



Lao PDR Case Study: Ministry of Public Works and Transport

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The Ministry of Public Works and Transport (MPWT) of the Lao People's Democratic Republic has achieved a great deal of institutional success in the road sector over the past 30 years. The ministry has led the construction and expansion of the road network and, in turn, dramatically improved transport times and access to economic opportunities for Lao households and enterprises. MPWT has generated legitimacy in the eyes of the Lao people for both itself and the Government of the Lao PDR writ large, in particular by improving access to markets and public services across the country and by helping to physically knit the country together. It has slowly expanded its mandate in the road sector and served as a crucial incubator of commercial enterprise in the Lao construction sector. Moreover, the ministry has continued operations through several changes in leadership and demonstrated resilience in the face of crises.

This chapter examines how and why, in the otherwise challenging context of a low-income and relatively low-capacity country, MPWT has been able to achieve these successes. It describes how the core underpinnings of this institutional success have emerged in the three concentric circles constituting MPWT's operating environment: the sociopolitical context in which MPWT is positioned, MPWT's more immediate external operational

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relationships, and MPWT's internal institutional workings. This introduction provides some key highlights of the causal argument, with subsequent sections delivering more detail.

The sociopolitical context in which MPWT is situated has enabled and laid the conditions for the agency's success (Barma and Robert Oksen chapter 4, this volume). The road sector plays an important symbolic role in Lao PDR, serving as a crucial mechanism of national identity building. The road network is metaphorically and literally the backbone of the nation, physically binding together in the post-revolutionary period what had been a decentralized country comprised of disparate groups over a complicated geographical terrain. Moreover, roads have connected Lao PDR with its neighbors and hence its major markets, and have improved the access of almost all Lao citizens to economic opportunities. Roads have thus served as the crucial arteries through which commerce and people can flow, and have been essential to the country's modernization and socio-economic development, especially after its 1986 economic liberalization reforms. The Lao People's Revolutionary Party (LPRP), recognizing the sociopolitical and economic benefits of road building, has prioritized the sector from the inception of Lao PDR in 1975.

Capitalizing on this mandate and the resources that have come with it, MPWT has delivered on the Lao political elite's crucial state-building and modernization goals. The agency stands out for its ability to negotiate the constraints and embrace the facilitating factors in its external and internal environments in a manner that has enabled it to resolve creatively the governance challenges facing the agency and the political elite to which it must be responsive. MPWT has built institutional success by capitalizing on its priority sector status and the government's planning system; successfully introducing a commercialized and decentralized approach to construction and maintenance of the road network in the context of the New Economic Mechanism (NEM) and broader governance reforms; carefully managing stakeholder relations in the context of macro power structures and relationships in the country; and building an organizational esprit de corps that emphasizes the agency's central role in the pursuit of Lao socio-economic modernization.

MPWT has managed various factors in its external and internal environment in ways that have enhanced its ability to deliver on its institutional mandate. In particular, MPWT's and the government's emphasis on building physical infrastructure has aligned with the goals of Lao PDR's development partners. These goals include state building through public service

delivery, institutional strengthening and capacity building, technical criteria for decision making in line ministries, and a trend toward deconcentration and commercialization of road construction and maintenance. The agency has carefully managed its relationships with donors, emphasizing that the ministry is in the driver's seat, handling aid harmonization, and insisting on in-house capacity building rather than relying on project management units. As a government ministry, MPWT is subject to public sector recruitment and compensation rules and regulations. Within those constraints, nevertheless, MPWT has consistently emphasized strategically building the human resource capacity of the ministry and has developed its own personnel management system to ensure a focus on performance, complete with incentives for high performers. Moreover, MPWT is a learning organization that builds on a leadership that has, from the top down, instituted and supported a work ethic and systems oriented toward problem solving and a reliance on data to aid organizational performance and sector management.

Institutional Success

MPWT is the government agency tasked with the country's roads, its other transportation systems (including civil aviation, urban transport systems, and river transport), and other public works, including water and sanitation.¹ This chapter focuses on MPWT's road sector operations, where the ministry has demonstrated success across the three criteria of results, legitimacy, and resilience, according to objective measures and interviewee responses.

Results

The road sector in Lao PDR faces three major challenges. First, building a road network in a landlocked country that relies on road transport for internal economic activity and external trade links is a complex undertaking. Second, it is extremely costly to deliver rural road connections to the national road network for a low-density population. Third, adequate maintenance is crucial to ensure that existing assets do not deteriorate even as new construction continues apace.² There is a clear consensus across MPWT management, employees, clients, and other stakeholders that the institution has achieved sustained and impressive results on all three fronts.

There is a widespread perception that MPWT has expanded the Lao road network to a significant degree. In turn, this road expansion has

greatly increased market access across the country, making commercial and household enterprise, as well as rural livelihoods, more viable. Frontline staff, in particular, noted that road access enables villagers to sell their products directly at a market, reducing their dependence on local traders and middlemen. On this basis, moreover, villagers began diversifying their production to meet demand, thereby enhancing livelihoods. A multivariate analysis estimates that of the 9.5 percent decline in poverty incidence in Lao PDR from 1998 to 2003, fully 13 percent of the decline in rural poverty can be attributed to improved road access alone (Warr 2010).

Increased road access reduces transaction costs and makes more forms of economic activity viable; it also facilitates access to other public services, such as health and education services, located in village, district, and provincial centers. A central measure of success, then, is a reduction in travel time. There is no systematic statistical record of this over time, yet oft-cited data on this point include a decrease in travel time, over the past two decades, from the national capital to major provincial urban centers as follows: Vientiane to Savannakhet, from two days to five hours, and Vientiane to Luang Prabang, from five days to eight hours. The interprovincial network has improved considerably, with travel time between Pakse and Xekong, for example, being reduced from two days to two hours. Today, almost all the country's districts are reachable by road, although a major limiting factor is that some are reachable only during the dry season.

In line with MPWT's stated goals, rural accessibility—access of villages to the national and provincial road network—has increased significantly over the past decade, with all-season access growing from 54 percent of villages in 2002–03 to 84 percent in 2007–08.³ Rural road extension has grown at the fastest rate in comparison with other forms of road construction. The share of rural roads in the overall road network increased from 24 percent in 2000 to 42 percent in 2010.⁴ In addition to increased road coverage across the country, improvements in the quality of the road network are a crucial measure of results. The proportion of sealed and graveled surfaces in the country's road network increased from 42 percent in 2000 to 50 percent in 2010.⁵ In addition, a large road development and maintenance program implemented by MPWT between 2002 and 2006 succeeded in decreasing the proportion of rough road surfaces from 37 percent of the road network in 2002 to 4 percent in 2009 (MPWT 2009). Villagers who were interviewed noted that improvement of road quality is essential, since it reduces travel time as well as expenditures on vehicle maintenance and repair. The program overall was evaluated as delivering a medium level of

service, since as it drew to a close road maintenance slowed and overall road conditions declined.

Legitimacy

MPWT plays an important role in serving the government's overall socioeconomic development objectives. In turn, it enjoys some degree of legitimacy in the eyes of the population and helps in building the overall legitimacy of the state. For many Lao citizens, access to roads is a tangible way in which they interface with the state. Road sector employees benefit from a certain aura in the eyes of the population; villagers and other road users expressed a high degree of trust in and admiration for the central and provincial levels of MPWT. Yet, these same users were more critical of the district-level branches of MPWT, typically complaining about their relative lack of capacity to manage the road extension process and supervise the construction companies involved.

MPWT appears to have gained a great deal of legitimacy and public trust from its successes in extending the road network. Now that minimal road access needs have been exceeded, however, there is an increasing sense among the public that road quality is not as good as it should be. In other words, many villagers expressed the feeling that MPWT's emphasis on the quantity of roads was negatively affecting the quality of construction. Moreover, villagers expressed dissatisfaction regarding MPWT's communication systems, pointing out that they were often left in the dark about progress on projects, because consultations during road construction involved only village authorities and not public forums.

Villagers in the focus groups viewed MPWT as a public service provider, not a business. They kept clear the distinction between the public agency itself and its various implementation partners, including private sector construction companies. In this respect, villagers are willing to contribute financing as well as labor to build and maintain village roads, although they voiced concerns about being properly compensated for losing land. Villagers tend to believe that MPWT should be responsible for systematically maintaining the quality of access roads (i.e., district, provincial, and national roads) to the village and that the villagers should not be responsible for financial contributions for road maintenance and rehabilitation.

Resilience

The quality of Lao PDR's roads and the institutional capacity of MPWT (then the Ministry of Communication, Transport, Post, and Construction)

were extremely poor at the initiation of the reforms associated with the 1986 NEM.⁶ From the early 1990s onward, nevertheless, MPWT has displayed a great deal of resilience in the sense of maintaining success over time and through changes in leadership. Interviewees emphasized the ministry's cohesion, stability, and ability to adapt in the context of broad socioeconomic and institutional changes in the country.

This resilience in MPWT's ability to perform successfully has persisted through and been fortified by several major structural changes in the ministry and its implementation partnerships over the past two decades. The institution has always faced the challenge of securing the high levels of funding necessary for major infrastructure projects and maintenance, yet it has been able to develop innovative new funding mechanisms over time to overcome this constraint. In particular, the agency has demonstrated a great capacity for attracting and channeling donor funds and programs while maintaining a focus on the government's agenda. In another dimension of resilience, MPWT performed well in the face of a recent crisis: after Typhoon Ketsana destroyed a full 15 percent of the road and bridge network in the Southern Lao provinces in late 2009, the ministry achieved its goal of repairing and rebuilding 60 percent of the damaged roads over the next two years (Government of the Lao PDR 2009).

Institutional Sociopolitical Context: Roads as a Crucial Modernization Vehicle

Since Lao PDR's inception, the government has strategically emphasized the road sector as a major symbol, priority, and crucial tool of the Lao socialist modernization and development trajectory. Indeed, the overarching strategic vision expressed in LPRP resolutions through the late 1990s refer to the road sector as a "spearhead sector," and this is still a common refrain of stakeholders in the sector. Heavy industrialization and rural livelihoods, in other words, were not possible without good roads.⁷ The push to build a road network throughout the country, as well as to link all villages to the network, has been a central goal in the sector for more than three decades.

Although roads were identified as a strategic sector, road development prior to the mid-1990s was fragmented, with responsibilities dispersed across a range of agencies, including the Ministry of Communication and Transport, the Ministry of Agriculture, and the Ministry of the Interior.

The country's transition to the market through the 1986 NEM further underlined the importance of a functioning national road network, which was seen as crucial to economic success. The primacy of roads in the government's list of priorities after the initiation of economic and administrative reforms is apparent: the Third Five-Year Plan (1990–95) emphasized improving the country's transport network and the government's 1991–95 Public Investment Program focused on developing roads and other physical infrastructure (Barma 2002). Accompanying this greater strategic clarity, road sector management was rationalized and institutionalized in the then Ministry of Communication, Transport, Post and Construction (MCTPC).

In addition to their economic functions in terms of industrialization, the development of an agroforestry sector, and rural livelihoods, roads have served the government and LPRP as a crucial nation-building mechanism—physically binding together what has been in its contemporary history a regionally, ethnically, and geographically fractured country (Barma and Robert Oksen chapter 4, this volume). The first major route emphasized after the formation of Lao PDR in 1975 was the country's core North-South trunk road, Road 13, a project seen as essential for territorial integration and internal security. Road network building continues to serve this nation-building imperative, encouraging village clusters to form to take advantage of connections to the network and thereby, in some cases, speeding the relocation of remote villagers in mountainous areas (where many tribal and ethnic minorities continue to live) to more densely populated areas in the lowlands.

The government's early vision for Lao economic modernization saw the central role of the transport network in transforming the country's territorial identity from a landlocked country to a transit country (Pholsena and Banomyong 2007). The emphasis on connectivity to neighboring countries and to the South China Sea preceded the emphasis on rural road access, with an acute demonstration of the country's geographic vulnerabilities emerging when Thailand closed its border with Lao PDR and embargoed exports in 1976. The construction of Roads 8 and 9, connecting Lao PDR with Vietnam, was crucial in response. More recently, emphasis on the road sector has continued with a slightly different cast, as Lao PDR has become more deeply integrated into the Mekong subregion, joining the Asian Development Bank's (ADB's) Greater Mekong Subregion scheme in 1992 and the Association of Southeast Asian Nations in 1997. The sector remains central to developing the country's trade connections—in particular with Thailand,

Vietnam, and China—which in turn have delivered large financial flows and numerous advantages in terms of economic development. This is evidenced by the impressive growth of the provinces most closely connected economically with neighboring countries, especially Champassak and Phongsaly, where, not coincidentally, major public and private road-building efforts continue apace.

Sector representatives expressed conscious pride in their role in facilitating economic livelihoods and trade, transporting the inputs and products of other sectors, and being a key to economic development and the country's prosperity. For example, a provincial unit of MPWT displayed a slogan that read, "Love your nation, maintain the roads." In addition, the delivery of pro-poor public services such as road access is a central element of LPRP's strategy for retaining popular support and solidarity with the party. In short, roads continue to be used as a symbol of economic development and socialist modernization and as a crucial vehicle for their achievement.

In functioning in this sociopolitical context, MPWT has a span of control over two concentric circles of institutional function—first, the organization of the internal workings of the agency and, second, the manner in which the agency structures its partnerships and other operational mechanisms in the context of the immediate external environment in which it functions. Many of the operational decisions made by MPWT in its immediate external environment and relationships as well as its internal institutional workings can be seen as resolving, concretely, a series of governance challenges for the agency and the government and political elite it serves. In other words, some of the causal underpinnings of institutional success identified are explicit responses to the institution's role and position in the broader political and governance structures. In particular, the adoption of NEM and the series of political and governance changes around that reform actually set in motion several specific institutional strategies. Other causal underpinnings of success are, by contrast, more geared toward efficient institutional functioning than toward resolving specific political and governance conundrums. These factors serve to institutionalize MPWT in the context of the government's attempts, supported by donors, to forge a more efficient public administration. Perhaps as a consequence, the causal dimensions in this second set are more closely tied to donor advice and institutional models that are either isomorphic with international best practice or result from greater interconnectivity with neighboring countries and markets.

Institutional Strategies to Resolve Governance Challenges

MPWT has negotiated the constraints and embraced the facilitating factors in its immediate external environment and internal institutional workings in creative ways that have enabled it to resolve governance challenges facing the agency and the political elite to which it must be responsive. MPWT has built its institutional success by capitalizing on its priority sector status and the government's planning system, successfully introducing a commercialized and decentralized approach to construction and maintenance of the road network in the context of NEM and broader governance reforms, carefully managing stakeholder relations in the context of macro power structures and relationships in the country, and building an organizational esprit de corps that emphasizes the agency's central role in the pursuit of the country's socioeconomic modernization.

From Sector Prioritization to Integrated Sector Planning

The overall stability of the Lao governing regime, along with the sustained emphasis it has placed over time on the road sector, were identified across the board as core elements of MPWT's success. The government's prioritization of roads as a "spearhead" sector and its consistent policies for the sector are apparent in its relatively high resourcing of MPWT and the important position the agency occupies within the power structure of the government. In turn, MPWT's success in increasing road access throughout the country has contributed to the government's cumulative legitimacy. Indeed, increasing public access to public services, such as schools and health clinics, through better road access has been a core goal of the government's approach to road expansion in rural and remote areas. Prior to the introduction of the Road Management System, the Party prioritized road construction on the basis of broad goals, such as territorial integration and economic interconnectivity with the region. The government's broad vision also emphasized developing road access to every provincial capital, followed by district centers and large village clusters. Only later, with deeper integration with the donor-supported sector management system, did a shift emerge to prioritization of road access on the basis of population density and access to urban centers with public services, thus enabling MPWT to continue serving essential nation-building and political objectives.

The road sector's priority status has been reflected in direct resourcing by the government as well as donor funding. Public expenditure patterns

over time demonstrate an extended commitment to public works and transport. Quite simply, it has long been the single largest spending sector in Lao PDR, with a share in total expenditure of 40–50 percent over the past 30 years.⁸ Although this share has declined slightly in recent years, the road sector still accounts for by far the largest share of capital expenditures. This high level of resourcing was made possible by the government's endorsement of road construction and rehabilitation projects over many consecutive five-year plans.

Despite the large flow of revenues to the sector, most of the road network in the late 1990s was evaluated as being in poor condition and progressively more emphasis was placed on road maintenance (Barma 2002). This required new funding sources and an efficient, locally based planning system to track and anticipate necessary investments, as well as to plan road development in relation to the ability of central and local governments to maintain the system. In turn, this resulted in a reorganization of the planning and budget allocation system. Road construction is now financed directly by the government budget—including central expenditure, which is allocated to national road construction and rehabilitation, and provincial expenditure for the development of provincial, district, and rural access roads.⁹ Road maintenance, by contrast, is provided for through the Road Maintenance Fund (RMF),¹⁰ which was originally financed primarily by donors and is now primarily financed, with some donor support, by a fuel levy (approximately 70 percent of total RMF revenues¹¹), bridge and road tolls, and fines for overloaded trucks. RMF allocates funds only to national and provincial road maintenance.¹² Local road maintenance is carried out through village financial or labor contributions; and district road maintenance is supposed to be provided for by District Development Funds, which, in turn, depend on donor contributions and household contributions based on income levels.

The National Socio-Economic Development Plan, the government's five-year planning system, and the annual planning mechanisms are crucial in terms of overall sector strategy, resourcing, and operational targets for any government agency—and MPWT is no exception. The annual planning process is facilitated by the Ministry of Planning and Investment (MPI), which centralizes and coordinates the local plans for road development. The planning process begins bottom-up, with needs articulated at the district level, collated at the provincial level with the supervision of the provincial governor's office, and passed up the vertical line to the

agency in question. Prioritization takes place at this top level, with overall strategic and resourcing needs decided at the highest level of government. Resources are then allocated through the ministries to the provincial and district levels. De jure, nothing can be implemented without being reported to the central line and incorporated into the plan; de facto, this means that the plan is amended throughout implementation to incorporate new projects that are developed when new sources of funding emerge. For example, if a village raises funding for an access road in collaboration with a private sector provider, permission to construct the road must be granted at the provincial level and reflected in the revised plan.

The planning and reporting system follows two logics. On the one hand, LPRP's principle of "democratic centralism" requires plans to be established at the local level, with a bottom-up approach. On the other hand, the reporting system through the vertical line to the central ministry ensures a functioning public administration. MPWT is seen as outstanding among its central ministry peers in terms of its capability for undertaking a nationwide assessment of the sector and planning future development and maintenance requirements in an integrated manner. One problematic aspect of the centralized planning process is that, although in theory inter-ministry coordination is supposed to be a bottom-up process through the local development plan, in practice there is little coordination at the provincial level between technical staff or even middle management across different government agencies. Instead, each ministry has extremely important bilateral relationships with the provincial governor's office and the provincial units of MPI. Stakeholders noted that the provincial units of MPWT enjoy particularly close cooperative and productive relationships with both of these crucial local-level allies. A core advantage of the planning system, nevertheless, is that MPWT's annual operational targets are extremely clear and the organization can and does work toward them in a focused manner.

Delegated Implementation: Decentralization and Commercialization

The road sector and MPWT underwent a major institutional reset in the early 1990s, after the government introduced market-oriented reforms with the 1986 NEM. Prior to NEM, road sector development was handled in-house at MPWT, with an emphasis on top-down management from the central ministry and, under the "force account" system, a labor force for construction and maintenance positioned within the ministry or state-owned companies. The reform reflected the government's broader

governing dilemma in defining a clear division of tasks between the political dimensions of governance, undertaken increasingly through the horizontal line across provinces, and administrative and technical line responsibilities, assigned to the ministerial vertical line. Until this reorganization of the road sector administration—which occurred in the context of more general governance reforms—road sector development was handled across the political level, with an emphasis on top-down management from the prime minister’s office, the State Planning Committee, and the provincial governors.

The goal of the government’s decentralization initiative was to establish provinces as the strategic (decision-making) units and districts as the implementation units.¹³ MPWT, recognizing the need for improvements in efficiency and implementation quality, follows this system to its great advantage. It implemented a radical overhaul of its management, decentralizing and delegating its operations to the provincial and district levels, and accelerated the commercialization of its implementation activities through partnerships with the private sector. Project management (including budgeting, implementation, and quality control) shifted to the provincial level, with implementation contracted out to a nascent private sector at the provincial and district levels.¹⁴ The provincial departments of MPWT have a great deal of decision-making authority and accountability. The bulk of road sector management and service delivery implementation is coordinated at the provincial level, through the Departments of Public Works and Transport (DPWT). DPWT manages and implements the sector budget for its respective province and, according to the Public Investment Law, construction bids below five billion kip are tendered at the provincial level. In terms of implementation, DPWT engineers work with the district-level Office of Public Works and Transport (OPWT) to provide on-site contract supervision and quality assurance. By 2000, almost all road sector construction and maintenance was being operated on a commercial basis and managed and contracted down the MPWT hierarchy by the provincial and district units of the ministry. The central MPWT retained responsibility for sector strategy, standards, training, monitoring and evaluation and overall sector coordination (including donor coordination and aid harmonization). In essence, MPWT went from being a direct service provider to an institution that sets policy for and manages service provision but does not really implement it directly.

Road sector development since the early 1990s has emphasized the building of private sector capacity. Road construction and maintenance

depend on this partnership with the private sector. Prior to NEM, many state-owned enterprises (SOEs) were responsible for constructing and maintaining the country's road network on the basis of their workforce contributions. Each of these SOEs was tied closely to its home location and was managed directly by the provincial authorities, thus representing more a department within the provincial administration than an enterprise or an implementation agency of MCTPC. These SOEs were split into smaller, semiautonomous entities toward the end of the 1980s. Each was designated specific construction projects by the government and provided capacity-building and financial support for this contracted work.¹⁵ After the 1986 introduction of NEM and the opening of the country to international development partners, these companies also bid for donor-supported projects and received training and technical assistance from the donors. Indeed, privatization was an explicit institutional development objective of World Bank and other donor programs in the road sector (Barma 2002).

From 1996 onward, the government ceased supporting these state-owned enterprises under the force account system. There has since been a process of winnowing out. Less successful SOEs were allowed to fail, while the more successful SOEs expanded their scope to nationwide contracting, with some of them merging together. These successful SOEs continue to be major implementation partners for MPWT, especially in remote locations and areas in which it is otherwise difficult to operate (e.g., "red zones," where unexploded ordinances or drug trafficking exist). Subcontracting with donors (in particular, the World Bank, ADB, and the Japan International Cooperation Agency) has been essential in building the capacity, equipment, and systems of the successful SOEs.

A vibrant and fast-growing private sector has thus developed around road construction, with the number of road construction companies estimated at more than 200. Yet, it is a bifurcated sector. On the one hand, there are the larger companies located in the bigger cities that focus on road construction. Many of these originally gained their foothold in the construction sector through resource concession for infrastructure deals with the government; and they often rely on joint ventures with companies from across the region for financing and capacity development. Smaller, locally run companies, on the other hand, are contracted by MPWT on three-year contracts for road maintenance work; these are constrained in terms of their capacity and equipment from taking on larger and more lucrative tasks. Interviewees reported three ways for private-sector companies and

SOEs to be awarded construction and maintenance projects: responding to an advertised bid; negotiating with the government, which under some circumstances directly chooses a company for a project; and subcontracting with donors and larger companies. Road construction enterprises at the provincial level mostly subcontract for large companies from Vientiane or neighboring countries. Across the country, however, road enterprise managers and engineers share backgrounds and training with provincial and district road sector employees, including shared SOE employment in the past. These connections and shared understanding make for good working relationships at the local level.

The decentralization and commercialization reforms discussed here have strengthened and formalized the central role of provincial governors in strategic planning in the sector, but they have not undermined the role of MPWT. On the contrary, MPWT has built its influence by emphasizing its technical skills and its reinforced position as the overall regulator in the road sector. It also offers crucial support to central and local governments in conducting integrated planning that evaluates road construction needs while conserving government assets through an evidence-based needs analysis. Moreover, MPWT's vertical line remains strong through firm leadership and an emphasis on technical skills and sector cohesion.

Stakeholder Management

MPWT must manage multiple, complicated stakeholder relationships, both formal and informal. The ministry is accountable to many principals, including the government at the central level, provincial governors, and development partners. At the same time, it is responsible for a complicated set of implementation arrangements with its own agents, including SOEs and domestic and international private contractors. MPWT appears to handle these stakeholder relationships quite well. On the principal side, the current MPWT leadership seems adept at rallying the support of elites and key stakeholders for its central programs. Provincial governors are particularly influential, so MPWT must ensure their needs are met. On the agent side, MPWT has successfully distributed implementation responsibilities to various partners, yet retains a strategic management role and ensures that it still earns plaudits itself for successful outcomes.

MPWT has worked hard to find the right balance between control of the country's road development versus flexibility in terms of actual

construction and maintenance. Careful management of the policy and quality dimensions of road construction is crucial in this respect. MPWT appears to handle the policy side well but there are concerns on the quality control side. Villagers believe that the process of selection of priority areas for road development is fair and justified—expressing their faith in the centralized, top-down process of road development planning facilitated by the provincial-level DPWTs. But they also expressed the view that they do not have close enough contact with the district-level OPWTs, indicating that the institution as a whole may need to improve its communication and interface with clients.

With the devolution of road planning and construction, provincial governors' offices have become responsible for developing new road projects in their respective locations, while national and "strategic" roads have remained under the central responsibility of MPWT.¹⁶ The overall implementation of Party directives on road access for every district and village has become the responsibility of provincial authorities and this has included the responsibility for resourcing local road projects. Thus, provincial governors' offices have become more involved in developing new road projects along with financing ideas. Champassak province has, for example, recently put together a new financing model for building a major road from the provincial capital, Pakse, to the Wat Phu monument.¹⁷ The province successfully borrowed money from the Bank of the Lao PDR in order to finance the road construction on a build-operate-transfer basis. Once the road is constructed, tolls are charged for usage (collected by the road operators on behalf of the province) and the province later pays back the bank loan. This was reported as the first time Champassak province itself has borrowed money; and there are growing and significant reports of similar off-budget financing of road construction across the country (World Bank 2012).¹⁸ For example, another off-budget road financing story emerged in Vientiane province regarding the building of a similar major road.¹⁹

The director of the provincial-level DPWT reports to the provincial governor (the horizontal line) as well as the ministry (the vertical line). In practice, DPWT works more closely with the provincial governor's office than with the central ministry and the provincial-level collaboration manages day-to-day resource implementation decisions. In part because of this decentralized system, MPWT is subject to the pressures of regional politics and the influence of provincial governors. The Minister of Public Works and Transport has recently moved to emphasize the vertical

line and strengthen internal controls; it is, of course, the ministry that is accountable in terms of sector goals and responding to complaints. MPWT employees themselves are adept at satisfying both sets of goals—the political exigencies, typically articulated by provincial governors, and the integrity of public administration, represented by the central MPWT institution and its donor relations. Interviewees emphasized the strong cohesion and cooperative capacity at all levels of the MPWT hierarchy as a major factor behind the institution’s success.

Organizational Esprit de Corps

MPWT employees share a remarkable esprit de corps, which is founded on their shared identity as engineering professionals and their mission of serving the public. This appears to be strongest at the provincial level, where strategic decisions are made and day-to-day management is conducted. Road sector employees reported that they are received with respect by villagers in the field, bringing them a measure of status. Many professionals within the organization—as well as in the private concerns active in the road sector—share technical training backgrounds, albeit from diverse countries, and a strong professional identity as road sector engineers that contributes to a sense of community. Integrated within this cohesive community are non-engineers, including those employees with more political or revolutionary backgrounds. Many of today’s senior cohort of road engineers who are in MPWT, at state-owned enterprises, and running private contracting companies, say that they “grew up” together under donor-funded projects in the 1990s.

The organization is imbued with a shared sense of purpose that is well-understood and absorbed throughout the hierarchy. MPWT does not appear to have a clearly articulated mandate in a typical form and employees tend to equate the notion of a mandate with their own unit’s terms of reference. Nevertheless, employees far down the ranks are able to recite the core goals and objectives of the organization and share a sense of pride and commitment to the mission. Indeed, that commitment—stemming from the public service and development role staff believe they are performing—was often identified as the main factor in MPWT’s success. Such sentiments were expressed, illustratively, in the following ways: “We serve the people and the grassroots level;” “The road is like the blood flow;” “A song written for Public Works technical staff ... reflects that as workers we have an important role in the country’s development;” “We bring civilization to the grassroots level.”²⁰

Institutionalization, Professionalism, and Mandate Implementation

MPWT has managed other factors in its external and internal environment in ways that have enhanced its ability to deliver on its institutional mandate. The agency has carefully managed its relationships with donors, emphasizing that the ministry itself is in the driver's seat and handling aid harmonization, and insisting on in-house capacity building rather than relying on project management units. As a government ministry, MPWT is subject to public sector recruitment and compensation rules and regulations. Within those constraints, nevertheless, MPWT has consistently emphasized the strategic building of human resource capacity within the ministry and has developed its own personnel management system to ensure a focus on performance, complete with incentives for high performers. MPWT is, moreover, a learning organization, as a result of a leadership that has, from the top-down, instituted and supported a work ethic and a system oriented toward problem solving, as well as a reliance on data to aid organizational performance and sector management.

Visionary Leadership Committed to Problem-Solving

Road sector planning and management in the 1980s and 1990s was fragmented among various government concerns. Since the mid-1990s, successive strong leaders of MCTPC and MPWT have played a central role in institutionalizing the role of MPWT as the lead agency for the sector. The 1999 Public Road Law was a crucial mechanism for consolidating MPWT's role. There has been a great deal of leadership continuity, with only three ministers overseeing the road sector over a period of 40 years. This continuity seems deliberate on the part of the political elite, as was the focused and incremental approach to national road development.

Each of the three ministers who have taken the helm of MPWT supported the Pathet Lao during the revolution and all have been high-ranking members of the Party's Central Committee. Thus, the sector has been led and driven by strong, symbolic figures who have reinforced the sector's cohesion and identity through the narratives of nationalism and service to the grassroots (Robert Oksen 2012). The first minister, Colonel Bounnaphol, an engineer educated abroad, was instrumental in leading the sector drive to open Lao PDR toward the sea and its neighbors and to increase trade interconnectivity within the country. His successor was a mastermind of the Rural Development Strategy during his mandate at the State Planning

Committee and drove forward the Rural Transport Infrastructure Strategy (Dennis 2000).

MPWT's leaders have been committed to excellence in service delivery and have emphasized a hands-on, learning-by-doing, and problem-solving approach to the ministry's work. The minister at the time of writing, H. E. Sommad Pholsena, exemplifies these values. His credibility with the ministry's personnel is enhanced a great deal by the fact that he has risen up through the ranks of the organization and combines his political acumen with his technical training and expertise. One of his constant axioms is "learning by doing," emphasizing delegation of responsibilities and building expertise via experimentation with various models.

A delegated, problem-solving approach to delivering on MPWT's goals, along with a conviction in learning-by-doing, is replicated down the institutional hierarchy. Department and division heads are delegated responsibilities, which it is then their job to ensure are carried out well. Staff throughout the organization reported having generally clear terms of reference along with relatively free reign, particularly in the Lao PDR context, to do their jobs. In turn, this ability for staff to take their own initiative was seen as an important contributor to the ministry's success. The staff's consequent respect for its leaders along with its ownership in sector projects is also crucial.

Donor Harmonization

MPWT pursued an explicit strategy of institutionalizing projects, and hence capacity-building, in the ministry itself, refusing to use project implementation units (PIUs). It was the first Lao ministry to take this approach to PIUs. A senior official emphasized that sector policy is first decided by the government and then donors are invited to join in implementation. The sector has nevertheless enjoyed high donor support and involvement in the sector—including, especially, a great deal of engagement with the ADB, the Swedish International Development Cooperation Agency (SIDA), and the World Bank—with iterated interactions and learning over time. Continuity on the donor side, including particularly the use of long-term task-team leaders with deep and extensive ties with their Lao counterparts, has contributed immeasurably to successful partnerships in the sector. Assistance is coordinated, with MPWT in the driver's seat. The minister was interested in a sector-wide approach to aid projects even before the concept of donor harmonization really took hold. When it abolished PIUs, the ministry set up instead an over-arching Project Monitoring Division,

which is intended to be a one-stop shop for donors and donor coordination. Many interviewees noted that almost all key senior managers in MPWT (and in many private and state-owned enterprises active in the sector) are alumni of donor programs.

MPWT has benefited from early and sustained partnerships with donors since the 1980s. Many observers noted that donor commitment to road construction and maintenance was a major factor in delivering successes in the sector. The road sector has gained from formal and informal donor coordination. Initially, there was some regional-based division of labor among donors in the road sector: in the early 1980s, the Soviet Union was committed to road expansion to Vietnam, and Western assistance was targeted toward the country's main North-South trunk road, Road 13. In addition to geographic areas of responsibility, development partners have focused on different but complementary substantive areas—ADB on road network extension and rehabilitation, the World Bank on institutional development and maintenance, SIDA on local-level MPWT capacity-building and road improvement, other bilateral donors (e.g., Japan) on bridges, and so forth. This complementary division of labor has helped MPWT to pursue a building-block strategy in the sector, layering road maintenance and institutional systems building on top of a sustained commitment to expanding construction of the national road network.

Development partners have been engaged in road construction for almost three decades. Throughout this period, the transport sector consistently received the largest share of total official development assistance disbursements, ranging from 40 percent in the 1980s to about 20 percent since 2000. External funds still represent 75 percent of public works and transport sector spending.²¹ Rural roads continue to be important components of integrated rural development projects as well as in the social sectors, since they are essential to increasing rural access to public services. Road construction remained an important part of government and donor spending in the 1990s, but attention progressively shifted to road rehabilitation needs and, consequently, the urgent need to develop a high-quality management system for the road sector that emphasized commitment to infrastructure maintenance. Two key elements of today's MPWT were thus introduced with donor support: the Road Maintenance Fund and the Road Management System, which measures system performance and serves as a planning and budget allocation tool.

In coordinating donor support over time, MPWT has institutionalized its role as a strong public institution dedicated to leading a domestically

driven path of national road development. Its committed ownership of sector strategy and planning, along with the complementary division of tasks among implementation partners, are two central strengths MPWT has displayed. Although it has voluntarily integrated core components from donor programs, especially the technical approach to planning and the necessary analytical tools and methods, it has resisted and postponed other dimensions advanced by donors that were seen as not directly compatible with the sector and the national sociopolitical context.

Sophisticated Adaptations in Human Resource Management

MPWT human resource management (HRM) practices must remain aligned to the broader civil service system,²² yet it is widely believed that—within those constraints—MPWT personnel practices are the most sophisticated in the government. The Personnel Department at the central ministry utilizes in-house software to capture demographic data and education, training, and career decisions and development for each employee. Personnel assessments are carried out annually (with a tool developed by SIDA) at the level of district performance, evaluating individual capacity as well as assessing the capacity of the unit as a whole. These assessments are then used to develop plans for staff improvement, identifying gaps and deploying and training staff as indicated.

Personnel skills within the institution have increased a great deal. Interviewees noted that most road sector personnel in Lao PDR's early days were civil servants who were teachers rather than road engineers and simply did not know what to do in terms of road development. MPWT managers at the district, provincial, and central levels noted the upgrading of skills across the institution, including the proliferation of advanced degrees. Training programs and study tours abroad through scholarships were emphasized in the 1990s.

Development partners contributed a great deal to the upgrading of staff skills at the local level, through on-the-job capacity building. Technical assistance in the road sector actually provided some measure of skills transfer to Lao counterparts.²³ Donor support was also essential in building private sector implementation skills over time: "The construction companies were the sons of donors. Each company had its donor and project. We received new equipment as well as technical and management training. When the state-owned enterprises collapsed, employees built up small new companies."²⁴

Across the institution, from the minister down, there is an emphasis on on-the-job training and learning-by-doing. In turn, this necessitates the rotation of staff to field positions, since the provincial and district level is where the ministry's implementation work truly occurs: "Good field managers make good office managers ... If you are not trained in the field, you are not qualified to come to the Ministry."²⁵ Thus, MPWT has made a big push to decentralize personnel throughout the ranks, moving project management and other HR capacity from central to provincial or district levels.²⁶ Employees are, in turn, ensured good positions in the central ministry when they return; directors are rotated through the provinces and central ministry. The institution deploys its staff with attention to local-level cultural and linguistic issues, in particular using native-language speakers in remote, tribal, and ethnic areas, and also typically staffing district and provincial branches with individuals from those localities. The exception is in the poorer provinces, where the necessary skills cannot be found (e.g., Sekong district-level employees do not speak the Sekong dialects).

MPWT has deployed some of the HRM systems recommended by its development partners, particularly the use of analytical tools. Overall, however, MPWT's HRM practices seem to represent more of a hybrid that adapts donor systems to the domestic context. For example, the systems of staff rotation and local-level capacity-building HRM, achieved by placing skilled engineers and managers in the districts and provinces, are consonant with the Party's strategy of institutionalizing democratic centralism through the establishment of direct relations with the grassroots (Robert Oksen 2012).

Another important dimension of MPWT's astute human resource management is the emphasis placed on individual motivation and performance. In part this is made possible by HR performance assessments. Yet, with the exception of promotion based on the civil service system and its annual performance evaluation, there are no tangible performance incentives. Instead, the institution successfully motivates staff through training, capacity building, and weekly meetings that ensure tasks are allocated appropriately and difficulties are discussed. In addition, team work is prized and various recreational activities are organized to maintain team spirit and cohesion.

Evidence-Based Sector Management

In the 1990s, MPWT shifted its core mission to develop an emphasis on maintenance as well as construction. In turn, this organizational shift,

along with the move to decentralization and commercialization, required paying attention to administrative capacity in the institution. The emphasis on maintenance necessitated data management and administrative oversight skills in addition to the engineering capacity needed for construction.

One mechanism through which MPWT has enhanced its administrative capacities is through the use of a relatively sophisticated data collection and management system for maintenance of the road network, the Road Maintenance System. This system, introduced with World Bank support, performs to international standards and has been adapted to the Lao PDR context. It is used to measure system performance as well as serve as a planning and budgeting tool and operates throughout the MPWT hierarchy. District engineers submit data to the provincial-level DPWT to update the provincial maintenance management system, which DPWT then analyzes and passes to MPWT. In turn, after further data analysis (by the Public Works and Transport Institute, which reports directly to the minister), the central MPWT then allocates road maintenance funds, in renegotiation with provincial departments.

If DPWT analysis indicates any problems or specific challenges, the relevant provincial branch itself is charged with proposing a plan of action, to be approved by the central ministry. By the same logic, the district is supposed to report problems to the province. MPWT thus shows signs of being a “learning” organization that is flexible in adapting to incoming information and adjusts policy and management accordingly. For example, provincial units are tasked with analyzing their own data and developing solutions for identified problems. In addition, in implementing major changes in the late 1990s, MPWT piloted approaches in four provinces and modified them accordingly. The quality of contracted-out road construction and maintenance is also closely supervised by the district-level OPWT, which reports to the provincial-level DPWT. Maintenance contracts with private sector enterprises are typically over three years, with their continuation and renewal predicated on measured performance.

In short, MPWT has the capacity and tools to put together, analyze, and plan and allocate resources on the basis of evidence. The Road Maintenance System analyzes road conditions, traffic volumes, and populations served. It enables the costing of development scenarios as well as the identification of maintenance needs on the basis of projected available funds. The system provides financial evidence to aid decision making between further road expansion (increasing capital assets) and road maintenance (protecting capital assets). MPWT uses evidence-based analysis to propose and

bolster its plans and role within the broader political arena. The institution thus maintains a thorough data collection and analysis system, with decisions around sector strategy and implementation made on the basis of these relatively sophisticated tools. In other words, the agency practices evidence-based decision making and emphasizes the institutionalization of systematic tools for effective administrative and political management.

Challenges

MPWT appears to have gained a great deal of legitimacy and public trust from its successes in extending the road network. Now that minimal road access needs have been exceeded, however, there is an increasing sense among the public that road quality is not as good as it should be. In other words, many villagers expressed the feeling that MPWT's emphasis on the quantity of roads was negatively affecting the quality of construction.

Capacity at the provincial level was reported to have improved markedly over the past decade, through a concerted capacity-building push. Yet, observers noted that district-level capacity still requires a great deal of upgrading. Focus groups at the village level revealed that users have mixed views on district-level OPWTs. Road users respect the staff's technical capacity, but believe that OPWTs tend not to enforce quality standards strictly enough through supervision of construction companies. Interviews with frontline MPWT staff emphasized gaps in human resource and technical capacities, confirming that district-level units are undercapacitated to perform their decentralized supervision responsibilities.

New financing and construction models are emerging in the road sector. One new approach is for private sector construction companies to take on the financing liability for building new roads, with contractual commitments from the government to repay the firm upon completion in tranches over five years.²⁷ This model appears to be particularly popular at the provincial government level, where governors can sign off on projects below 5 billion kip. But there appears to be some concern developing at the senior level about the accumulating financial liability for government in light of this new approach to road construction. In addition to the evolving build-operate-transfer model of financing, there is a resource-for-infrastructure model emerging, whereby roads are built in exchange for natural resource concessions. For example, in Sekong Province, there appear to be agreements to compensate private sector

companies upgrading provincial roads (a US\$12 billion project) with coal ore and timber from the province. Provincial governors are powerful on this matter, and the government has yet to develop a systematic, country-wide strategy for such construction models.

There seem to be barriers to entry to the private sector in road construction and maintenance, in the sense that those companies most well-connected to Party leaders are those that will most likely succeed in any meaningful way. The military is involved in some major construction companies and is especially likely to have a role in road construction and maintenance contracts associated with natural resource concessions. Increasingly, too, bids are tendered under international competitive bidding, which means they are usually won by Vietnamese and Chinese companies instead of Lao companies. Lao subcontractors on these projects get squeezed, as the foreign companies retain the bulk of the profits. This was identified as problematic from the point of view of trying to build local enterprises with appropriate capacity.

With the exception of reporting to donors, the ministry seems to employ relatively limited forms of external accountability. For example, it neither uses client hotlines or systematic grievance processes; nor does it appear to canvass the public regularly to determine citizens' demand for road services. Villagers expressed dissatisfaction regarding MPWT's communication systems, pointing out that they were often left in the dark about progress on projects, since consultations during road construction involved only village authorities and not public forums. This indicates that the institution may need to improve its communication and interface with clients throughout the hierarchy. Yet, the provincial units of MPWT work in close collaboration with provincial governors' offices, potentially reducing the need for direct client consultation.

Conclusion

The road sector has been crucial to Lao PDR's modernization and socio-economic development, especially after the country embarked on economic liberalization reforms in 1986. LPRP, recognizing the sociopolitical and economic benefits of road building, has prioritized the sector from the inception of the Lao PDR in 1975. The MPWT has built its institutional success on the basis of this mandate and the resources that have come with it. The agency has demonstrated a remarkable ability to operate within

its immediate external environment and manage its internal institutional workings in creative ways that meet two meta-level objectives. First, MPWT has proven adept, even indispensable, in ensuring that the Lao political elite's goals of state building and modernization can be met. Second, the agency has astutely managed other elements of its external and internal environment in ways that have enhanced its ability to deliver on its institutional mandate.

In meeting these two high-level goals, three especially striking causal dimensions of MPWT's institutional success stand out. First, in the broader context of the administrative and economic reforms introduced with NEM, MPWT has skillfully retained sector policy making and planning primacy, while delegating implementation through decentralization to the provincial units of the ministry and commercialization of road construction and maintenance to private sector partners. MPWT has thus evolved from being a direct service provider to an institution that sets policy for and manages service provision but does not implement it directly.

Second, MPWT has astutely managed the high level of donor funding and support in the sector by retaining the driver's seat and ensuring country ownership of policy making, capacity building, and analytical tools and systems. Donors have been essential in the sector for introducing new ideas, models, and skills; they have demonstrated the fruits of a sustained and focused partnership with committed counterparts. The donor-supported Road Maintenance System itself is a major factor in the success of needs analysis and planning in the sector. Most crucially, however, MPWT has experimented with these inputs so as to learn from them and adapt them to the Lao context and to meet Lao administrative and political goals. Partly as a result of its close partnership with donors, MPWT emphasizes evidence-based decision making and sector management, improving its effectiveness in delivering on its mandate and enhancing its legitimacy in the broader institutional and political arena.

Finally, MPWT has astutely implemented creative, bureaucratic modifications that enable it to push against the constraints of the Lao administrative system. Such innovative adaptations include a sophisticated in-house personnel management system, as well as the leadership's and overall ministry's emphasis on learning-by-doing, personal and team initiative and performance measures, and an evidence-based, problem-solving approach to the implementation of sector policy.

Notes

1. Prior to 2006, MPWT was the Ministry of Communication, Transport, Post and Construction (MCTPC). MPWT consists of six departments: the Department of Civil Aviation, Department of Housing and Urban Planning, Department of Inland Waterways, Department of Planning and Cooperation, Department of Roads, and Department of Transport.
2. See Gwilliams (2007), ADB (2010), and SHER Consulting Engineers (2010) for further detail on these challenges and the technical and financial complexities associated with them.
3. Data from National Statistics Center (2008).
4. Road Department Statistics, 2000–10, Ministry of Public Works and Transport.
5. Road Department Statistics, 2000–10, Ministry of Public Works and Transport.
6. Barma (2002) provides details on the Lao road sector in the 1980s and 1990s, along with an assessment of the institutional development impact of International Development Association (IDA) lending in the sector.
7. The other four sectors LPRP viewed as pillars of socialist modernization, to which all villages should have access, were electricity, health, education, and water.
8. MPWT's share of public expenditure peaked in 2005/06 at 48 percent; subsequently, the government set a cap of 35 percent on the MPWT portion.
9. Law on Public Roads (Government of the Lao PDR 1999).
10. RMF was created as an entity within the organizational structure of MPWT. It is supervised and directed by an advisory board, which comprises public and private sector representatives, appointed by the prime minister, from the Ministry of Finance, MPWT, provincial authorities, the Lao National Chamber of Commerce and Industry, private and state-owned road and passenger transport operators, and the general public. RMF coordinates with MPWT's Road Administration Department on financial support for national road maintenance and with the Local Roads Division on local roads (ADB 2010).
11. The share was calculated based on RMF revenue and expenditure summaries from 2002–08. RMF was largely supported by donors in its first year; by 2008, 91 percent of its revenues came from government tax sources. Total revenues tripled from 2002 to 2008.
12. By Decree 09/PM, January 2001.
13. This decentralization initiative was being discussed as early as 1997 but was formalized later by Prime Minister's Decree 01 (2000) and operationalized even later through the 2003 Law on Local Administration (Government of the Lao PDR 2003). In the road sector, the decentralization process preceded countrywide reforms, being implemented through the 1999 Law on Public Roads (Government of the Lao PDR 1999).

14. Gwilliams (2007) provides more details on this delegated implementation system.
15. Each of these companies was originally named after the road they were charged with constructing. Hence, SOE names such as Road Construction Company #8 (designated to build Road 8).
16. This devolution was undertaken under the Law on Public Roads (Government of the Lao PDR 1999).
17. Senior official in Champassak Province (February 1, 2012).
18. It appears that the practice is more common in the richer provinces and those connected with Thailand and Vietnam.
19. In the case of the latter road, Vientiane's 450-Year Road, the government agreed that a private company would provide the financing for road construction. The government, in turn, plans to "convert land assets into capital" by later selling commercially attractive plots on either side of the road for development and to thereby cover the costs of road construction. See <http://laovoices.com/new-six-lane-road-gets-green-light/>.
20. Interviews with district-level OPWT official and front-line technical staff.
21. Government public expenditure records, 2008/09, and data from Ministry of Planning and Investment, *ODA Annual Reports* (2000, 2007, 2010).
22. World Bank (2010) provides details of Lao PDR's civil service human resource management system, including compensation policies and practices.
23. Earlier assessments (e.g., Barma 2002) were less sanguine on this point.
24. Interview with road construction company representative.
25. Interview with senior MPWT official (February 9, 2012).
26. It was noted that contract staff (nonpermanent civil servants) are essential to getting the work of the ministry done; these contract workers can be later converted to government employment if they are under 35 years of age.
27. World Bank (2012) provides a detailed assessment of these new financing and construction models.

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