledging the inherent difficulties in defining these categories and the different conceptions of 'clan' that likely exist between respondents, it is still notable that 59% of respondents stated that two or more clans belonged to the group (respondents were asked this about one particular group they mentioned), and 25% stated that more than 10 clans participated (Table 5). The inter-district variation on this feature is interesting, with the groups in the Highlands districts having fewer clans than districts in the Islands region. There also appear to be few differences in group participation by gender; however men predominate in group leadership — 57% of respondents stated that a group's leaders were

men as compared to 24% for women (the remaining 19% stated that leadership was evenly divided).

31. The vast majority of respondents (90%) across the districts stated that “big” financial decisions of the group were made by multiple people. 84% stated that all members of the group are involved in voting for the leaders of these groups, and 90% stated that the group leaders tell members how much money they spent and in what areas. Therefore, not only is participation in community groups high, these groups appear to be run in a reasonably democratic and transparent manner. However, 29% of respondents also stated that political candidates or MPs had provided financial support to their group, a number that varied from a low of 13% in Koroba-Lake Kopiago to a high of 46% in Chuave. Interpretation of MP financial support for groups is open. It could imply that groups do wield significant influence, but for group rather than community benefit. It could also imply that the MPs have captured the organization. The Chuave figure is interesting given that it is also the district with the least group participation, suggesting the “capture” interpretation.

32. In general, group characteristics do not vary significantly with gender, controlling for other household characteristics, such as the number of assets and whether households have a cash income, for the respondent’s length of membership in the group and for the number of clans the respondent reports for the group; and controlling for fixed district effects (that is, estimating the effects of gender only on the basis of within-district comparisons). For example, gender was irrelevant to respondents’ perceptions of whether group leaders indicate how they spend group money or how much money the group has, whether group decisions are made by a few or by many, or the size of the group. One area that *is* different is that female groups were significantly less likely to charge fees.

Table 5: Number of Clans Participating in the Group

District	1	2 or more	10 or more
Namatanai	3	60	32
Kairuku-Hiri	6	62	32
North Fly	0	11	55
Kokopo	0	71	27
Chuave	8	69	15
Usino Bundi	12	60	6
Goroka	17	46	21
Koroba -Lake Kopiago	1	75	2
Maprik	3	73	14
Overall	5	59	25

33. Group participation in statutory local bodies such as Landowner Associations and Incorporated Land Groups is lower overall but higher in the districts with significant mining developments. Overall 20% of respondents stated that they belonged to such groups. In the five districts with mining activities the numbers were as follows: Namanatai (18%), Kairuku Hiri (42%), North Fly (26%), Koroba-Lake Kopiago (11 %), and Usino Bundi (31%).

Indicators of community consultation by group leaders and transparency in financial decision-making were similarly high as with non-statutory local bodies.

34. The extent of local community participation across traditional social divisions is an important and encouraging finding, and in line with emerging scholarship on civil society in PNG. Evidence below, however, shows that groups comprised of several clans are less likely to encourage the provision of public goods, consistent with the idea that these groups confront greater obstacles to collective action.

Local Infrastructure Provision

35. The survey asked numerous questions on perceptions of service delivery, specifically the types of projects (schools, health clinics, local infrastructure etc.) that have been built in the community since 2007, the individuals and/or organizations responsible for delivering those projects, and whom the projects are benefitting. Some observations:

- 56% of respondents stated that a new project had been delivered to their community since 2007, with considerable variation across the districts (Table 6). Interestingly social infrastructure seems to predominate — 35% and 20% of respondents said that the new project was a school or health clinic, 20% reported an unsealed road, and only 8% reported rural electrification. Of those reporting a new project, 13.5% indicated that the project was not completed.

Table 6: Main Actors Responsible for Projects

District	New project since 2007?	Project funded by MP?	Main actors responsible for projects		
			Clan leaders	Ward Councilor	MPs
Namatanai	32	26	14	48	7
Kairuku-Hiri	67	40	53	11	12
North Fly	40	15	28	17	13
Kokopo	49	34	6	66	28
Chuave	92	81	40	5	30
Usino Bundi	59	51	16	14	39
Goroka	25	45	27	23	10
Koroba-Lake Kapiago	69	78	95	2	2
Maprik	64	47	45	40	30
Overall	56	54	45	19	19

- MPs, as expected, appear to be perceived as being the main actors responsible for funding projects. 54% of respondents stated that the most important project in the community was funded by the MP, as compared to 7% who stated it was funded by the LLG, 13% by a company, 13% by a donor, and 9% by the community. Two of the Highlands districts — Chuave and Koroba-Lake Kapiago — are notable in the extent of both project delivery and the MP's role in funding. However, local clan/community leaders were identified as the most important actors responsible for

getting the project to the area. We interpret these results as showing that respondents realize that funding depends on the MP, but that the MPs respond to effective lobbying by local clan and ward leaders.

36. Given this importance of the MP in local service delivery, a key area of enquiry are the factors that may impact the MP's incentives and performance, which is taken up in detail in Section 4.

37. When asked where people go to complain about poor government services or the lack of services, both men and women overwhelmingly (38% overall) choose their ward councilor over any other figure (Table 6a). This is interesting given the identification of clan leaders as the primary actors responsible for projects (Table 6). It is also notable, though not surprising, that very few people approach the MP or District officials (7% in total) given the MP was reported to fund more than half of project delivery.

Table 6a: Avenues of Complaint about Government Services

	Female	Male	Overall
Community Leaders	7%	10%	9%
Church	2%	1%	2%
Village Courts	0%	0.2%	0.2%
Ward Councilor	35%	40%	38%
Local Level Government	7%	10%	9%
MP or Election Officials	1%	5%	4%
Provincial or District Government officials	5%	3%	3%
NGOs	0%	0.2%	0.1%
Community Based Organizations	0.3%	0.2%	0.2%
Landowner Representatives	0.6%	1%	1%
None	22%	12%	15%

Voting Behavior

38. The survey indicates that nearly all respondents voted: 95% of males and 92% of females of voting age reported voting in the 2007 elections. This is strong given voting is not compulsory under state law. However, more consistent with expectations, responses indicate that ballot secrecy is low and variable. 30% of respondents (33% male and 44% female) answered that their ballot was not secret and that other individuals could see or hear how they cast their vote. There was considerable district variation in answer: from a

low of 11% of respondents in Chuave who claimed that others could observe their vote, to a high of over 60% in Namatanai and Goroka.

39. Traditionally, electoral dynamics in PNG privilege personal links between candidates and voters. Put differently, and consistent with the low knowledge of voters of the political party of their MP, whether a politician belongs to a group of politicians who have a reputation for pursuing particular public policies does not matter so much as whether voters trust the individual politician to deliver private benefits to them. The recent introduction of the LPV system was meant to provide incentives to politicians to appeal to a broader constituency, beyond those whom they personally know or are related. Despite the LPV reform, the survey evidence suggests that clientelist and clan-based electoral appeals continue to prevail.

- As shown in Table 7 below, 75% of respondents stated that they personally knew their most preferred candidate (the candidate they allocated their first preference to); this response ranged from a low of 61% in Goroka to a high of 97% in Maprik. Forty-two percent stated that they were related to their most preferred candidate, ranging from 20% in Namantanai to 76% in Maprik. 32% reported that the preferred candidate had provided them with gifts. By contrast, only 27% stated that the candidate to whom they allocated their first preference had brought projects to the area prior to the election — 69% stated that the candidate had not brought projects. The two districts with prior LPV by-elections — Chuave and Koroba-Lake Kopiago — were not remarkably different on this measure.

Table 7: Views of Candidate to Whom First Preference was given in 2007 Elections

District	First Preference Candidates				Other candidates gave gifts*
	Personal interaction	Related to Respondent	Brought Projects to area	Gave gifts	
Namatanai	73	20	26	21	22
Kairuku-Hiri	69	40	30	23	66
North Fly	88	46	43	37	51
Kokopo	90	42	24	9	8
Chuave	85	46	38	27	75
Usino Bundi	64	42	14	50	21
Goroka	62	40	17	29	54
Koroba-Lake Kopiago	62	32	11	52	59
Maprik	97	76	45	29	27
Overall	75	40	27	32	47

*I.e. candidates other than the first preferred candidate

- The LPV reforms went into effect after the 2002 general election. When asked to compare gift-giving by candidates between the 2002 and 2007 general elections, 45% of respondents reported more gift giving in 2007, as compared to 24% in 2002. Only in Namanatai did respondents claim less gift giving in 2007 (Table 8). Gift-giving was particularly pronounced in 2007 in the Highlands districts. Again the two

districts that have had at least two elections under LPV — Chuave and Koroba-Lake Kapiago — also similarly reported more gift-giving in 2007 as compared to 2002, which is consistent with reports of election observers.

Table 8: Comparison of Gift-giving in the 2002 and 2007 elections

District	More in 2002	More in 2007
Namatanai	70	20
Kairuku-Hiri	34	36
North Fly	11	57
Kokopo	50	50
Chuave	8	70
Usino Bundi	29	30
Goroka	27	60
Koroba-Lake Kapiago	13	36
Maprik	13	54
Overall	24	45

Sizeable inter-district variation was also observed on a related question, where respondents were not asked about gift-giving by candidates in their area, but whether they themselves received cash payments from candidates (Table 9). While overall 16% of respondents stated they received cash for votes (21% of men and 9% of women), the numbers varied from none in Kokopo and Usino Bundi, to 38% and 47% in Koroba-Lake Kapiago and Chuave respectively (both in the Highlands). The amount of cash reported was also significant, averaging approximately 1300 kina per respondent (K1472 for men and K571 for women), or nearly half of average yearly per capita income in 2007. About 11% of respondents (15% for men and 4% for women) reported cash for votes in 2002 compared to 16% for 2007, implying no significant effect of LPV on vote-buying overall. However, this masks significant increases in “money politics” in the highlands, where gifting was also most pronounced.

The qualitative research revealed that LPV ushered in opportunism with respect to vote buying related to the fact that voters now had three preferences to sell and also a reduction in campaign violence that allowed candidates to campaign – and offer inducements – more widely. Many voters (in the Southern Highlands and elsewhere) made the most of this by courting and promising support to several candidates, in return for cash payments. The amount being paid by individual candidates was observed to vary from place to place and candidate to candidate, although typical payment configurations were K100, K50, K20; K50, K20, K10 or K20, K10, K5 for 1st, 2nd and 3rd preferences respectively. With multiple preferences to ‘sell’ and two votes to cast (for both the district member and provincial governor) the potential take for each voter is high, as the above figures suggest.

40. Vote buying was one key area of gendered difference for groups, with respondents who belonged to a female-headed group much *less* likely to report that political candidates provided money to their group. The quite significant differences between men and women, both individually and as part of groups, could suggest a weaker role of women in leveraging political decisions in their family or clan.

Table 9: Cash for Votes

District	Cash for votes in 2002	Cash for votes in 2007	Average amount (in kina) given to respondent (2007)
Namatanai	3	3	25
Kairuku-Hiri	9	5	1360
North Fly	0	9	3260
Kokopo	6	0	-
Chuave	38	47	1290
Usino Bundi	2	0	-
Goroka	15	21	2040
Koroba-Lake Kapiago	11	38	960
Maprik	8	6	220
Overall	11	16	1300

41. The survey did not reveal any discernible patterns on voting behavior conditional on group participation. Respondents reported almost exactly the same pattern of allocation of first preferences to candidates based on personal interaction, relationship, project delivery and gift-giving whether or not they belonged to a group. Therefore, to the extent that group membership is an indicator of social capital, social capital appears to have no impact on voting behavior.

IV. The Determinants of Infrastructure Allocation

42. Given the central role of MPs, understanding their incentives to allocate resources for local public works is key to understanding the determinants of ward infrastructure allocation. Candidates for political office in PNG mobilize electoral support with both community projects and with vote-buying. The issue that occupies the remainder of this report is to identify the characteristics of wards that determine the use by MPs of vote-buying and/or projects to garner support.

43. Several possible explanations for the presence of projects in a ward are investigated. Have the new institutional arrangements involving the JDPBPC made a difference in whether wards have received a project? Do the occupations or assets reported by respondents in the ward influence their access to new projects? Finally, what role is played by social capital in a ward – the degree to which ward residents participate actively in groups? The more organized are a ward's members, the better able they are to demand projects that offer the largest collective benefits to the ward. Residents of unorganized wards are less likely to be able to credibly threaten to reject an incumbent who fails to deliver such projects.

Methodological concerns

44. One objective of this report is to identify those characteristics of wards that make them more likely to receive a local public works project. A significant challenge in inferring a causal relationship between these characteristics and the presence of a new public works project is the possibility that unobserved characteristics – ward characteristics for which data are unavailable – drive both such observable ward characteristics and whether wards have new projects. For example, a dynamic MP might have begun his career in a ward, started many groups, and then, as MP, used his office to channel projects back to the ward. This gives rise to an association between groups and projects across wards, but the association is not causal. Groups did not “cause” projects to be brought to the ward. Instead, the dynamic MP brought both groups and projects to the ward. Our data allow us to exclude the possibility that many such omitted influences create a spurious and non-causal association between variables such as group activity and the presence of projects in wards.

45. First, because we have multiple wards per district, we estimate the effects of ward characteristics on ward projects relying only on within-district comparisons. That is, we control for the “fixed effects” of districts that do not vary across wards within a district. Any unobserved district characteristics that are the same for all wards, such as the work ethic of the MP or remoteness, therefore do not bias the results. This means, however, that we cannot explain why some districts exhibit significantly more projects, on average, than others. In all likelihood, though, this variation is related to the relative strength of MPs in the central government and cross-district variation in the dynamics of electoral competition.

46. Second, we can examine mechanisms through which groups might matter. For example, we expect that groups containing many clans should have greater difficulty acting collectively. The evidence supports this hypothesis. We also find that group members are more likely than non-group members to know that the JDPBPC exists and the name of its chairperson. Estimates of household knowledge such as this are based only on within-ward comparisons of households. Neither unobserved district nor unobserved ward effects that are constant across households can therefore bias these results. Third, we have a wealth of data on the characteristics of both households and villages that we can use as control variables.

47. Religion is important across PNG; nearly half of respondents report that they are active members of a church. However, because church membership may imply greater normative obligations to the group than membership in non-church groups, challenges of collective action within a church could be systematically different than in non-church groups. Consequently, membership in church and non-church groups is treated separately. Respondents were asked about their membership in a variety of non-church groups, but no individual type of non-church group has sufficient representation in the sample to make statistical analysis of differences among them meaningful. Note that respondents often belong to several groups. The survey asks respondents to discuss, first, the group in which they are most active. We focus here on their answers to questions that refer to this group.

Table 10: How similar are group and non-group households within wards?

Dependent variable:	Respondent active member of a non-church group?	Active member of a church?
Asset count	-.05 (.70)	.23 (.07)
Household has cash income (1 = yes, 0 = no)	-.02 (.64)	.07 (.05)
Household grows cash crops (1 = yes, 0 = no)	.01 (.81)	-.11 (.04)
Household earns cash from other agric activities(1 = yes, 0 = no)	.05 (.13)	-.10 (.11)
Housing quality (bush, semi-permanent, permanent)	.028 (.16)	-.02 (.48)
Respondent reads the news	-.03 (.08)	.003 (.88)
Respondent listens to the radio	.003 (.73)	-.01 (.58)
Respondent age	-.001 (.70)	.003 (.10)
Respondent gender (1=male, 2=female)	-.05 (.21)	.08 (.12)
Respondent is head of household	.047 (.30)	-.07 (.33)
Respondent highest education level (0, <4 yrs; to 8, post-grad)	-.005 (.61)	.01 (.37)
Respondent salaried job (0= no, 1=yes)	-.075 (.21)	.01 (.95)
Respondent farmer	-.03 (.24)	-.05 (.38)
Respondent self-employed	-.02 (.70)	.02 (.67)
Respondent years living in ward	-.0002 (.82)	.002 (.20)
Number of individuals living in household	.001 (.84)	-.0004 (.89)
Observations	811/48 wards	811/48
R-squared	.02	.05

NOTE: Ordinary least squares with ward fixed effects, robust p-values clustered at the ward level in parentheses: less than .10 means a statistically significant difference; greater than .10 means difference not significant.

48. Table 10 provides some evidence to support the claim that households are not systematically different across group categories with respect to a wide range of observed variables, compared to households that do not. The table looks only at differences between households that belong to church groups and those that belong to non-church groups, focusing only on differences within wards (by estimating the differences controlling for ward fixed effects). Members of non-church groups are not different from those who are not members of non-church groups with respect to income, assets, gender, age, occupation, education, exposure to media, construction quality of their home, or years living in the ward. While they have a larger asset count than those respondents who belong to no group

at all, they are otherwise the same with respect to these no-group respondents (results not reported). This provides reassurance that the unobserved differences are also likely to be small and unlikely to create a spurious association between non-church group membership and household responses to the survey.

49. Members of church groups, however, exhibit greater differences with respondents who are not members of a church. Church members have significantly more assets than those who are not members of a church; they are more likely to have cash income, but less likely to have it from agricultural sources. They are also slightly older. Compared to respondents who are members of no group at all, church members are less likely to have cash income but more likely to have cash income from agricultural sources, and are again older.

50. We undertook the same exercise for wards. Is the percentage of respondents in a ward who report group membership significantly correlated with observable ward characteristics? Wards that report more members in non-church groups have significantly more assets than those that have fewer, though their houses are smaller. Wards with more church members are similar in every respect to wards with fewer, except that they report smaller houses.

51. The fact that observed characteristics of wards vary across wards with more and less group membership raises the concern that unobserved characteristics do, as well. This raises the possibility that those unobserved characteristics could create a spurious relationship between group membership and new projects in the ward. This concern is more serious, however, if, after controlling for the observed characteristics that differ, estimated group effects on projects change significantly. In fact, results do not change, supporting the argument that unobserved differences across wards are not driving the effects estimated below.

Determinants of New Projects

52. The survey asked respondents whether the village had received a new project (community or school building, road, sanitation facility, etc.) since 2007.

53. To examine the determinants of which wards received new projects, we compare the average ward responses across the 49 wards for which we have data. Because districts vary in unobserved ways (including the characteristic of their MP), we rely only on variation between wards within districts to conduct the investigation. With one exception, wards within districts differ significantly in the degree to which ward respondents recognize new projects. Namatanai is typical: in one ward, 12% of respondents say their community had received a project since 2007; in another ward, 63% did. Chuave is the exception: nearly all respondents in all wards report a new project.

54. We relied on village respondents to indicate the presence of new projects because official records were sparse and unreliable. However, respondent recollections and knowledge are clearly imperfect. The assumption in the estimates below is that the probability that a new project was really constructed in a ward is a function of the fraction of respondents who acknowledge a new project. Results are robust to assuming instead

that a ward received a new project only if at least 50% of respondents recognized a new project.

55. It could be the case that projects are only known to those who benefit from them and that low rates of project recognition simply mean that more narrowly targeted projects were introduced in some villages than others. This is unlikely, however. First, most wards are not large. Second, across projects ranging from equipment to schools to clinics to agriculture and fishing, respondents indicated that “nearly everyone in the community” benefited, though this could be a self-serving response. Beneficiaries of a project might be the ones most likely to know if a new project existed, but they might also want to convey the impression that everyone in the community benefited. Third, however, the fraction of respondents who say that the community received a new project does not vary significantly with the types of projects that respondents indicate that the ward received. If, for example, an equipment project benefits a smaller fraction of the ward than a school building or clinic, and only beneficiaries report that a new project was introduced, then one might expect systematically fewer respondents to report that their ward received a new project in a ward that received equipment than in a ward that received a school. This is not the case, however. The type of project that respondents report is not correlated with the fraction of ward respondents who report any new project.

56. The presence of a new, functional project is assessed based on the information received from the village respondents. They did not always agree. We use this information in two ways, therefore. First, in the base estimations, we simply look at the average response from the ward. Second, we check key results with a binary version of this variable, which equals one if more than 50% of respondents agreed there was a new project and zero if they did not.

57. Table 11 reports estimates of regressions of the following form, to assess the characteristics of wards that are associated with new, functional projects:

$$(1) \text{ New functional project}_{jk} = \beta_0 + \mathbf{X}_{jk}\mathbf{B} + \mu_k + \epsilon_{jk}$$

where j indexes the 49 wards and k the 9 districts, μ_k is a district fixed effect, and \mathbf{X} is a vector of many ward controls, including the number of assets households have, the type of employment reported by respondents, the type of farming activity, and the quality of housing. In addition, \mathbf{X} includes variables of particular concern: of church and non-church group membership, knowledge of the JDPBPC, presence of a Ward Development Committee, and ward-level averages of respondent wealth, education and occupation.

58. A central conclusion of the table is that the level of group organization in a ward is significantly related to whether ward respondents report new projects. Column 1 of Table 11 shows that average group membership in a ward has a strong and significant effect on whether a ward received a project. The effect of non-church group membership is almost double that of church group membership.

59. Column 2 takes into account a large number of additional influences on project selection. The group variables are highly robust; the magnitude of the non-church group variable is actually higher after controlling for variables that might influence group

membership, including wealth and occupation. The regressions control for cash from three sources: two types of agricultural crops, and non-agricultural cash income. It is this last that matters for whether wards get projects. Non-agricultural sources of income tend to imply that the ward has stronger links outside of the ward, since cash income is most likely to come from a public sector salary, remittances, or a salaried job outside of the ward. Only the coefficient on whether respondents are farmers provides a faint sign of targeting: wards with more farmers who do not produce cash crops (since the effect of cash crops is separately controlled for) are more likely to report a new project, though the effect is not highly significant.

60. Column 3 replaces the average ward response to the new project question with a binary response variable that equals one only if a majority of ward respondents agreed that there was a new project. The only robust predictor of a project is membership in a non-church group. Column 4 looks at all new projects, whether functional or not. Both types of groups, but no other variables, have a significant effect on whether a community receives a functional project.

61. The fifth column asks whether the institutional arrangements introduced in 1995 and 1996, particularly the JDPBPC, make a difference in the allocation of projects. If the most important steps a ward needed to follow in order to get a local project were those specific procedures found in the law – preparation by the Ward Development Committee of a local infrastructure plan; the submission of that plan to the LLG for integration into the local government development plan; the evaluation of these plans by the whole JDPBPC; and, finally, the whole JDPBPC's decision regarding which projects to fund – then wards in which respondents are more knowledgeable about this process should also have more projects. In contrast, if informal approaches to the MP (incidentally, the chair of the JDPBPC) continued to be most important, then knowledge of the specific formal procedures would not be associated with presence of new projects in a ward. However as Column 5 demonstrates, neither the fraction of the ward that is familiar with the JDPBPC, nor the fraction that knows who the chair is, are more likely to have a project. The presence of a ward development committee similarly has no effect.

62. It could be, however, that the lack of effect is due to the correlation with group membership. In fact, the data indicate that group members are more likely to know about the JDPBPC than non-group members, even controlling for many other characteristics of respondents. Perhaps, then, group members, able to act collectively, have greater incentives to find out about the JDPBPC and to use the institutional features of the decentralization law to attract projects. This does not seem to be the case, though: after removing the group variables, in Column 6 of Table 11, all of the institutional variables remain insignificant.

63. The discussion around Table 10 concludes that households in wards with more group activity, and wards with more group activity, are largely indistinguishable with respect to their observable characteristics. This gives us some confidence that the results in Table 11 are not driven by unobserved ward characteristics that lead some wards both to have more group activity and greater access to projects. Another way to assess the likely role of unobserved ward characteristics is to control for additional observable ward characteristics in the regressions in Table 11. In fact, the results reported in Table 11 are robust to

controlling for the time needed to travel from the ward to various public services. This is a challenging test, since the accessibility of public services is potentially a function of group activity. Nevertheless, the association of non-church group activity with the presence of new projects remains large and significant when we control for the time to primary and high schools; the time to post offices and police; or all four of these together. Among these, time to high schools is often significant by itself (the others are not). Time to high schools is significantly negatively correlated (-0.18) with non-church group activity, and significantly positively correlated (0.14) with new projects. The results are also robust to controlling for time to the nearest health center, which is insignificant.

64. These results indicate that the new institutional arrangements seem to be irrelevant in the allocation of new projects. If groups were mobilizing to approach the JDPBPC, the magnitude of the group effects in Column 5 would drop and the JDPBPC and WDC coefficients in Column 6 would be significant. What, then, are the dynamics of project allocation across wards? The next tables and section analyze this question, looking at vote-buying and MP behavior.

Table 11: Determinants of functional new projects

Specification:	Groups Only	All Controls	Binary projects (Logit)	All projects, functional or not	Ward Dev Comm, JDPBPC	Omit group variables
Active in a church group? (Ward avg.)	0.708 (0.04)	0.638 (0.09)	5.081 (0.18)	0.778 (0.02)	0.817 (0.02)	
Active in a non-church group? (Ward avg.)	1.279 (0.01)	1.342 (0.02)	26.72 (0.06)	1.715 (0.02)	1.706 (0.01)	
Is there a ward development committee (Ward avg.)?					0.403 (0.15)	0.425 (0.19)
Know the identity of the chair of the JDPBPC? (Ward avg.)					-0.0899 (0.90)	0.235 (0.76)
Heard of the JDPBPC; know what it does? (Ward avg.)					-0.133 (0.85)	-0.307 (0.68)
Asset count (from list, Ward avg.)		-0.263 (0.84)	5.195 (0.79)	0.471 (0.76)	-1.578 (0.44)	0.844 (0.64)
Does anyone in household earn cash income? (Ward avg.)		0.665 (0.07)	6.517 (0.42)	0.149 (0.75)	0.692 (0.26)	0.972 (0.20)
HH earns cash from coffee, etc.? (Ward avg.)		-0.0623 (0.63)	-4.257 (0.20)	-0.0593 (0.77)	0.0272 (0.86)	0.0591 (0.72)
Earns cash from other agric. activities? (Ward avg.)		-0.217 (0.10)	-6.408 (0.12)	-0.0988 (0.48)	-0.297 (0.08)	-0.248 (0.29)
Type of house (Ward avg.)		-0.0611 (0.72)	-1.379 (0.68)	0.0390 (0.82)	0.0790 (0.59)	-0.353 (0.02)
Salaried position? (Ward avg.)		0.0795 (0.86)	-12.97 (0.26)	0.216 (0.64)	-0.151 (0.83)	0.284 (0.76)
Farmer? (Ward avg.)		0.854 (0.10)	6.238 (0.37)	0.485 (0.42)	0.375 (0.61)	1.053 (0.30)
Self-employed (Ward avg.)		0.239 (0.75)	-4.236 (0.63)	-0.481 (0.64)	-0.593 (0.63)	0.311 (0.78)
Observations	49	49	44	49	44	44
R-squared	0.27	0.40		0.42	0.49	0.36
Number of districts	9	9	8	9	9	9

NOTE: Unless otherwise specified, robust p-values clustered by district in parentheses and estimates based on ordinary least squares with district fixed effects. Dependent variable is whether the ward received a project since 2007.

MP Incentives, Vote-buying and New Projects

65. Further analysis indicates that MPs continue to play a direct role in project allocation. The survey has information that allows two approaches to this question. It captures whether MPs have provided a ward with a new local public works project (by virtue of the MP's influence on the JDPBPC); and whether respondents received cash payments from MPs. The survey also contains information on the direct interaction of an MP with a ward, recording respondent recollections of MP visits to the ward.

66. In principle, MPs should prefer to provide wards with local public works projects rather than to make cash payments to individual citizens. First, the government budget

pays for these projects (though it is possible government resources could be used for cash payments). Second, to the extent that they are indeed public goods, they deliver more benefits to more ward residents than a similar quantity of private cash payments. However, they might nevertheless prefer cash payments. First, they may be concerned that residents will support challengers who offer cash inducements for their votes, regardless of whether the incumbents provided a local public works project. Second, they may be concerned that a local public works projects is more difficult to implement in some wards. The lack of collective organization in a ward – the absence of group activity – could explain both of these outcomes. Disorganized wards are less able to impose voting discipline on ward members, to ensure that they reward incumbents who provide the ward with projects. Disorganized wards are also less likely to provide necessary ward inputs into projects funded by the JDBPBC.

67. The first column in Table 12 asks directly whether the predicted tradeoff between projects and cash for votes is evident in the data. It uses the base specification from column 2 of Table 11, augmented with a variable that captures the average number of ward respondents who report having received cash from candidates in the previous election. There is substantial variation in average ward reports of vote-buying. In the median ward, 8% of respondents report that they received cash in the last elections. However, ward averages range from zero to 79%. The estimation controls for district fixed effects. This variable is significantly *negatively* associated with whether a ward has a functional, new project. Exactly as we would expect, vote-buying and the provision of local public works projects are inversely correlated.

68. Even though MPs might prefer to provide public goods to well-organized wards, such wards might be able to extract both more public goods and more cash payments from political competitors. This is because well-organized wards can better solve the dilemma candidates confront when they attempt to buy votes: how can candidates be sure that the cash they provide actually leads to votes? Wards with more group activity are more likely to have the organizational structure to provide such oversight. At the same time, one of the factors that should influence whether providing projects to wards will yield electoral rewards to MPs is the degree to which ward residents participate in groups. Wards in which groups matter more are more likely to be able to persuade residents to vote together; the candidates that groups collectively prefer are those that provide the greatest benefits to the group, such as those who provide public works projects. In wards with less group activity, therefore, not only public works provision, but potentially also vote-buying, should be less.

Table 12: MP strategies and the allocation of local public works projects

Dependent variables:	Controlling for vote- buying	Seemingly Unrelated Regressions	
		Vote-buying	Functional new project
Active in a church group? (Ward avg.)	1.062 (0.01)	0.275 (0.02)	0.745 (0.00)
Active in a non-church group? (Ward avg.)	2.106 (0.03)	0.190 (0.53)	2.075 (0.00)
Offered cash for vote (Ward avg)	-0.964 (0.08)		
MP visited the ward? (Ward avg.)		-0.0941	0.207

Dependent variables:	Controlling for vote- buying	Seemingly Unrelated Regressions	
		Vote-buying	Functional new project
		(0.01)	(0.00)
Asset count (from list, Ward avg.)	-1.303 (0.42)	0.292 (0.66)	-2.314 (0.08)
Does anyone in household earn cash income? (Ward avg.)	0.709 (0.05)	-0.148 (0.44)	0.937 (0.01)
HH earns cash from coffee, etc.? (Ward avg.)	0.0456 (0.73)	0.115 (0.21)	-0.183 (0.32)
Earns cash from other agric. activities? (Ward avg.)	-0.130 (0.43)	-0.0954 (0.37)	0.0844 (0.69)
Type of house (Ward avg.)	0.00495 (0.98)	0.00400 (0.96)	0.00784 (0.96)
Salaried position? (Ward avg.)	-0.260 (0.55)	-0.0989 (0.65)	-0.312 (0.48)
Farmer? (Ward avg.)	0.482 (0.20)	-0.0108 (0.96)	0.305 (0.48)
Self-employed (Ward avg.)	0.296 (0.76)	0.0143 (0.96)	0.461 (0.39)
Namatanai district		-0.0214 (0.85)	-0.302 (0.17)
Kairuku Hiri district		0.0910 (0.39)	-0.254 (0.23)
North Fly district		0.246 (0.02)	0.00606 (0.98)
Kokopo district		-0.0590 (0.62)	-0.128 (0.59)
Chuave district		0.651 (0.00)	0.953 (0.00)
Usino Bundi Gama district		0.157 (0.20)	0.247 (0.31)
Goroka district		0.288 (0.00)	-0.105 (0.52)
Koroba/Lake Kapiago district		0.495 (0.01)	0.221 (0.58)
Observations	47	47	47
R-squared	0.56	0.76	0.69
Number of district	9		

NOTE: Last two columns are simultaneously estimated (SUR) determinants of both vote-buying and new local public works projects. District coefficients reflect whether district averages, controlling for all other variables in the regression, differ significantly from Maprik's (one of the districts is arbitrarily taken as the basis of comparison; this district happens to be Maprik; any two districts that are indistinguishable from Maprik are also indistinguishable from each other). Clustered, robust standard errors in parentheses.

69. The last two columns of Table 12 present the results of a simultaneous investigation of the determinants of candidates' use of vote-buying and the provision of local public works projects in wards. These two decisions are simultaneous because they are linked by

common unobserved ward characteristics that influence whether MPs have any interest in making an appeal to a ward. To account for this, the determinants of the two strategies are estimated jointly, using an estimation method that captures this dependence (Seemingly Unrelated Regressions). The base specification is again the same as in column 2, Table 11. The specification is augmented with a control for whether the MP visited the ward, to get a sense of the political importance of a ward to an MP.

70. The two columns indicate, first, that MPs are significantly more likely to visit wards that have received a project recently, but significantly less likely to visit wards in which a larger fraction of respondents indicate that they were offered cash at the last election. This is consistent with the importance to MPs of being able to claim credit for projects that they provide to a ward. Second, wards with more church membership, but not more non-church group membership, are more likely to indicate higher levels of vote-buying. Both church and non-church group membership has a significant effect on whether wards exhibit a project. Moreover, these effects are significantly larger (at the 95% confidence interval) than the effects of group membership on vote-buying.

71. Electoral violence is common in Papua New Guinea, as both newspaper reports and the results of the survey indicate. One can view electoral violence as another tool of electoral mobilization and ask, as with vote-buying and projects, what determines when the different strategies are used. Repeating the estimation in the last two columns of Table 13, but adding a third regression for the determinants of violence, does not change the key results with respect to vote-buying or projects (results not reported in the table). Membership in church groups has no significant effect on electoral violence. Membership in non-church groups, though, is associated with significantly greater risks of violence. A one standard deviation increase in the fraction of respondents who report activity in a non-church group (12% points) is associated with a 6.8% point increase in the fraction of respondents who report electoral violence (0.28 of a standard deviation). In contrast, the same increase in group activity leads to a 24% point increase in the fraction of respondents who report a new project (0.75 of a standard deviation).

72. The coefficients for the district fixed effects in the last two columns of Table 13 indicate that the nine districts differ significantly. Wards in North Fly, Chuave, Goroka and Koroba all exhibit significantly more vote-buying than those in the other districts, even after taking into account the other variables controlled for in the regressions. The districts are similar with respect to public works provision, with one exception: wards in Chuave report more community public works projects than wards in any other district.

The Effect of Clans

73. Collective action by groups implies that groups are able to persuade members to act together in the group interest, even if their own private interests are best-served by shirking on their obligations to the group. In general, groups rely on social, legal and other arrangements to deter shirking. In PNG, various familial, clan and linguistic groupings are a well-established feature of society and politics. Obligations to these are thought to transcend other social and political obligations. They can, correspondingly, outweigh arrangements that non-clan-based groups have to enforce collective action.

74. In fact, there is substantial variation across groups in the degree to which they are reported to include few or many clans. This variation turns out to have a large association with both vote-buying in a ward and whether a ward received a public works project since 2007. Table 13 illustrates the effects of clan fragmentation in groups, using the same specification as in the last two columns of Table 12, augmented with clan variables, and utilizing again Seemingly Unrelated Regressions to jointly estimate the correlates of vote-buying and local public works projects.

75. The first two columns report results from simply adding the average ward response to the question of how many clans are in the first group that the respondent describes. The group results reported earlier are little changed. Wards in which multiple clans belong to the groups in which respondents are most active exhibit slightly less vote-buying (significant at 10%), but no difference in public works projects.

76. However, the effect of clans should operate through the group variables rather than independently of them. To examine this, the third and fourth columns replace the two group variables with a single one, whether respondents are active in any group, church or non-church. The clan variable is interacted with this to see if group membership has a smaller effect on outcomes as groups exhibit more clans. The last row of columns three and four displays the results: group membership has a significantly lower effect on whether communities have functional new projects when groups include many clans. Clan membership has no indirect effect on vote-buying, but continues to exhibit a negative effect on vote-buying, particularly in those wards where groups are less important.

Table 13: Determinants of projects controlling for clan membership in groups

VARIABLES	Seemingly Unrelated Regressions		Seemingly Unrelated Regressions	
	Vote-buying	Functional new project	Vote-buying	Functional new project
Active in a church group? (Ward avg.)	0.217 (0.06)	0.717 (0.00)		
Active in a non-church group? (Ward avg.)	0.0200 (0.95)	2.019 (0.00)		
How many clans in the groups? (Ward avg.)	-0.0516 (0.10)	-0.0353 (0.60)	-0.124 (0.03)	0.124 (0.33)
Respondent active in any group? (Ward avg.)			-0.261 (0.48)	1.912 (0.02)
Clans * Group			0.144 (0.14)	-0.432 (0.04)
Observations	46	46	46	46
R-squared	0.78	0.68	0.79	0.65

NOTE: Coefficients are from simultaneously estimated (SUR) determinants of both vote-buying and new local public works projects. Clustered, robust standard errors in parentheses.

Differences Across Districts

77. All of the foregoing analysis ignores significant differences across districts. Using the 50% rule (where a ward is assumed to have a new project if at least 50% of respondents say it does), every ward in Chuave reports a new project, only one out of six wards in Namatanai do, and half of those in North Fly. These differences are difficult to analyze with only nine districts in the sample, however. The nine districts include two from the Highlands (Chuave and Koroba/Lake Kopiago); three that are marked by high levels of electoral violence (Chuave, Goroka and Maprik, where more than 40% of respondents reported violence in connection with the 2007 elections, compared to fewer than 10% in the rest); and five with significant mining operations (Namatanai, Kairuku-Hiri, North Fly, Usino Bundi and Koroba/Lake Kopiago). These particular district subsamples differ significantly with respect to the prevalence of vote-buying, but not with respect to local public works projects.

78. Neither levels of electoral violence nor the importance of mining in a district seem to influence new projects. Whether in the wards of more or less violent districts, or of districts where mining is important or unimportant, reports of new projects are similar. Wards in two Highlands districts, though, are significantly more likely to report projects than the others, however (67% versus 43%).

79. Vote-buying is far more common in the three districts that exhibit the most electoral violence. In less violent districts, approximately 12% of respondents said that they had received cash for their vote in the 2007 elections. Although 12% is not low, the percent of respondents who said the same in the most violent districts was more than double, 27%. Districts with less mining activity exhibited greater levels of vote-buying, 24% of ward respondents compared to 13% of ward respondents in districts with more mining activity. Vote-buying is dramatically higher in the Highlands: 42% of respondents report receiving cash compared to 9% in the other districts.

80. These district differences raise questions about how uniform the effects of groups are across the nine districts in the sample. Table 14 investigates this question. The first two columns report the main results from columns 2 and 3 of Table 12. The remaining columns repeat these regressions (the simultaneous estimation of the determinants of cash for votes and new projects using Seemingly Unrelated Regressions) with various subsamples.

81. In estimations that omit the most violent electoral districts (columns three and four of Table 14), or that include only districts with significant natural resources (columns seven and eight), group effects are unchanged except that the prevalence of non-church group membership and MP visits are more strongly associated with new projects.

Table 14: Groups and MP strategies in district subsamples

	Base regression (cols 2-3, Table 4)		Omit highest electoral violence districts		Omit Highlands		Include only districts with significant mining	
	Vote-buying	Functional new project	Vote-buying	Functional new project	Vote-buying	Functional new project	Vote-buying	Functional new project
Active in a church group? (Ward avg.)	0.275 (0.02)	0.745 (0.00)	0.446 (0.00)	0.658 (0.01)	-0.0258 (0.82)	1.271 (0.00)	0.445 (0.00)	0.657 (0.01)
Active in a non-church group? (Ward avg.)	0.190 (0.53)	2.075 (0.00)	0.301 (0.29)	2.753 (0.00)	-0.292 (0.25)	2.768 (0.00)	0.216 (0.51)	2.637 (0.00)
MP visited the ward? (Ward avg.)	-0.0941 (0.01)	0.207 (0.00)	-0.166 (0.00)	0.393 (0.00)	-0.0536 (0.09)	0.162 (0.00)	-0.177 (0.00)	0.379 (0.00)
Observations	47	47	31	31	35	35	29	29
R-squared	0.76	0.69	0.79	0.72	0.64	0.86	0.79	0.71

NOTE: Each pair of regressions is estimated using Seemingly Unrelated Regressions. p-values in parentheses. All control variables from the base regression of Table 4 (columns 2-3) are included in each of these specifications. The remainder are not reported.

82. In contrast, omitting the Highlands districts has a very large effect on results: group activity is no longer associated with vote-buying; MP visits are still negatively associated with vote-buying, but the effect is much larger. In contrast, the association of groups with projects is larger: a 10% increase in church group membership is associated with 7.5% increase in projects in the base sample, but 12.7% more in the sample that omits the Highlands. The same increase in non-church group membership is associated with a 20.7% increase in projects in the base sample, but 27.7% in the sample without the Highlands. This indicates that groups are significantly less important to ward projects in the Highlands than in other districts.

Infrastructure Stock and New Projects

83. So far, the analysis has ignored the infrastructure situation of a ward. JDPBPC assistance could be targeted to wards with greater infrastructure shortages, either because of statutory targeting requirements or because wards with greater needs are more likely to appeal for new projects. Two sets of variables in the survey give some sense of wards' infrastructure stock and remoteness, both of which could be relevant to their demand for new infrastructure projects. The survey exercise included a village instrument that required enumerators to indicate whether most houses in the ward had access to electricity from the grid; functioning piped water or well or water pump; functioning water tanks; or a sewage system. They also recorded whether there were community buildings that could be used for meetings. Approximately 50% of wards had a community building; less than 10% had sewage disposal; the other infrastructure was found in between 18% and 28% of the wards.

84. By construction, the association between these stock variables and whether ward respondents indicate a new project should be positive: new projects that increased access to piped water or electricity, for example, should also increase the reported stock of infrastructure in a ward.

85. To capture remoteness, the survey tracks distance to different schools (elementary, primary, high school), to a post office, to the nearest market, to a health center and to the closest police station. Most wards (91% and 70% respectively) were less than one hour away from a primary school or a health center. However, while about half of villages were less than an hour away from a high school or post office, a third or more were more than two hours away.

86. Table 16 reports the effects of remoteness and infrastructure stock on whether wards reports new projects. The specification is the same as the base regression in Table 11, column 2. It is augmented by a control for vote-buying in the ward, though results are unchanged if this is removed. Since the estimates here are based on inter-ward variation within districts, and the number of wards in every district is fairly small, it is not possible to control for all of the different infrastructure and remoteness variables. Instead, the specifications in Table 5 report results using the presence of clean water and the time to the nearest high school. Substituting other pairs of infrastructure/remoteness variables has no effect on the group or vote-buying coefficients; none are themselves as significant as clean water and time to the nearest high school.

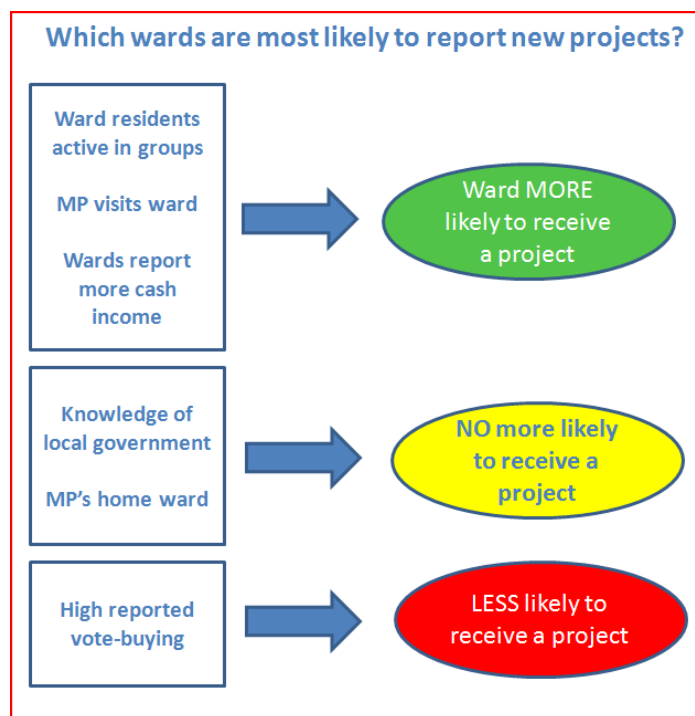
87. The results in Table 16 suggest that indicators of “need” play a relatively small role in the allocation of new infrastructure projects. Wards further away from the nearest high school were slightly more likely to report a new project and those with clean water slightly, but not significantly, less likely. Both are consistent with a small effect of need. Wards that report a higher asset count are less likely to report a new project, an effect that is significant in column 3, again consistent with need-based targeting. However, the effect goes away when the group variables are omitted (column 4), indicating that the effect operates through group membership (because groups are more likely to form in wards where households report more assets). The effect of cash income operates in the opposite direction, however: in wards where more households report cash income, wards are more likely to report a new project.

Table 16: Determinants of functional new projects - infrastructure stock

Specifications:	Infrastructure and vote-buying added to base	Groups omitted
Active in a church group? (Ward avg.)	1.377 (0.00)	
Active in a non-church group? (Ward avg.)	3.023 (0.00)	
Did any candidate give you cash for your vote? (Ward avg.)	-1.447 (0.06)	-0.987 (0.06)
Time to nearest high school (1, less than 30 minutes – 6, more than 2 days)	0.0414 (0.21)	0.0756 (0.07)
Do most HHs have access to clean water?	-0.200 (0.22)	-0.153 (0.15)
Asset count (from list, Ward avg.)	-2.781 (0.03)	1.205 (0.40)
Does anyone in household earn cash income? (Ward avg.)	0.540 (0.43)	1.199 (0.23)
HH earns cash from coffee, cocoa, copra, oil palm, rubber, betelnut? (Ward avg.)	0.247 (0.17)	-0.0623 (0.57)
Earns cash from other agric. activities? (Ward avg.)	-0.178 (0.41)	-0.0381 (0.92)
Type of house (1 = bush; 2 = semi-permanent; 3 = permanent) (Ward avg.)	0.177 (0.25)	-0.554 (0.00)
Salaried position? (Ward avg.)	-0.240 (0.58)	0.693 (0.21)
Farmer? (Ward avg.)	-0.196 (0.75)	1.083 (0.17)
Self-employed (Ward avg.)	-0.471 (0.61)	0.865 (0.34)
Observations	41	41
R-squared	0.68	0.49
Number of district	9	9

V. Conclusion and Further Work

88. Infrastructure stocks and ward wealth have little effect on whether wards receive new projects. Knowledge of the institutions of local government, especially of the JDPBPC and its chair, similarly has no influence. Instead, the degree to which wards have substantial group activity has the most robust influence on whether wards receive projects. This effect is strong everywhere but in the Highlands, including in districts with more electoral violence and more mining activity. The results of the analysis are summarized in the schematic below:



89. The study has several implications for the government of PNG and for development partner assistance to the country. First, although government and donors have placed considerable emphasis on changing the institutions and procedures for making and implementing public policies at the local level (such as changes in electoral laws or the introduction of district level planning bodies), these seem not to have affected which wards receive projects. For example, wards in which households have better knowledge of the local government system are no more likely to have projects; the effect of group membership on projects is also unaffected by average knowledge of local governments. The results are consistent with the continuing dominance of the MP and traditional modes of interaction between MPs and their constituencies, which transcend and are largely unaffected by such innovations as the Joint District Planning and Budget Priorities Committee (JDPBPC).

90. Second, in a political environment in which MP influence is strong yet groups have an impact on development there could be merit in developing accountability and feedback measures to link MPs and the district development committees they chair more closely with citizens. These could include relatively straightforward measures to increase transparency, such as policies to publicize JDPBPC allocations, budgets and meeting minutes in the

newspaper, on radio and by posting them on church notice boards and at other community points. More involved measures such as performance monitoring and citizen/community scorecards, participatory budgeting and expenditure tracking have been implemented in many countries but remain largely absent from the service delivery landscape in PNG. The box below provides an example of one such measure, social audits, from Kenya. A partnership between the Consultative Implementation and Monitoring Council and the Melanesian NGO Centre of Leadership conducted budget tracking training in November 2010 for a network in Sohe District, Northern Province. Immediate effects of the training include monitoring and the revelation of irregularities in a health center construction project and a police station maintenance effort. These PNG and global experiences warrant consideration to see whether they can capitalize on a PNG citizenry which, along some measures, is relatively active, informed and engaged. Implementation would need to focus on building a compact between service providers and citizens and not unduly raise demand-side expectations given significant supply-side constraints which are unlikely to be swiftly ameliorated.

Social audits to promote accountability in Kenyan Constituency Development Funds

The Kenya Constituency Development Fund (CDF) provides approximately US\$1 million per year to fund development projects Parliamentary Members' constituencies. To assist in the more effective allocation of funds, a Kenyan community-based organization, MUHURI, undertakes social audits of CDF projects involving six steps:

1. *Gathering records*: MUHURI first obtains records from the local CDF Committee, including meeting minutes, contractor bidding documents, tender awards, invoices and receipts.
2. *Building capacity of local advocates*: MUHURI brings together community advocates and trains them to analyze records, identify issues or potential discrepancies (such as missing documents, inflated costs, billing irregularities, or preferential selection of contractors). Advocates also identify positive practices that can be emulated by other constituencies.
3. *Raising community awareness*: MUHURI generates interest and raises community awareness of social audits through music and theater.
4. *Inspecting project sites*: Armed with their analysis and a questionnaire, advocates visit CDF project sites to assess projects were implemented according to project records. They also meet with affected residents for feedback on project quality. Advocates then prepare findings on discrepancies, lessons learned and opportunities for improvement.
5. *Convening public hearings*: Public hearings are then convened with CDF officials, including MPs, members of the CDF Committee and other district officials. Advocates report their findings and encourage discussion among local residents and CDF officials. Where opportunities for improvement are identified, CDF officials make commitments and sign a charter.
6. *Recording and follow-up*: MUHURI reports on key findings and recommendations of the social audit to current and previous members of the CDF Committee.

These audits have revealed numerous discrepancies, such as: a market construction project where materials from an old market was used to construct a new market, even though records showed all new materials were purchased; and a road construction project where gravel wasn't set and laborers underpaid. The social audits have demonstrated how community-based organizations can use citizen-centered methodologies to improve the use of public funds.⁸

⁸ For more information on social audits in Kenya see: <http://www.youtube.com/watch?v=z2zKXqkrf2E>; <http://internationalbudget.org/pdf/Muhuri.pdf>.

91. Third, it seems that DSIP and DSG do not get transformed into development projects as effectively in wards that are under-endowed with groups. To address this, it may be worth considering programs that target grants directly to wards, such as block grants to Ward Development Committees. Ward Councilors are already well known by both men and women and significantly the most popular site of complaint by residents for poor (and non-existent) service delivery. Such grants could be married with matching grants to Local Level Governments and Districts to encourage collaboration across wards and better integration between levels of government. A process of direct grants would have to consider means of mitigating potential costs, such as a weakening of linkages (and associated oversight and implementation support) between Provincial and District officials and the wards.

92. Significant questions remain. First, why do some wards exhibit more group activity? And what are the precise dynamics through which group activity (in disparate pursuits that include sports) leads to more projects? These require a more systematic focus on group activities than is permitted by the surveys.

93. Other questions require a larger sample of wards to answer. These include whether the types of projects are systematically different in "more group" wards and whether the maintenance and utilization of projects are higher in "more group" wards. These remain important issues for further research.

Annex 1: Research Districts

District	Province and Region	Rationale for Selection
Usino Bundi	Province: Madang Region: Momase	<ul style="list-style-type: none"> • New mine (in construction). Mine site, pipeline and refinery. 30 year mine life. • Little research to date. • MoA negotiated with MRA assistance, including women's association. • Four land owner associations. • Second most disadvantaged district in PNG (Hanson et al. 2001) • Considered "extremely disadvantaged"⁹ • Access to services – 2.¹⁰
Koroba-Lake Kopiago	Province: Southern Highlands Region: Highlands	<ul style="list-style-type: none"> • Established water-use payment regime. • 15 year engagement with Porgera gold mine. • Had two LPV by-elections. • Good longitudinal election data. • Among the most disadvantaged districts in PNG. • In the bottom 13 districts. • Considered "extremely disadvantaged" • Access to services – 2 (1).
Kairuku-Hiri	Province: Central Region: Southern	<ul style="list-style-type: none"> • Special Purpose Authority. • Kokoda Development Program. • Considered "seriously disadvantaged". • Access to services – 4.
Maprik	Province: East Sepik Region: Momase	<ul style="list-style-type: none"> • Government systems reported to be working well, including the JDPBPC. • Full complement of District staff and service improvements. • Considered "slightly disadvantaged". • Access to services – 4.
Namatanai	Province: New Ireland Region: New Guinea Islands	<ul style="list-style-type: none"> • Significant resources from mining. • Considered "slightly disadvantaged" • Access to services - 3
Chuave	Province: Chimbu Region: Highlands	<ul style="list-style-type: none"> • Had an LPV by-election. • Good longitudinal election data. • Considered "slightly disadvantaged".

⁹ Hanson et al 2001 ranking of district 'disadvantage' on five factors (land potential; agricultural pressure; access to services; income from agriculture; child malnutrition) into five categories: "extremely disadvantaged", "seriously disadvantaged", "moderately disadvantaged", "slightly disadvantaged and "not disadvantaged".

¹⁰ Hanson et al. 2001 ranking of districts according to access to services (one factor within the ranking of disadvantage - noted in the footnote above). A value of 1 represents very poor access to services; a value of 2 represents poor access to services; a value of three represents moderate access to services; a value of 4 represents good access to services; and a value of 5 represents very good access to services. Note: much of the data used for the ranking comes from the mid 1990s and as such does not reflect current service levels in some districts. An updated estimate (by the research team) of current conditions is indicated in brackets for some districts.

		<ul style="list-style-type: none"> • Access to services – 4 (2). •
Goroka Open	Province: Eastern Highlands Region: Highlands	<ul style="list-style-type: none"> • Mix rural/urban. • Good election data. • Interesting election result in 2007. • Partly urban/partly rural. • Considered “not disadvantaged”. • In the top-5 districts in PNG • Access to services – 5.
Kokopo Open	Province: East New Britain Region: New Guinea Islands	<ul style="list-style-type: none"> • Good election data • Interesting election result in 2007. • Considered “not disadvantaged”. • In the top-5 districts in PNG. • Access to services – 5.
North Fly	Province: Western Region: Southern	<ul style="list-style-type: none"> • Significant resources from mining. • Considered “extremely disadvantaged” • Access to services – 3