

# IMPROVING THE EFFECTIVENESS OF PUBLIC FINANCE

## Cambodia Public Expenditure Review



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This Public Expenditure Review report has been prepared drawing from six different discussion papers prepared at the request of, and in collaboration with, the Royal Government of Cambodia. The discussion papers on public investment management, tax incentives, education, agriculture, and irrigation were finalized in July 2017, following internal review and extensive consultation with counterparts. The discussion paper on transportation and the final report were finalized in June 2018. Official authorization for public release of the report was received in April 2019. As such, it is worth noting that, by the time of its publication, this report may not reflect the latest public finance figures and policy reforms, and some of the recommendations made in this report may already have been adopted. For more information on reform progress in the area of education, you may refer to a supplemental report kindly provided by MoEYS, and included as an Annex.

# IMPROVING THE EFFECTIVENESS OF PUBLIC FINANCE IN CAMBODIA

A Public Expenditure Review

June 2019



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# Acronyms

AOP	Annual Operating Plan	IMCRR	Inter-Ministerial Committee for Rehabilitation and Repairs
ASDP	Agriculture Sector Strategic Development Plan	IMS	Investor Motivation Survey
ASEAN	Association of Southeast Asian Nations	IPA	Investment Project Assistance
ASPIRE	Agriculture Services Program for Innovation, Resilience and Extension	ITA	investment tax allowance
BSP	Budget Strategic Plan	ITC	investment tax credit
CAVAC	Cambodia Agricultural Value Chain Program	IWRM	integrated water resource management
CDC	Council for the Development of Cambodia	KHR	Cambodian riel
CISIS	Cambodian Information System of Irrigation Schemes	Lol	Law on Investment
CIT	corporate income tax	LTU	Large Taxpayer Unit
CRC	Conditional Registration Certificate	M&E	monitoring and evaluation
DP	development partner	MAFF	Ministry of Agriculture, Forestry, and Fisheries
DPWT	Department of Public Works and Transport	MEF	Ministry of Economy and Finance
EATR	effective average tax rate	MoEYS	Ministry of Education, Youth and Sports
EBA	Everything but Arms	Mol	Ministry of Interior
ECE	early childhood education	MoLVT	Ministry of Labor and Vocational Training
EMIS	Education Management Information System	MOP	Ministry of Planning
ESP	Education Strategic Plan	MOWRAM	Ministry of Water Resources and Meteorology
FDI	foreign direct investment	MPWT	Ministry of Public Works and Transport
FMIS	Financial Management Information System	MRD	
FTA	free-standing technical assistance	MTBF	Ministry of Rural Development
FWUC	Farmer Water User Committees		Medium-Term Budget Framework
GDCE	General Department of Customs and Excises	NGO	non-governmental organization
GDP	gross domestic product	NLC	National Logistics Council
GDT	General Department of Taxation	NLMP	National Logistics Mater Plan
HE	higher education	NSDP	National Strategic Development Plan
IDP	Industrial Development Policy	O&M	operations and maintenance
IFAD	The International Fund for Agricultural Development	OECD	Organization for Economic Co-operation and Development
IMC	inter-ministerial committee	PB	program budgeting
		PDAAs	Provincial Departments of Agriculture Forestry and Fisheries
		PDE	Provincial Department of Education

PDEF	Provincial Department of Economy and Finance	RGC	Royal Government of Cambodia
PDWRAM	Provincial Department of Water Resources and Meteorology	RMS	Revenue Mobilization Strategy
PE	primary education	RONET	Road Network Evaluation Tool
PETS	Public Expenditure Tracking Survey	SE	secondary education
PFMRP	Public Financial Management Reform Program	SEZ	Special Economic Zone
PIM	public investment management	SIF	School Improvement Fund
PIP	Public Investment Program	SIG	School Improvement Grant
PISA	Programme for International Student Assessment	SME	small- to medium-sized enterprise
PMIS	Provincial-Municipal Investment Sub-Committee	SNEC	Supreme National Economic Council
PPCH	Phnom Penh City Hall	SOB	School Operating Budget
PPP	public-private partnership	SOP	Standard Operating Procedures
PRoMMS	Provincial Road Maintenance Management System	SPS	sanitary and phytosanitary standards
PT	Provincial Treasury	TIN	tax identification number
PTMA	Phnom Penh Bus Authority	TSA	Treasury Single Account
QIP	Qualified Investment Project	TT	teacher training
R&D	research and development	TVET	technical and vocational education and training
		TWGAW	Technical Working Group on Agriculture and Water
		USD	United States dollar
		VAT	value added tax
		WTO	World Trade Organization

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# Executive Summary

**C**ambodia's rapid economic growth and poverty reduction have taken place in an environment characterized by macroeconomic stability and prudent fiscal management. Over the past two decades, Cambodia has been one of the fastest-growing countries in the world and has attained most of its Millennium Development Goals, including that on poverty reduction (World Bank, 2017). This has been facilitated by preferential trade treatment, openness to trade and investment flows, and macroeconomic stability, against a background of a pegged exchange rate and a dollarized economy. Cambodia emerged from the 1998 Asian financial crisis and the 2009 global financial crisis relatively unscathed, and inflation has been kept at single digits. Following an expansion in the public-sector deficit in 2009 and 2010, authorities have pursued fiscal consolidation and prudent management of public finances, contributing to overall macroeconomic stability.

**Having recently graduated to become a lower middle-income country, Cambodia is beginning to face complex fiscal and public service delivery challenges.** Thanks to sustained growth, GNI per capita more than tripled in two decades, from USD 300 in 1994 to an estimated USD 1,070 in 2015, the year in which Cambodia became a lower middle-income economy. In this setting, Cambodia is facing a series of emerging challenges: i) a decline in DP-related grant revenue and rapidly rising public sector wages; ii) the

likelihood that additional revenue collection gains from the implementation of a very successful Revenue Mobilization Strategy is diminishing; iii) a shift from a heavy reliance on Development Partners (DPs) for the provision of public infrastructure (under a declining grant component in concessional financing) to self-financing; and (iv) challenges to public service delivery, including the provision of quality education for all, the provision of public goods in the agriculture sector, and the building and maintenance of a modern transportation network, all necessary for a successful economic transformation of Cambodia.

**The Cambodia Public Expenditure Review (PER) discusses the numerous achievements in fiscal policy to date and proposes policy options going forward, based on both analysis and consultations with stakeholders.** The PER aims to help the Royal Government of Cambodia in the effort to overcome the abovementioned challenges and move toward more effective public spending and service delivery, while maintaining macroeconomic stability. Structured around the key challenges, the six chapters of the PER are based on background papers that incorporate feedback from two rounds of consultations with the PER Committee chaired by the Ministry of Economy and Finance (and established by official Prakas on March 18, 2016). In addition, results from sectoral discussion papers (Part 2 of this report) have been presented publicly at the Budget Discussion workshops

of July 2017. This Executive Summary provides a brief overview of the analysis and recommendations included in the PER report.

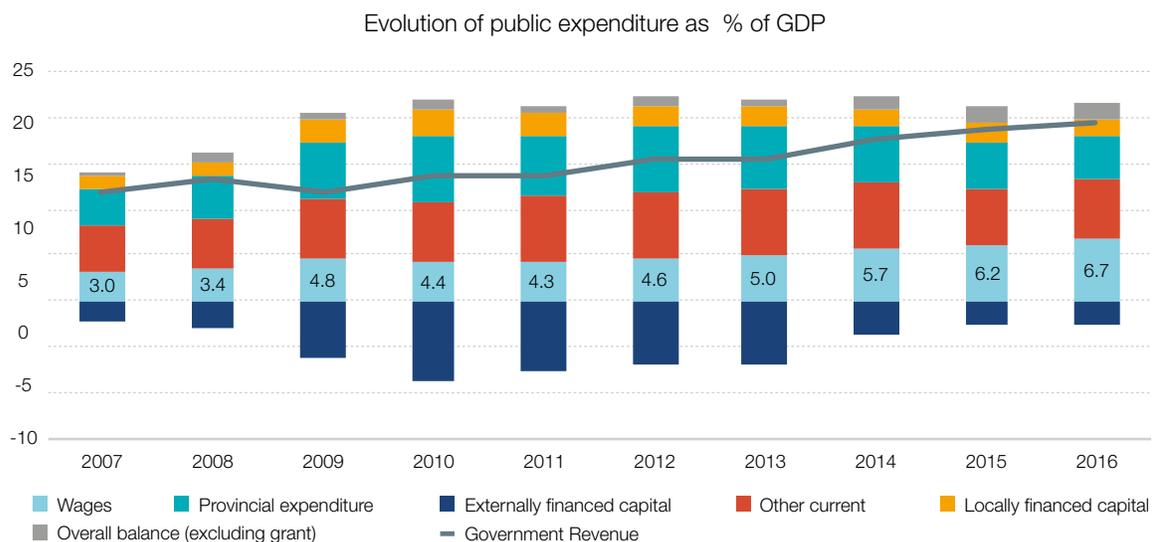
## Public finances are expected to remain sustainable, while rising wage pressures call for improving the quality of public spending

Over the past five years, Cambodia has successfully curbed public sector deficits and made progress in its Public Financial Management Reform Program (PFMRP). Following a peak of 4.4 percent of GDP in 2011, public sector deficit (after grants) was reduced in subsequent years to an estimated 0.2 percent of GDP in 2016 (see figure i). This is the result of a significant boost to revenue collection following passage of the Revenue Mobilization Strategy 2014-18, as well as overall prudent public expenditure. This allowed the government to raise deposits (savings) equivalent to 10 percent of GDP as of 2016. According to the latest IMF-World Bank joint debt sustainability analysis, Cambodia

remains at low risk of debt distress. As of 2018, the Financial Management Information System has been rolled out to all line ministries, which have also adopted program-based budgeting. These efforts are expected to result in increased transparency and a more efficient allocation and execution of public resources.

However, quickly rising public sector wages have started putting pressure on the fiscal accounts, and may eventually result in a suboptimal allocation of public resources. The public sector minimum wage has been raised from around USD 50 a month in 2012 to USD 250 in 2018. As a result, the public wage bill is expected to amount more than to 8 percent of GDP in 2018. Although public payroll expenditure as a percentage of GDP remains similar to other economies, it represents a high share of government revenues (more than one-third). Cambodia does not have too many civil servants; in fact, the number of public healthcare staff and teachers per population is relatively low, whereas the ratio of wages to GDP per capita is significantly higher than in other lower middle-income economies. The surge in public payroll has been driving public expenditure increases across sectors in recent

Figure i. While Cambodia has experienced fiscal consolidation in recent years, public payroll pressures are mounting



Source: World Bank staff.

years, while other recurrent spending has remained flat in relative terms. In some ministries (Education, Agriculture), wages represent the bulk of government spending, while funding to purchases and services needed for the daily operating is limited.

**Going forward, fiscal space is likely to slightly decline, while public finances would remain sustainable overall.** Fiscal space can be defined as the percentage of revenue available to the central government once the most rigid components of expenditure have been allocated (payroll, social security contributions, interest payments, and fixed transfers, including subnational). Under the *baseline scenario*, fiscal space would decline from 55 percent in 2016 to 47 percent by 2023. In the *pessimistic scenario*, assuming the public sector minimum wage keeps increasing over the next five years to reach USD 400 by 2023, the payroll would be estimated to climb to 10.9 percent of GDP, and fiscal space would drop to 28 percent by 2023. This would significantly constrain the possibility of expanding other recurrent spending and government-financed infrastructure. Under the *reform scenario*, which incorporates some of the recommendations discussed in this report (refer to section 1.4 for more detail), tax reform (including limitation of tax holidays to six years) would help increase revenue collection, making it affordable to hire teachers to compensate for existing shortages, while implementation of the PIM framework would allow for an effective increase in infrastructure spending. While fiscal space under the *reform scenario* would remain similar to the *baseline*, it is a more desirable scenario given that it would allow for filling teacher gaps and increasing public investment without incurring a higher deficit.

**To make the most of fiscal policy and available fiscal space, Cambodia needs to continue improving the allocation and execution of public resources, for increased value for money.** Among other measures, this would require: i) making program budgeting an effective tool by adopting a Medium-term Budget Framework, consolidating sub-programs, and improving

alignment with national priorities, while systematically monitoring performance data; ii) conducting a functional and operational review in all ministries, and optimize the allocation of staff, in line with strategic objectives; and iii) strengthening public debt management (including preparing for domestic bond issuances) as financing conditions change. It is worth mentioning that the government has started to move ahead with the Budget System Reform Strategy since January 2018. At the same time, program budgeting can only be effective in improving the allocation of public expenditure towards the attainment of targets if accompanied with adequate and well-motivated human resources. Thus, Public Financial Management Reform and Public Administration Reform would need to progress hand in hand.

## Tax incentives could be streamlined to reduce the fiscal cost while remaining supportive of efforts to attract foreign direct investment

**Thanks to a series of tax administration reforms, Cambodia has been able to boost its revenue collection significantly in recent years.** Among other reforms, since 2008, the General Department of Customs and Excises has successfully rolled out the Automated System for Custom Data (ASYCUDA) as well as enhanced anti-smuggling measures. More recently, in the context of the Revenue Mobilization Strategy for 2014-18, the General Department of Taxation (GDT) abolished the simplified and estimated tax regimes and included all small, medium, and large enterprises under a self-assessed regime. It has also improved its capacity in tax auditing and taxpayer services, leading to better compliance. Thanks to such improvements in tax administration and a broadening of the tax base, Cambodia's tax revenue collection has increased from 12.7 percent of GDP in 2013 to an estimated 16.1 in 2016, already above the average for lower middle-income economies.<sup>1</sup>

<sup>1</sup> According to revised government figures as of March 2019. They may not exactly correspond to those in the report.

**However, tax exemptions limit revenue mobilization gains.** In Cambodia, the productivity of the Corporate Income Tax (CIT) and Value Added Tax (VAT), defined as collections to GDP divided by the nominal tax rate, has improved in recent years but remains below cross-country averages. This is partly explained by existing tax exemptions. Tax expenditure derived from existing custom duty exemptions amounted to around 3.9 percent of GDP in 2015, with the bulk of exemptions benefiting *Qualified Investment Projects* (mostly foreign-owned garment factories). This is larger than the entire budget to the education sector. Although data quality issues prevented a full assessment of CIT-related tax expenditure, previous analysis by the World Bank (2015) estimated CIT tax expenditure by QIP projects in the garment and footwear sector to be around 1.8 percent of GDP in 2014.

**Tax incentives in Cambodia could be better linked to national objectives and would benefit from streamlining.** Currently, incentives in Cambodia are not being used to achieve national objectives such as supporting innovation, linking the domestic private sector to global value chains, training workers, or focusing on higher value-added sectors. As an overall guiding principle, incentives should be used to encourage the private sector to fund public goods (such as capital formation or infrastructure) and to avoid activities that are unlikely to generate wider economic and social benefits (James, 2014). As Cambodia tries to move up the value chain and diversify its exports base, improving the investment climate and minimizing the cost of doing business will be critical. This is explicitly acknowledged in the Industrial Development Policy, which prioritizes the need to *“further strengthen favorable environment for investment and doing business by improving the regulatory framework, rationalizing the provision of incentives for investment projects”* (RGC, 2015b).

**In this context, Cambodia could rethink its investment incentives mix, limiting tax holidays while moving toward more cost-effective incentives.** A tax incentives reform package could comprise i) progressively phasing out CIT tax holidays or at least

limiting them to six years; ii) introducing investment tax credits as an effective way of lowering firm cost of acquiring machinery and equipment; iii) replacing VAT exemptions at customs with import tax credits to plug loopholes; iv) streamlining the approval process for incentives, implementing clearly pre-defined and objective eligibility criteria and a standard duration; v) reflecting the new incentives scheme in the Tax Code and producing yearly tax expenditure estimates as an annex to the National Budget for information and transparency purposes.

## Stronger public investment management is needed to step up the provisioning of public infrastructure, traditionally built by Development Partners

**Cambodia has historically met the capital expenditure goals set in the National Strategic Development Plans (NSDP) through DP funding, which has been on the decline in recent years.** Public capital expenditure increased from 6.3 percent of GDP in 2008 to 10.1 percent of GDP in 2010, then progressively decreased to 7 percent of GDP in 2016. These trends have been driven mainly by externally financed capital, which represents around 75 percent of the total. Domestically financed capital expenditure, historically allocated mainly to smaller-scale road and hydraulic projects, hovered around 2 percent of GDP in 2012-2016.

**Limited progress in the provision of public infrastructure points to fragmentation in the capital project planning, execution, and maintenance.** Although total public capital formation has been substantially higher (an average of 7.5 percent of GDP in 2000-15) than in most ASEAN countries, Cambodia still lags behind other structural peers in terms of extension of the paved road network and quality of transportation infrastructure. Fragmentation of public resources and parallel budget formulation, budget execution,

monitoring and evaluation, as well as financial reporting undertaken separately for DP-funded and government-funded spending have contributed to this problem. In addition, in nominal terms, funding for maintenance has not kept pace with increases in government-financed capital.

**The Public Investment Management (PIM) framework for government-funded projects remains weak.**

Beyond a mention in the Public Financial Management Law, the PIM function in Cambodia is not well defined. An assessment following a recognized PIM diagnostic methodology (Rajaram et al., 2014) reveals severe shortcomings in the legal and institutional framework. First, the attribution of roles and responsibilities among key stakeholders is not defined clearly in the Public Finance Law or the existing Public Investment Program (PIP) Sub-decree. For domestically financed investment projects, the absence of a uniform set of guidelines, manuals, and templates for preparation of project proposals, appraisal, and monitoring of execution results in vastly different practices across line ministries. In addition, while the Ministry of Economy and Finance is *de facto* serving as gatekeeper in the allocation and use of capital budget resources, independent review of project documents and appraisal functions are not formally defined. Downstream, project implementation and operations have shown some progress, with more rigorous procurement and financial controls introduced since 2004 in the context of PFMRP, although there is room for further improvement. Finally, Cambodia lacks effective ex-post evaluation instruments to assess the efficiency and effectiveness of public investment financing.

**To address these challenges, three broad and comprehensive measures aimed at strengthening PIM are proposed,** namely: i) enact a PIM Sub-Decree that identifies the stages in the PIM cycle, defines institutional arrangements, and introduces basic appraisal guidelines, while at the same time helps strengthen the gatekeeping role of MEF in upstream decision making; ii) prepare a PIM Standard Appraisal Manual as well as a PIM Standard Implementation Manual

to provide uniform procedures for the management of project execution at all line ministries; iii) upgrade the capacity of MEF, Ministry of Planning, and line ministries to prepare and assess more effective and efficient investment projects, in connection with the strategic priorities defined in the Budget Strategic Plan (BSP) and Medium-Term Budget Framework (MTBF). Finally, for the government to be successful in complementing DPs in infrastructure provision, the one-year budget cycle restriction for government-funded projects would need to be lifted. To prevent delays in fund disbursement and implementation, projects in the short-list approved by the Council of Ministers (around November) should have specification books ready before January.

**The government is doubling efforts to increase its stewardship of the education sector and to keep improving access, efficiency, and quality of learning outcomes**

**Attaining a quality education for all is one of Cambodia's national priorities, and public funding to the sector has increased significantly in recent years.**

Largely driven by wage hikes, government spending on education has increased significantly in recent years, from an estimate of around 1.6 percent of GDP in 2012 to 2.8 percent of GDP in 2017. Nonetheless, it remains below the average for low- and lower middle-income economies (4.1 percent). The introduction of full pilot program budgeting since 2015 has helped improve public expenditure allocation, but challenges persist in terms of budget execution and flow of funds.

**Going forward, authorities could assume further stewardship of the sector, since DPs still account for two-thirds of non-wage expenditure.** Development partner (DP) and NGO funding, at around 1 percent of GDP in 2010-15, has played a key role in the provision of infrastructure. Including DPs, resources devoted to education are nearly sufficient to cover the needs estimated in the Education Strategic Plan,

and allocations are reasonably aligned. However, the allocations fall short in higher education and capital spending; authorities could consider increasing the financial autonomy of higher education institutions, while this would need to come together with more accountability, to avoid a proliferation of institutions that do not meet required standards; improving the quality of institutions, including in higher education, would thus be a pre-requisite and a priority. Any scope for future increases in education funding should be directed toward priority non-wage spending, such as improving the physical condition of schools, financing scholarships, and taking over other significant programs that are currently managed by DP organizations.

**While Cambodia has succeeded in increasing enrollment across levels, secondary school completion remains the lowest in East Asia.** Net enrollment rates in primary education are at levels similar to those in developed countries. While enrollment in secondary education has also improved, lower-secondary completion rates (at 48 percent in 2015) remain the lowest in the region. Income explains part of the existing access gap, as wealthier households are more likely to enroll across all levels, which results in public spending not being pro-poor. In addition, 96 and 57 percent of non-enrolled children in pre-primary and primary, respectively, mention they are "too young" or they "do not want to go to school" as the reason. Especially for upper secondary education, Stung Treng, Oddar Meanchey, and Ratanak Kiri are provinces in which lack of schools is a significant determinant of children being out of school. These different challenges require different solutions. First, expanding the coverage and funding of current student grant programs would help mitigate the opportunity cost of being in school, especially for secondary education. Second, for pre-primary, awareness and communication campaigns targeting both parents and children would help increase enrollment, although this would also need to be accompanied by building new preschools. Third, local cost-benefit analysis should determine whether expanding access through construction of more schools or reducing access costs through transport, housing

options, or grant options would be most optimal for the Northeastern provinces.

**Cambodia has a shortage of 40,000 teachers, one-quarter of which could potentially be addressed through reallocation.** In 2015, about 10 percent of the payroll of the Ministry of Education, Youth and Sports went to redundant teachers in schools with excess staff, while teacher shortages in other schools are equivalent to 40 percent of the current payroll. Around 43 percent of primary schools with a shortage of teachers have a school with a surplus of teachers within 5 kilometers. Thus, there is scope for reasonable reassignment of teachers to nearby schools. Alternatively, *per diem* and incentives could be provided for teachers in the surrounding areas to travel and do shifts in schools with shortages. An effective and long-term solution to poor teacher allocation would also need to include teacher management reform and enforcement of student-teacher ratio norms, preventing teachers from relocating to schools that are already above the threshold.

**Learning outcomes could be improved with the introduction of some quality-enhancing measures.** Regression analysis of 3rd and 8th grade test scores in Cambodia shows that, apart from the socioeconomic background of the student, absenteeism negatively affects scores, while those students doing their homework obtain better marks. This would call for increased parent and community engagement in school-related meetings, to enhance their awareness, as part of the shift towards School-Based Management. In addition, teacher behavior in class (e.g., using the blackboard) and understanding of the curriculum strongly affects student results. Authorities could consider adding a requirement to the current Teacher Policy Action Plan whereby teachers are required to earn quality-enhancing teaching certificates based on knowledge of the curriculum and classroom behavior "best practices". Technologies to monitor absenteeism could also be introduced.

**The increase in direct funding to schools is expected to help increase enrollment and improve**

**learning outcomes, if accompanied by improved disbursements and recordkeeping.** Small schools in less populated and more remote provinces face higher per student costs and are found to be in worse condition. Students in small schools and schools with double shifts tend to perform worse. To better respond to different school types and needs, Cambodian authorities have recently agreed to combine existing sources of funding to schools into a single School Improvement Fund (SIF). This would grant increased flexibility in the use of funding at the school level, which is expected to result in improved enrollment and learning outcomes, according to international experience. Notably, the shift toward School-Based Management (and increased funding) would also require a well-functioning authorization and disbursement system, as well as improved financial recordkeeping. Collection of Education Management Information System (EMIS) indicators will also be necessary to hold schools accountable and improve the quality of public spending in education.

## Despite funding increases, Cambodia underinvests in core technical and regulatory functions essential for a diversified and competitive agriculture

**Cambodia's impressive agriculture performance has stalled in recent years, with the fall in commodity prices.** Partly supported by rising commodity prices, agricultural GDP growth grew at an average rate of 4.7 percent between 2006-2012, and the country experienced remarkable poverty reduction in this period. Cambodia's *laissez faire* approach allowed a quick pass-through of international prices to farmers (and farm laborers)—this was accompanied by land expansion and the use of technology, leading to improved productivity. However, with the collapse in international commodity prices coupled with adverse weather events (El Niño), agriculture growth declined to an average of less than 1 percent in 2014-16. While this has resulted in migration and accelerated structural

transformation, the primary sector remains an essential pillar of the Cambodian economy, at about one-quarter of GDP and nearly half of total employment.

**While public spending in agriculture has increased significantly and is well-balanced overall, program fragmentation may be affecting outcomes.** Between 2007-2016, government funding to agriculture doubled while DP funding tripled, totaling nearly 0.6 percent of GDP in 2016 (1.8 percent of GDP if irrigation spending is included). Overall, the agriculture budget (and its major programs) seems to be well-balanced between wage and non-wage recurrent expenditures and is mainly directed to the provision of public goods. However, there seems to be underinvestment in a series of core technical and regulatory functions, including those related to inspection services, SPS compliance, plant and animal health, and agriculture research. Meanwhile, DP funding, at two-thirds of the total, is concentrated in supporting food safety and nutrition, crop production, institutional building, extension services, and fisheries. Funding for livestock and forestry is more limited, and spending levels in these areas fall short of the Agriculture Sector Development Plan goals. While there are examples of DP-supported projects that are having a positive impact on farm productivity and incomes, these impacts have tended to be localized, with limited spillovers beyond the areas targeted by the projects and limited impact on broader value chains and overall sector performance.

**Despite the scale-up in public investment in recent years, less than one-third of Cambodia's irrigation schemes are fully functional.** Driven by DPs (mostly China and Australia), investment in new irrigation schemes increased from USD 23 million in 2010 to USD 114 million in 2012. However, most of the existing irrigation schemes are estimated to be damaged (e.g., by flooding) or not fully operational. The recent increase in government funding for rehabilitation and for operation and maintenance (O&M) is a welcome step but needs to be accompanied by adequate staffing to ensure effective implementation. Investments in new schemes may still be inefficient, since neither national irrigation

and drainage design and construction standards nor the associated auditing systems have been established to ensure minimum quality in construction and design. Moreover, integrated water resource management (IWRM) activities are underfunded, and the lack of an understanding of water availability and lack of transparent rules for managing water usage could pose a challenge to the sustainable development of water resources in Cambodia.

**Going forward, new drivers of agriculture growth will need to be nurtured through the provision of core public goods.** To this end, an institutional assessment of current capabilities and future needs (both staff and funding) in the provision of core public goods (inspection services, SPS compliance, plant and animal health, research) would be critical in the short term. For irrigation, the focus continues to be in the rehabilitation of existing schemes, while taking into account both water availability and farm profitability considerations and adopting national construction standards for new investments. Finally, there would be a need to elaborate and implement a national agriculture research strategy, in collaboration with the private sector, universities, and other relevant actors.

## To improve the provision of road infrastructure and maintenance, significant institutional fragmentation will need to be addressed

**Transportation in Cambodia takes place predominantly by road, while accessibility challenges persist in some rural and remote areas.** Cambodia's road network has expanded significantly in recent years, with total length increasing from 46,245 kilometers in 2013 to 61,379 kilometers in 2017. Nonetheless, about 75 percent of the network comprises mostly unpaved rural roads. Only 17 percent of roads were paved as of 2017, with Cambodia remaining far behind regional peers. Cambodia also lags other structural peers in

terms of quality of transportation infrastructure, which does not seem to have improved significantly over the past six years despite significant investments, due to challenges in road maintenance. With 79 percent of the population living in rural areas as of 2016, it will be important to address the remaining urban-rural gap in access to services and rural road accessibility to help ensure inclusive economic development.

**The institutional framework for road construction, maintenance, and transportation regulation is fragmented among multiple agencies, and the sector lacks a strategic plan.** Cambodia has a Road Law and a Law on Land Traffic, but secondary regulation is underdeveloped, and the distribution of responsibilities is fragmented. The Road Law designates the Ministry of Public Works and Transport (MPWT) as responsible for the development and maintenance of expressways and national and provincial roads, while the Ministry of Rural Development (MRD) is responsible for rural roads, and cities and municipalities are in charge of urban roads. Maintenance of rural roads is very fragmented, split between the MRD (for planning, construction, rehabilitation, and emergency maintenance of all rural roads) and local governments (entrusted with periodic and routine maintenance). While some degree of decentralization is desirable, the intricate and fragmented division of labor and resource allocation often results in funding being spread too thinly. An additional level of institutional fragmentation and complexity is added with the prominent role of DPs in financing and executing investment. Moreover, the transportation sector in Cambodia does not currently have a specific strategy or master plan.

**The significant institutional fragmentation is also reflected in planning and execution processes.** Both MWPT and MRD have a long-list of investment projects which may have originated from requests by provincial departments, sub-national authorities, and politicians and which have different degrees of formalization and technical rigor. This list includes infrastructure project proposals that are below a certain size threshold, can be executed within a year, and excludes proposals that could

be subject to DP financing. Notably, only between 5 to 6 percent of the long-list gets financed each year, which may be due to lack of rigor in planning at the line ministries (which might submit unrealistic requests for funding) and which may also indicate systematic underspending, well below needs. On the implementation side, the yearly budget execution timeline for road projects results in significant cost overruns. The first release of funds often occurs around March, which leads inevitably to overlaps of works with the rainy season (May to November). Maintenance during the rainy season may cost about 40-50 percent more.

**Transportation spending has fallen in recent years, driven by a decline in DP financing of new construction/rehabilitation projects.** After peaking in 2012 at around 4.3 percent of GDP, transportation spending steadily fell to an estimated 2.6 percent of GDP in 2016. Meanwhile, government funding has remained stable relative to GDP (at around 2.2 percent, if sub-national allocations are included). Driven by DP-funded spending, capital expenditure declined from 3.4 percent of GDP at its 2012 peak to 1.4 percent of GDP in 2016, while rebounded to some extent in 2017. Over the past five years, DP-supported road spending has focused on provinces that connect to neighboring countries.

**A recent shift in funding toward O&M has helped improve national and provincial road conditions over the past three years, although more remains to be done.** Maintenance spending increased from around 1 percent of GDP to 1.2 percent of GDP between 2014 and 2017. National and provincial road conditions have improved, from a share of 15 percent of roads in good condition in 2011 to 17 percent in 2014 and 36 percent in 2017. Nonetheless, although there is no inventory or survey of the status of rural roads, anecdotal information suggests that the majority are in poor condition. Notably, the yearly sub-national budget allocation to maintain all rural roads in the country (representing about three-quarters of the total road network, as mentioned above) is just slightly higher than the budget that Phnom Penh City Hall allocates to maintain road infrastructure in the capital city.

**Improving inter-agency coordination, together with project planning, selection, and execution, will be crucial for enhancing the value-for-money of road spending in Cambodia.** A series of policy options can help address the abovementioned challenges. A first step would be to develop a transportation masterplan as a guiding sector framework that can help align the efforts of the different actors and prioritize construction and maintenance funding. Related to this, to minimize the impact of budget fragmentation, the preparation of budget strategic plans by different public agencies should be coordinated as well as aligned with the masterplan. In terms of budget allocation, the recent emphasis on O&M seems to have led to a significant improvement in road conditions at the national and provincial level; a survey on rural road conditions and usage would need to be implemented to better determine the allocation of funding going forward. There is also need for a systematic revision of the long-list of capital projects by applying public investment management filtering criteria, keeping only those that are realistic and in line with national priorities.

## Conclusion

**In sum, in a context of successful revenue mobilization and rising expenditure, Cambodia would need to focus in improving the quality of public spending and service delivery.** In a context of rapid economic growth and abundant DP financing, Cambodia has managed to reach lower-middle income status under a relatively prudent fiscal policy. In recent years, successful tax administration reform has allowed for a significant increase in public sector salaries. While public finances are expected to remain sustainable in the coming years, slightly declining fiscal space in the context of further wage increases, coupled with citizen expectations of higher quality public services, calls for focusing on improving the quality of public spending (rather than the quantity). Education, agriculture and irrigation, and roads are among the areas in which improvements in expenditure efficiency and public

service delivery can translate into sustained and inclusive economic growth going forward.

**There are a series of cross-cutting constraints to the quality of public spending in Cambodia, identified across the different chapters in this Public Expenditure Review.**

First, shortcomings in linking planning, budget, and outcomes are common to all the sectors reviewed, which hinders value for money and constrains public service delivery. Second, public investment remains outside the budget strategic plans, and it is largely implemented by DPs, while public investment management for government-executed

projects remains weak. Third, there are daunting challenges to program and reform implementation due to limited coordination and communication among sector actors (different government agencies, DPs, private sector, universities, etc.). Addressing these issues would require making simultaneous efforts on a series of fronts: Public Financial Management Reform implementation, including FMIS and Public Investment Management; Public Administration Reform; Decentralization and Decentralization; and revamping of multi-actor coordination mechanisms, such as the Technical Working Groups, to make them more agile and effective.

Cambodia Public Expenditure Review - summary of 20 key selected policy options

Challenge / Chapter	Short term policy options (1-2 years)	Medium term policy options (3+ years)	Leading agency
I. Value for money in public spending remains limited, hindering the effectiveness of fiscal policy	<ul style="list-style-type: none"> <li>Conduct a functional and operational review in all ministries, and optimize the allocation of staff, in line with strategic objectives</li> <li>Make of Program Budgeting an effective tool by adopting an MTBF, consolidating sub-programs and improving alignment with national priorities, while systematically monitoring performance data</li> </ul>	<ul style="list-style-type: none"> <li>Link wage increases and incentives to performance</li> <li>Fully implement performance-informed budgeting</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Civil Service</li> <li>Line ministries and MEF</li> </ul>
II. Further gains in revenue collection are limited by widespread tax incentives	<ul style="list-style-type: none"> <li>Limit CIT tax holidays to 6 years and introduce investment tax credits for capital acquisition</li> </ul>	<ul style="list-style-type: none"> <li>Replace VAT exemption at customs with import tax credit</li> </ul>	<ul style="list-style-type: none"> <li>CDC and MEF</li> </ul>
III. Weak legal framework and an overreliance on DPs persist in the provision of public infrastructure	<ul style="list-style-type: none"> <li>Enact a PIM Sub-Decree with overall guidelines and prepare PIM appraisal and implementation manuals</li> <li>Lift the one-year budget restriction for capital investment, and require specification books before January</li> </ul>	<ul style="list-style-type: none"> <li>Build capacity for PIM at all relevant ministries and agencies</li> <li>Create a unique list of public investment projects (including both DP and government financed projects)</li> </ul>	<ul style="list-style-type: none"> <li>MEF, in consultation with MP</li> <li>MEF and line ministries</li> </ul>

*continue in the next page*

Challenge / Chapter	Short term policy options (1-2 years)	Medium term policy options (3+ years)	Leading agency
IV. Despite increased spending in education, learning outcomes remain poor	<ul style="list-style-type: none"> <li>• Reallocate teachers to nearby schools, especially for primary education (43 percent of schools with shortage are within 5 km. of schools with excess). When not possible, provide monetary incentives to travel / do additional shifts</li> <li>• Increase community participation in school-related meetings and enhance parents' awareness on the importance of school attendance and homework</li> </ul>	<ul style="list-style-type: none"> <li>• Enforce student-teacher ratios and implement norms that prevent relocations to schools with excess teachers</li> <li>• Introduce the requirement of passing teaching certificates based on knowledge of the curriculum and classroom behavior "best practices". Use mobile technologies to better control for teacher absenteeism</li> </ul>	<ul style="list-style-type: none"> <li>• MoEYS</li> </ul>
V. Cambodia underinvests in core technical and regulatory functions essential for a diversified and competitive agriculture	<ul style="list-style-type: none"> <li>• Undertake an institutional assessment of current capabilities and future resource needs in inspection services, plant and animal health, and water usage</li> <li>• Focus on rehabilitating existing irrigation schemes that have a secure water supply, and providing capacity building and funding for O&amp;M</li> </ul>	<ul style="list-style-type: none"> <li>• Elaborate a national agricultural research strategy addressing research priorities as well as institutional and financing matters</li> <li>• Consider both water availability and farm profitability considerations for new investments, and adopt national construction standards</li> </ul>	<ul style="list-style-type: none"> <li>• MAFF</li> <li>• MOWRAM</li> </ul>
VI. There is significant institutional fragmentation in the provision of road infrastructure and O&M	<ul style="list-style-type: none"> <li>• Conduct a survey of the quality and usage of rural roads</li> <li>• Develop a transportation sector strategy or masterplan to align the efforts of different institutions</li> </ul>	<ul style="list-style-type: none"> <li>• Build monitoring and evaluation (M&amp;E) mechanisms to ensure the effectiveness of road works and maintenance efforts</li> </ul>	<ul style="list-style-type: none"> <li>• MRD</li> <li>• MPWT, in consultation</li> </ul>

Source: World Bank staff.





# PART 1

## Government Fiscal Management

# 1 MAKING THE MOST OF FISCAL POLICY IN CAMBODIA

## Introduction and motivation: the macro-fiscal link

**O**ver the past two decades, Cambodia has sustained an average growth rate of 7.6 percent, resulting in dramatic poverty reduction. Cambodia ranks among the most rapidly growing economies in the world and is expected to join the “Olympians of growth,” a group of 13 economies that have grown at an average rate of above 7 percent a year for 25 years or longer (Ly & Aldaz-Carroll, 2014). Growth has been driven by garment manufacturing, agriculture, tourism, and more recently construction and real estate. Thanks to sustained growth,<sup>2</sup> GNI per capita more than tripled in two decades, from USD 300 in 1994 to an estimated USD 1,070 in 2015, the year in which Cambodia became a lower middle-income economy. Poverty incidence has fallen dramatically, from 47.8 percent in 2007 to 13.5 percent in 2014, according to official estimates. Cambodia has also been one of the leading countries in reduction of inequality and in income growth for the bottom 40 percent of the population.

**Cambodia’s outstanding economic performance has been facilitated by openness to trade and improvements in the business environment.** The granting of preferential trade treatment by the United

States in the late 1990s contributed to the entry of garment manufacturers that were operating in the region. Cambodia also became a member of the ASEAN community in 1999 and a member of the World Trade Organization (WTO) in 2004, and it has continued to benefit from the “Everything but Arms” preferential trade access to the European Union. The adoption of reforms on companies, investment, land, banking, and bankruptcy helped foster private sector development (World Bank, 2017). In 2016, Cambodia ranked 15th in the world in terms of merchandise trade, at 113 percent of GDP.

**Cambodia has been running balance of payments and fiscal deficits consistently, financed almost entirely by large foreign direct investment (FDI) and foreign aid flows.** As a small open economy, Cambodia has seen large FDI inflows into the garment, construction, and tourism sectors, totaling an average of more than ten percent of GDP in recent years. This has helped compensate for wide current account deficits stemming from large imports of both intermediate and finished goods (Figure 1, left panel). On the fiscal side, authorities have made a substantial effort to curb persistent fiscal deficits, reducing the deficit from 8.8 percent of GDP in 2010 to 2.6 percent of GDP in 2016. The deficit has been financed mostly by foreign sources of funding—aid grants as well as loans associated mostly with infrastructure projects (Figure 1, right panel).

<sup>2</sup> Economic growth has been resilient, with the economy expanding at 5 percent in 1998, the year of the East Asian financial crisis. Economic growth decelerated to 0.1 percent in 2009 but rapidly rebounded and has remained strong, with an average rate of 7.1 percent in 2010-2016.

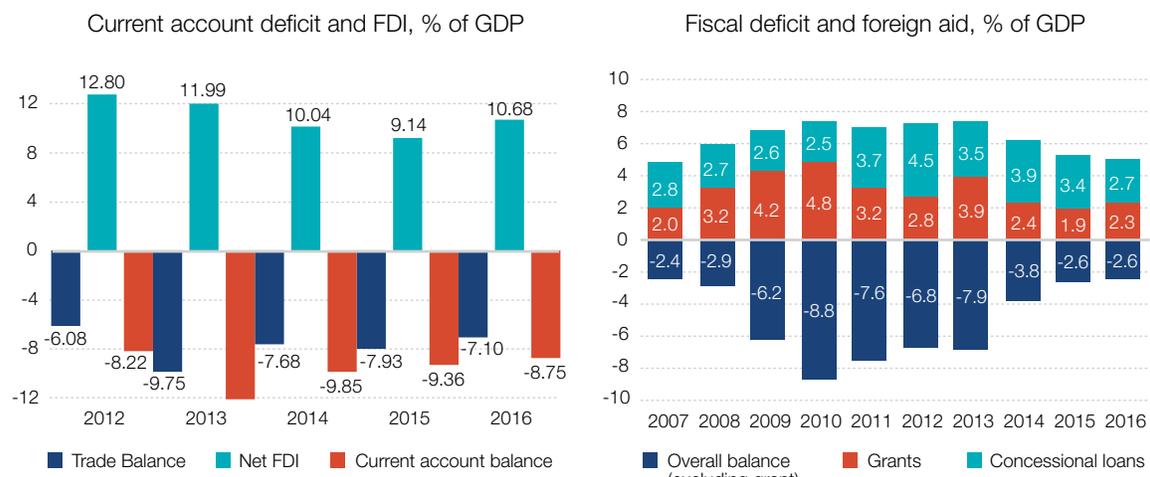
**Cambodia has so far succeeded in maintaining macroeconomic stability in the context of a high degree of dollarization and fast credit growth.**

In the late 1980s and early 1990s, Cambodia relied on domestic banks to finance its deficits, which resulted in high inflation and encouraged the use of other substitution currencies. The opening up to foreign aid and investors in the 1990s resulted in large inflows of U.S. dollars, displacing the Khmer riel (KHR) as the primary currency in just a few years and bringing extremely fast foreign currency deposit and credit growth.<sup>3</sup> These days, the share of foreign currencies in broad money hovers around 80 percent, and the share of U.S. dollar deposits to total deposits has remained above 90 percent for the past two decades. The Khmer riel is *de facto* softly pegged to the U.S. dollar,<sup>4</sup> which provides a nominal anchor for economic agents and underpins stable prices. It also discourages the public sector from resorting to domestic financing and money printing in excess (World Bank, 2015). Except for the external crises of 1998 and 2009, inflation has been kept at single digits.

**However, despite significant improvements, several challenges in human capital formation remain, which could jeopardize growth going forward.**

Over the past decade, Cambodia has succeeded in raising primary education enrollment to levels comparable to those in high-income economies (Figure 2, left panel). However, gross enrollment levels in secondary education, at 45 percent in 2015, remain well below the ASEAN average of 68 percent, and learning outcomes are poor. Public expenditure in education is analyzed in Chapter 4 of this PER. In terms of public health care, notable improvements have brought very significant declines in maternal and infant mortality over the past two decades. Although out-of-pocket expenditure has also been reduced significantly in recent years (from 74.2 percent of total health expenditure in 2014 to 59.4 percent in 2015), it remains among the highest in the world, challenging equality in access to services (Figure 2, right panel). One out of three children under the age of five is stunted, which affects physical and cognitive development. In addition, Cambodia does not have a well-developed social security system and social safety nets, and social assistance spending is just 0.1 percent of GDP, compared to a world average of 1.6 percent of GDP.<sup>5</sup>

Figure 1. Cambodia's twin deficits have been financed largely by foreign inflows



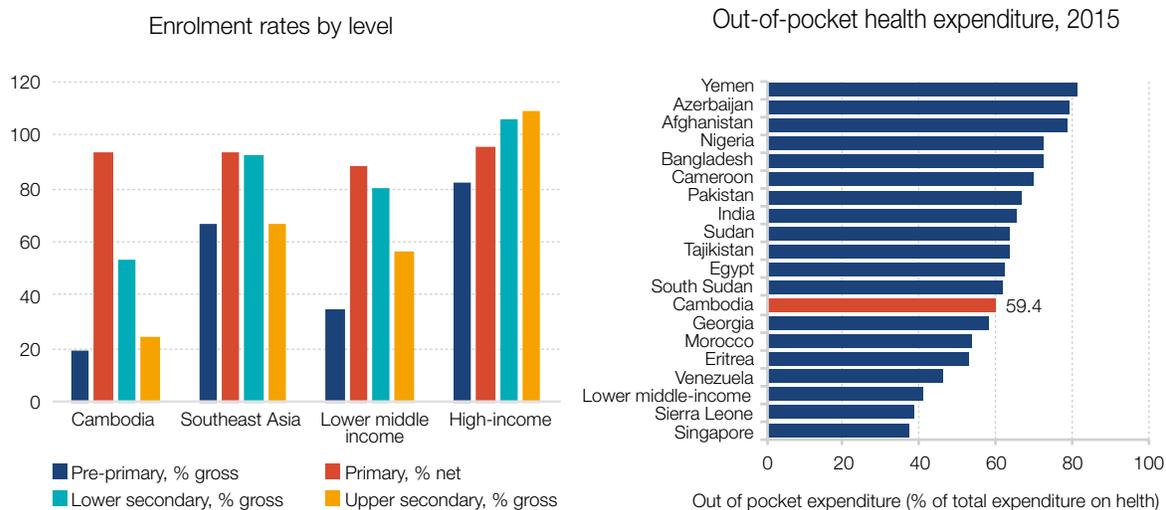
Source: National Bank of Cambodia, Ministry of Economy and Finance (TOFE).

3 Cambodia's credit to private sector as a percentage of GDP jumped from 2 percent in 1993 to 63 percent in 2015, already above the average for lower middle-income economies. Only Vietnam sustained a faster rate of credit growth in the same period (World Bank, 2017).

4 The currency has been fluctuating between KHR 4,000-4,100 per U.S. dollar since 2011.

5 ASPIRE database.

Figure 2. While primary education is now universal, challenges in pre-primary and secondary education enrollment and overall quality persist



Source: Left side: Cambodia information from MoEYS Education Statistics 2015-16, comparator country information and Cambodia pre-primary data from UNESCO Institute of Statistics, 2015. Right side: WHO Global Health Expenditure Database.

**Shortcomings in the provision of quality infrastructure also remain a drag on competitiveness and productivity improvements.**

While the reliability of electricity supply has improved considerably, only 56 percent of the population had access to electricity as of 2014 (Figure 3, left panel). In addition, electricity supply remains costlier than in neighboring countries, hindering Cambodia’s competitiveness as a destination for FDI inflows. Furthermore, according to the World Economic Forum, Cambodia seems to have lost its advantage in terms of quality of the road network during the past decade, which may suggest insufficient maintenance and rehabilitation (Figure 3, right panel). Public expenditure in agriculture, water, and transportation infrastructure is analyzed in detail in separate chapters of this report.

**For Cambodia as a lower middle-income economy, fiscal policy is expected to become increasingly relevant.**

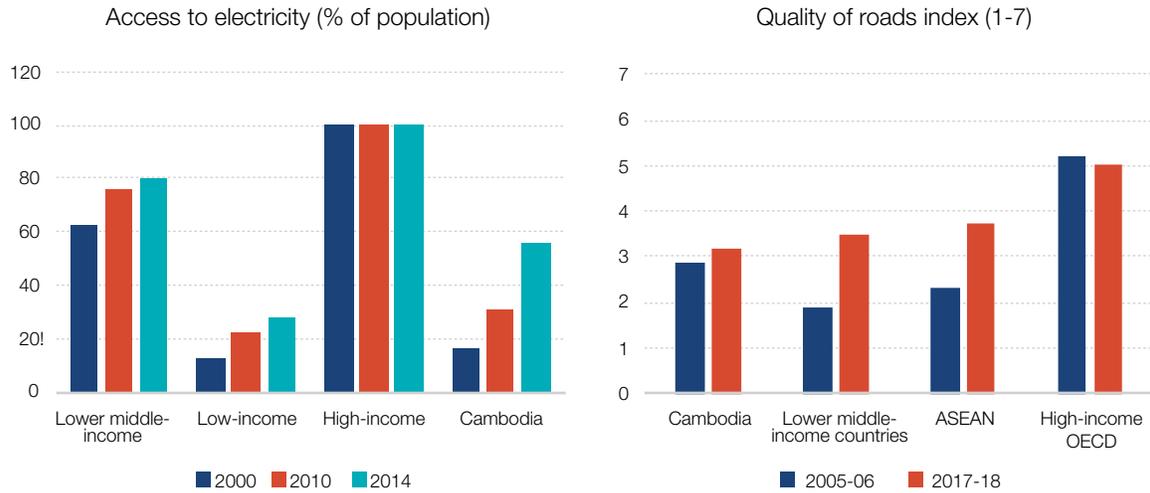
Despite significant increases in recent years, public expenditure—including a large DP-financed component—remains low by international standards, given Cambodia’s level of GDP per capita (Figure 4). As grant and concessional loan financing dwindles, the

state would need to assume increasing responsibility for the provision of infrastructure and public services to preserve competitiveness and guarantee inclusive growth. Furthermore, while the pegged exchange rate under dollarization has enabled macroeconomic stability, it has come at the cost of authorities not being able to implement an independent monetary policy. In this context, fiscal policy becomes more prominent as an instrument (Frankel & Razin, 1987). For fiscal policy to be used effectively, the allocation and execution of public spending would need to be improved.

**The Cambodia Public Expenditure Review (PER) describes the numerous achievements in fiscal policy to date and the rising challenges.**

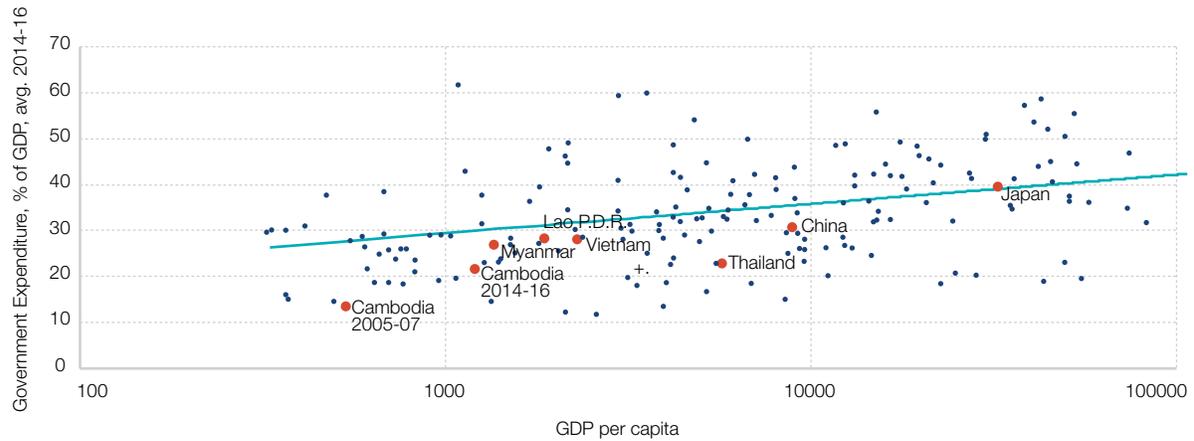
Going forward, the Royal Government of Cambodia would need to assume a greater role in closing social gaps, facilitating human capital formation, and providing quality infrastructure to maintain economic competitiveness, including the provision of public goods in agriculture. This represents a major challenge and requires efforts to optimize the allocation of public resources, increase value for money, and ensure transparency and accountability in the use of public funds, topics that are discussed in detail in this

Figure 3. Access to electricity remains uneven, and Cambodia has lost its edge in road quality



Source: World Development Indicators and World Economic Forum, Global Competitiveness Index.

Figure 4. Public spending remains below international averages



Source: World Economic Outlook, IMF.

PER. Part I of this PER discusses overall government fiscal management. Within Part I, the remainder of chapter 1 presents recent fiscal developments and discusses future fiscal policy scenarios in Cambodia from a sustainability perspective. Chapter 2 focuses on revenue collection and tax incentives, while Chapter 3 discusses ways to enhance public investment management (PIM). Part II of this PER presents the sectoral expenditure reviews on Education, Agriculture and Irrigation, and Roads.

## Recent fiscal policy developments

**After a significant boost in public expenditure in 2009, Cambodia has been pursuing fiscal consolidation in recent years.** Led by an increase in defense and security spending and higher investment, public expenditure rose from 16.1 percent of GDP in 2008 to 20.5 percent of GDP in 2009 and has remained around 22 percent of GDP since then (Table 1). Due to

the increase in expenditure, the general government overall fiscal deficit (excluding grants) increased from 2.9 percent of GDP in 2008 to 8.8 percent of GDP in 2010. Authorities responded to the significant increase in deficit by introducing the ASYCUDA customs system (from 2008) and implementing a Revenue Mobilization Strategy (RMS) (2014-18). Combined with an effort to contain expenditure, this has resulted in a progressive decline in the general government overall fiscal deficit from 8.8 percent of GDP in 2010 to an estimated 2.6 percent of GDP in 2016. The deficit after grants fell from 4 percent of GDP in 2010 to 0.2 in 2016. As a result, public sector savings surged in recent years, from an estimated 4.9 in 2012 to an estimated 12.7 percent of GDP in 2017.

**On the revenue side, both direct and indirect tax revenue have been boosted significantly since 2011.**

Direct tax collections accelerated from 1.7 percent of GDP in 2010 to 3.6 percent of GDP in 2016 and have become more prominent in terms of share of total revenue. Over the same period, indirect tax collections jumped from 6 to 8.8 percent of GDP, driven by rising excise and VAT collections. The expansion in trade taxes has been slow, hovering around 2.5 percent of GDP despite bustling economic activity, as the country lowers tariffs in compliance with agreements signed with the WTO and ASEAN. Meanwhile, at 2.2 percent of GDP in 2011-2016, non-tax revenue has remained a significant and relatively stable source of collections. A more detailed assessment of revenue is presented in the next chapter.

**On the expenditure side, the outstanding revenue collection performance has helped finance a significant increase in public sector salaries.**

The public payroll increased from 4.4 percent of GDP in 2010 to 6.7 percent in 2016 and is expected to keep rising, as the authorities have set a goal for the minimum salary for the public sector to reach one million riel (around USD 250) a month by 2018. Non-wage expenditure increased to over 7 percent of GDP in 2011-14 then fell back to 6.5 percent of GDP in 2016.

Externally financed capital expenditure scaled up in the aftermath of the global financial crisis, from 4.6 percent of GDP in 2008 to 7.1 percent of GDP in 2012, then progressively declined to 4.7 percent of GDP in 2016. Government-financed capital expenditure has hovered around 2 percent of GDP.

**Public debt remains low by regional standards, with low risk of distress.**

Authorities have been avoiding non-concessional external borrowings and domestic bank financing, and most debts are used for the productive sectors—particularly for physical infrastructure—while the rest are for other priority sectors such as health and education. Expenditure on interest payments, mainly on foreign concessional loans, thus remains low by international standards, at around 0.5 percent of GDP in 2012-2016. The 2017 World Bank/IMF Debt Sustainability Analysis shows that Cambodia's debt distress rating remains low under the baseline scenario. At end-2016, the stock of Cambodia's external public debt, including arrears, stood at around USD 6.4 billion or 31.9 percent of GDP.

Table 1. Cambodia: General Government Operations

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>Domestic revenue</b>	<b>12.1</b>	<b>13.4</b>	<b>12.0</b>	<b>13.6</b>	<b>13.6</b>	<b>15.4</b>	<b>15.4</b>	<b>17.7</b>	<b>19.0</b>	<b>19.4</b>
<b>Of which central government</b>	<b>11.5</b>	<b>12.6</b>	<b>11.4</b>	<b>12.6</b>	<b>12.3</b>	<b>14.0</b>	<b>14.0</b>	<b>16.3</b>	<b>16.8</b>	<b>17.5</b>
<b>Tax revenue</b>	<b>9.7</b>	<b>10.6</b>	<b>9.7</b>	<b>10.1</b>	<b>10.2</b>	<b>11.4</b>	<b>11.9</b>	<b>13.8</b>	<b>14.8</b>	<b>14.8</b>
Direct taxes	1.4	1.6	1.7	1.7	1.8	2.3	2.5	2.9	3.4	3.6
Indirect taxes	5.4	6.2	5.5	6.0	6.0	6.8	6.9	8.1	8.7	8.8
<i>Of which: Excises (incl. on imports)</i>	2.1	2.4	2.0	2.2	2.2	2.5	2.4	3.0	3.3	3.6
Domestic	0.2	0.2	0.3	0.4	0.5	0.5	0.6	0.6	0.7	0.8
Import	1.9	2.1	1.7	1.8	1.8	1.9	1.9	2.4	2.6	2.8
VAT (incl. on imports) <sup>2/</sup>	3.3	3.7	3.4	3.6	3.7	4.2	4.4	5.0	5.0	5.1
Domestic	1.4	1.6	1.4	1.6	1.5	1.8	1.9	2.1	1.8	1.9
Import	2.0	2.2	2.0	2.1	2.2	2.4	2.4	2.9	3.2	3.2
Others	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.1
Trade taxes	2.9	2.8	2.5	2.5	2.3	2.4	2.4	2.8	2.7	2.4
<b>Provincial revenue</b>	<b>0.6</b>	<b>0.9</b>	<b>0.6</b>	<b>1.0</b>	<b>1.2</b>	<b>1.3</b>	<b>1.3</b>	<b>1.4</b>	<b>2.1</b>	<b>1.9</b>
<b>Nontax revenue</b>	<b>1.7</b>	<b>1.8</b>	<b>1.6</b>	<b>2.2</b>	<b>2.0</b>	<b>2.2</b>	<b>2.0</b>	<b>2.2</b>	<b>1.9</b>	<b>2.5</b>
<b>Capital revenue</b>	<b>0.0</b>	<b>0.2</b>	<b>0.1</b>	<b>0.3</b>	<b>0.1</b>	<b>0.4</b>	<b>0.1</b>	<b>0.3</b>	<b>0.2</b>	<b>0.1</b>
<b>Total expenditure <sup>2/ 3/</sup></b>	<b>14.0</b>	<b>16.1</b>	<b>20.5</b>	<b>21.9</b>	<b>21.4</b>	<b>22.3</b>	<b>22.1</b>	<b>22.3</b>	<b>21.4</b>	<b>21.9</b>
<b>Current expenditure</b>	<b>8.1</b>	<b>9.0</b>	<b>11.0</b>	<b>11.0</b>	<b>11.4</b>	<b>12.1</b>	<b>12.2</b>	<b>12.8</b>	<b>12.3</b>	<b>13.2</b>
Wages	3.0	3.4	4.8	4.4	4.3	4.6	5.0	5.7	6.2	6.7
Civil administration	2.4	2.3	2.6	2.6	2.5	2.7	3.0	3.6	3.9	4.2
Defense and security	0.6	1.1	2.1	1.8	1.7	1.9	2.0	2.1	2.2	2.5
Nonwage	5.1	5.5	6.3	6.5	7.1	7.5	7.2	7.1	6.2	6.5
of which interest payments	0.2	0.2	0.2	0.3	0.3	0.5	0.7	0.7	0.3	0.4
<b>Provincial expenditure</b>	<b>0.4</b>	<b>0.8</b>	<b>0.7</b>	<b>0.9</b>	<b>0.9</b>	<b>1.0</b>	<b>0.8</b>	<b>1.3</b>	<b>1.9</b>	<b>1.8</b>
Capital expenditure	5.6	6.3	8.8	10.1	9.1	9.2	9.2	8.2	7.1	6.8
Locally financed	1.3	1.7	2.4	2.8	2.6	2.1	2.1	1.9	2.1	2.1
Externally financed	4.3	4.6	6.4	7.3	6.5	7.1	7.1	6.3	5.0	4.7

Continue in the next page

Table 1. Continues

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>Expenditure Adjustments</b>	-0.2	-0.2	2.2	-0.6	0.2	-0.2	-0.2	-0.3	0.1	-0.1
<b>Current balance (cash)</b>	3.1	3.2	2.5	1.0	1.3	2.0	2.1	4.2	4.4	4.1
<b>Overall balance (excluding grant)</b>	-2.4	-2.9	-6.2	-8.8	-7.6	-6.8	-7.0	-3.8	-2.6	-2.6
<b>Overall balance (including grant)</b>	0.0	0.3	-2.0	-4.0	-4.4	-4.0	-3.1	-1.4	-0.7	-0.2
<b>Financing</b>	2.4	2.9	6.2	8.8	7.6	6.8	7.0	3.8	2.6	2.6
<b>Foreign financing (net)</b>	4.7	5.7	6.6	7.1	6.6	6.9	7.1	5.8	4.8	4.4
Of which: Project aid	4.3	5.2	6.1	7.0	6.5	7.0	7.0	6.2	5.1	4.7
o/w grants	1.7	2.7	4.0	4.6	3.0	2.7	3.9	2.3	1.9	2.2
Budget support	0.5	0.7	0.7	0.4	0.4	0.2	0.5	0.0	0.2	0.3
o/w grants	0.3	0.5	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.1
Debt amortization	-0.2	-0.2	-0.3	-0.3	-0.3	-0.3	-0.4	-0.5	-0.4	-0.6
<b>Domestic financing</b>	-2.7	-3.6	-0.3	2.4	0.9	-0.8	0.2	-2.2	-2.8	-2.1
Central bank financing	-3.6	-2.6	1.6	0.2	0.7	-0.4	-0.1	-2.6	-2.9	-2.4
Nonbank financing	0.9	-1.0	-1.9	2.2	0.2	-0.4	0.3	0.4	0.1	0.2
<b>Outstanding operations <sup>4/</sup></b>	0.4	0.8	-0.1	-0.7	0.1	0.7	-0.3	0.2	0.5	0.3
<b>Nominal GDP (bill. riels)</b>	35,042	41,968	43,057	47,048	52,067	56,681	61,326	67,436	74,423	82,225

Source: MEF (Budget and TOFE).

Notes:

1/ Excludes provincial revenue and expenditure data.

2/ VAT refunds are adjusted.

3/ Adjusting double counting on government tax payments. Total expenditure is based on a mixture of cash and accrual data.

4/ Includes expenditure committed but not yet allocated to the accounts of the government agencies that execute the budget.

## Expenditures: prudent spending, but rising pressures

Public expenditure in social sectors has increased in recent years

**Public spending has increased significantly in recent years, with the increased expenditure levels being absorbed primarily by the Ministry of Economy and Finance, defense and security, and social services.**

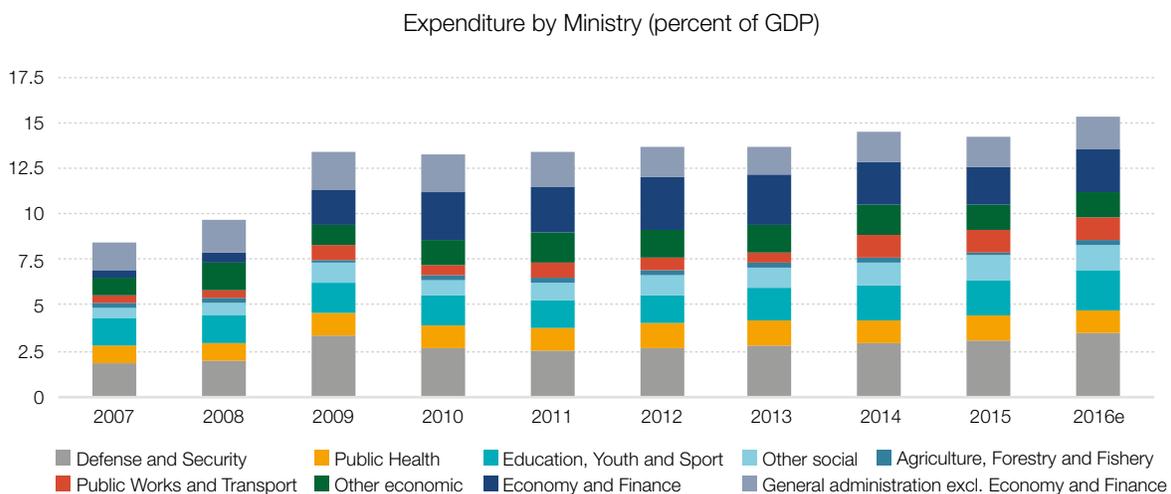
Average sectoral spending (excluding externally financed capital) accounted for 8.6 percent of GDP during 2004-08 but increased to an average of 14 percent of GDP in 2009-16. Looking by Ministry, the expenditure average for the Ministry of Economy and Finance increased from 0.4 percent of GDP in 2004-08 to 2.4 percent of GDP in 2009-16 (Figure 5). In the aftermath of Cambodia-Thailand border instability, expenditure execution by the Ministry of Defense and Ministry of Interior - Security increased by one percentage point to 2.9 percent of GDP in 2009-16. Expenditure by social ministries also expanded, from 3.1 percent of GDP in 2004-08 to 4.2 percent of GDP in 2009-16.

**Increases in spending for ministries associated with “economic” functions have been driven by**

**infrastructure investment in transport and irrigation, mostly financed by DPs.** Expenditure levels by ministries classified as delivering economic services averaged 1.7 percent of GDP in 2004-2008, increasing to an average of 2.6 percent in 2009-2016 (Figure 6, left panel). Most of the variation in economic spending in recent years seems to be linked to large infrastructure investments financed by DPs, with transport and irrigation expenditures both receiving significant shares (Figure 6, right panel). The reliance on external funding is high in Cambodia and is particularly pronounced in these sectors, where external funding comprises around three-quarters of total spending. Meanwhile, current expenditure remained stagnant until 2015, when maintenance allocations were increased.

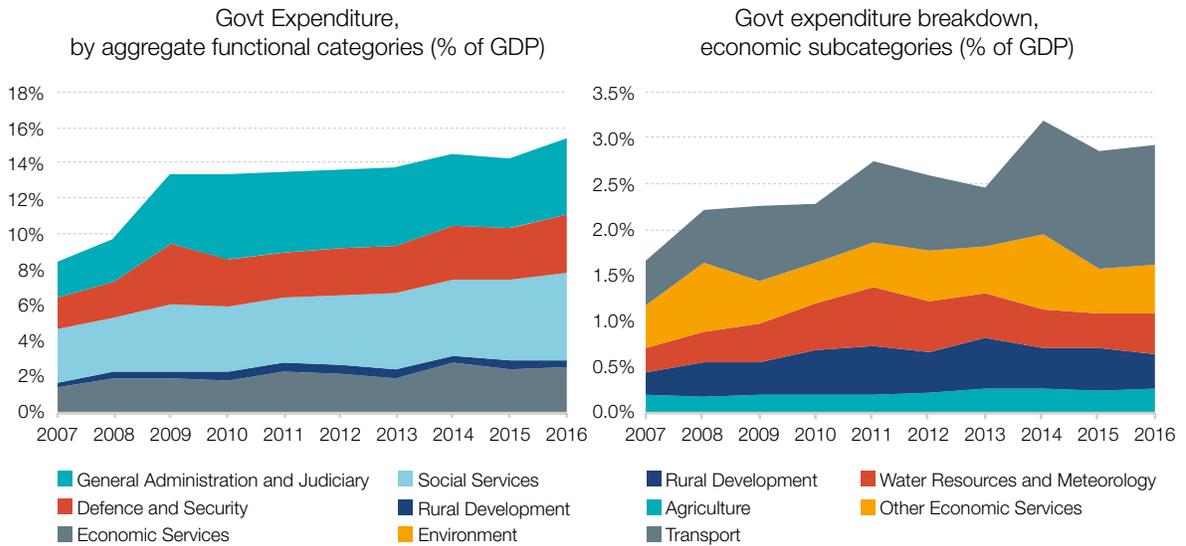
**Budget execution performance is strong at the aggregate level, with small variations between approved budget allocations and disbursements.** The most recent PEFA report found small average deviations from the budget at the aggregate level, ranging from 2.4 percent to 6.1 percent during 2011-2013 (RGC, 2015). As shown in Figure 7, this trend has continued. The large deviation in the economic category in 2014 is related to the punctual implementation of unplanned additional capital spending in energy and roads.

Figure 5. Recent expenditure increases have been concentrated in a few key areas



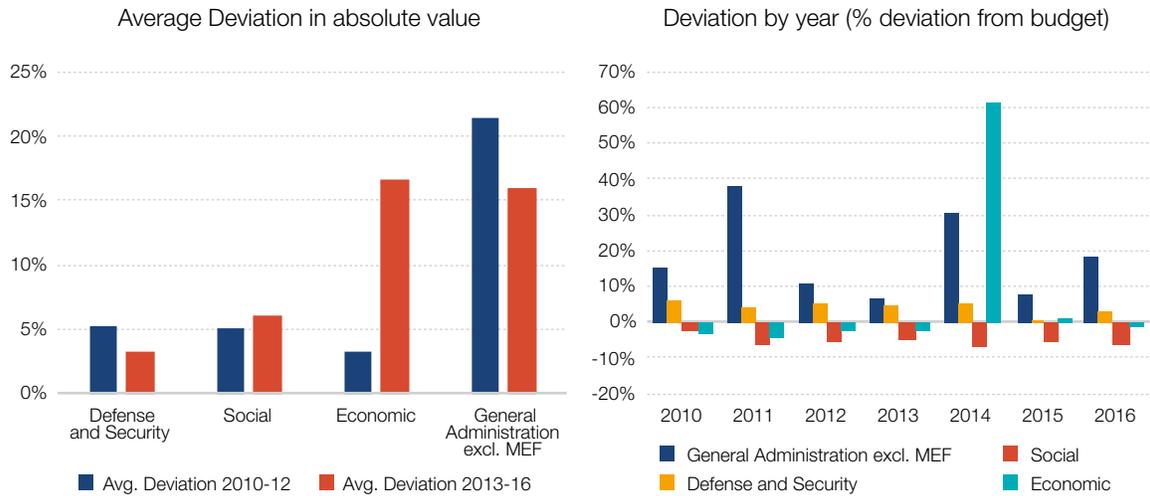
Source: World Bank staff calculations based on TOFE (Ministry of Economy and Finance).

Figure 6. Spending in both economic and social services has been on the rise



Source: World Bank staff calculations based on TOFE (Ministry of Economy and Finance).

Figure 7. Deviation between budgeted and executed current expenditure, by Ministry sub-categories



Source: World Bank staff calculations based on TOFE (Ministry of Economy and Finance).

With the introduction of program budgeting, Cambodia has made significant progress towards strengthening the links between planning and budgeting, while further efforts are required to pursue a fully functioning Medium-term Budget Framework (MTBF). Since 2015, most line ministries are required to submit to the MEF 3-year rolling bottom-up strategic budget plans (BSP), which ultimately would

feed into a top-down national MTBF, which constitutes the basis for budget formulation. The BSPs attempt to provide the link between the government priorities under the National Strategic Development Plan, the sector plans, and the annual budget. Efforts also have been made to gradually improve costing and set more realistic outcome and output targets. Another positive feature is the shift towards results-based management,

with program managers becoming responsible for the implementation of programs and sub-programs, including in terms of administering funding (previously done centrally). However, progress remains uneven and further improvements are needed before the BSPs can be considered fully a reflection. Namely, programs remain in many cases a reflect of administrative divisions at the ministry, estimates (and fund requests) are often unrealistic, and the link between inputs and outcomes remains weak. Information about DP-funded projects is often missing in BSPs, which also results in the MTBF being incomplete, as it reflects just part of total public spending.

**There has been some improvement in the publication of planning and budget information, while transparency in the decision-making process could be further enhanced.** Planning and budgeting information sharing has improved to some extent through regular publication of monthly fiscal reports (TOFE) and the publication of an annual budget “in brief”. Starting in 2015, yearly budget discussion workshops open to

DPs and Civil Society Organizations have been held at the parliament. In 2016, the Ministry of Economy and Finance started to produce a yearly Economic Monitor as well as a mid-year budget review.

**The lack of comprehensive capital budgeting somewhat distorts the picture, preventing a complete measurement of execution performance.**

Capital budget appropriations by ministry were only introduced in 2015. Most ministries still execute capital spending on an ad hoc basis without an initial capital budget, and the major capital expenditure ministries routinely execute far above 100 percent due to ad hoc allocations. This weakens the ability to assess execution against budget. However, estimates of overall capital execution based on Treasury reports indicate that execution rates have been strong, increasing from an average of 86.7 percent in 2011-2014 to 92.5 percent for 2015-2016. Budget composition and predictability may improve further as the recently introduced program budgeting scheme is implemented fully (see Box 1).

## Box 1

### Budget integration underpins spending efficiency

Cambodia has made significant progress in reforming public expenditure policy and public finances after embarking on a Public Financial Management Reform Program (PFMRP) in 2005. Out of the four public financial management areas signaled in the 2011 Integrated Fiduciary Assessment and Public Expenditure Review (IFAPER), progress has been achieved in three of them: use of the government chart of accounts for DP-financed projects, adoption of the Financial Management Information System (FMIS) by the Ministry of Economy and Finance, and alignment of the subnational reform agenda with PFMRP. However, no significant progress has been made in the integration of externally financed (DP-funded) and domestically financed (government-funded) budgets.

Budget integration is crucial. While the disbursement profile, especially for capital spending, has been improved significantly thanks to better budget execution processes and sectoral capital budget appropriations, it appears that numerous weaknesses continue to hinder the management of capital investment: (i) parallel budget formulation and implementation, (ii) weak reporting systems for domestically and externally financed budgets, (iii) insufficient policy-budget linkages, and (iv) still incipient Medium-term Budget Framework (MTBF) and unrefined budget strategic plans (BSP).

The lack of detailed reporting on implementation of externally funded projects, which constitute three-quarters of public investments, is identified by the 2015 Public Expenditure and Financial Accountability (PEFA) report as a weakness (RGC, 2015). *Extent of unreported government operations* (PI-7) is scored as “C,” and *Financial info provided by DPs for budgeting and reporting on projects/programs* (D-2) gets a “D+.” The PEFA report also pointed out the need for strong policy-

budget links in resource allocation over the medium term to achieve high-level policy objectives in public service delivery (“C” score for dimensions (iii) and (iv) under PI-12). It also appears that sufficient attention has not been paid to improving the capital expenditure framework and the capacity to manage domestically financed public investment.

Going forward, the successful application of the new, seven-segment uniform account code structure (UACS) for both externally and domestically financed spending through the FMIS is expected to facilitate budget integration. As emphasized in the PEFA report, monitoring of budget allocations and their use has been undermined historically by the lack of a unified chart of accounts reflecting classifications based on sector, function, and program (“C” score under PI-5: Classification of the budget). The seven-segment classification system integrates the budget and accounting functions into a uniform single structure. Each segment provides a different aspect of the expense and revenue and together provides the overall framework reflecting the needs of all the users of financial data provided by the government, ranging from the parliament, the National Audit Authority, ministries, and sub-national governments to citizens and DP agencies. The FMIS will enable controls of aggregate spending and deficits, while improved MTBF allows prioritization of expenditures across policies, programs, and projects for allocative efficiency and equity.

The steps to advance budget integration include: (i) application of all segments of UNACS, (ii) rolling out FMIS to line ministries to enable Project Implementing Units to report DP-financed programs, and (iii) ensuring uniform application of the revised Chart of Accounts to improve accuracy in recording and reporting transactions.

### Recent expenditure consolidation efforts are now facing pressures from rising wages

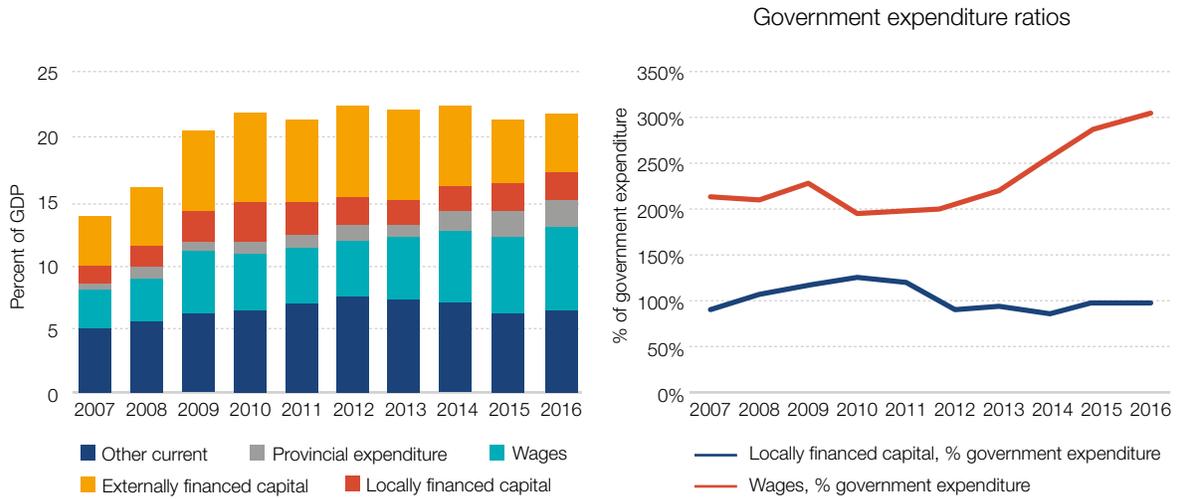
**Although public expenditure has been contained in recent years, Cambodia faces increasing wage pressures.** The public sector minimum wage was raised from around USD 50 a month in 2012 to USD 145 in 2016, and the government has announced it will reach USD 250 (or more than 8 percent of GDP) by 2018. Minimum wage increases have brought an increase in the overall public payroll, from 4.3 percent of GDP in 2011 to 6.7 percent in 2016 (Figure 8, left panel). Wage spending as a share of government expenditure increased from around 20 percent in 2010 to more than 30 percent in 2016 (Figure 8, right panel).

**Although public payroll expenditure as a percentage of GDP remains similar to other economies, it**

**represents a high share of government revenues.** At an estimated 6.7 percent of GDP in 2016, Cambodia’s public wage bill was above the average for Asia and the Pacific but similar to the level of low-income economies and below that of emerging economies. Nonetheless, as a share of government revenue (34.5 percent in 2016), it was already significantly higher than in most countries (Table 2).

**Compared to other countries, Cambodia does not have a large number of civil servants, but the ratio of wages to GDP per capita is significantly higher.** Cambodia does not seem to have a high ratio of civil servants to total population (Figure 9, left panel). However, Cambodia’s ratio of civil administration wage to per capita GDP of 3.1 is the highest among surveyed countries (Figure 9, right panel), which points to better remuneration of an average government employee in relation to living standards.

Figure 8. The share of public sector wage to total spending has risen significantly in recent years



Source: World Bank staff calculations using TOFE (Ministry of Economy and Finance).

Table 2. The public-sector wage bill represents a higher proportion of government revenues than in other countries

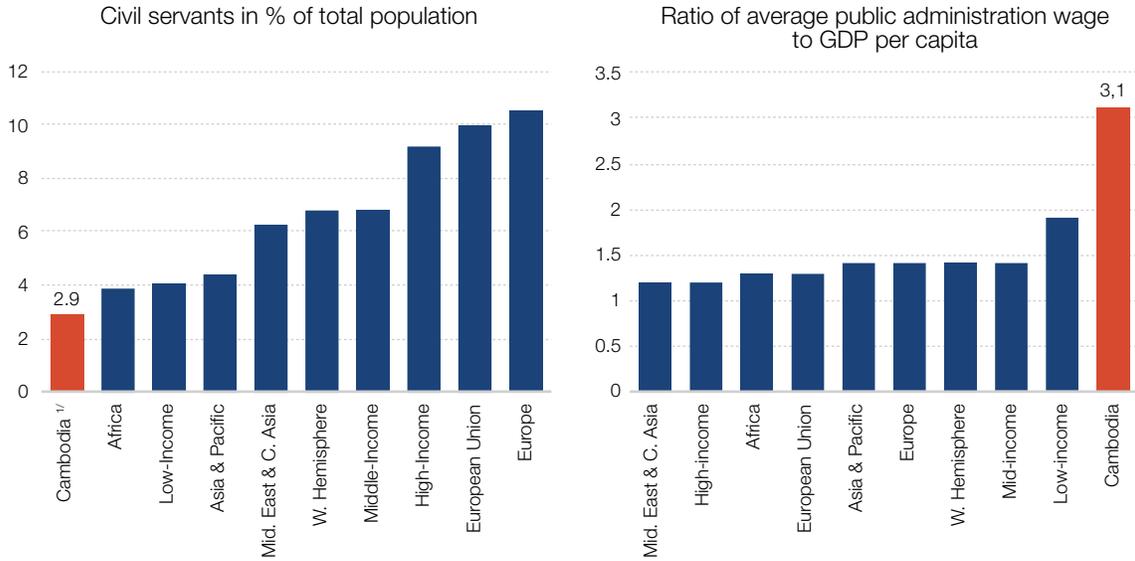
Government compensation	% of GDP	% of government expenditures	% of government revenues
<b>Cambodia</b>	<b>6.7</b>	<b>30.6</b>	<b>34.5</b>
Asia and Pacific	6.6	27.5	22.9
Low-income	7.0	25.8	26.8
Middle-income	8.7	31.8	28.2
European Union	9.9	25.4	25.3
High-income	10.4	28.0	25.9

Source: Cambodia's 2016 TOFE and IMF, "Evaluating Government Employment and Compensation."

**As examples, the education sector and health sector both have small shares of employment relative to the total population.** Education sector employment as a share of total population is relatively small at 0.8 education personnel per 100 people—like that of low-income countries. Interestingly, if development partner (DP)-funded expenditure is excluded, Cambodia's education sector wage bill as a share of total Ministry spending (80.5 percent) is high by international

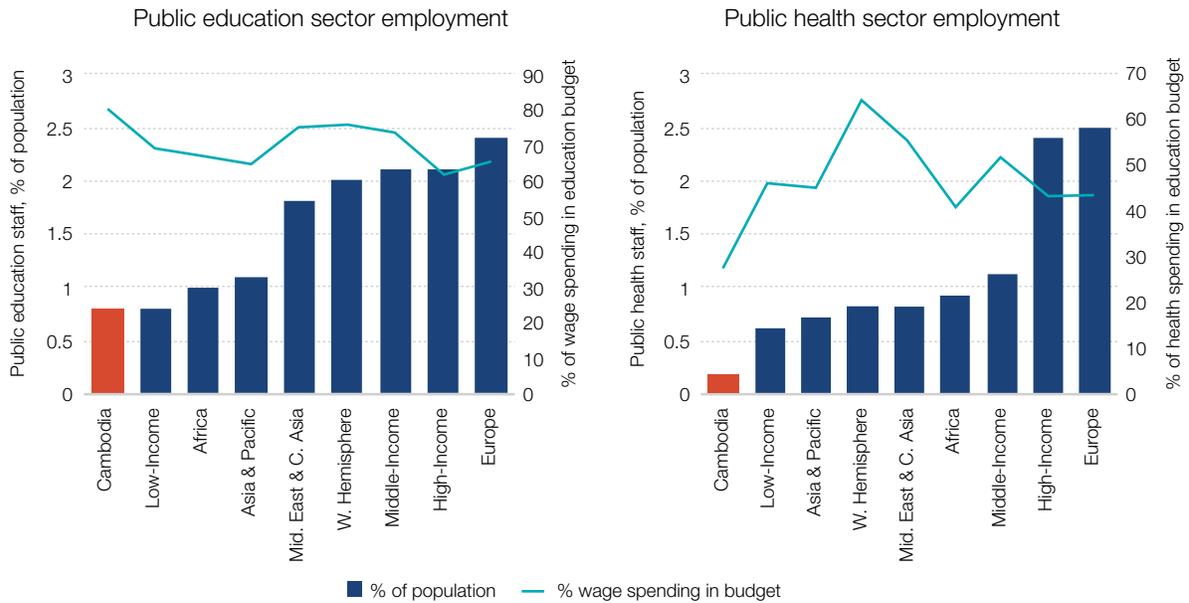
standards (Figure 10, left panel). Similarly, health sector employment as a share of total population is very small at 0.2 health personnel per 100 population (Figure 10, right panel). However, unlike for education, the wage bill of the Ministry of Health as a share of total spending is well below average if the DP-funded component is excluded, probably due to the very limited number of staff in the sector.

Figure 9. Cambodia has a small proportion of civil servants but a higher ratio of public wages to GDP per capita



Source: Cambodia's 2016 budget and IMF, "Evaluating Government Employment and Compensation".  
 Note: 1/ Assuming security and defense staff is the same as that of civilian personnel.

Figure 10. Employment as a percentage of total population is relatively small in both education and health, while the payroll share in sectorspending is more divergent between the two sectors



Source: Cambodia's 2016 MEF Treasury report and IMF, "Evaluating Government Employment and Compensation."

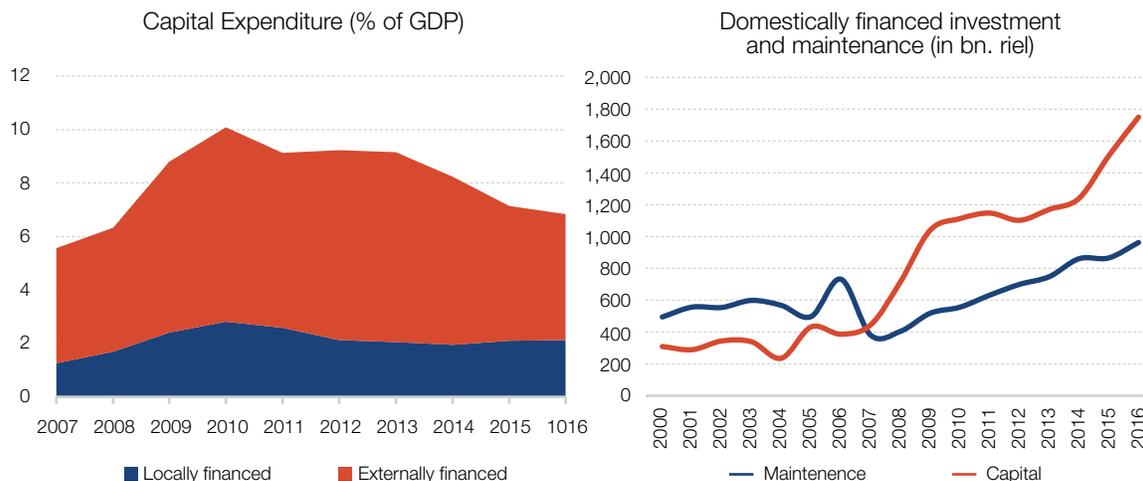
Meanwhile, other recurrent spending and capital spending have not increased in real terms

**Within other current spending, interest payments account for most of the increase in real terms, while other categories have remained flat.** Interest payments account for part of the recent increase in other current expenditure, a product of the increase in concessional borrowing observed in the aftermath of the 2009 crisis. However, at an average of 0.3 percent of GDP in 2009-2012 and 0.5 percent in 2013-2016, interest payments remain modest. During 2010-16, public purchases<sup>6</sup> stayed around 1.6-1.8 percent of GDP, external services (mainly maintenance and repairs) at 1 percent of GDP, and other services (mainly transportation, advertisement and telecommunications) at 0.6 percent of GDP. Transfers to provincial authorities, administrative institutions, and cultural entities remained slightly above 1 percent of GDP in the same period. Meanwhile, expenditure classified as social assistance increased to 1.5 percent of GDP in 2011 then fell back to the 1.1 percent level observed in 2010, a level maintained through 2016.

**Capital expenditure in Cambodia has increased at a slower pace since 2010, while declining as a percentage of GDP.** Total public capital expenditure increased from 6.3 percent of GDP in 2008 to 10.1 percent of GDP in 2010 then progressively decreased to 6.8 percent of GDP in 2016 (Figure 11, left panel). These trends have been driven mainly by externally financed capital, which represents around 75 percent of the total. Locally financed capital expenditure, which historically has been allocated mainly to smaller-scale road and hydraulic projects, hovered around 2 percent of GDP in 2012-2016. Budget allocations in 2017 increased significantly to 2.4 percent of GDP. Meanwhile, in nominal terms, funding for maintenance has not kept pace with increases in government-financed capital (Figure 11, right panel).

**Nonetheless, Cambodia has been able to meet the capital expenditure goals set in the National Strategic Development Plans (NSDP).** As shown in Table 3, both domestically and externally financed public investment targets for the NSDP update (2009-2013) were surpassed by a wide margin. The targets set for NSDP years 2014 and 2015 were also surpassed,

Figure 11. Growth in capital expenditure has slowed since 2010, mainly due to a slowdown in externally financed capital, and funding for maintenance has not kept pace with domestically financed capital spending



Source: World Bank staff calculations using TOFE (Ministry of Economy and Finance).

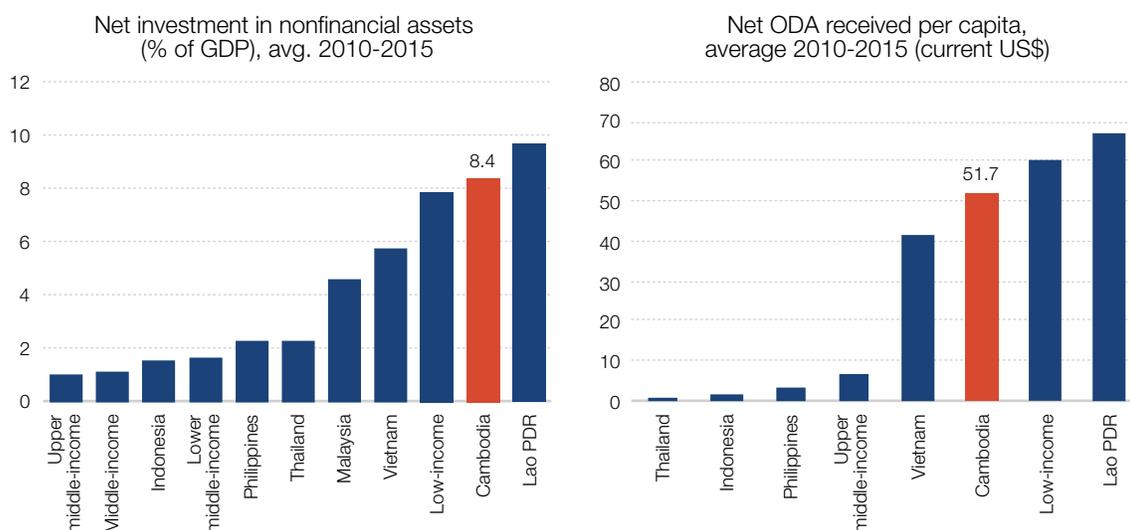
6 This category includes maintenance supplies, office supplies, food and agricultural products, clothing and distinctions, small tools, material, furniture and equipment, water and energy, sanitary and health products, and other supplies.

Table 3. Cambodia has nonetheless been meeting its capital expenditure goals in the NSDP, particularly for domestically financed investment

Capital Expenditure (mill USD)	NSDP Update	Actual	NSDP	Actual	NSDP	Actual + projected
Year	2009-2013	2009-2013	2014-2015	2014-2015e	2014-2018	2014-2018
Public Capital Investment	4,339.0	6,098.9	2,611.8	2,684.4	7,671.8	7,524.5
o/w Domestically financed	1,020.3	1,474.9	643.0	686.4	1,888.6	2,229.3
o/w Externally financed	3,318.6	4,624.0	1,968.8	1,998.0	5,783.2	5,295.1

Source: National Strategic Development Plans and TOFE (Ministry of Economy and Finance).

Figure 12. Cambodia's relatively large infrastructure investment has been supported by DPs



Source: WDI data, World Bank staff calculations using TOFE (Ministry of Economy and Finance).

but projections for the entire NSDP period indicate that total public capital investment could fall short of the total target, despite domestically financed investment exceeding targets.

**Net yearly infrastructure investment in Cambodia is high relative to neighboring countries, partly due to the large reliance on DPs.** Cambodia ranks second after Lao PDR among ASEAN countries in terms of net investment of non-financial assets, at an average of 8.4 percent of GDP during 2010-2015 (Figure 12, left

panel). Similar to Lao PDR and Vietnam, high per capita development assistance to Cambodia helps finance greater public capital spending (Figure 12, right panel). Enhanced DP coordination, avoiding a piecemeal approach to project selection, and having adequate operations and maintenance budgets are important for ensuring that large public capital expenditure translates into good quality infrastructure. The next section discusses externally financed expenditure allocations, while chapter 3 elaborates further on public investment management.

## A look at Development Partner financing

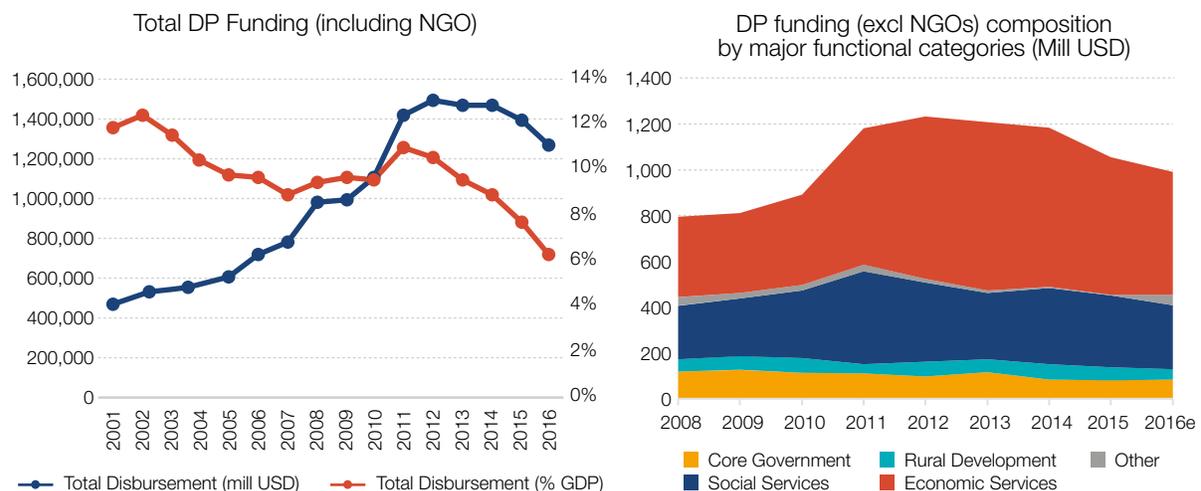
**After peaking in 2011-12, external aid and concessional finance flows as a share of GDP have been on the decline.** Taken together, DP and NGO disbursements doubled from USD 713 million in 2006 to USD 1,499 million in 2012 then fell to USD 1,269 million in 2016. As a percentage of GDP, they declined from 11 percent of GDP in 2011 to 6.4 percent of GDP in 2016 (Figure 13, left panel). Over 2008-2014, NGO disbursements accounted for a relatively stable share at around 14 percent of the yearly total.

**The functional composition of DP financing changed markedly in the aftermath of the 2009 crisis, with a clear shift toward economic services.** Most of the additional funding during the peak years of 2011-12 came from an increase in spending in transportation and agriculture. The share held by economic services expanded from 41.4 percent in 2008-10 to 52 percent in 2011-12 then to 56.3 percent in 2013-15 (Figure 13, right panel; Table 4). DP-financed capital spending in economic sectors has helped complement modest government-financed allocations to these sectors (averaging around 1.6 percent of GDP) (see Figure 6, right panel). Meanwhile, funding to general

administration and judiciary (core government) has been declining steadily as a share of GDP. Similarly, following an increase to an average of 2.8 percent of GDP in 2011-12, DP spending in social services declined to 1.9 percent of GDP in 2013-15. Funding to health and social assistance has declined, while funding to education has been maintained overall.

**In terms of types of financing, there has been a shift toward loan financing in recent years.** Aid grants received by Cambodia declined from around 6 percent of GDP in 2009 to 3 percent of GDP in 2015, the year in which the country graduated from low-income status (Figure 14, left panel), and some bilateral and multilateral DPs have been gradually reducing their grant funding shares. Until 2010, the loan share in total financing was stable at around one-third of total DP financing. It then increased to close to half of total financing in just two years, 2011 and 2012. During the period of rapid increase in DP funding, China emerged as a major source of financing and now represents around 30 percent of total DP funding. Since most of Chinese aid is in the form of concessional loans (with grants representing just 0.5 percent of total Chinese funding in 2000-15), this has contributed to the observed shift in the profile of aid. Notably, loan funding is prevalent in the

Figure 13. Total Development Partner inflows have declined since 2011



Source: Calculations by World Bank staff based on Council for the Development of Cambodia (CDC) database.

Table 4. DP financing has shifted in recent years toward economic services

Functional category	Avg shares 2008-2010		Avg shares 2011-2012		Avg shares 2013-2015	
	share of DP funding	% GDP	share of DP funding	% GDP	share of DP funding	% GDP
Core Government	13.5%	1.1%	8.3%	0.8%	7.8%	0.6%
General Administration & Judiciary	13.5%	1.1%	8.3%	0.8%	7.8%	0.6%
Defense	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Security (Interior)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Economic Services	41.4%	3.4%	52.0%	4.8%	56.3%	4.1%
Agriculture	7.9%	0.6%	12.6%	1.2%	15.6%	1.1%
Transport	20.0%	1.6%	26.1%	2.4%	27.1%	2.0%
Other Economic Services	13.5%	1.1%	13.2%	1.2%	13.6%	1.0%
Environment, incl climate change	2.2%	0.2%	1.2%	0.1%	2.7%	0.2%
Rural Development	6.8%	0.6%	4.2%	0.4%	5.0%	0.4%
Social Services	29.6%	2.4%	29.9%	2.8%	26.1%	1.9%
Health	19.2%	1.6%	14.9%	1.4%	13.9%	1.0%
Education	7.6%	0.6%	7.5%	0.7%	8.4%	0.6%
Other Social Services	2.8%	0.2%	7.5%	0.7%	3.8%	0.3%
Other	3.3%	0.3%	1.8%	0.2%	0.5%	0.0%
Emergency & Food Aid	1.6%	0.1%	2.0%	0.2%	1.6%	0.1%
Budget & BOP support	1.6%	0.1%	0.6%	0.1%	0.0%	0.0%
<b>Total Calculated</b>	<b>100.0%</b>	<b>8.2%</b>	<b>100.0%</b>	<b>9.3%</b>	<b>100.0%</b>	<b>7.2%</b>

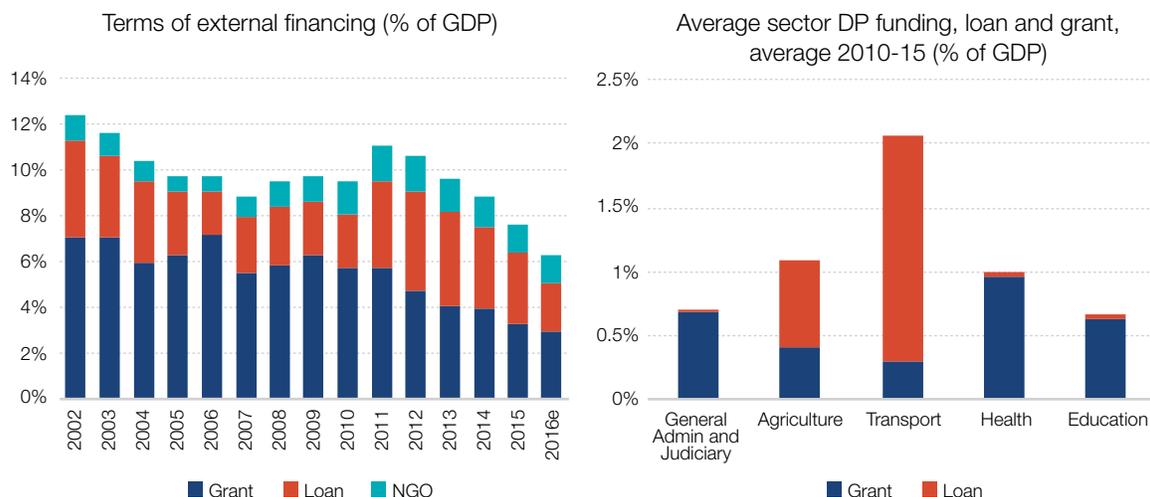
Source: Calculations by World Bank staff based on CDC database.

economic service sectors and particularly in transport (Figure 14, right panel), while the social sectors have been relying mainly on grants.

**In terms of types of projects, investment project funding is clearly dominant in the economic services categories, while technical assistance dominates in the social sectors.** Investment Project Assistance (IPA) as a share of total DP funding increased from less than 50 percent before 2008 to an average of around 65 percent in 2011-15. This is related to the abovementioned

expansions in economic function projects, external funding in capital expenditure, and loan share in external financing. While investment project funding makes up between 80-90 percent of total economic services expenditures (and 100 percent in the case of transport projects), it only represents between 25-45 percent of social services sector funding. Technical assistance still accounts for nearly one-third of overall DP financing and is concentrated in the provision of general administration, judiciary, and social services.

Figure 14. Cambodia has seen a decline in DP assistance and a shift in DP funding composition from grant to loan financing, associated with an increase in economic sector spending



Source: Calculations by World Bank staff based on CDC database.

## Toward a more effective and sustainable fiscal policy in Cambodia

### Medium-term fiscal framework projections: creating fiscal space for reforms

**This analysis compares three possible revenue collection scenarios as Cambodia continues its expansionary fiscal policy.** Following fiscal consolidation in recent years, the expansionary fiscal policy started in 2017 is likely to be sustained in the medium term. Against this background, three potential scenarios are presented here. In addition to the baseline scenario, alternative scenarios informed by conversations with authorities and feasible reforms described in this PER have been analyzed.

**The *baseline scenario* draws on the analysis of past revenue trends to forecast future collection.** Under this “business as usual” scenario, total public expenditure is projected to average 23.7 percent of GDP in 2017-23, compared to 22.0 percent of GDP

in 2012-15. Fiscal expansion is expected to be driven largely by the rising wage bill, as discussed earlier. The revenue collection forecasts are derived from projections of each of the main revenue components (direct, indirect, and trade taxes as well as non-tax revenue), computed using their past trends observed during 2007-16. It is assumed that no additional taxes or changes in tax rates are introduced over the coming years. The underlying assumption is that both direct and VAT tax elasticities with respect to GDP remain constant at 1.05 over the whole period, while in the case of taxes on specific goods and services, the elasticity is assumed to be equal to 1 (constant proportion of GDP). Finally, international trade taxes are assumed to grow at 8 percent in nominal terms, thus showing a slight decline in terms of GDP during the period to capture tariff decreases under ASEAN Free Trade Area agreements. In this baseline scenario, revenue collection would remain at around 18.5 percent of GDP over the forecast period. The returns to improvements in tax administration would likely decrease, as some of the low-hanging fruits would have already been picked.

**The *reform scenario* assumes that the Government implements a tax reform that affects both tax**

**elasticity and tax buoyancy.** Tax elasticity of direct and indirect taxes is assumed to grow from 1.1 to 1.2 by 2019 and further to 1.25 during 2019-2023, in the context of implementation of a new Revenue Mobilization Strategy.<sup>7</sup> The following proposed reforms are expected to have one-time effects in 2019: limitation on CIT tax holidays to six years (direct tax collections rise by up to 0.4 percentage points of GDP); introduction of input tax credits instead of exemptions at the border (VAT tax collections increase 0.3 percentage points of GDP); and full enforcement of the property tax (“other tax” collections rise 0.4 percentage points of GDP). Under this scenario, revenue collection in terms of GDP rises around 1.3 percentage points on average relative to the baseline during 2017-2023, reaching 20.6 percent of GDP in 2023 (Table 5). Neither taxes on specific goods and services nor international trade taxes are assumed to change with respect to the *baseline scenario*.

**Under the reform scenario, authorities can afford to hire new teachers and increase capital spending while maintaining fiscal sustainability.** The reform scenario assumes that authorities recruit new teachers

to cover shortages in primary and secondary education, as discussed in Chapter 4 of this PER. This would lead to a one-time rise in the public payroll of 0.8 percentage points in 2019, reaching 9.2 percent of GDP. In addition, passing of the PIM reform (see Chapter 3 of this PER) would allow the RGC to raise government-financed capital spending to 4 percent of GDP by 2030, helping to compensate for the decline in DP-financed investment. As a result, public expenditures reach 25.1 percent of GDP in 2023. However, due to a reduction in tax incentives, the primary deficit under this scenario is still lower than under the baseline scenario.

**The pessimist scenario assumes that wages continue rising over the next five years.** Assuming the minimum wage of the public sector keeps increasing over the next five years, reaching USD 400 by 2023, the payroll is estimated to climb to 10.9 percent of GDP. In this scenario, to compensate for wage increases, government-financed capital expenditure is crowded out and does not keep increasing. As a result, public expenditure rises from 22.6 percent of GDP in 2017 to 26.6 percent in 2023. Since the revenues do not rise at

Table 5. Revenue collection forecasts under alternative scenarios

(% of GDP)	2017p	2018p	2019p	2020p	2021p	2022p	2023p
Baseline scenario	18.5 %	18.5 %	18.5 %	18.5 %	18.5 %	18.5 %	18.5 %
Pessimist scenario	18.5 %	18.5 %	18.5 %	18.5 %	18.5 %	18.5 %	18.5 %
Reform scenario	18.6%	18.7%	19.8%	20.0%	20.2%	20.4%	20.6%

Source: World Bank staff calculations based on official figures (TOFE).  
Note: p = projection.

Table 6. Evolution of primary balance under alternative scenarios

(% of GDP)	2017p	2018p	2019p	2020p	2021p	2022p	2023p
Baseline scenario	-3.7 %	-5.2 %	-5.4 %	-5.0 %	-4.8 %	-4.5 %	-4.3 %
Pessimist scenario	-3.6%	-4.6%	-5.7%	-6.2%	-6.7%	-6.9%	-7.2%
Reform scenario	-3.6%	-4.9%	-5.0%	-4.7%	-4.5%	-4.1%	-3.9%

Source: World Bank staff calculations based on official figures (TOFE).  
Note: p = projection.

<sup>7</sup> Regarding the plausibility of tax elasticity assumptions, it should be noted that for the reform scenario, they would imply a reduction in informality of approximately 7 percentage points by 2023, assuming that the shadow economy equals 48.7 percent in 2017. This figure is based on Buehn and Schneider (2011).

the same rate, the fiscal accounts strongly deteriorate. The primary deficit is forecast at 7.2 percent of GDP in 2023, more than 3 percentage points of GDP higher than under the baseline scenario (Table 6). Projections under the *pessimist scenario* do not present any difference in terms of tax collection with respect to the baseline.

**In all three scenarios, the public expenditure outlook is driven mainly by the rising revenue bill.** Under the *baseline scenario*, it is assumed that the wage bill increases until 2018 as announced by authorities, reaching 8.4 percent of GDP in 2018. No significant wage increases would be enacted from 2019 onward, which would result in the public payroll easing in relative terms until it falls back to 7.8 percent of GDP in 2022 (Table 7). The domestically financed component of public capital expenditure is assumed to grow steadily from 2.6 percent of GDP in 2017 to 3.5 percent of GDP in 2017, as authorities try to compensate for the expected fall in externally financed capital. However, should there be no progress in the implementation of a Public Investment Management (PIM) framework, the prospects for further effective increases in government-financed capital would remain limited.

**Under both the baseline and the reform scenarios, fiscal space would slightly decrease, while remaining adequate, and public-sector debt is expected to be sustainable.** Fiscal space can be conceptualized as the percentage of revenue available to the central government once the most rigid components of expenditure have been allocated: payroll, social security contributions, interest payments, and fixed transfers, including subnational (Gonzalez, et al., 2012). According to this definition, fiscal space in Cambodia has remained ample at an average of 60 percent of revenue in 2009-2016, while it will experience some decline in the coming years, mostly driven by public wages (Figure 15, left panel). Fiscal space is expected to average 46 percent during 2017-2023 under the *baseline scenario* and would be just slightly lower under the *reform scenario*.<sup>8</sup> Under the *pessimist scenario*, fiscal space would deteriorate significantly, dropping below 30 percent by 2023. In terms of sustainability, public sector debt (mostly foreign) would increase in all three scenarios, in the context of rising salaries. Under the *baseline* and *reform scenarios*, the debt stock would peak at around 40.5 and 39 percent of GDP, respectively, in 2022, then decline mildly. Under the *pessimist scenario*, it would

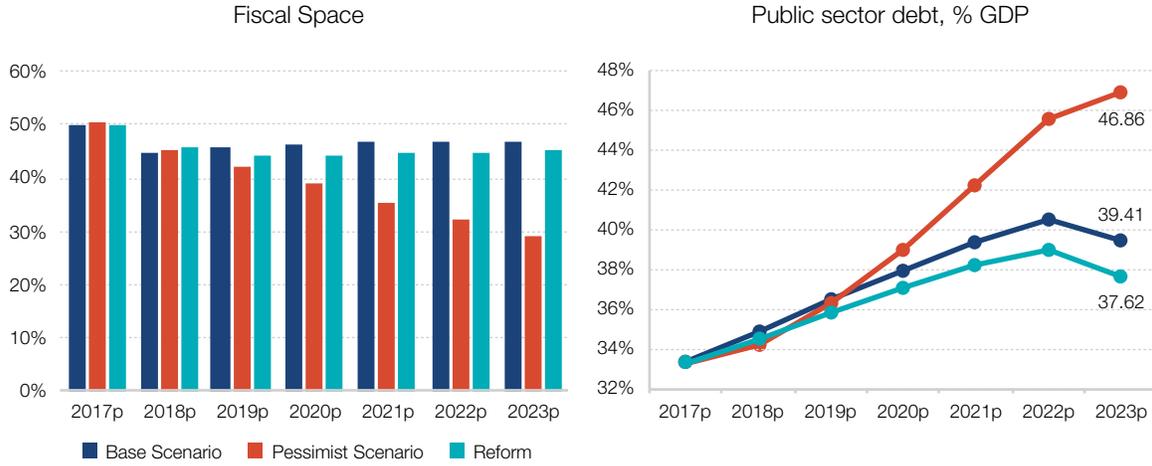
Table 7. Public expenditure forecasts under alternative scenarios

(% of GDP)	2017p	2018p	2019p	2020p	2021p	2022p	2023p
Baseline scenario	22.6 %	24.1 %	24.4 %	24.1 %	23.9 %	23.7 %	23.5 %
wages	7.6 %	8.4 %	8.2 %	8.0 %	7.8 %	7.8 %	7.8 %
domestic cap. exp.	2.6 %	3.0 %	3.1 %	3.3 %	3.4 %	3.5 %	3.5 %
Pessimist scenario	22.6%	23.7%	24.8%	25.4%	26.0%	26.3%	26.6%
wages	7.6 %	8.4 %	8.9 %	9.4 %	9.9 %	10.4 %	10.9 %
domestic cap. exp.	2.6 %	2.6 %	2.6 %	2.6 %	2.6 %	2.6 %	2.6 %
Reform scenario	22.6 %	24.1 %	25.3 %	25.3 %	25.3 %	25.2 %	25.1 %
wages	7.6 %	8.4 %	9.2 %	9.2 %	9.2 %	9.2 %	9.2 %
domestic cap. exp.	2.6 %	3.0 %	3.1 %	3.3 %	3.4 %	3.6 %	3.7 %

Source: World Bank staff calculations based on official figures (TOFE).  
Note: p = projection.

<sup>8</sup> Under the *reform scenario*, the fiscal space shrinks even assuming a significant boost in revenue collection, since the rigid component of public expenditure (mainly teacher wages) rises faster.

Figure 15. In the pessimist scenario, fiscal space and debt sustainability would deteriorate significantly



Source: World Bank staff calculations based on official figures (TOFE).  
Note: p = projection.

continue rising to more than 46 percent of GDP during the forecasted period and may become unsustainable (Figure 15, right panel).

**In a context of sustainable public finances, but with rising expenditure pressures, the emphasis could be placed in improving the quality of public spending, as discussed in the rest of this PER.** Over the past two years, efforts to improve spending efficiency continued with implementation of full program-based budgeting, linking budget to policy and strategy. However, budget fragmentation—with parallel formulation, execution, and reporting processes for domestically and externally financed resources—remains one of the main challenges. Some policy options are presented in the next subsection.

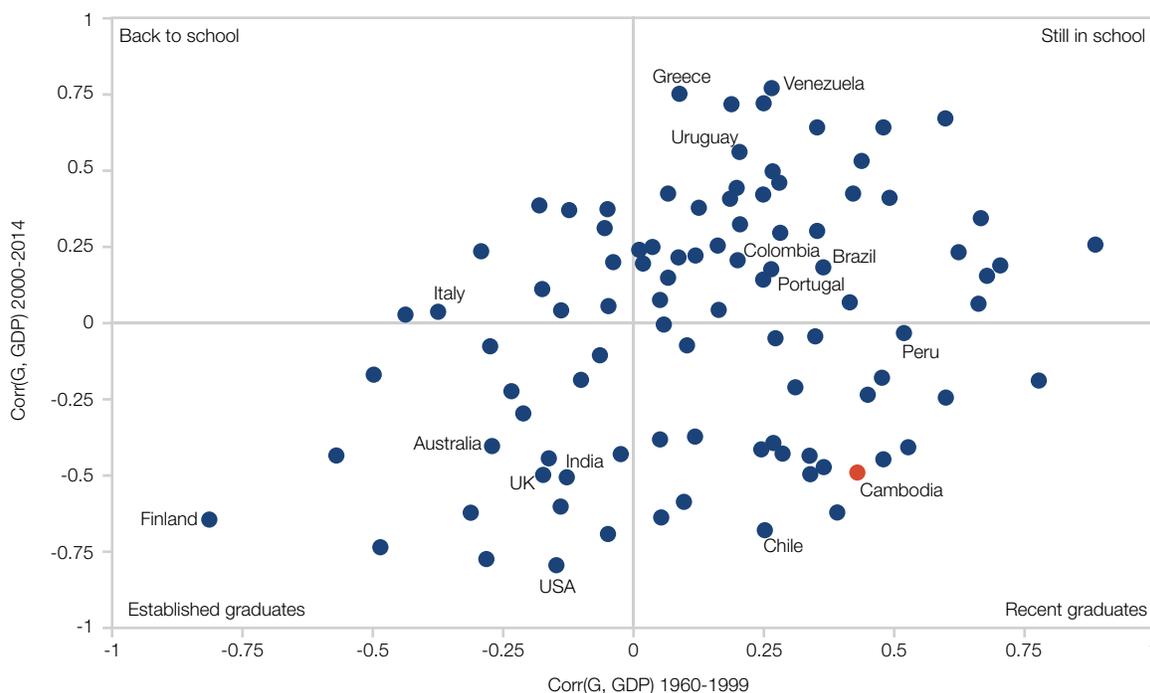
### Fiscal policy options going forward

**Cambodia is one of the few developing countries that has been able to implement countercyclical fiscal policy in recent years.** Fiscal policy has been traditionally a-cyclical or countercyclical in developed countries and pro-cyclical in emerging countries, as discussed in Kaminsky et al. (2004). It has been argued that developing economies usually face political

economy constraints that prevent them from saving in periods of strong economic growth (Alesina, Campante, & Tabellini, 2008), whereas imperfections in international capital markets preclude them from accessing financing to implement fiscal stimulus in crisis times (Cuadra, Sanchez, & Sapriza, 2010). Recent evidence shows that about one-third of developing countries were able to shift to implementing countercyclical fiscal policy after year 2000, while a few developed countries went “back to school” (Frankel, Vegh, & Vuletin, 2013). Cambodia is one of the countries that has progressed most in terms of moving from a highly pro-cyclical fiscal policy to countercyclical policy in recent years (Figure 16).

**As the economy is highly dollarized, fiscal policy is one of the main policy tools for macroeconomic management, so maintaining sufficient fiscal space is particularly important for Cambodia.** In this context, authorities have kept a fixed exchange rate by pegging the Cambodian riel to the U.S. dollar to maintain price stability; the exchange rate has been hovering around 4,000 riel per dollar for several years. The fiscal multiplier, measured as the impact on GDP of an additional dollar in government spending, has been shown to be zero under a flexible exchange rate and positive under fixed exchange rate regimes. The average multiplier of

Figure 16. Correlation between GDP and the structural component of public expenditure



Source: Carlos Vegh. Update to figures in Frankel, Vegh and Vuletin, 2013.

public spending in a developing economy has been calculated in 0.57 in the first quarter after the stimulus is applied and 1.6 in the long run (Ilzetzki, Mendoza, & Végh, 2010). In Cambodia, lack of accurate GDP data on the demand side prevents the calculation of such multipliers. Nonetheless, being an economy with low debt levels operating under a fixed exchange rate, there would in principle be a case for Cambodia to use public capital spending as a countercyclical tool in moments of economic slowdown.

**Notably, the impact of fiscal measures may not be as large as expected if there are leakages, making it important to identify and address spending inefficiencies.** Evidence suggests that the positive stimulus of fiscal policy can be much larger in industrial countries than in developing economies (Riera-Crichton et al., 2014). This can be explained by the fact that developed economies are often more efficient in allocating and executing spending. Waste due to inefficiencies in some developing economies has been

estimated to be as high as 50 or 60 percent of the funds invested, levels that would severely hamper any fiscal stimulus efforts. The rest of the chapters in this PER aim at increasing value for money in tax expenditure, PIM, and sectoral expenditure allocation and execution.

**A number of policy options could help Cambodia further increase the impact of fiscal measures going forward,** now that authorities are implementing expansionary fiscal policy for the first time in a few years and in the context of declining fiscal space:

**First, continued efforts to implement the Public Financial Management Reform program, including a functioning MTBF, can help boost value for money.** Further improvements need to be pursued at different stages of the budget cycle. On the planning side, effective adoption of a Medium-Term Fiscal Framework and a Medium-Term Budget Framework, including expenditure ceilings for line ministries, can help making BSPs more realistic. Ideally, BSPs in all line

ministries would integrate DP-funded projects. Other areas for improvement include budget execution (with full implementation of the FMIS system and streamlined approval processes); accountability (budget managers become responsible for financial management and results); and monitoring and evaluation (internal control and audit, budgetary oversight). A more predictable and transparent use of public funds could be achieved by providing more timely budget allocations to executing units and avoiding the practice of keeping books open until the middle of the next natural year. All these elements would be needed to effectively adopt performance-informed budgeting in the medium to long term.

**Second, measures should be put in place to ensure that increases in wages translate into better quality services to citizens.** While the size of the public sector remains modest by international standards, quickly rising salaries are likely to result in fiscal pressures. In the short term, there is a need to carry out an assessment of the allocation of public employees, as well as a review of the functions and operations currently performed by different departments and units (including at the subnational level), in order to optimize the use of resources and bring them in line with sector strategic objectives and BSPs. Making future wage increases and incentives conditional on public sector performance indicators would help enhance the efficiency of public spending. This could be coupled with strengthening of citizen feedback channels and managers becoming accountable for program outcomes.

**Third, the changing terms of capital financing will require further strengthening of public debt management.** Cambodia's graduation as a lower middle-income economy in 2015 has already resulted in a gradual shift from grant funding to concessional loan financing by DPs. This trend is likely to continue as traditional DPs re-align their financing packages in view of Cambodia's eventual graduation from the International Development Association, which would naturally bring costlier borrowing terms. An alternative

would be to leverage public-private partnerships (PPPs) to compensate for the eventual decline in DP-financed capital projects. This requires close attention to the development and implementation of the legal and regulatory framework pertaining to concessions, government guarantees, and state property control, as well as debt and contingent liability management. Cambodia would also need to lay the foundation for domestic bond issuances. Overall, regardless of the ultimate mix of sources of funding, this transition is expected to require stronger project selection criteria and public debt management.

**In addition, an improved public investment management framework is needed to scale up government-financed capital expenditure.** Currently, the capacity of most line ministries to implement medium- and large-scale investment projects is very limited, and institutional coordination across the different stages of the public investment cycle (planning, budgeting, implementation, monitoring) seems to be almost non-existent (see Chapter 3). Going forward, selection of new public investments should be prioritized carefully and made contingent upon sufficient funding for O&M in the coming years.

**Finally, tax expenditure should be monitored and revised as a source of potential revenue gains.** Implementation of the Revenue Mobilization Strategy approved in 2014 has so far resulted in a rapid increase in revenue collection, allowing for continued fiscal consolidation despite growing expenditure levels. Further progress in tax administration reform under this framework could potentially be complemented by the streamlining of existing tax incentives to keep increasing revenue collection over the medium term, as discussed in Chapter 2.

Table 8. Policy options towards a more effective and sustainable fiscal policy

Challenge	Short-term policy options (1-2 years)	Medium-term policy options (3+ years)
The budget remains fragmented and weakly linked to planning	Effectively implement a MTBF, including budget ceilings to line ministries for more realistic BSPs	Full implementation of performance-informed budgeting
Quickly rising public sector wages	Conduct a functional and operational review in all ministries, and optimize the allocation of staff, in line with strategic objectives	Link wage increases/incentives to performance
Decline in concessional component of DP financing	Provide capacity building on management of contingent liabilities as PPPs expand	Develop a domestic debt market and issue public bonds

Source: World Bank staff elaboration.

# 2 BOOSTING REVENUE COLLECTION BY STREAMLINING TAX INCENTIVES

## Introduction and motivation

**T**hanks to a series of tax administration reforms, Cambodia has been able to boost its revenue collection significantly in recent years. Among other reforms, since 2008, the General Department of Customs and Excises has successfully rolled out the Automated System for Custom Data (ASYCUDA) as well as enhanced anti-smuggling measures. More recently, in the context of the Revenue Mobilization Strategy for 2014-18, the General Department of Taxation (GDT) emphasized a shift toward a real regime and has improved its capacity in tax auditing and taxpayer services, leading to better compliance. Thanks to such improvements in tax administration and a broadening of the tax base, Cambodia's tax revenue collection increased from 12.7 percent of GDP in 2013 to 16.1 in 2016.<sup>9</sup>

**Further increases in revenue collection are needed to support Cambodia's development, especially given the rapid increase in payroll pressures.** Cambodia faces two medium-term challenges related to revenue collection: (i) further erosion in the grant component of revenue and (ii) an expected decline in trade taxes, in the context of tariff reduction associated with progress in ASEAN integration and participation in WTO rounds as a middle-income country. On the expenditure side,

the public payroll has been rising, from 5 percent of GDP in 2013 to a forecasted 8-9 percent of GDP by 2018, and the increase in the public sector minimum wage as discussed earlier could result in some fiscal pressures.

**In this context, Cambodia has an opportunity to increase revenue collection without raising taxes, by rationalizing tax exemptions.** Drawing from import transactions data provided by the General Department of Customs and Excises (GDCE), tax expenditure at customs was an estimated 3.9 percent of GDP in 2015 and is granted mainly in the form of exemptions to Qualified Investment Projects (QIP). In addition, previous analysis estimated tax expenditure in the form of Corporate Income Tax (CIT) exemptions to QIPs in the garment sector at 1.8 percent of GDP in 2014 (World Bank, 2015). The collection of direct taxes—largely taxes on profits (corporate income tax)—has been increasing but remains relatively small due to the exemptions provided under the existing investment law, as well as challenges to compliance.

**This chapter proposes potential ways to streamline existing tax incentives without diminishing the country's attractiveness to foreign direct investors.** Section 2.2 describes recent revenue collection performance and discusses improvements in tax administration, as well as potential reforms going forward.

<sup>9</sup> According to updated official figures provided in 2019.

Section 2.3 analyzes existing incentives in Cambodia, benchmarking them with respect to other East Asian countries, and estimates tax expenditure based on customs transaction data. The Chapter concludes by presenting a series of potential measures to streamline existing incentives according to international best practices.

## Cambodia: stellar gains in revenue collection

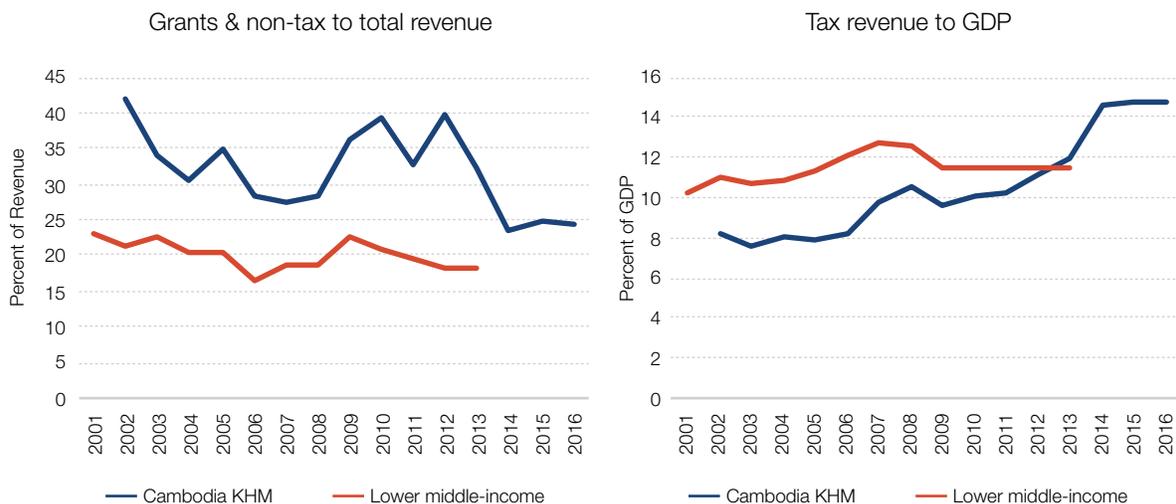
Improvements in tax administration have boosted collection in recent years

**To compensate for the decline in foreign aid grants, Cambodia has noticeably improved tax collection over the past five years and is now above the average for lower middle-income countries.** As discussed earlier, over the past decade, the grant component of foreign aid has declined as a percentage of total revenue. The ratio of grants to total revenue declined from around 42 percent in 2002 to 25 percent in 2016, although it remains above the average for lower middle-income economies (around 20 percent over the past

decade) (Figure 17, left panel). As described above, the RGC has responded with efforts to strengthen the tax administration and boost tax revenue. Coupled with fast economic growth, these efforts have helped increase, and Cambodia has thus surpassed the average for lower middle-income economies (Figure 17, right panel). Nonetheless, tax revenue remains behind the levels observed in Lao PDR and Thailand.

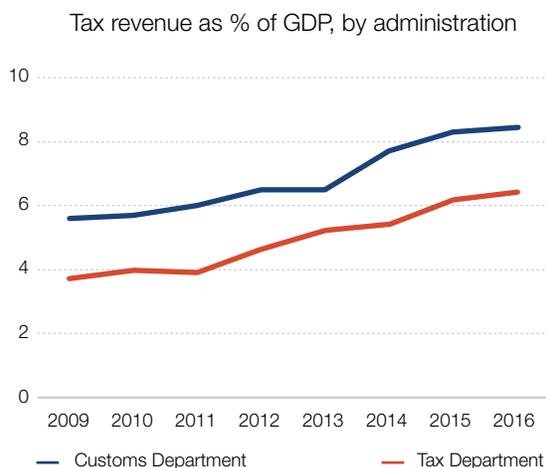
**Both the General Department of Taxation (GDT) and the General Department of Customs and Excises (GDCE) have succeeded in improving revenue collection in recent years.** Improving taxpayers' registration and services, including the introduction of online tax payments and awareness campaigns, has underpinned increased filing of tax returns. Tax payments can now be made at commercial banks with improved services. Stronger tax auditing and arrears collection, undertaken by more qualified and motivated tax officials and facilitated by an upgraded IT system, have contributed to the increases in collection. Average annual collection growth rates were 13.6 percent for GDCE and 12.5 percent for GDT during 2013-15, and collection levels by the GDCE and GDT reached an estimated 8.6 percent of GDP and 6.5 percent of GDP in 2016, respectively (Figure 18).

Figure 17. Faced with declining foreign aid grants, Cambodia has boosted its tax revenues



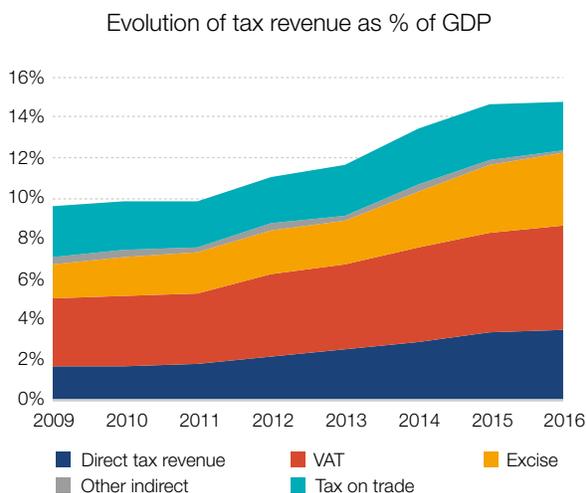
Source: World Development Indicators, TOFE for 2015 and 2016.

Figure 18. Both inland and customs revenue have significantly increased in real terms



Source: World Bank staff calculations based on TOFE (Ministry of Economy and Finance).

Figure 19. Tax collection has improved across different types of taxes



Source: TOFE (Ministry of Economy and Finance), NIS for GDP figures.

**Thanks to these efforts, collection has increased across different types of taxes.** Gains have been realized for most sources of revenue, particularly VAT (collections increased from 3.7 to 5.1 percent of GDP between 2011 and 2016) and corporate income tax (from 1.4 to 2.7 percent of GDP; Figure 19). Trade tax collection has remained around 2.5 percent of GDP despite a progressive decline in tariffs aimed at meeting ASEAN and WTO agreements, which is expected to continue into 2018.<sup>10</sup> In fact, thanks to numerous factors,<sup>11</sup> revenue collected by the customs administration has continued to expand in both nominal and real terms even with the decline in tariffs.

**The overall structure of domestic revenue has been shifting, with a rising share of direct taxes and a declining share of trade taxes.** Looking at the 2010-2016 period, value added tax collection

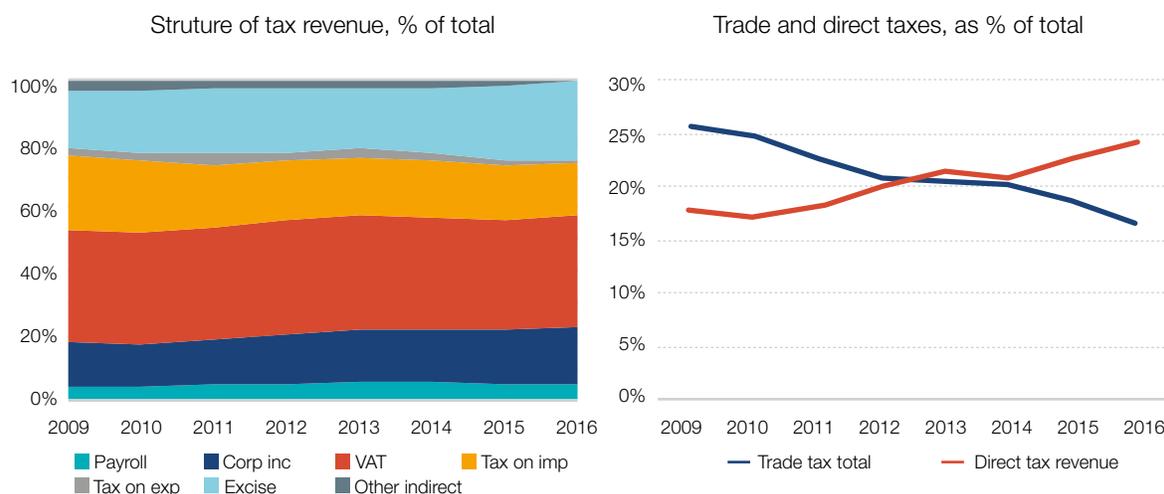
remained the largest source of government revenue, at around 35 percent of the total (Figure 20, left panel). The share of other domestic taxes (on specific goods and services<sup>12</sup>) also remained stable at 21.5 percent, increasing to 24 percent in 2015 and 2016. Over this same period, direct taxes gained share in total collections, with corporate income tax collections increasing from 12.8 to 17.9 percent and payroll tax increasing from 4.2 to 4.6 percent of total revenue. Although direct tax collection, at 3.6 percent of GDP, remains relatively low in comparison to other countries in the region (e.g., 5.6 percent of GDP in Indonesia and 7.4 percent of GDP in Thailand), the rapid improvement indicates good progress in administration. Notably, the share of trade-related tax declined over the same period (Figure 20, right panel), although collections remained stable as a percentage of GDP. The authorities' efforts to gradually transform

10 According to the General Department of Customs and Excises, and under preferential treatment, Cambodia shall implement the ASEAN Trade in Goods Agreement (ATIGA) by 2015. In this context, Cambodia has implemented tariff reduction since 2009 and shall eliminate import duties on all products by 2015, with flexibility to 2018 (7 percent of the total tariff lines or 662 tariff lines will remain at a 5 percent rate until 2018).

11 The tariff reductions have been partly offset by implementation of administered prices (instead of transaction prices) in the collection of various customs duties and taxes on key import items such as vehicles and petroleum products. An additional tax on oil, intended to be earmarked to road maintenance, is also charged along with the duties that are specific to oil products. Moreover, additional customs duties of 20 percent or higher apply to luxury vehicles. Substantial improvements in the collection of VAT and excise taxes on imports, together with the rollout of the ASYCUDA system, have also contributed to improved collection of customs duties and other taxes on imports.

12 According to authorities, these taxes are imposed on goods that produce negative externalities. This includes oil products as well as non-oil products such as beer, cigarettes, and alcoholic beverages.

Figure 20. The overall structure of tax revenue has been shifting, with direct taxes gaining share while the share of trade taxes has fallen



Source: World Bank staff calculations based on TOFE (Ministry of Economy and Finance).

Table 9. Cambodia's tax administration processes are still viewed as relatively burdensome  
Doing Business sub-index rankings and indicators for ASEAN countries<sup>a</sup>

Country	Global Ranking on Ease of Paying Taxes	Payments (number per Year)	Time (hours per year)	Total Tax Rate (% of profit)	Post-filing Index <sup>b</sup> (0-100)
Singapore	7	5	64	20.3	71.97
Thailand	67	21	262	28.7	73.41
Malaysia	73	8	188	39.2	52.65
Vietnam	86	14	498	38.1	95.71
Philippines	105	20	182	42.9	50
Indonesia	114	43	207.5	30	68.82
Myanmar	125	31	282	31.2	45.54
Cambodia	136	40	173	21.7	25.97
Lao PDR	156	35	362	26.2	18.57

Source: Doing Business 2018, the World Bank Group.

Note: a. Except Brunei, as it is not included in the survey.

b. Composite measure of the time to comply with VAT or GST refund, time to obtain VAT or GST refund, time to comply with CIT audit, and time to complete CIT audit. The index is based on the distance to the country with the most burdensome procedures. Thus, a higher index implies less time-consuming processes.

the previous tax structure, which was heavily dependent on trade taxes, to a more advanced tax system based on direct and domestic taxes will help

sustain collection as the country pursues free trade policy objectives such as those envisaged under the ASEAN Economic Community.

**However, despite improvements, tax collection and returns procedures in Cambodia are still daunting.** Despite having low total tax rates on profits (Table 9), Cambodia ranks in the lower one-third of countries in the Paying Taxes sub-index of the Doing Business report (136 out of 189) due to burdensome administrative processes. For example, the time required to comply with and obtain a VAT refund<sup>13</sup> in Cambodia is 21 hours and 63.9 weeks, respectively, compared to 18 hours and 31 weeks in Indonesia. Moreover, it takes 31 hours to comply with, and 39 weeks on average to complete a corporate income tax audit, substantially longer than in all other ASEAN economies.

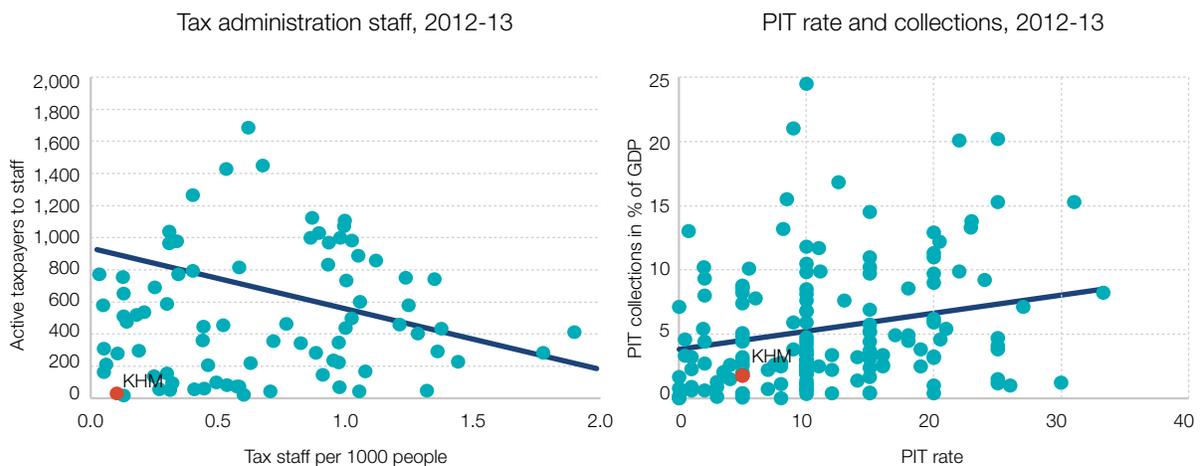
### Exemptions continue to limit potential collections from existing taxes

**Under the current tax administration structure, Cambodia could still significantly increase the number of active taxpayers.** According to the IMF Collecting Taxes Database, Cambodia's tax staff per thousand inhabitants, 0.10 in 2012-13, was well below the average country, at 0.65 (Figure 21, left panel). At the

same time, other countries with low levels of staffing are able to reach a significantly higher number of taxpayers. The average number of active taxpayers to staff among similar countries is 676, whereas in Cambodia it is only 28. This is likely to be related to widespread informality as well as the lack of a personal income tax. According to the World Bank Group Enterprise Surveys, the percentage of firms in Cambodia declaring to face informal competitors (nearly 80 percent in 2016) is the largest in ASEAN.

**Due to the nature of its payroll tax, Cambodia collects less from individuals than other countries applying personal income taxes.** For a nominal rate of 5 percent, payroll tax collections represented around 1.8 percent of GDP in 2012, which is below international levels (Figure 21 above, right panel). However, a payroll tax cannot be directly compared to personal income taxes, since the latter has a much broader scope, levying taxes on various sources of income and not only from paid employment. Payroll taxes do not capture personal income from unincorporated income, which could be a significant source of revenue collection for a country like Cambodia.

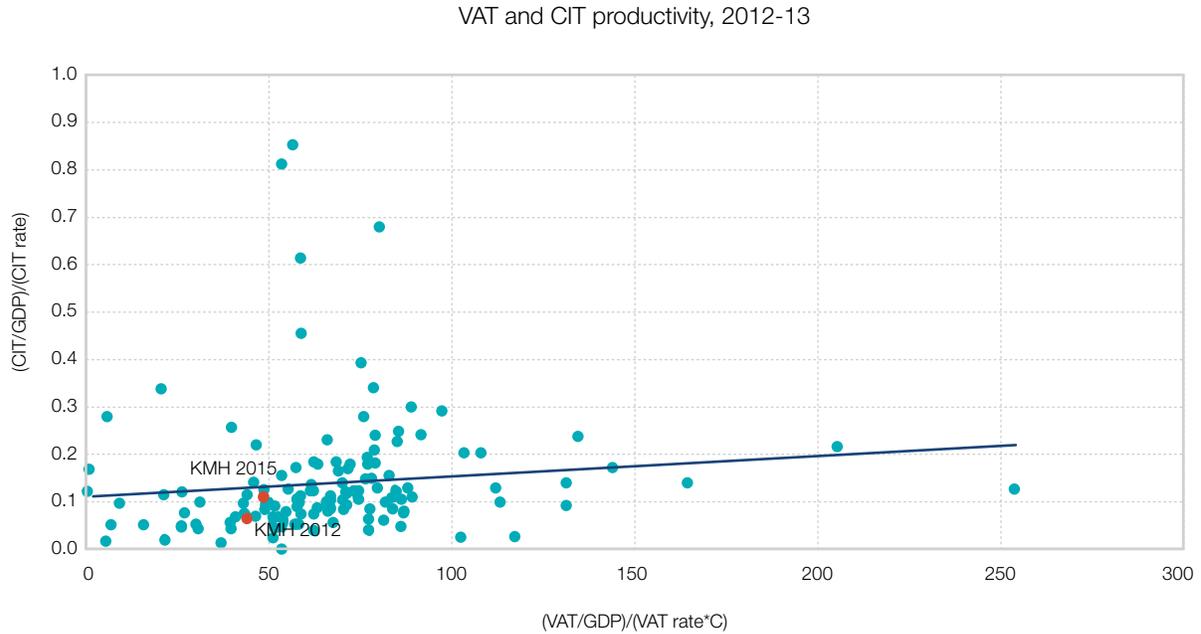
Figure 21. Cambodia has fewer tax administration staff relative to its population and fewer active taxpayers relative to tax staff than other countries



Source: USAID Collecting Taxes Database.

13 The time required to comply with VAT refund includes the audit process if it is considered highly likely, such as in the case of Cambodia.

Figure 22. VAT and CIT productivity



Source: USAID collecting taxes database.

Despite recent improvements, the productivity of the VAT and CIT in Cambodia remains low by international standards. VAT productivity in Cambodia, measuring the effectiveness of tax collections, increased from 44.2 percent in 2012-13 to an estimated 48.1 in 2015 (Figure 22), while remaining below the sample average (66 percent).<sup>14</sup> Corporate income tax productivity, measured as collections to GDP divided by the statutory tax rate, improved from 0.07 (one a 0 to 1 scale) in 2012-13 to 0.11 in 2015, although it is still less than half of the cross-country average (0.15). In both cases, existing tax exemptions limit the tax base and the scope for gains in tax collections. The following section looks more closely at the prevalence of tax incentives in Cambodia, which may be partly responsible for the relatively low effective tax collection relative to nominal rates.

## Streamlining tax incentives in Cambodia

Existing incentives in Cambodia are predominantly tax exemptions outside the tax code

Investment incentives were first introduced in Cambodia with the promulgation of the Law on Investment (LoI) in 1994,<sup>15</sup> in the wake of the country's first post-war free general election monitored by the UN. The 1994 LoI stipulated which sectors and geographical areas could apply for incentives.<sup>16</sup> It granted tax holidays of up to 8 years,<sup>17</sup> a zero CIT rate for reinvested profits, and an exemption from payment of import duties and VAT on inputs for firms qualifying for tax holidays.

14 The productivity of the VAT in Cambodia is measured by collections to GDP divided by the applied tax rate multiplied by total private consumption in the economy (as per the national accounts).

15 Cambodia Law on Investment No 030324, 1994.

16 These sectors and areas included pioneer or high-tech projects, job-creating and export-oriented activities, tourism, agro and processing, infrastructure, energy, rural development, environment, and Special Economic Zones.

17 Cambodia Investment Law: article 13.

Table 10. Most investment incentives in Cambodia have tax implications

No.	List of incentives available in Cambodia
1	Corporate Income Tax (CIT) exemption
2	Special depreciation
3	Duty-Free Import for Domestically oriented QIP
4	Duty-Free Import for Export oriented QID
5	Duty-Free Import for Supporting QIP
6	Exemption of Export Tax
7	Exemption of Value Added Tax (VAT) for SEZ investors
8	Land Concession for SEZ developers
9	Special Customs Procedures
10	CIT exemption for SEZ developer
11	Import duty exemption for SEZ developers
12	Investment guarantees for SEZ investors and developers
13	VAT exemption for imported production inputs
14	VAT exemptions for garment imported inputs
15	Import duty reduction/exemptions
16	VAT exemption on various agricultural materials such as seeds, breeds, etc.
17	Economic Land Concessions (ELCs)

Source: World Bank (2015).

**As the country continued to develop, the 1994 Lol was amended in 2003 with the goal of making it more consistent with the Law on Taxation, rationalizing tax incentives, and clarifying criteria and procedures to qualify for incentives.** As a result of the changes introduced in the 2003 amendment and its implementing sub-decree<sup>18</sup> (issued in 2005), the length of tax holidays ranges between 6 to 9 years starting from the first year of sales<sup>19</sup>, depending on the government assessment. The 2003 amendment also introduced the possibility for investors to choose a special accelerated depreciation scheme instead of the tax holiday. Supporting industries to the garment and footwear sectors are also exempted from VAT

payments on both their inputs and sales. In addition, the 2003 amendment introduced more detailed requirements and procedures to be fulfilled when applying for tax incentives, including sector-specific minimum thresholds for investments.

**Special Economic Zones in Cambodia also benefit from specific incentives.** A 2005 sub-decree on Special Economic Zones (SEZs) recognized exemptions on import duties, VAT, and CIT for SEZs.<sup>20</sup> The sub-decree also granted guarantees and land concessions to investors. The number of SEZs is set to expand, with thirty zones approved and nine operational at the end of 2015. The largest SEZ is the Sihanoukville Special

18 Sub-decree on the implementation of the law on the amendment to the law on investment of the Kingdom of Cambodia No 111 ANK/BK dated September 27, 2005.

19 Trigger period (starting from receiving QIPs status, and lasting until the first profit is made or 3rd year after first years of sales) + 3 year-holiday periods + priority period (1 to 3 years depending on the capital invested).

20 Sub-decree 148 ANK/BK on the Establishment and Management of the Special Economic Zones (SEZs).

Economic Zone, set up in 2008, which housed 93 factories in 2017, but with plans for large expansion.

**Overall, the majority of existing investment incentives in Cambodia are tax incentives with revenue collection implications, as opposed to financial or other types of incentives.** According to a review of investment incentives (World Bank, 2015), the majority are found to be incentives with tax implications, including corporate income tax exemptions, import duty exemptions, special depreciation, VAT exemption, and export duty exemptions (Table 10). Only four of them seem to be financial incentives in the form of investment guarantees, special customs procedures, and land concessions.<sup>21</sup> Except for those incentives offered to investors in SEZs, existing schemes are generally economy-wide and offered at the national level.<sup>22</sup> Yet exemptions have not been reflected in the tax code, as per international best practices. The provision of widespread incentives is not unusual in East Asia and the Pacific, but they may not be the most effective instrument to promote foreign direct investment attraction (Box 2).

**Tax incentives in many ASEAN countries are designed to generate public goods and externalities, while in Cambodia seem to be at the moment more supportive of employment generation.** Such positive externalities include the development of remote regions, priority or high-technology industries, and other public goods. Tax incentives in Cambodia do not yet target such additional objectives. Garment and footwear projects represent the majority of QIP (383 out of 716 QIPs in 2010-14), but their share of total registered fixed assets was just 11 percent, indicating that incentives are mainly directed to a non-capital-intensive industry. Nonetheless, the creation of employment is often greater than in other sectors, and the cost per job of QIP incentives has been estimated in less than USD 500 per year (World Bank, 2015).

**Incentives are usually granted within a month, and most companies do not experience significant delays.** In Cambodia, the Investment Law stipulates that the Conditional Registration Certificate (CRC) shall be issued to the investor within three working days of the investor's submission of an investment proposal to the CDC, the institution in charge of assessing applications to become a Qualified Investment Project (QIP) that is eligible for tax exemptions. The investor is then expected to obtain all necessary licenses from the relevant ministries/entities listed in the CRC within 28 working days after issuance of a CRC. The analysis of Investor Motivation Survey (IMS) conducted by the World Bank in 2015, confirmed that 75 percent of respondents did not report a delay in receiving approval of their QIP application. The remaining 25 percent of firms did report a delay of 14 days on average. The percentage of firms reporting delays did not vary significantly across sectors or firm size except for firms with over 2,000 employees, of which only 18 percent reported delays (World Bank, 2015).

**Nonetheless, most surveyed companies incurred some costs to process their QIP applications, which could potentially pose a barrier to entry for smaller firms.** Most of the companies hired a broker to process their applications, while a few reported additional costs. Around 72 percent of the surveyed firms reported that they had hired a broker or other third party to process their QIP applications. It is estimated that it costs about USD 12,000 for firms in the garment and footwear industry and about USD 20,000 for those in the other manufacturing sector to process their investment incentives package. This could potentially pose a barrier to entry of SMEs. Roughly one-fifth reported at least one minor additional cost, and around five to ten percent reported at least one major cost associated with the application process (additional consulting fees, losses associated to delays, etc.).

21 Desk research and project interviews to date have not identified any financial incentives (such as matching grants, subsidies, etc.) that might be granted to firms by individual ministries and government entities, other than the incentives listed on the CDC website (and mentioned above).

22 According to the CDC investment guidebook of 2013, certain investment projects are not eligible for QIP incentives. These include imports and exports for commercial purposes, wholesale and retail, transportation, tourism, financial business, professional services, hotels below 3-star grade, and real estate development.

## ASEAN’s “race to the bottom” in investment incentives

Around the globe, countries grant incentives with the expectation of attracting foreign investment, which can help increase the size and quality of the capital stock and lead to positive externalities in the form of backward linkages to local industries and knowledge spillovers. Developing nations compete to attract FDI both through low wages, low labor, and environmental standards and through tax breaks (Chau & Kanbur, 2006; Hecock & Jepsen, 2013; Klemm & Van Parys, 2012). This has led to a “race to the bottom,” in which countries make themselves worse off collectively. In Africa, effective tax rates have effectively fallen to zero in industries where special regimes are in place (Abbas & Klemm, 2013). In Barbados, in the face of tax competition and aggressive bargaining by multinational hotel chains, offers tax holidays of up to 40 years for hotel investments.

The most common incentives used by countries in ASEAN are tax holidays, reduced tax rates, and research and development (R&D) incentives. In addition, compared to other regions, East Asia and the Pacific has the highest share of countries granting discretionary incentive treatment, and incentives are usually provided outside of the tax code. ASEAN economies offer five to eight types of tax incentives to firms on average. In contrast, advanced East Asian economies such as Japan and Hong Kong SAR offer only two or three types of incentives (and no tax holidays). As a result, tax collection in most economies in Southeast Asia is below 20 percent of GDP, which calls for talks in ASEAN leading to harmonization of investment incentives to level the playing field and reduce tax competition (World Bank, 2015).

Cambodia is very much in line with the regional trend of offering a large number of incentives to investors. These include tax holidays (which, at up to 9 years, are on the generous side), reduced rates, tax credit, specific incentives for SEZs, and other discretionary incentives. Notably, Cambodia—together with Indonesia and Myanmar—is one of the few developing countries surveyed that does not currently offer incentives for R&D. Tax holidays in Cambodia could potentially be unnecessary for many investors: approximately 75 percent of the firms surveyed in the garment, footwear, and other manufacturing sectors did not consider any alternative location to Cambodia in their investment decisions (World Bank, 2015).

The international experience on the effectiveness of incentives to attract FDI is mixed at best, and tax breaks cannot compensate for challenges in investment climate. World Bank Investor Motivation Surveys in more than 15 economies find that, overall, tax incentives are not the main attraction factor for surveyed investors. Tax incentives seem to contribute to FDI attraction in advanced economies, but the response is limited in developing economies (Klemm & Van Parys, 2012). Empirical evidence also shows that a weak investment climate or lack of infrastructure hampers the efficacy of tax incentives (James & Van Parys, 2009). Finally, tax incentives are found to be mostly effective in attracting efficiency-seeking FDI such as, for example, garment producers that are looking to minimize costs and export to developed countries, while they seem to be generally ineffective in attracting market-seeking or resource-seeking FDI (Grubert & Mutti, 2004).

## What is the cost of investment incentives in Cambodia?

**Even when incentives are justified and effective in terms of attracting FDI, they carry an opportunity cost since they result in lower revenue collection.**

When tax exemptions are granted to a group of investors, the tax burden on the rest of the taxpayers increases, if the level of government spending remains constant. For this reason, many countries opt to quantify the implicit tax expenditure and publish annual statements in the national budget, thus giving a sense of how much public funding is implicitly subsidizing the beneficiary industries and increasing transparency and awareness.

**This subsection assesses the cost of investment incentives in Cambodia.** The analysis presented provides partial estimates of tax expenditure in Cambodia and is based on customs transaction data from the ASYCUDA system for 2014 and 2015 provided by the GDCE. The customs administration collects six different taxes at the border: customs duties, special duties, VAT, and three petroleum-specific taxes.<sup>23</sup> The analysis presented in this subsection focuses on the first three taxes. Consistency issues in currently available tax return information preclude the elaboration of comprehensive tax expenditure estimates on VAT (beyond customs) and CIT.

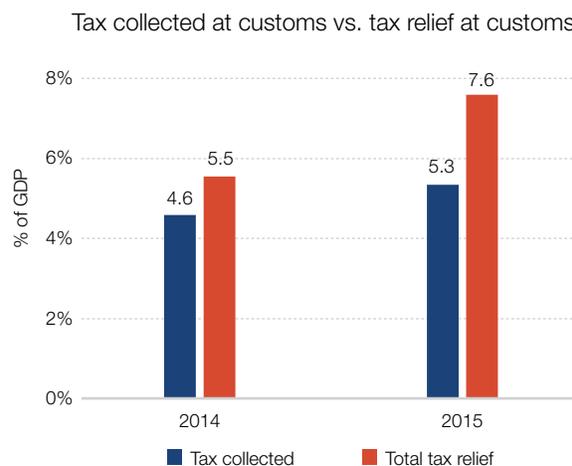
**The analysis aims to calculate tax relief at customs, which constitutes the implicit government expenditure that goes through the tax system.** Cambodia classifies imports into more than 400 categories depending on the type of relief offered. For the purposes of this paper, these relief categories are grouped according to beneficiary: relief for Qualified Investment Projects, relief for firms in Special Economic Zones, and relief for other organizations (including government, DPs, NGOs).

**Foregone revenue at customs increased from 5.5 percent of GDP in 2014 to 7.6 percent of GDP in**

**2015 and is above actual tax collections.** This is higher than a previous World Bank (2015b) estimate of tax relief at customs (4.1 percent of GDP in 2014), since this analysis looks at relief granted to other actors aside from QIP (including SEZs, NGOs, and others) and comprises a more detailed analysis of the different relief categories, prepared in collaboration with GDCE. Actual tax collections (excluding excises) at customs expanded from 4.6 percent of GDP in 2014 to 5.3 percent of GDP in 2015 (Figure 23).

**The bulk of tax revenue relief is explained by exemptions on VAT and customs duties.** Tax on value added represented 41 percent of total collections in 2014 and 2015, followed by custom duties (30 percent) and special duties (28 percent; Figure 24, left panel). At the same time, most of the tax relief is granted on value added tax (52 percent of total relief) and customs duties (42 percent), whereas special duties only comprise 5.6 percent of the total. While the ratio of tax relief almost doubles collections in the cases of customs duties and VAT, it only represents 26 percent of special tax collections, for which exemptions are less prevalent (Figure 24, right panel). Petroleum excise relief is minimal

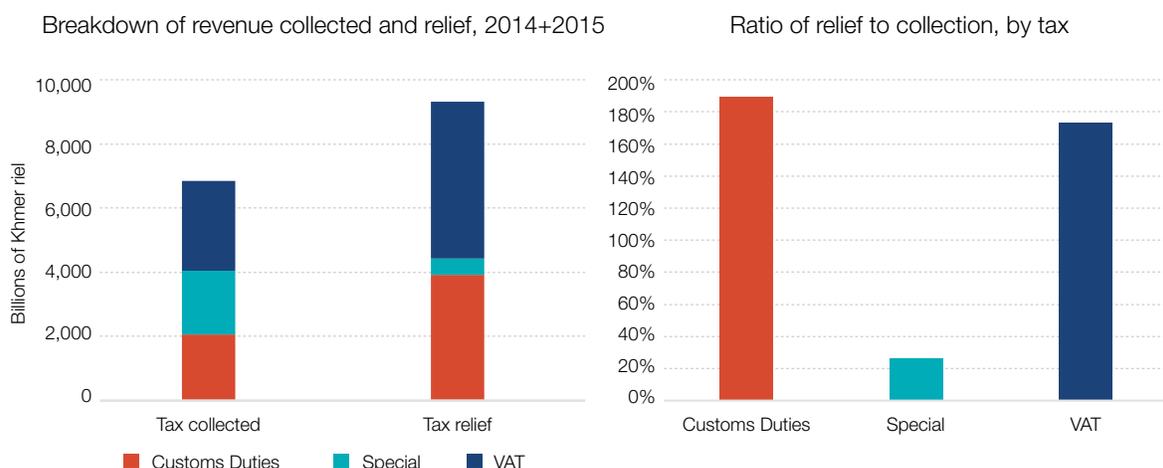
Figure 23. At customs, tax relief increased faster than collections in 2015



Source: World Bank staff calculations based on data from the General Department of Customs and Excises.

<sup>23</sup> The VAT in Cambodia applies a general rate of 10 percent. Custom duty rates are 0, 7, 15, or 35 percent. Special taxes applied on top of custom duties vary from 5 to 50 percent, depending on the product.

Figure 24. Customs duties and VAT account for most of the tax relief in Cambodia



Source: World Bank staff calculations based on data from the General Department of Customs and Excises.

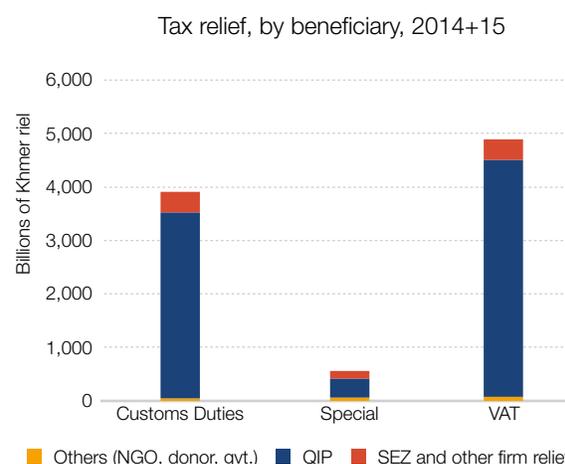
(0.02 percent of GDP in 2015, compared to collections over 1 percent of GDP), with aid and DP-related projects being the main beneficiaries.

**QIPs are the main beneficiaries of tax incentives in Cambodia.** QIPs were beneficiaries of KHR 4.6 billion in tax relief in 2015, or 6.3 percent of GDP (Figure 25). By tax, QIPs accounted for around 86 percent of VAT and 83 percent of customs duties relief. In the case of relief on special duties, SEZs and other actors (including NGO, DPs, and government) hold a larger share, with 34 percent and 5 percent, respectively.

**VAT tax relief on imports is not usually considered an actual tax expenditure when the goods acquired are inputs to the production process.** The VAT is among the most efficient taxes because it aims to charge the final consumer, avoiding tax cascading by eliminating the tax liability on production, lowering production costs, and reducing disincentives to productivity-enhancing investments on capital, machinery, and equipment. Tax relief on VAT for imports is not usually granted, since the input tax credit mechanism ensures that importers can claim the amount back when filing its VAT supported and charged to the tax authority. There may be a cash flow advantage to relieving the VAT at imports, but if firms can claim their input tax credits quarterly and the state pays

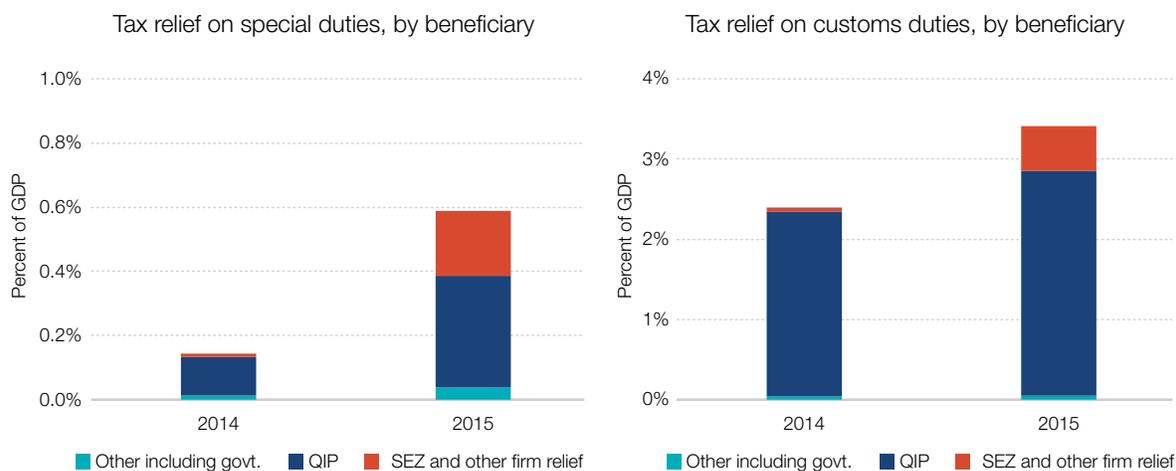
refunds promptly, this advantage would be minimal. Only VAT relief on imports by final consumers should be considered a tax expenditure, with two types of final consumers: (i) both households purchasing goods or services for their own consumption, which should be taxed, and, on the other hand, (ii) businesses that are exempt for achieving a certain purpose. For example, in Cambodia, “domestic public goods” like health care and education are exempt. In most countries, financial

Figure 25. QIPs and firms in SEZs are the main beneficiaries of tax incentives



Source: World Bank staff calculations based on data from the General Department of Customs and Excises.

Figure 26. Tax relief on special and customs duties to SEZs noticeably increased in 2015



Source: World Bank staff calculations based on data from the General Department of Customs and Excises.

services are exempt because it is usually difficult to determine the value added on these commodities. In either case, the value added by the firm making the exempt supply is not subject to the VAT, and, as a result, the tax paid by purchasers of the supply is reduced.

**Tax relief on special duties and customs duties has been on the rise, due in part to an increasing number of firms benefiting from SEZ-related exemptions.**

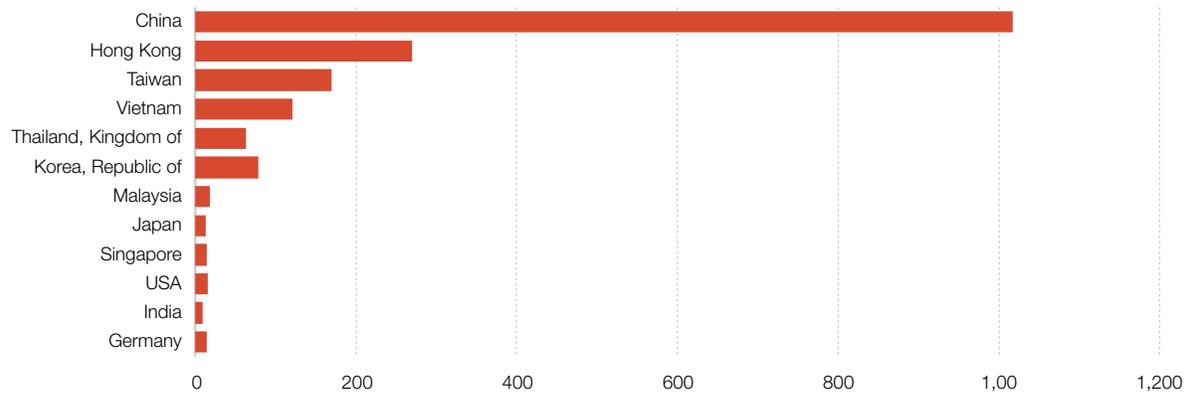
Unlike in the case of VAT, tax relief on special taxes and customs duties is considered a tax expenditure. Tax expenditure on special duties jumped from about 0.1 percent of GDP in 2014 to nearly 0.6 percent of GDP in 2015 (Figure 26, left panel). Tax expenditure on customs duties increased from 2.3 percent of GDP in 2014 to 3.1 percent of GDP in 2015, with QIPs being the main beneficiaries (Figure 26, right panel). Notably, tax expenditure by firms in SEZs was negligible in 2014 then expanded to a combined 0.7 percent of GDP in 2015.

**Overwhelmingly, QIP tax relief is granted on imported inputs for the garment industry coming from China** (Figure 27). Of the 14 top imports receiving QIP relief at customs, 8 of them seem to be related to garment production (e.g., fabrics, fibers, cotton, fur, skins). Tax relief to the top QIP-imported commodity, knitted or crocheted fabrics, amounted to KHR 561 billion in 2015

(Figure 28). QIP imports of energy generation-related machinery ranked second in tax relief (KHR 225 billion), since Cambodia is at the moment undertaking large projects aimed at increasing energy generation capacity. Tax relief on the acquisition of electrical machinery and equipment (126 billion) ranked fifth. These results are not surprising, given that manufacturing activity in Cambodia is dominated by the garment sector. Overall, and even when there is not available information on the sector of operation of the importing firms, the nature of the imported goods suggests that QIP relief is supporting the acquisition of intermediate inputs and machinery for the production process, which would be consistent with one of the purposes of the QIP policy: to reduce the cost of inputs for companies participating in global value chains. Nonetheless, further analysis using customs data to trace imported goods by exporting companies is needed to confirm this assessment.

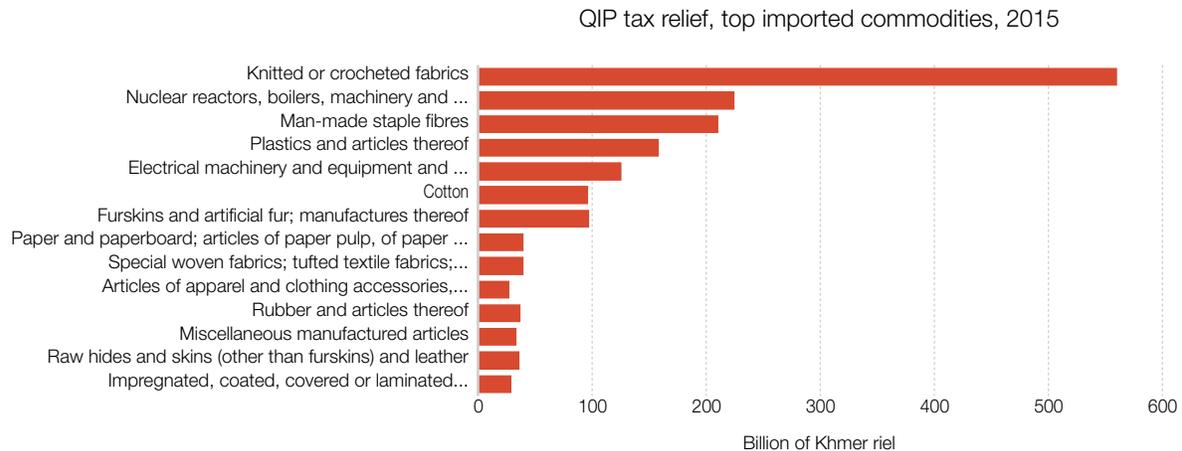
**Meanwhile, tax relief to other beneficiaries (SEZs, DPs, government) is mostly granted for the import of vehicles and energy generation machinery.** When looking at SEZs (some of them QIPs) and other non-QIP exemptions (DPs, government), the bulk of imported items are vehicles, energy generation machinery, and articles of plastic (Figure 29, left panel). Tax relief on automobiles totaled KHR 280 billion in 2014 and 2015

Figure 27. China (including Hong Kong) is the origin of two-thirds of QIP relief import value  
QIP relief, by country of origin of imports, 2015



Source: World Bank staff calculations based on data from the General Department of Customs and Excises.

Figure 28. Garment imports dominate QIP relief at customs



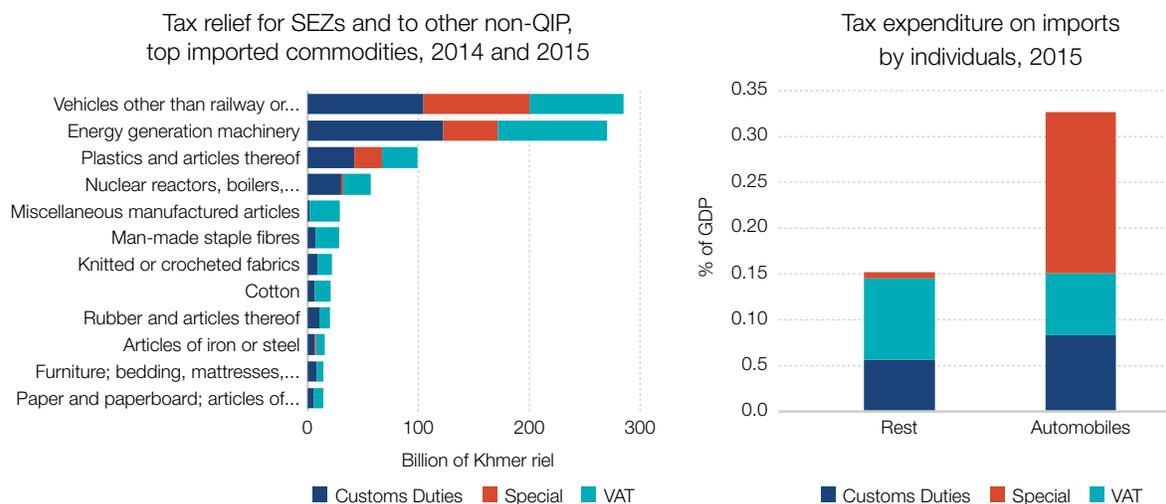
Source: World Bank staff calculations based on data from the General Department of Customs and Excises.

combined. This relates to existing exemptions on vehicle imports for government, DPs, and NGOs as well as by some individuals (Figure 29, right panel).<sup>24</sup> It would be worth conducting a detailed analysis of the vehicles imported, since these kinds of exemptions often result in loopholes of which both individuals and firms take advantage to avoid paying taxes on activities that should be taxable.

**In terms of CIT, Cambodia's statutory CIT rate of 20 percent is among the lowest in the Asia-Pacific Region.** In fact, it is lower than CIT rates in other ASEAN economies except Singapore (17 percent) and Thailand (also 20 percent). The country's effective average tax rate (EATR), a measure of the tax burden of investments which incorporates other relevant features of a country's

24 By looking for identifier 999999 in customs data, it is possible to estimate tax expenditure on vehicles imported by individuals, amounting to an estimated 0.33 percent of GDP in 2015. Over half of the relief relates to exemptions on special taxes (Figure 29, right panel). Given that households are not eligible for VAT input tax credits (since they import for consumption purposes), all the relief granted to them is considered to be a true tax expenditure. For the purposes of this analysis, VAT relief on individuals (identifier 999999) is considered a tax expenditure (estimated in 0.09 percent of GDP in 2014 and 0.15 percent of GDP in 2015).

Figure 29. Tax relief on imports of vehicles rank first on non-QIP exemptions



Source: World Bank staff calculations based on data from the GDCE.

tax code beyond CIT rates (such as depreciation and other capital allowances, interest deductibility, and property taxes), is also low compared to other countries in the region.<sup>25</sup> Using standard assumptions of firm composition and profitability, Cambodia's EATR is estimated to be 18.4 percent, even lower than the CIT rate. This is the fourth lowest among the Asia-Pacific economies considered, higher only than Hong Kong, Taiwan, and Thailand (Figure 30).<sup>26</sup>

**Cambodia's CIT effective average tax rate is higher for foreign investment repatriating net income.**

A 14 percent withholding tax rate for dividends and interest paid to parent companies abroad leads to an EATR of approximately 30 percent (with small variations depending on the country of origin) for investments seeking to repatriate net income.<sup>27</sup> This is similar to the EATR in other ASEAN countries for companies based in the United States, where foreign affiliates are not exempt from taxation at home but can only deduct taxes paid abroad. For investments originating in other countries

such as Germany or Singapore, where dividend payments received by parent companies are exempt from taxation, Cambodia's EATR is higher than in Myanmar, Vietnam, and Malaysia, as these countries do not levy withholding taxes on repatriated dividends (Figure 31).

**Tax incentives in Cambodia significantly reduce the EATR for eligible QIPs, but no more than in other countries in the region.**

For example, a tax holiday of six years reduces the EATR from 18.4 percent to 12.2 percent.<sup>28</sup> This is slightly higher than EATRs for investments enjoying the most generous tax incentives in other countries in the region, including Vietnam, Thailand, and Lao PDR (9.2 percent, 9.6 percent, and 10.6 percent, respectively), but lower than in Malaysia (15.6 percent) and the Philippines (22 percent) (Figure 32).

**In sum, at customs alone, tax expenditure in Cambodia in 2015 would have amounted to around 3.9 percent of GDP, with the bulk of exemptions benefiting QIP investors (mostly in the garment**

25 The computation of the EATR is based on significant features of the respective country's tax system (e.g., depreciation allowances, profit and non-profit tax rates, exemptions). For full details on the estimation method, see Wiedemann and Finke (2015).

26 While having a lower statutory CIT rate, Singapore's EATR is higher than Cambodia's given that the depreciation of buildings and acquired tangibles are not tax-deductible in Singapore.

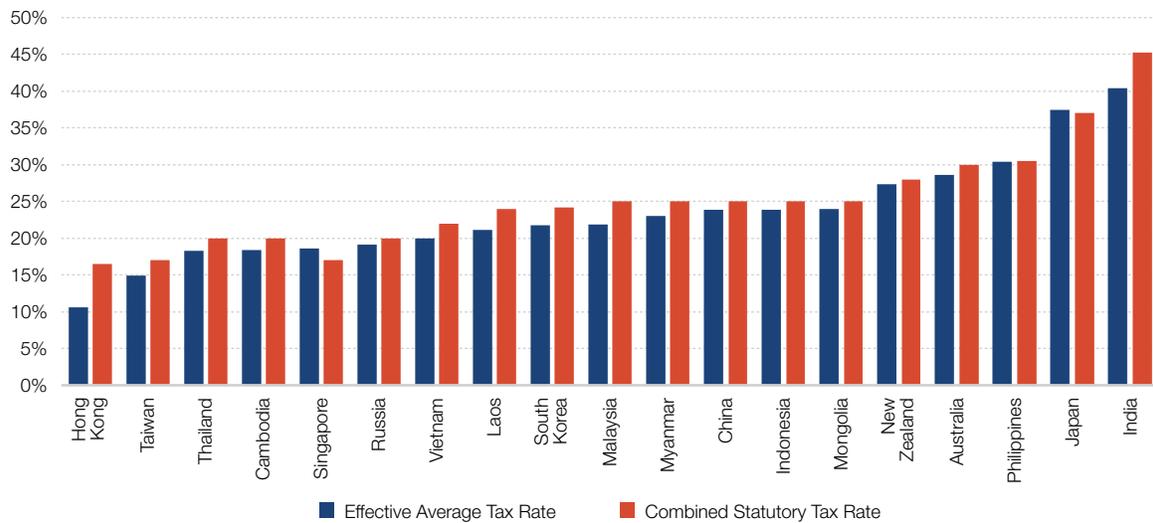
27 A 10 percent withholding tax rate is applied to four countries with which Cambodia has tax agreements (Brunei, China, Singapore, and Thailand).

28 For firms not repatriating income.

**industry).** Leaving aside VAT-related relief at customs (except those granted to individuals/final consumers) which would be otherwise expected to be claimed as input tax credit by importing companies, tax expenditure at customs is estimated to have increased from around 2.6 percent of GDP in 2014 to 3.9 percent of GDP in 2015 (Table 11). This is larger than the entire budget to the education. With regard to CIT-related

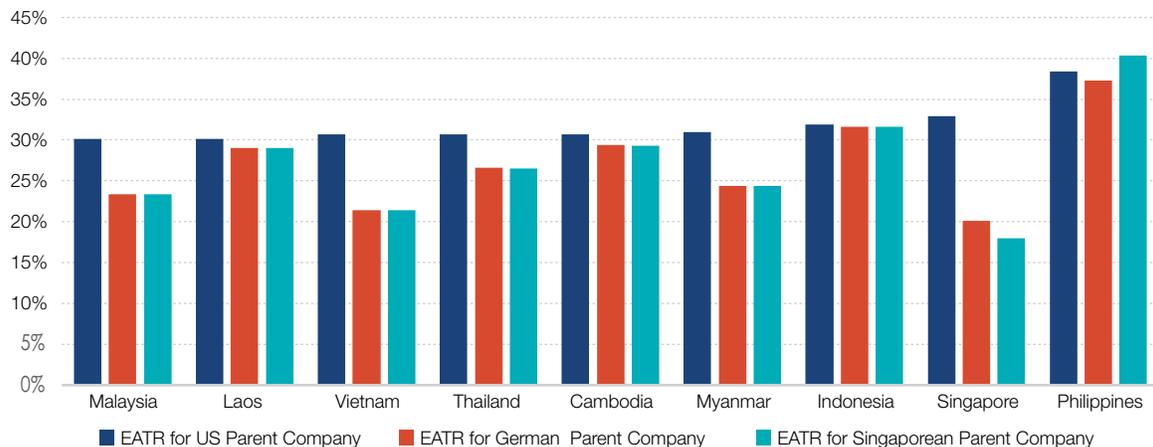
tax expenditure, data quality issues prevented a full assessment; previous analysis by World Bank (2015) estimated CIT tax expenditure by QIP projects in the garment and footwear sector at around 1.8 percent of GDP in 2014. Going forward, authorities could consider further streamlining existing incentives to minimize the fiscal cost and to maximize the potential for attracting higher value-added industries.

Figure 30. Cambodia's statutory CIT rates and estimated EATR are low compared to other Asia-Pacific economies



Source: Wiedemann and Finke (2015).

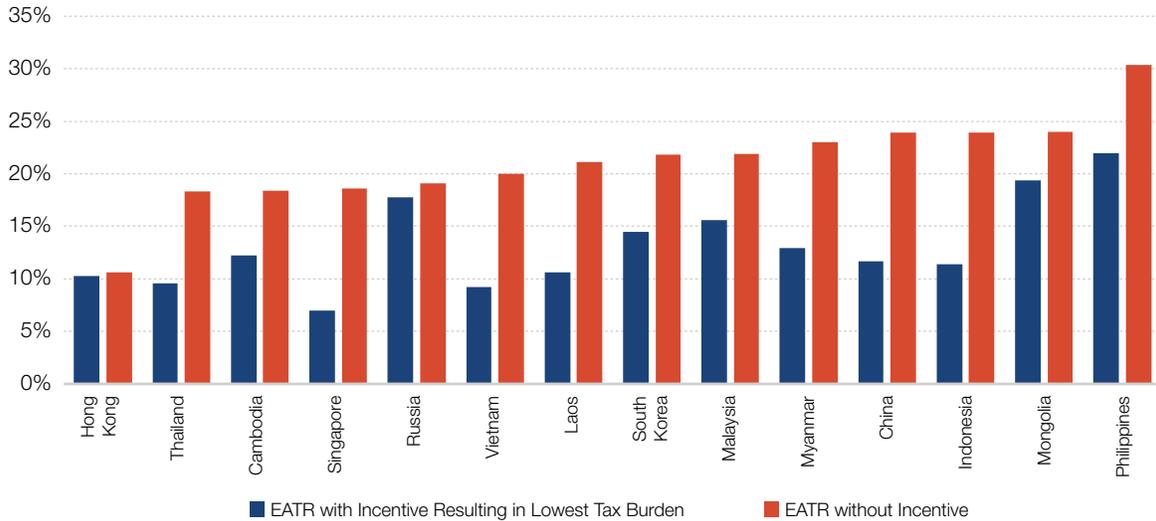
Figure 31. EATR for investments repatriating income is in turn higher than in other ASEAN countries<sup>a</sup>



Source: Wiedemann and Finke (2015).

Note: a. Excluding Brunei Darussalam, as it was not included in the study.

Figure 32. When taking into account tax incentives, the EATR comes down to 12.2 percent<sup>a</sup>



Source: Wiedemann and Finke (2015).  
 Note: a. Except Brunei Darussalam, as it was not included in the study.

Table 11. Tax expenditure at customs is estimated at around 3.9 percent of GDP in 2015

In percentage of GDP	2014	2015
VAT relief at customs	3.07	3.96
o/w VAT tax expenditure going to final consumers (individuals) (i)	0.09	0.15
Duties and specials, relief at customs (ii)	2.48	3.72
Exemptions on excises (iii)	0.03	0.02
<b>Estimated tax expenditure at customs (i+ii+iii)</b>	<b>2.60</b>	<b>3.89</b>
Estimated CIT tax expenditure for garment and footwear	1.8	1.8 <sup>a</sup>
CIT Exemptions for Other Investment	? (Unknown)	? (Unknown)
VAT Exemptions for Non-Exporters	? (Unknown)	? (Unknown)
Memo item: estimated QIP investment approvals	1.06	
Memo item: tax expenditure on the acquisition of automobiles by individuals	0.06	0.33

Source: World Bank staff calculations based on data from GDCE, and World Bank (2015).  
 Note: a. Assuming no variation in 2015 with respect to 2014.

## Potential reforms for streamlining investment incentives in Cambodia

### Introducing cost-effective incentives and rationalizing tax holidays

**Going forward, Cambodia may face increasing challenges in retaining the footloose garment industry, while it is expected to attract higher value-added investment.** Preferential trade treatment under the US quota system, first, and the Everything But Arms agreement with the EU, later, has been the main factor behind the emergence of the garment industry in Cambodia (Bargawi, 2005; Hill & Menon, 2014). In a context of rising wages and relatively high costs to firm operation (including electricity, exporting), the labor-intense low-end garment industry has little incentive to undertake additional investments and scale up production processes, and may be eventually relocating. Cambodia, on the other hand, can diversify and create new clusters around a series of emerging export products that have been growing rapidly in recent years—such as bicycles, ignition wires, optical appliance parts, electric motors (including for smartphones). It is nonetheless worth mentioning that the production processes taking place in Cambodia mainly involve manual assembly, with limited mechanization. This suggests the need for capital investments to improve productivity and value-added, leading to higher wages and salaries.

**As incentives are only one of the many factors that encourage investment, they should be used to correct specific market failures** (e.g., fostering investment in machinery, skills training). Currently, incentives in Cambodia are not being used to achieve targeted policy objectives such as supporting innovation, linking the local private sector to global value chains of production, training workers, or focusing on higher value-added sectors. As an overall guiding principle, incentives should only be used to encourage the private sector to fund public goods (such as capital formation or infrastructure) and should be avoided for

activities unlikely to generate wider economic and social benefits (James, 2014). As Cambodia tries to move up the value chain and diversify its exports base, improving the investment climate and minimizing the cost of firm operation will remain priority reforms. This is explicitly acknowledged in the Industrial Development Policy, which prioritizes the need to “*further strengthen favorable environment for investment and doing business by improving the regulatory framework, rationalizing the provision of incentives for investment projects*” (RGC, 2015b).

**In this context, Cambodia could consider rethinking its tax incentives mix, in order to limit revenue foregone while continuing to attract investment according to a single policy objective.** In line with the IDP, this policy objective could be to foster capital investment and technology adoption. Evidence suggests that gross capital formation as well as capital intensity in manufacturing—which are important for productivity growth—have been lower in Cambodia compared to other peer countries (World Bank, 2017). Going forward, as Cambodia tries to diversify its manufacturing base, introducing incentives for capital acquisition would be more effective than tax holidays in fostering longer-term and higher value-added investors (World Bank, 2015).

**Given that they are not linked to policy objectives, CIT holidays could be progressively replaced or limited to a reduced number of years.** For each of the four investors surveyed in the IMS, three were not considering alternative locations to Cambodia. Ideally, tax holidays would be targeted to the marginal investor who would not have invested in Cambodia without incentives. However, lack of sufficient information on potential investors (not yet established in Cambodia) makes their targeting unfeasible. One option would be to replace tax holidays with cost-effective incentives such as deductions on the acquisition of fixed assets for which marginal investors in capital-intensive activities would “self-select” as beneficiaries, as discussed below. If policymakers deem that tax holidays are still necessary, their fiscal impact could perhaps be lessened

by reducing the length<sup>29</sup> or introducing partial tax holidays. The latter could take the form of a 50 percent CIT tax exemption rather than a total tax holiday, or a gradual decrease in exemption rates over time.

**Cost-effective incentives aimed at boosting investment levels could be more efficient in increasing capital formation in Cambodia.**

As in some upper middle-income Asian economies,<sup>30</sup> these incentives could take the form of investment tax credits (ITC) or investment tax allowances (ITA), consisting in the deduction of a fixed percentage of capital spending against the tax liability (ITC) or the business income (ITA), with a limit. Similar to other countries in the region such as Malaysia, the amount of the deduction could range between 60 and 80 percent of the value of the asset (e.g. a machine). Liabilities can be carried forward for a few years and ascribed when taxes are paid. One virtue of these incentives is that they effectively reduce the cost of capital and have a self-correction mechanism since low-margin investors (those making little profit in the first few years) will be more incentivized than large-margin investors (who may only be able to carry forward deductions over one or two years due to large profits). It would thus be an effective way of targeting marginal investors who are considering coming to Cambodia but would need to see the cost of inputs lowered over the first few years as they get established. Another advantage of these kinds of deductions compared to plain exemptions on corporate income is that firms would need to fill out tax returns, which would likely result in better taxpayer information and reduced scope for tax evasion. More generally, cost-effective incentives are expected to help increase the competitiveness and level of diversification of the economy by encouraging investments into capital-intense sectors.

**To reduce tax evasion, VAT exemptions could be replaced with tax credits.** The current VAT exemption policy creates distortions in the marketplace. For

example, if one firm producing a certain good qualifies for a VAT exemption while another firm producing the same product does not, the first firm can sell its commodity at a lower price in the domestic marketplace than the second. VAT exemptions at customs may also distort the VAT chain beyond the importer and result in loopholes and unintended foregone revenue. One of the strengths of the VAT is its consistency; it ensures that all tax due to the state is paid and reduces opportunities for tax avoidance. Removing existing VAT exemptions for importers while granting them prompt payment of their input tax credits would help improve the productivity of this tax.

**It would also be advisable to reduce potential loopholes around imports for final consumers/ individuals.**

While certain officials and diplomats enjoy tax exemptions on the import of goods, detailed analysis of imports by individuals would be useful in helping to prevent potential tax evasion activities (for example, the import of vehicles by individuals to sell them to local retailers or final consumers). Tax expenditure on imports by individuals amounted to 0.47 percent of GDP in 2015.

**Although Cambodia is one of the few countries in the region that does not have incentives related to R&D, such incentives are expected to be effective only in the medium term so are less of an immediate priority.**

Evidence indicates that the rates of return for R&D in poorer countries are usually low due to the absence of complementary factors such as education, scientific infrastructure, functioning of the national innovation system, and quality of the private sector (Goñi & Maloney, 2017). Thus, at least in the short run, investing in human capital and improving the overall framework and enabling environment for innovation would likely be more effective than granting incentives to companies for conducting R&D. In the medium term, deductions on R&D and training could be introduced for all sectors (including services).

29 Cambodia (up to 9 years), is on the high side in the region, together with Lao PDR (10 years) and Thailand (11 years), none of which are direct competitors with Cambodia in terms of FDI. Meanwhile, other countries have much shorter holiday periods, such as Philippines (6 years), Myanmar (5 years), Vietnam (4 years) and China (2 years).

30 China, Thailand, Malaysia, and Singapore.

## Enhancing the transparency and management of investment incentives

**The legal framework for tax incentives should be consolidated and placed in the Tax Code rather than in the Investment Law or sectoral legislation.**

Following international best practices, moving the tax incentives to the Tax Code would allow taxpayers to access all the needed information and prevent the proliferation of incentives that could result in tax expenditure. Tax authorities are also better positioned than other institutions to monitor companies' compliance with the incentive regime, given the complementarities of these checks with the primary functions of the tax administration.

**This would also be a good opportunity to consolidate and streamline the information on incentives that is available to investors.**

The specific criteria used to grant tax incentives and a detailed explanation of the approval and appeal process should be made public (and available in both Khmer and English). This could be undertaken as part of a reorganization of the relevant websites in a more user-friendly manner, following international best practices.

**It would be desirable to produce annual tax expenditure estimates as an annex to the national budget.**

Tax expenditures are a use of public funds, and therefore information on them should be made available to the public. The tax expenditure estimates based on customs data presented earlier in this report could be updated annually and complemented with further analysis using customs data to trace imported goods by exporting companies, which could help confirm some of the findings of this report. This would also need to be complemented with GDT information on CIT and VAT exemptions. Data could be produced on the different types of incentives awarded, estimated tax expenditure amounts, and beneficiary sectors. The consolidated assessment could be published as a

yearly tax expenditure report or, ideally, as an annex to the national budget.

**Cambodia could also consider streamlining the approval process for incentives, implementing clearly pre-defined and objective eligibility criteria to reduce room for discretion and uneven treatment of investors.**

Notable efforts have been made to reduce delays in the screening and approval of QIP incentives, including the introduction of the 31 working days limit by the amendment of the LOI. However, investors are still required to get certificates of eligibility from different institutions. Redundant application processes that are essentially duplicated across different reviewing agencies could be eliminated. Based on international experience, the process could be streamlined further with the introduction of automatic approval with ex-post revision by the tax administration, moving to a self-declaration system instead of the current procedures that require authorities' approval of each individual QIP.

**Another potential reform is to move from a project-by-project basis to granting incentives to firms.**

In some cases, the granting of exemptions to QIPs rather than firms results in companies continuing the same activity under a different QIP to continue receiving exemptions beyond the established period. Furthermore, in the case of firms carrying out both QIP and non-QIP activities at the same time, no clear regulations exist on how to separate profits between the two. This obviously creates an incentive for firms to classify all their profits under the QIP regime.

**To reduce confusion, the current formula for preferential taxation could be substituted with a standard length of time for the incentive (from the date of registration).**

Interviews with stakeholders indicate that there is confusion on what constitutes the trigger period for receiving investment incentives and how to interpret it. Replacing the current 3+3+3 years scheme<sup>31</sup> with a more straightforward classification of the applicable duration of incentives would provide greater

<sup>31</sup> Trigger period (starting from receiving QIPs status, and lasting until the first profit is made or 3rd year after first years of sales) + 3 year-holiday periods + priority period (1 to 3 years depending on the capital invested).

investor certainty and reduce administrative complexity. CIT tax holidays and exemptions in customs duties for inputs could be time-bound (for example, to just six years), while other incentives in the form of deductions could be open-ended. Over the medium term, tax holidays could also feature a progressive reduction in exemption amounts (e.g., declining from 100 percent to 20 percent over six years and to 0 in the seventh year). Revenue gains stemming from rationalized tax holidays will enable the government to invest in necessary infrastructure.

**Cambodia could also consider eliminating the minimum investment threshold required for QIPs and instead introduce tax allowances or tax credit on capital investment.** At the moment, QIPs are granted to companies presenting a minimum capital investment.<sup>32</sup> This minimum capital requirement could be removed for several reasons. First, firms could tend to overstate the amount to be invested in the QIP; in fact, approved QIP fixed assets in 2013 (USD 4.8 billion, according to CDC) were substantially higher than official FDI net inflows (USD 1.3 billion) for the same year. Diligently checking whether the amounts declared as QIP fixed assets are effectively invested would be costly and would require substantial resources and capacity at the CDC. In addition, this threshold results in firms with smaller investments potentially competing at a disadvantage with respect to larger firms. Instead of this minimum threshold, a series of tax allowances and tax credits could be granted to any firm that invests in the acquisition of equipment and the upgrading of facilities, and deductions would be audited by the tax administration.

**It is important for Cambodia to engage in a regular review of its incentives regime.** The diagnostic analysis presented in this report is an example of such review. Policy objectives should also be clearly defined and agreed upon across public and private actors, including the type of FDI Cambodia would like to attract. The cost-effectiveness of incentives in achieving the

targeted policy objectives could then be assessed, including an evaluation of the short- and long-term benefits and costs of the incentives provided. Incentive programs should also include indicators to measure their results, as well as monitoring mechanisms to make sure public money is being spent effectively. For example, if the policy objective is to attract higher value-added and capital-intensive industries, regular measurement of capital stock and productivity at the firm level could help assess the effectiveness of some of the incentives (e.g., the ITA/ITCs). This information could then be used to make adjustments if necessary.

**Regional and inter-institutional coordination is also essential to achieving the objectives of investment attraction and retention.** While Cambodia has numerous inter-ministerial working groups and task forces working on enhancing the business environment, not all of them have proven to be effective. To implement the proposed reform programs successfully, high-level (and working-level) officials from all concerned ministries and agencies must work together toward a set of common objectives. The IDP offers one possible avenue for the government to align around a strategic approach to economic diversification and upgrading, but effective implementation remains a challenge. In addition, in the context of a region where there is a pervasive race to the bottom in terms of investment incentives, ASEAN could be the platform to negotiate and agree upon a set of basic principles in the design of tax holidays in order to avoid unfair competition, limit tax expenditure, and maximize investment attraction. The East African Community and the European Union are examples of tax incentive policy coordination at the supra-national level.

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<sup>32</sup> The minimum capital investment ranges from USD 100,000 for suppliers to exporting industries to USD 500,000 in garments and USD 1 million for chemicals, fertilizers, or medicines.

Table 12. Policy options towards an investment incentives reform

Tax instrument	Short-term (1-2 years)	Medium-term (3+ years)
CIT tax holidays	Limitation of 6 years & simplification	Introduction of declining exemption rates
Exemption in customs duties for inputs	No change	List of eligible inputs instead of Qualified Investment Projects
VAT zero rate on import of inputs for production	Preparation / piloting	Implementation
Tax allowance/ tax credit on capital investment	Implementation	
Deductions to R&D, staff training	No change	Implementation

Source: World Bank staff elaboration.

# 3 STRENGTHENING PUBLIC INVESTMENT MANAGEMENT TO SCALE UP PUBLIC INFRASTRUCTURE

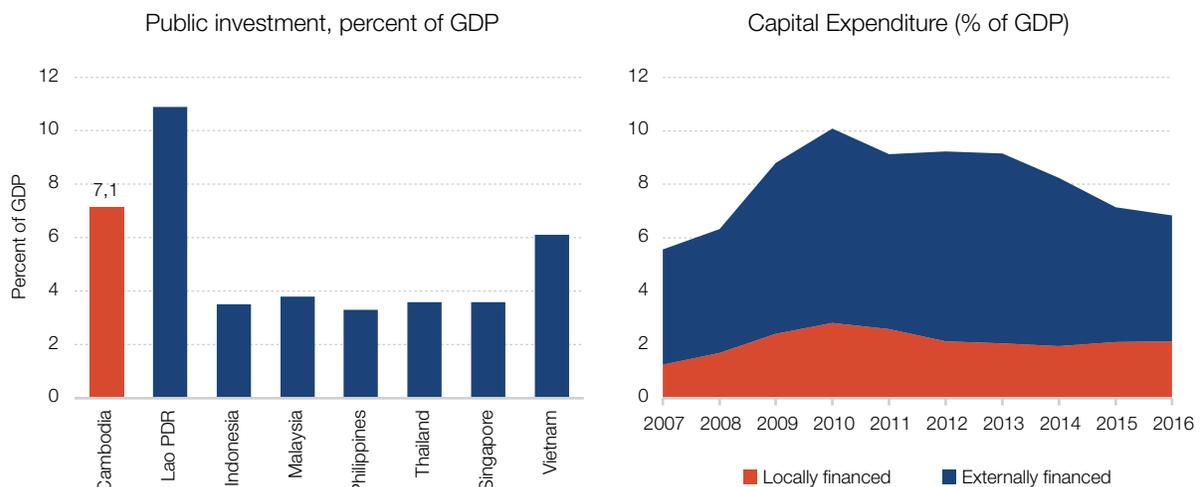
## Introduction and motivation

**I**n Cambodia, the provision of public infrastructure has been financed mainly by DPs. If development partner (DP)-financed projects are considered, public investment has been relatively high compared to neighboring countries (Figure 33, left panel). Externally financed public capital expenditure averaged around 4.5 percent of GDP in 2000-08 and increased in the aftermath of the global financial crisis, reaching a peak of 7.3 percent of GDP in 2010. Since then, in the context of decreasing grant

components in DP financing as discussed earlier, it declined to 4.7 percent of GDP in 2016. Except for 2010, the level of domestically financed capital expenditure has been more modest at around 2-2.5 percent of GDP in 2009-16 (Figure 33, right panel).

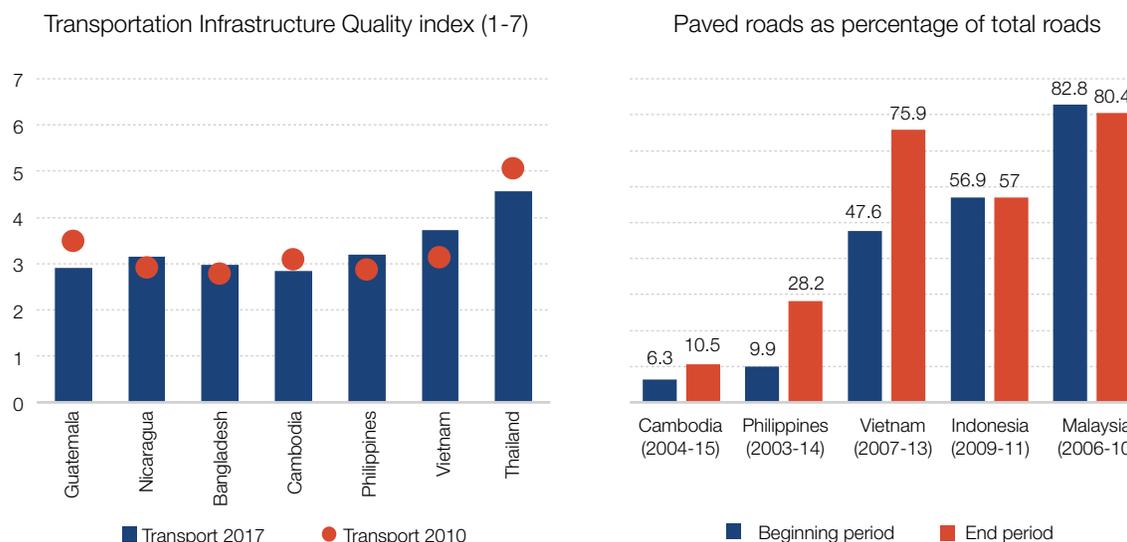
**Cambodia faces three major challenges in sustaining an adequate level of public investment.** First, externally or DP financed capital is expected to keep declining as a percentage of GDP, or at least the portion financed by grants. Second, the recent expansion of the wage bill as discussed earlier is limiting the extent to which authorities could increase the domestically

Figure 33. Public investment has been relatively high thanks largely to DP financing, although externally financed capital expenditure is on the decline



Source: TOFE, Ministry of Economy and Finance, IMF Article IV staff reports, Asian Development Bank, and CIA.  
 Note: Data are for 2015 or latest available years

Figure 34. Cambodia still lags behind its peers in the quality of transportation infrastructure



Source: World Economic Forum, Global Competitiveness Indicators; The World Factbook, CIA.

financed capital budget, although revenue collection keeps improving. Third, the relatively high level of public investment with limited infrastructure outcomes indicates that enhanced quality of public investment management (PIM)—doing more and better with fewer resources—has not yet been achieved.

**Notably, large DP-driven public investment does not seem to have resulted in substantial infrastructure improvements in recent years, which points to spending inefficiencies.** Although total public capital formation has been substantially higher (an average of 7.5 percent of GDP in 2000-15) than in most ASEAN countries, Cambodia still lags other structural peers in terms of quality of transportation infrastructure, which according to the World Economic Forum, has not improved in recent years (Figure 34, left panel). While Cambodia's physical infrastructure has expanded (e.g., paved roads as a percentage of total roads) it also remains far behind regional peers (Figure 34, right panel). Given that DP-funded capital investment accounts for three-quarters of total public investment, this may reflect inefficiency in DP-funded capital investment spending even despite relatively well-managed DP-funded PIM. One of the root causes seems to be that DP-financed

infrastructure has not been maintained sufficiently due to constraints in operations and maintenance budgets to be funded by domestic resources. Fragmentation of public resources and parallel budget formulation, budget execution, monitoring and evaluation, and financial reporting undertaken separately for DP- and domestically funded spending may have contributed to this problem.

**For Cambodia, improved public expenditure management and long-term growth prospects will hinge upon enhancing the quality of public investment management.** In 2011, an index of public investment efficiency classified Cambodia among the bottom 40 percent of developing economies, mainly due to weaknesses in investment project selection and appraisal (Dabla-Norris, Brumby, Kyobe, Mills, & Papageorgiou, 2011). In many low-income countries, inadequate PIM has been found to hamper the contribution of capital spending to growth, as well as the return on investment (Esfahani & Ramirez, 2003; Haque & Kneller, 2008). To overcome this challenge, Cambodia would need to not only sustain high public investment levels but also improve PIM to enhance value for money.

**This chapter provides a systematic assessment of the PIM system in Cambodia to identify areas for improvement and specific recommendations for reform.** The diagnostics are based on the World Bank Diagnostic Framework, developed to assess the efficiency and efficacy of PIM in a country (Rajaram A., Le, Kaiser, Kim, & Frank, 2014). While the chapter focuses on government-financed public investments, some aspects of Public-Private Partnership (PPP) and DP-funded projects are also discussed. Ideally, the PPP framework and reforms would be aligned with PIM reform to help ensure a unified approach for integrating these elements into the broader PFM reform agenda.<sup>33</sup> The remainder of this chapter is structured as follows. Section 3.2 reviews the legal and institutional arrangements for PIM in Cambodia, then the findings of the PIM assessment are presented in Section 3.3. The chapter concludes with a discussion of policy options in Section 3.4.

## The Legal and Institutional Arrangements for PIM in Cambodia

**Although Cambodia has embarked on a Public Financial Management Reform Program (PFMRP) since 2004, the PIM function does not have an appropriately defined legal framework.** The Public Finance System Law (2008) describes what the capital expenditure of budget is to be used for but does not specify the processes for streamlining decisions of capital budget preparation and execution<sup>34</sup> The introduction of three-year rolling bottom-up budget strategic plans (BSPs) and an initial phase (partial) of top-down Medium-term Budget Framework (MTBF)<sup>35</sup> have helped improve budget credibility and the budget-policy

linkage between the overall policy objectives under the National Strategic Development Plan (NSDP) and the Rectangular Strategy, and sectorial policies via annual budgets. However, by 2015 most ministries had not yet reflected public capital expenditure in the BSP, and BSPs do not play an important role in decisions about the annual or capital budget. Moreover, the Budget Law does not include any specific legislation, chapter, or article for regulating capital expenditure and PIM. Finally, while the Procurement Law (enacted in 2012) is functional for PIM—in particular, for the downstream project/budget implementation process—it could be further elaborated on to link procurement with other PIM processes (e.g. planning, ex-post evaluation) more broadly.

**A Public Investment Program (PIP) Sub-decree<sup>36</sup> was passed in 2000 to provide guidance on the selection and monitoring and evaluation of public investment programs, but it has shortcomings.** According to this Sub-decree, the Ministry of Planning (MOP) and the Ministry of Economy and Finance (MEF), with inputs from the Council for Development of Cambodia (CDC), would issue an Annual Joint Inter-Ministerial circular to guide the preparation of public investment programs based on the results from previous years. In this sense, a three-year rolling PIP has been developed and updated annually with the aim of coordinating and channeling domestically and externally financed budget resources to priority areas of development. While the PIP Sub-decree specifies the institutional arrangements for the establishment of PIP, it does not refer specific guidelines or manuals that set out the specific ‘rules of the games’ on how project proposals are to be pre-screened, appraised, and selected for financing. Moreover, the Sub-decree does not provide detail on the various follow-up stages of the PIM process (project appraisal,

33 It is recommended that there be no distinction for PPP projects from the regular PIM, given that PPP investments are not intrinsically different but only provide a different modality for implementing a public investment project. If PPP investments are planned, appraised, selected, and budgeted separately from traditional government investments, this may create undue fiscal risks and concerns on the appropriate forms of accounting, reporting, budgeting, and implementation. For further discussion, see Jay-Hyung Kim, Martin Darcy, and Nataliya Biletska (2015), *Public Investment Management for Public Private Partnership: Analytical Framework and Assessment Tool*, mimeo, World Bank. Refer to Recommendation 5 in section V.

34 Recently, the MEF has planned for a comprehensive review and revision of the law to reflect changes and reforms realized under the PFMRP. An important area of the new law will include specific policies and principles regulating the preparation and management of public investments at all stages. For more information, see RGC (2015c).

35 Initial (partial) MTBF captures only domestically financed recurrent spending whereby budget “envelopes” for line ministries are tentatively set.

36 Sub-Decree on Public Investment Program Management. No: 36 ANKr.BK. Royal Government of Cambodia, June 14, 2000.

implementation, adjustment, etc.), and the mandate for ex-post evaluation by line ministries and reporting back on the status and results of project implementation has not been enforced.

**The Standard Operating Procedures (SOP) for all externally financed projects/programs are considered adequate regulatory documents for PIM but have room for improvement.**

The purpose of the SOP is to improve the efficiency and effectiveness of the RGC's (under the purview of MEF) management and administration of its portfolio of externally funded projects by clarifying institutional roles, responsibilities, and accountabilities, as well as streamlining related procedures and interactions between and among the institutions involved. The SOP aims to clarify and streamline those RGC and DP procedures and eliminate overlaps so operations are implemented efficiently, according to agreed quality standards, and within budgeted allocations. While DPs assist the RGC with financial assistance and expertise as necessary, the RGC through executing agencies and implementing agencies leads project formulation, preparation, and implementation processes. SOP documents are acknowledged to be effective for project identification, project preparation, and project implementation in externally funded projects but include little detail about the initial stages of project concept identification and development planning. The Procurement Manual complements SOPs and supports the improvement of effectiveness and efficiency in procurement of externally financed projects.

**The MEF issued a series of Ministerial Letters during 2014-16 to improve the efficiency of public investment (Chapters 21 and 61) in three key line ministries that receive most of the domestically financed capital budget.**<sup>37</sup> For the three targeted line ministries, inter-ministerial committee (IMC) meetings are held to review and approve new and ongoing capital

investment projects. The Letters clarify the rules for project prioritization with a request that each project must include a feasibility study and the rules for enhancing the effectiveness and efficiency of projects, and they instruct the ministries to develop guidelines for the design, construction, and maintenance of infrastructure. One of the shortcomings of these IMC meetings is that they have not yet been formally legislated and are based on bilateral (rather than multilateral) discussions between the MEF and counterpart line ministries.

**Thus, while good progress has been achieved under PFMRP, the legal and institutional framework appears inadequate for effective management of public investment—especially for the domestically financed component.**

An initial legal and institutional review points to the lack of a comprehensive and systematic PIM framework and the limited integration of externally and domestically financed projects (with parallel budget management systems). The Public Expenditure and Fiscal Accountability (PEFA) Assessment in 2015 also noted that the PFM systems do not support policy-budget linkages in resource allocation because strategic sector planning remains limited, which may result in suboptimal selection of capital investment projects and insufficient consideration of the recurrent budget implications of completed projects (RGC, 2015). The incipient MTBF is not fully developed and integrated into formal budgeting processes. Moreover, lack of detailed reporting on the implementation of externally funded projects and limited integration of those investments in the budget hinder authorities' ability to track the extent to which resources reach service delivery units.

**Global trends suggest that PIM requires an appropriate legal and regulatory framework to ensure it functions well and that common standards and methods are applied consistently.**<sup>38</sup> The legal tradition and administrative culture in any given country will determine the most suitable approach, but where

37 Those ministries are the Ministry of Public Works and Transport, Ministry of Rural Development, Ministry of Water Resources and Meteorology. Chapter 21 is for direct investment projects, and Chapter 61 is for rural road repairs and maintenance.

38 See recent World Bank PIM technical assistance reports for Cyprus (2016), Georgia (2016), Romania (2015), and Zambia (2013). Other country-specific assessments have been analyzed and summarized in chapter 3 of Rajaram et al. (2014).

Table 13. Cambodia’s legal and regulatory hierarchies for PIM still have a number of gaps

Hierarchy/Projects	Government-financed projects	Externally financed projects
Tier 1: Legal authority	Public Finance System Law is not specific in PIM provisions	Public Finance System Law is not specific in PIM provisions
	Procurement Law is adequate de jure	Procurement Law is adequate de jure
Tier 2: Procedural guidelines	PIP Sub-Decree (only planning and evaluation)	SOP, Procurement Manual
	Ministerial Letters for IMC procedures adopted recently	
Tier 3: Methodological manual	None	No standard RGC version (DPs use their own)

Source: World Bank staff elaboration.

possible, the guiding principle should be to avoid using an overarching framework and legal instruments to provide detailed procedural arrangements and instructions. Procedures and methods usually have to be adapted and changed over time (particularly in the early days of PIM reform), and the more authoritative a legal instrument is, the harder it will be to initiate such change (IMF, 2007). This principle points to the design and adoption of a hierarchical legal and regulatory PIM framework, consisting of three tiers from top to bottom:

1. Legal authority for the PIM system which usually is established through some form of primary legislation.
2. More detailed procedural guidelines, high-level decision criteria, and designation of analytical tools.<sup>39</sup>
3. Methodological guidance, detailed criteria, standardized parameter values, and procedural documentation. Generally issued directly by the PIM coordinating agency and in the form of manuals, templates, and circulars, under the authority granted to the agency by the primary legislation.

**Cambodia still has a long way to go in developing such an appropriate legal and regulatory framework.**

The Public Finance System Law should be at the top tier as the primary legislation for establishing the legal authority for PIM (Table 13). Unfortunately, the current PIM articles do not explicitly regulate the separate PIM stages of project preparation, appraisal, selection and capital budgeting, and project implementation. For the second tier, even though externally financed projects are regulated by the SOP and Procurement Manual, domestically financed projects are rarely regulated with formal guidelines. At the third tier, no standard manual for the RGC exists, although some DP manuals are available.

## Diagnostic Assessment of PIM in Cambodia

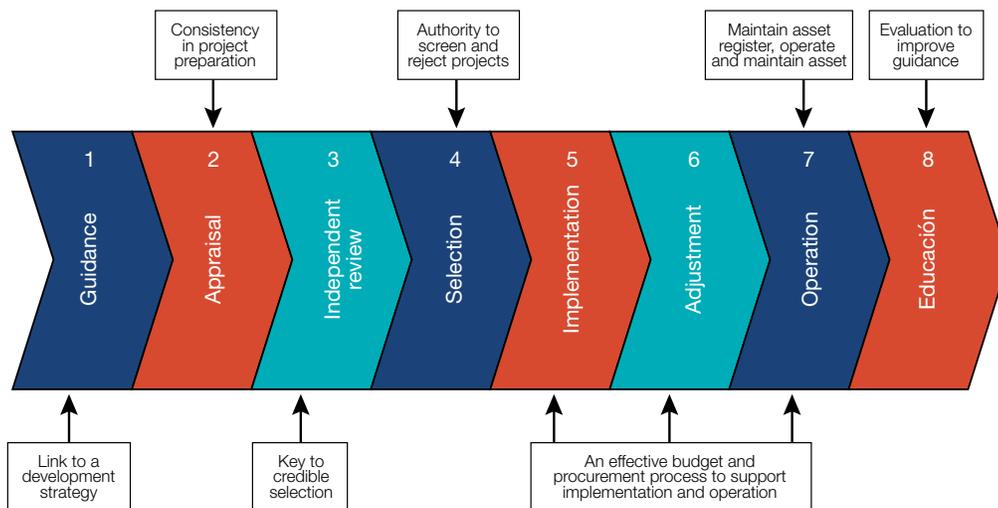
**This assessment is based on a PIM diagnostic tool and has been prepared in close collaboration with Cambodian authorities and DPs.** The diagnostic framework provides a comprehensive view of the public investment cycle and identifies institutional and procedural gaps across the eight stages of PIM against functional (so-called “must-have”) features (Rajaram

<sup>39</sup> Usually referred to as ‘secondary’ legislation.

## The World Bank’s PIM Diagnostic Framework

The World Bank’s Public Investment Management (PIM) diagnostic tool is broadly consistent with the approach taken in the Public Expenditure and Financial Accountability (PEFA) initiative. The core dimensions of the diagnosis are set out in the desirable features of eight “must-have” stages of an efficient PIM system, such as:

- 1) *Investment Guidance, Project Development, and Preliminary Screening*: the extent to which there is sound guidance on national and sector policy priorities, a formal process for project development, and first-level screening of all projects for strategic alignment.
- 2) *Formal Project Appraisal*: the quality of appraisals presented to justify new investment spending.
- 3) *Independent Review of Appraisal*: the quality of review of project proposals and appraisals.
- 4) *Project Selection and Budgeting*: the process of deciding on priority projects to be funded in the budget.
- 5) *Project Implementation*: actual construction of the physical assets and budget execution.
- 6) *Project Adjustment*: monitoring of project implementation and adjustments as necessary.
- 7) *Facility Operation*: use of the assets for service delivery.
- 8) *Basic Completion Review and Evaluation*: ex-post collection of data on total cost and time compared to plan, and selective evaluation of project results.



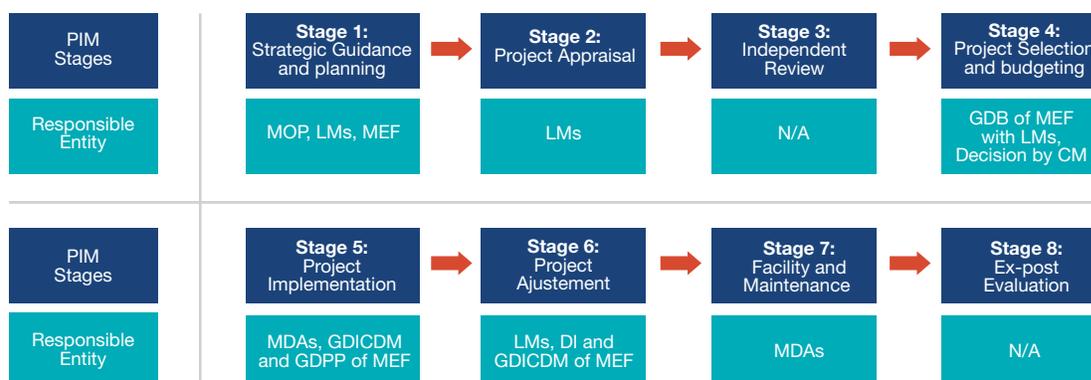
Source: Rajaram et al. (2014).

A. , Le, Kaiser, Kim, & Frank, 2014). The must-have features are designed with the intent not to establish a gold standard but to provide a logical and internally consistent system that all countries should try to follow to establish basic discipline in managing their capital budgets (Box 3). This study, undertaken with the support

and cooperation of the MEF, involved the collection of diagnostic evidence. In addition to desk review work, surveys based on written questionnaires,<sup>40</sup> other modalities of data collection, and face-to-face interviews with officials at different core and line ministries as well as other DP representatives were conducted.

40 The preparation of questionnaires was guided by the World Bank PIM diagnostic tool (Rajaram A. , Le, Biletska, & Brumby, 2010; Rajaram A. , Le, Kaiser, Kim, & Frank, 2014), with modifications to reflect the country-specific institutional arrangement and decision structure.

Figure 35. Cambodia has some gaps in its PIM institutional arrangements



Note: Ministry of Planning (MOP), Line Ministries (LMs), Ministry of Economy and Finance (MEF), None Available (N/A), General Department of Budget (GDB), National Council (NC), Department of Investment (DI), General Department of International Cooperation and Debt Management (GDICDM), General Department of Public Procurement (GDPP), Ministries, Departments, and Agencies (MDAs).  
Source: World Bank staff, based in discussions with Cambodian authorities.

**A review of the roles and responsibilities of the major players reveals some gaps in PIM practice for Cambodia, as shown in Figure 35. Among the eight must-have stages of good PIM practice, stage 3 (independent review) and stage 8 (ex-post evaluation) are missing in Cambodia.** In the upstream decision process (stages 1-4) as well as the downstream implementation process (stages 5-8), the gatekeeping oversight role/responsibility of MEF is limited and could be strengthened further. Across the various stages, the PIM system for domestically financed projects is much weaker than the one for the externally financed projects. These gaps are discussed in greater detail below.

### Stage 1: Investment guidance, project development, and preliminary screening

**Although strategic guidance for public investment decisions (both domestically and externally financed projects) is provided to implementing agencies, the legal framework for Cambodia's capital investment program results remains disconnected and thereby disaggregates the critical stages in policy, planning, and budgeting.** The quality of strategic guidance and planning for public investment is critical for success in PIM. In

Cambodia, the Rectangular Strategy and NSDP, along with a sector plan, are meant to guide and anchor the LMs and its agencies to prepare, pre-screen, and appraise the projects. In addition, efforts have been made to institute a cross-framework in policy and budget dialogues between LMs and MEF as a collaborative mechanism to support project appraisal and selection. The above-mentioned strategic planning documents should provide the overarching, first level of policy direction, with the BSPs and PIPs flowing into implementation plans. However, both the Rectangular Strategy and NSDP strategies – being strategic documents – are inherently broad, as they contain a large number of objectives with less clearly defined outputs and outcomes. In this context, it appears that line agency, local authority, and cabinet priorities compete for funding, making the link between NSDP priorities and Rectangular Strategy decision making even less clear. Lack of regulations on how project approval, financing, and execution are to be managed has resulted in a major disconnect between the national strategies and the annual capital budget process that determines actual resource allocation. Table 14 shows the key Stage 1 diagnostic questions used in the survey and interview processes as well as the assessments.

Table 14. The investment guidance and strategic planning stage in Cambodia PIM

Diagnostic questions	Assessment: Domestically financed projects	Assessment: Externally financed projects
Is there well-publicized strategic guidance for public investment decisions at the central, ministerial, and departmental levels?	Yes, basic guidance in NSDP, RS, PIP, BSP, and MTBF. However, the strategies remain disconnected, with a large number of objectives and without definition of clear outputs and outcomes. The connection between the guidance and specific investment decisions is weak.	Yes, basic guidance in NSDP, RS, PIP, BSP, and MTBF. However, the strategies are broad, with a large number of objectives and without definition of clear outputs and outcomes. The connection between the guidance and specific investment decisions is weak.
Is there an established formal process for screening project proposals for basic consistency with government policy and strategic guidance?	Less formal process under weak legal and regulatory requirements.	Yes.
Is this process enforced and effective?	Weak. Development strategies have limited authority due to quality issues and frequent changes.	Yes.

Source: World Bank staff, based in discussions with Cambodian authorities.

## Stage 2: Formal project appraisal

**Project appraisal is not applied comprehensively in Cambodia, with externally financed projects being subject to systematic appraisal according to DP requirements with domestically financed projects largely not going through formalized appraisal.** For project appraisal to be effective, technical guidance and capacity, funding, and a relatively clear process and allocation of responsibilities should be in place. In the absence of a formal and regulatory allocation of roles within RGC agencies, appraisal for domestically financed projects remains largely focused at the level of the budget entity promoting the project, where internal procedures—largely informal—apply. The MEF has taken some initial steps to inject the rigor in project appraisal by establishing and chairing bilateral cross-ministerial steering committees at the policy and technical level, and by setting some selection criteria.<sup>41</sup>

Nonetheless, Cambodia lacks a manual or set of guidelines on analytical methodologies for assessing the feasibility and sustainability of domestically financed projects. Rejections of feasibility appraisals are few, including for externally financed projects. The diagnostic questions related to project appraisal that were used in the surveys and interviews as well as the assessments are shown in Table 15.

## Stage 3: Independent review of appraisal

**While independent reviews are carried out for externally financed projects, Cambodia has no formal arrangements for external review of the appraisal study and decision to proceed for domestically financed projects.** It is good practice to subject project appraisal decisions to an independent review to challenge underlying the assumptions, forecasts, and conclusions of a sponsoring entity.

<sup>41</sup> The MEF Department of Investment, for example, highlighted the elaboration of a list of annual preparation priority projects at MPWT. This ministry's infrastructure projects are being constructed following formal cross-agency and inter-ministerial review, and they must be approved by the MEF prior to receiving financing.

Table 15. The project appraisal stage in Cambodia PIM

Diagnostic questions	Assessment: Domestically financed projects	Assessment: Externally financed projects
Is there a formal pre-feasibility study process before the formal appraisal process of feasibility study?	No formal pre-feasibility process.	No formal pre-feasibility process, but done so selectively.
Is there a formal cost-benefit appraisal process for more detailed evaluation (whether at the line ministry or the central finance agency level) of public investment project proposals?	No.	Yes, at the line ministry level.
If yes, is appraisal mandatory for all projects or only for projects above a certain monetary value? Is project appraisal undertaken only for specific sectors, and if so, which sectors? What proportion of public investment projects is formally appraised for costs and benefits?	N/A	For all projects, but seemingly selectively done across sectors.
Is there a formal manual or guidelines for cost-benefit appraisal? What are they? What is the quality of such appraisal manual or guidelines?	No.	Yes, but dependent on each DP's manual/guidelines (e.g., WB/ADB). There is no RGC version.
Are project appraisals formally undertaken by the sponsoring department or by an external agency? What is the quality of such appraisals?	N/A	Both by the sponsoring department and/or by an external agency. Quality is uneven.
What proportion of such appraisals is rejected or sent back for amendment?	N/A	Not known (but seemingly not many rejected cases).

Source: World Bank staff, based in discussions with Cambodian authorities.

However, this would be difficult in present circumstances due to the currently unstructured way that projects are appraised and financed in Cambodia. Even in externally financed projects, some external reviews of capital cost estimates are done at the detailed design stage and not at the earlier feasibility stage. Although the MEF has introduced a new review and approval process through the IMC for three selected line ministries as discussed earlier, in practice, the rules for prioritization and efficiency improvement contained in the Ministerial Letters remain too general.<sup>42</sup> Table 16 summarizes the appraisal review function in Cambodia PIM.

#### Stage 4: Project selection and budgeting

**The assessment found that Cambodia lacks sufficient formal guidelines for selecting domestically financed projects as well as formal processes for integrating the investment and recurrent implications of projects.** As one of the most contentious stages of the investment cycle, with multiple actors potentially trying to exert influence for political or other reasons, project selection is perhaps the most critical stage of the investment management process. Project selection criteria have not been formally established in Cambodia,

<sup>42</sup> See a series of Ministerial Letters to the Prime Minister copied to three ministries (Ministry of Public Works and Transport, Ministry of Rural Development, Ministry of Water Resources and Meteorology) during 2014-16 (RGC, 2014-2016).

Table 16. The independent appraisal review stage in Cambodia PIM

Diagnostic questions	Assessment: Domestically financed projects	Assessment: Externally financed projects
Is there an established independent review process for quality assurance?	No. An IMC review process for three selected line ministries has been introduced since the 2015 budget, but clear guidelines have not been yet formalized.	Yes. Reviews done by development partners.
Is this process enforced and effective?	No.	Yes.

Source: World Bank staff, based in discussions with Cambodian authorities.

aside from the establishment of the IMC review process with prioritization criteria for three key line ministries, as mentioned above. It is also essential that the process of appraising and selecting public investment projects is linked in an appropriate way to the capital budget cycle, even if they run on different timetables. In Cambodia, the budget is approved first, then the LMs prepare the project. The capital budgeting process is less effective given that some projects that are political priorities may be included top-down. Moreover, although the BSP provides a framework for integrating the planning of capital and recurrent expenditures, planning for the recurrent expenditure implications for operation and maintenance of newly created capital assets is inadequate. In addition, externally financed projects are managed largely outside government budgeting, accounting, and reporting mechanisms, which continues to hamper the RGC's ability to provide comprehensive budget and financial reporting of all resources. Table 17 shows the key diagnostic questions that were used to clarify the status of project selection and budgeting.

### Stage 5: Project implementation

**Similar to the upstream stages of PIM, externally financed and domestically financed projects are regulated differently during implementation, with a lack of standardized project implementation guidelines for domestically financed investments.** While the RGC has issued the Standard Operation Procedures (updated version 2012) and various project

implementation and administration manuals and handbooks for externally financed projects, it does not have standardized procedures for domestically financed investments. Due to this void, LMs independently develop their own internal procedures to suit their needs and preferences, so the guidelines for implementation are quite divergent across sectors.

**While the recent PFMRP appears to have injected more rigor into procurement and financial controls since 2004, some challenges remain.**

The PEFA 2015 gave a 'D' rating for the dimension of "use of competitive procurement methods." Although the default method of procurement is competitive bidding, backdoor loopholes such as certain non-competitive bidding methods remain open and allow direct contracting. While bidding opportunities have become public, other important information such as government procurement plans, contract awards, and data on resolution of procurement is not public yet. Statistics from 2012 show that one-third of the contracts were issued using less competitive methods with no public information justifying the use of such methods based on the new Law of Public Procurement. In terms of expenditure and commitment control, LMs point to challenges such as weak absorption capacity, the limited number of qualified contractors in the local market, and significant delays in cash payment to contractors due to manually done and cumbersome administrative processes. Table 18 summarizes the diagnostic results on challenges faced in project implementation in Cambodia.

Table 17. The project selection and budgeting stage in Cambodia PIM

Diagnostic questions	Assessment: Domestically financed projects	Assessment: Externally financed projects
Are there transparent guidelines and criteria for selecting projects with reference to policy objectives at the ministerial level and MEF?	No, although an IMC review process with prioritization criteria was established recently in three key line ministries.	Yes, but weak coordination and harmonization with domestically financed projects.
Is there a well-structured formal budgeting process with scope to integrate investment and recurrent implications of projects?	No, mostly an informal process. No formal consideration of recurrent expenditure implications.	No. Even in externally financed projects, consideration of recurrent implications is weak.
Is the budgeting process effective in gatekeeping to ensure that only appraised and approved projects are selected for budget financing?	Weak, as some top-down projects also are included.	Yes.
Is the budgeting ensuring adequate financing for selected projects, including recurrent needs, on completion?	No.	Yes, in investment financing, but with uncertainty in recurrent maintenance and operation budget funding availability.
Are externally financed projects subject to the same or different rules for selection and inclusion in the budget as government-financed projects?	Different rules and fragmented. Approximately one-quarter of all projects are financed by national budget.	Different rules and fragmented. Approximately three-quarters of all projects are financed by DP funding. Different rules cause unbalanced and less harmonized decision making.

Source: World Bank staff, based in discussions with Cambodian authorities.

## Stage 6: Project adjustment

**In general, project monitoring and auditing are not undertaken in a rigorous or consistent manner in Cambodia.** Active monitoring is critical to detect implementation gaps in a timely manner, determine why they have occurred, and decide whether adjustments to the scope, timeline, and/or costing may be needed. In Cambodia, due to the absence of standardized regulation of project implementation, project monitoring and auditing practices vary widely across LMs, with only a few showing rigor in project monitoring.

**Some initial progress has been made to rectify the weaknesses in key stages of the PIM.** Recently, three ministries which received most national capital budget – specifically MPWT, MRD, and MTWRM—have engaged

in the cross-ministerial mechanism in project preparation, implementation and monitoring. The Department of Investment, at MEF, has indicated that these ministries are in the process of leading the preparation and filing of the necessary regulatory documents purported to enhance project auditing. However, it is worth noting to date any effort to institute internal and/or external monitoring of project execution remains disconnected from ultimate decision on onward financing or stopping of on-going projects.

**Formally, project implementation is subject to both internal and external audit, but the quality and credibility of such audits remain low.** According to the PEFA assessment 2015, only 29 of the 40 LMs have functioning internal audit departments in place. Audit reporting remains ad hoc and rudimentary.

Table 18. The project implementation stage in Cambodia PIM

Diagnostic questions	Assessment: Domestically financed projects	Assessment: Externally financed projects
Are there any formal guidelines on project implementation procedures and management? If yes, are they followed/enforced?	No centrally developed guidelines, with ad hoc procedures practiced at LMs.	Yes, multiple: Standard Operating Procedures (SOP), DP Disbursement Handbook, Project Implementation/Administration Manual.
Is it clear who is responsible within the implementing agency for delivering the project on time, to budget, and to specification?	Technical department/Project Management Unit (PMU).	PMU through Prakas (Ministerial Declaration) based on SOP.
Are implementation plans prepared for the project prior to commencement?	Often specified in (building) contract documents, but practice varies across LMs.	Yes.
Are movements in total project costs tracked against the originally approved budget?	Spending limit set through approved procurement contracts, but effective controlling of in-year additional expenditures is lacking.	Yes, through data on contract award and disbursement.
What procurement method is used for the project? Is the e-procurement system used?	Competitive as default method, but exceptions allowed depending on the size and nature of contracts (defined in the Law of Public Procurement). E-procurement not yet piloted.	ICB/NCB/direct contract and shopping.

Source: World Bank staff, based in discussions with Cambodian authorities.

Table 19. The project adjustment stage in Cambodia PIM

Diagnostic questions	Assessment: Domestically financed projects	Assessment: Externally financed projects
Do in-year progress reports exist, and what is their frequency? Have they covered both physical and financial progress against plan?	Formally, yes. Frequency of reports differs across LMs, but generally monthly, quarterly, semi-annually, and annually.	Yes. Frequency: quarterly, semester, and annually.
Is there any indication that funding allocations for the project were changed in-year because of progress being better than or worse than expected?	Yes, but there are no standard terms and conditions for revision of the project scope, timing, and costing. If adjustments are required, agreement needs to be reached jointly by the LM management and MEF.	Yes, through reallocation from balance of ongoing project to emergency rehabilitation project. If adjustments are required, agreement is to be reached jointly by MEF and DP.
Have there been any in-depth reviews of the justification for the project adjustment during implementation?	Formally, yes. But the extent and depth of review vary across different LMs.	Yes, mid-term review.

Source: World Bank staff, based in discussions with Cambodian authorities.

Table 20. Facility operation and maintenance stage in Cambodia PIM

Diagnostic questions	Assessment: Domestically financed projects	Assessment: Externally financed projects
On completion, were the capital assets created by the project added to an asset registry?	Yes, inventory made, especially on infrastructure like land, buildings, and roads. The provision specified in organic law (Law on Public Finance System on asset registry).	Yes.
Has adequate funding been provided in the budget for O&M of the new assets created by the project?	Generally, no, although O&M has been given increased attention since 2016.	No. DPs provide capital budget, but the government is responsible for O&M budget.
Have there been any surveys of the level of use of the new assets by the intended recipients?	Yes, but practice varies across LMs.	Yes, part of project performance evaluation, carried out by DP team.

Source: World Bank staff, based in discussions with Cambodian authorities.

**In terms of project adjustments, a stark contrast can be seen between the rigorous regulatory framework for budgetary management and the practically lax control of expenditure adjustment during construction.** Despite strong central control of the budget, annual expenditure adjustments are both frequent and sizeable. The LMs, in particular, routinely tap into the unallocated resources in Chapter 9 of the budget, which are intended primarily for disaster relief and/or other emergencies. Detailed budget execution data are not available or maintained by the MEF to help determine to what extent project design adjustments can be justified due to changes in macro or micro local economics or simply due to poor execution and monitoring. Table 19 summarizes the key assessment results on project monitoring and adjustment in Cambodia.

### Stage 7: Facility operation

While the process for project handover and asset registry has been established in Cambodia, the disconnect between capital and current budgeting processes results in insufficient funds for operating facilities. After project construction is completed, an effective process for handover and the institutionalization of accountability for effective facility operation are needed. In Cambodia,

prior to project handover, a project completion report is prepared and submitted to the executing agency (EA)/PMU for approval. Once the engineer confirms technical completion, the contractor hands over the project to the EA, and the facilities are transferred to the operating agency. However, the existing disconnect between capital and current budgeting (dual budgeting) as discussed earlier often translates into insufficient funds for operating facilities. The assessment of facility operation and maintenance practices in Cambodia is summarized in Table 20.

### Stage 8: Basic Completion Review and Evaluation

**As in earlier project stages, ex-post evaluation requirements differ between externally and domestically finance projects.** Project evaluations are important for ensuring that feedback and learning from projects can be used to improve the quality of PIM in the next cycle. In Cambodia, evaluation is conducted for externally financed projects in accordance with specific DPs' project cycle management procedures. However, ex-post evaluation does not occur for domestically financed public investments. Because Cambodia does not have effective ex-post evaluation instruments to ascertain whether financing of public investment is being

used efficiently and effectively, the existing procurement framework cannot warrant value for money in capital projects.

## Prioritized PIM action plan

**As described above, the PIM assessment reveals several weaknesses in the system, especially in the upstream stages of project preparation, pre-screening, and appraisal, as well as in the downstream stage of ex-post evaluation.**

As discussed earlier, the attribution of roles and responsibilities among key stakeholders is not defined clearly in the Public Finance Law and secondary regulation. The PIM system for domestically financed projects is much weaker than the one for the externally financed projects. For domestically financed investment projects, the absence of a centrally developed, uniform set of guidelines, manuals, and templates for preparation of project proposals, appraisal, and monitoring of execution drive the vastly different practices at LMs. For government-funded public investment, the absence of an independent review of project documents and appraisal functions hampers MEF's role in managing and controlling the allocation and use of capital budget resources. Downstream, project implementation and operations have shown some progress, with more rigorous procurement and financial controls introduced since 2004 in the context of PFMRP implementation. Nonetheless, there is still room for further improvement. Finally, Cambodia lacks effective ex-post evaluation instruments to assess the efficiency and effectiveness of public investment financing.

**These diagnostic results point to a multi-faceted set of 11 broad recommendations for short- and long-term reforms in all stages of PIM.** The reform recommendations aim to strengthen the gatekeeping

role of MEF in upstream decision making for project pre-appraisal, appraisal, project prioritization, and budgeting; upgrade the capacity of MEF and LMs to prepare and assess more effective and efficient investment projects that are directly connected to their strategic priorities in the BSP and MTBF; and establish standardized guidelines and effective cost controls in downstream project implementation. The recommendations are intended to serve simply as guideposts and would need to be prioritized further in accordance with Cambodia's specific institutional setting, incentives, and capacity constraints. Expected timelines are provided based on experience from global PIM reforms.

- **Recommendation 1: Upgrade PIM strategy and planning with a PIM sub-decree (Year 1).** Such upgrading activity will be based to the extent possible on the existing guidance and principles of the SOP.<sup>43</sup> The sub-decree could help improve the forward-looking strategic guidance for public investment and strengthen the connection between the national strategy and sector planning in the NSDP and RS with the budgetary framework of the BSP and MTBF. Specifically, the sub-decree would clarify the principles and decision criteria for project pre-appraisal and appraisal, prioritization, selection, and budgeting for all public investment projects, including PPP.<sup>44</sup> It would also specify roles and responsibilities of the MEF, MOP, sector ministries, and implementing agencies at each stage (i.e. project owner, appraiser, reviewer, implementer, decision maker), strengthening the gatekeeping role of MEF as well as the specialized roles and accountability of sector ministries to perform necessary assessment and implementation of public investment projects. The sub-decree should be prepared in the immediate term and is expected to take 1-1.5 years.
- **Recommendation 2: Strengthen project pre-appraisal and appraisal procedures and**

43 It would be propagated as part of the Public Finance System Law, probably under Article 23 and/or Article 44. Developing such guidelines under the primary legislation is consistent with other country cases of good PIM practices observed in South Korea, South Africa, Chile, Australia, New Zealand, and the United Kingdom.

44 This would comprise the following: appropriateness and relevance in the context of national and sector strategies; economic, social and environmental viability (through cost benefit or cost effectiveness analysis); affordability and financial sustainability; and implementation arrangements.

**guidelines (Years 2-5).** Regulated requirements for project pre-selection and appraisal—for example, through a PIM Standard Appraisal Manual—are needed to establish a rigorous national procedure for all public capital investment projects. Development of the Standard Implementation Manual could be based partly on the existing SOP for DP-funded capital projects.<sup>45</sup> Procedures should contain an explicit description of roles and responsibilities, with a strong demarcation between project sponsors and decision makers to foster objective decision making. Following international best practices, different appraisal methodologies and rules tailored to the scope, timing, and technical complexity of project proposals should be developed and disseminated.<sup>46</sup> This strategic policy area can start early but is expected to continue over the medium term.

- **Recommendation 3: Strengthen independent review and oversight (Year 2 onward).** Options for institutional arrangements for independent oversight and verification of project feasibility studies and appraisal should be explored. A two-tier approach is recommended: (i) strengthening the oversight role of the MEF through the existing IMC meetings and (ii) institutionalizing an independent review function, which could be completed in 2-5 years depending on technical preparation and buy-in from government sectors.
- **Recommendation 4: Upgrade project prioritization and budgeting procedures (Year 2 onward).** Specific criteria are needed for the selection and prioritization of projects (see Box 4 for examples). Information on capital budgeting could be improved further to include estimates of operating costs upon project completion so decision makers

can understand the recurrent budget implications of the project. A capital budget baseline of ongoing public investment projects for 3-5 years should be established within total resource envelope/constraints, with the total investment budget being subdivided into ministry/sector-level budget ceilings or estimates for capital expenditures. These recommendations can be developed as part of the PIM operational guidelines and accompanied by criteria for project appraisal, review, and selection.

- **Recommendation 5: Frame the PPP upstream under a unified framework with PIM (Year 2 onward).** The Asian Development Bank has been supporting the RGC in the elaboration of a Concessions Law and a PPP framework—for this reason, as agreed with counterparts, this chapter has not looked in detail at PPPs. Nonetheless, the forthcoming PPP platform should be developed in conjunction with, and on the basis of, the PIM guidelines being drafted under the World Bank TA program. A unified framework will help avoid undue fiscal risks from fragmented PPP investment decisions and will formalize and align the PPP upstream processes of project preparation, pre-appraisal, appraisal, and prioritization/selection with PIM. The guidelines for PPP upstream decisions can be incorporated into the PIM guidelines.<sup>47</sup>
- **Recommendation 6: Strengthen project implementation and procurement (Years 2-5).** Standardized project implementation guidelines—for example, through a PIM Standard Implementation Manual—are needed to provide uniform procedures for managing project execution at all LMs. Stricter limitations on the use of non-competitive procurement procedures are also

45 The fundamental steps and processes are provided in the existing Procurement Manual and SOP Manual currently applied to externally financed projects/programs. These have also been used by some government-funded projects in selected LMs such as MoEYS, so the experience of MoEYS could be considered in the development of the new Standard Implementation Manual.

46 For example, Ireland (2005) developed and applied five differentiated appraisal methodologies, ranging from relatively simple appraisal of small projects to full-fledged CBA of projects of large scale and/or highly complex technology. In Cambodia, special rules could apply to small projects (i.e. below a certain threshold, a simple cost-effectiveness method could be used), and some sectors could be excluded from appraisal requirements (e.g., defense, emergency/disaster, State-Owned Enterprises) as most countries do not appraise the entirety of their investment projects.

47 For further elaboration of the unified approach to PPP as an integral part of overall PIM, see Rajaram et al. (2014) and Kim, Darcy, and Biletska (2015).

## Examples of Prioritization Criteria for Project Selection in Advanced Systems

In considering the allocation of funding to new projects, new projects must be verified as having been prepared well and carefully appraised. In more advanced systems, prioritization of new projects is done by spending ministries within sector expenditure limits approved by the government based on prioritization criteria and technical advice from the finance ministry.

Some prioritization criteria include:

- Alignment of the project with the Government's expressed national spending priorities and with sector investment plans.
- Priority the Government attaches to improving services for the target beneficiaries of the project.
- Consistency of the proposed spending with the balance of spending among different sub-sectors within its sector.
- Indications that the project will deliver better value for public money than competing and comparable projects as indicated by feasibility studies.
- Readiness for implementation, including land acquisition and completeness of detailed designs, implementation plan, bid documents, and procurement plan.
- Assuredness of any co-funding for projects funded from multiple financing sources.
- Managerial capacities of the implementing agency to deliver the project according to plan.
- Fiscal space for project implementation over the medium term, i.e. consistency of the proposed implementation timetable with commitments for ongoing projects and sector/organization capital expenditure limits.
- Adequacy and reliability of provision for operating and maintenance expenditures upon completion of the project.

needed, and uniform cost standards/format and effective cost controls in budget execution and project implementation should be established. While developing standardized project implementation guidelines within one year is feasible, the capacity and buy-in of sectors and agencies need to be built to ensure acceptance and application of these guidelines.

- **Recommendation 7: Establish effective mechanisms for monitoring project implementation (Years 3-5).** Experience in other countries points to emerging and unique approaches to project monitoring through IT and Open Government platforms that broaden stakeholder participation, enhance transparency and objectivity

of the monitoring process, and put pressure on the spending agency to improve quality and timeliness. Box 5 provides an example from the Philippines.

- **Recommendation 8: Develop clear project adjustment procedures and guidance (Years 2-3).** Stronger project adjustment rules and procedures should be developed and monitored across the major stages of PIM implementation. Project adjustments during construction should be linked directly to project results specified in the project implementation plan and should be monitored with the budget/funding plan.
- **Recommendation 9: Introduce completion review and ex-post evaluation (Year 3 or at later**

## The Philippines Open Roads Platform: a tool for monitoring implementation progress

Increasingly, new technologies have been applied in monitoring the progress and quality of infrastructure projects. In the Philippines, for example, the government introduced an online interactive Open Government multi-media platform to digitally map the entire national and local roads network and track associated priority public investment projects. The Open Roads platform leveraged three major technological and practice developments in the Philippines: (i) geographical mapping and geo-tagging; (ii) mobile, drone, and satellite road imaging (photo + video); and (iii) project tracking information systems. The latter interfaces with government systems including the Philippines Government Electronic Procurement System (PhilGeps) and the Department of Public Works and Highways (DPWH) electronic Project Life Cycle (ePLC) database. Open Roads transforms fragmented data into timely information and sends a clear signal through big geo-image data consolidation.

More timely and better information across the public investment delivery chain has helped promote better planning, budgeting, procurement, implementation, and participatory audits. The platform has also catalyzed a coalition of engaged national, local, private sector, and civil society stakeholders and ordinary citizens to demand greater transparency, accountability, and participation.

*Source:* The Philippines Open Roads Platform: Promoting Roads to Prosperity with online information and feedback (World Bank, 2015).

**stage).** An analytical project completion report can become a requirement of the PIM system. In the longer term, a system for undertaking ex-post reviews of selected major projects (i.e. large-scale projects or technically complex projects at the design and implementation stages) could be established. The introduction of completion review and ex-post evaluation is something that can be sequenced in the medium term.

- **Recommendation 10: Build a PIM database (CAPEX) to register all relevant information on public investment projects and processes (Years 2-5).** A comprehensive official record of all data associated with projects during their entire life cycle, from entering the preparation pipeline through their completion and registration in the central asset registry, should be developed. Maintaining both baseline and actual data sets for each major category for 2-3 years would enable monitoring of

changes and performance. The CAPEX would be managed centrally by the MEF. Rigorous control over the entry and modification of data is needed, and changes should be traceable to individual authorized system users.

- **Recommendation 11: Design a capacity building program for PIM (Years 1-5 and continuous).** Continuous capacity building can help raise the quality of project preparation, pre-appraisal, appraisal, prioritization, and budgeting, reducing the time and resources required for PIM and capital budget execution and ensuring that public investment projects are prepared and budgeted to a higher standard. A capacity building program for MEF, MOP, LMs, implementing agencies, and other concerned public-sector officials should be designed and implemented to provide training, technical assistance, and capacity building at all stages of the project cycle. As a first step, capacity at MEF should

be strengthened given MEF's proposed central role as gatekeeper to screen and review all projects, including proposed financing. MEF is de facto already serving as gatekeeper for most projects, but this should be formalized in the legal framework, with functions being clearly defined and associated capacity building being provided. Equally important, sector ministries and agencies primarily tasked with project preparation and appraisal will need to enhance their knowledge of modern assessment tools and techniques, procedures for analyzing projects, and assessment and management of risks.

capital expenditure decision making with that for budget strategic plans and the annual recurrent budget and implementing standardized PIM development and operational guidelines will help ensure that adequate budget is available for capital projects. Furthermore, efforts under the current PFM reform to broaden program budgeting to capture investment projects and reestablishment of the MTBF will further promote the integration of current and capital budgeting.

**Ultimately, these reform actions are essential next steps but cannot generate impact on the ground if they are not practical or if discipline and accountability in their implementation are lacking.**

Reforms are summarized and prioritized strategically over the next five years in Table 21. These guidelines and tools need to be practical, in the sense that they are politically and institutionally compatible. The MEF will lead the development of such missing guidelines and tools in close consultation with all major stakeholders, especially the key LMs. These guidelines and tools should be tailored to the context of the existing PIM and not necessarily rigidly follow all elements of international best practice as observed in other developed PIM systems. Establishing some basic discipline and accountability will also be critical. The most direct way to do so is to institute a mechanism linking project financing (in tranches or installments) to verifiable project implementation results at each critical juncture of the execution period.

**Once the new PIM framework and system are in place, reforms would need to be harmonized with those of the PFM reform program to facilitate integration of the current dual budgeting system.**

Once the new, appropriate institutions and procedures for managing the entire PIM system—from project pre-screening through ex-post review—are in place, all externally and government budget-financed projects should follow the same system and processes. Unifying

Table 21. Policy options and Prioritized Action Plan for Public Investment Management

Areas for PIM Reform	Strategic Suggestions for Reforms	Prioritized Action Plan
(i) Strengthen PIM upstream project appraisal/selection	Recommendation 1: Upgrade PIM strategy and planning with a PIM sub-decree	Year 1: develop a PIM sub-decree
	Recommendation 2: Strengthen project pre-appraisal and appraisal procedures and guidelines	Year 2-3: prepare a PIM Standard Appraisal Manual
	Recommendation 3: Strengthen independent review and oversight	Year 3-4: conduct a pilot in infrastructure to test the developed appraisal guidelines. Annual review and update of guidelines-manual
	Recommendation 4: Upgrade project prioritization and budgeting procedures	
	Recommendation 5: Frame the PPP upstream processes under a unified framework with PIM	
(ii) Strengthen PIM downstream project/budget execution	Recommendation 6: Strengthen project implementation and procurement	Year 2-3: Prepare a PIM Standard Implementation Manual that provides uniform procedures for the management of project execution at all LMs
	Recommendation 7: Establish effective mechanisms for monitoring project implementation	
	Recommendation 8: Develop clear project adjustment procedures and guidance	Year 2-5: Establish uniform cost standards/format and effective cost controls in budget execution and project implementation
	Recommendation 9: Introduce completion review and ex-post evaluation	Year 3 onwards: introduce completion review and monitoring
(iii) Upgrade PIM database and build capacity	Recommendation 10: Build a PIM database (CAPEX) to register all relevant information related to public investment projects and processes	Year 2-5: Develop template and format of the CAPEX. Establish rules and regulations that designate a unit (sub-unit) to develop, maintain, and update CAPEX
	Recommendation 11: Design a capacity building program for PIM	Year 1-5: Undertake training needs analysis, planning, and implementation of capacity building

Source: World Bank staff elaboration.





PART 2  
Sectoral reviews

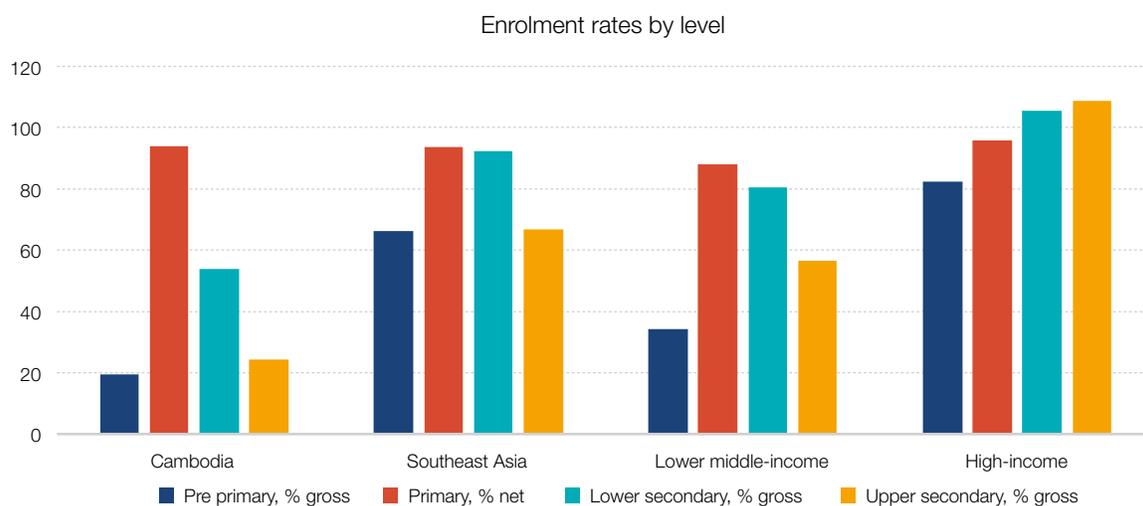
# 4 INCREASING STEWARDSHIP IN EDUCATION SPENDING

## Introduction and motivation

**C**ambodia has done well in expanding primary enrollment and now faces the challenges of continued expansion of pre-primary and secondary education. Over the past two decades, Cambodia has succeeded in fostering primary education enrollment, increasing from a net enrollment rate of 82 percent in 1997 to 94 percent in 2015, a level comparable to high-income economies (Figure 36). However, gross enrollment levels in pre-primary, lower and upper secondary at 19, 54 and 24 percent,

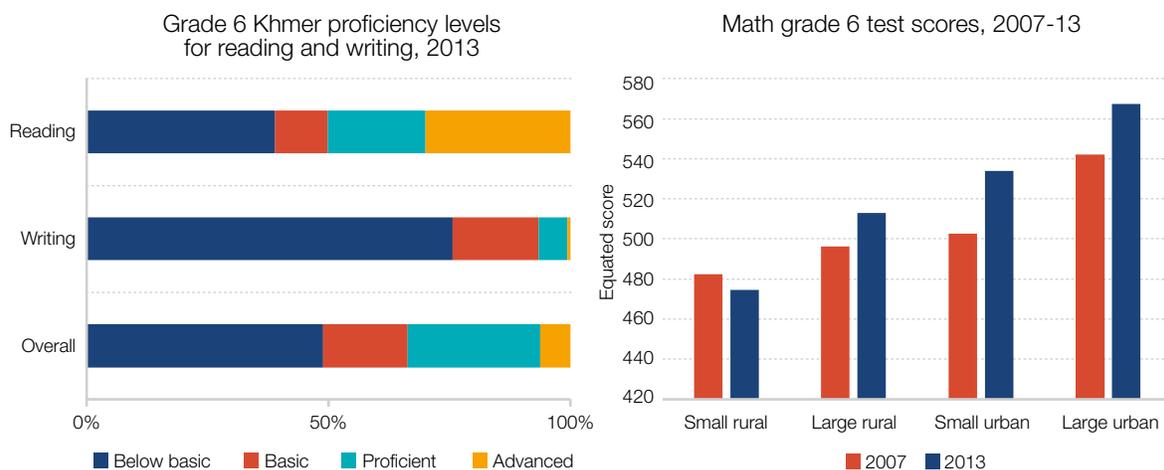
respectively, in 2015 remain well below the Southeast Asian averages of 66, 89 and 57 percent, despite recent gains. This is made worse by high dropout rates: only 41 percent of those enrolled in secondary education and only 27 percent of those enrolled in upper secondary education complete the necessary grades. Dropouts have actually risen, resulting in a decline in the lower secondary education completion rate from 49 percent in 2008 to the current levels. Consequently, Cambodia has the lowest share of adults with lower secondary education among ASEAN economies (CDRI, 2013) and its peers.

Figure 36. Primary education is now universal, yet challenges in pre-primary and secondary education enrollment persist



Source: Cambodia; MoEYS Education Statistics 2015-16, Comparator countries and Cambodia pre-primary data; UNESCO Institute of Statistics, 2015.

Figure 37. Proficiency levels in reading and math are generally very low, and progress has been mixed



Source: EQAD grade six assessment, 2007, 2013.

**The gains from achieving universal primary education are undermined by poor learning outcomes, and progress toward improving learning outcomes has been mixed.** A national assessment of student achievement found that 39 percent of grade 6 pupils had a below basic proficiency rating for reading in Khmer, and 76 percent were rated below basic on writing (Figure 37, left panel). Pupils also performed poorly in math, with an average test score of 43.4 percent. Compared to 2007, test scores have declined in small rural areas, stagnated in large rural areas, and mostly improved in urban areas (Figure 37, right panel). These poor learning outcomes are echoed in employer's concerns about recruits who have poor reading and numeracy skills.

**Attaining universal high-quality education will be crucial to Cambodia's success as a middle-income economy.** Aware of the challenge, authorities have in recent years developed an Education Management and Information System (EMIS) to monitor sector performance and future planning, implemented a National Assessment System test, and significantly increased the allocation of funding to the sector. To support the implementation of the current Education Strategic Plan (ESP) 2014-18 as well as to inform the

next plan, this chapter assesses key challenges in education spending. Section 4.2 assesses the current allocation of public spending in education in relation to sector priorities and emerging challenges and examines how funds reach schools and how they are used. Section 4.3 evaluates whether access to education is equitable and whether spending is pro-poor, and Section 4.4 explores whether further gains can be made in terms of expenditure efficiency. Section 4.5 then describes the factors that affect the quality of education and learning outcomes. The chapter concludes by presenting policy options in Section 4.6.

## Program budgeting and flow of funding to education

Increased government spending on education has been driven by higher teacher salaries

**In recent years, Cambodian authorities have given greater attention and resources to the education sector, although public spending in education still lags behind comparator countries.** Expenditure

## Public Expenditure Review 2011. Summary of education recommendations and current status

The Public Expenditure Review from 2011 highlighted several issues in the education sector. This box provides a brief overview of identified challenges, as well as current status of the recommendations proposed in the report.

**Increased educational spending – in line with fiscal space considerations – was recommended (fully implemented).** Education was identified as funded in line with the contemporary ESP, but far below countries with broadly similar GDP per capita, at 2.4 percent of GDP including DPs. As such, increased educational spending – in line with fiscal space considerations – was recommended. The RGC has subsequently, from 2010-2015, increased education spending roughly in line with the ESP 14-18, both as a percentage of GDP, from 1.6 to 2.1, and in percent of government budget, from 12.6 percent to 13.9 percent. This has brought Cambodian Education expenditure closer to comparator countries, but still well below the lower middle-income average.

**A shift in expenditure towards secondary education was also recommended due to a reduction in primary level students (fully implemented).** Increased focus on secondary level was recommended to address rising numbers of secondary students. By 2015, this already seems to have been taken into account, with secondary level receiving 37 and 34 percent of RGC and DP funding respectively, both even exceeding stipulated ESP resource requirements.

**Specific allocation recommendations provided by the PER 2011 were firstly, the need for increased access to Early Childhood Education (partially implemented),** citing the benefits of pre-primary school years. While not dramatic, enrolment in ECE has increased, reported at 41 percent in 2016. However, this progress has been DP driven and quality of ECE remains a major challenge. **Secondly, the textbook budget was identified as underfunded and in need of increases (partially implemented).** It was recommended to increase the budget by at least 25 percent. The budget has remained relatively stable as a percentage of GDP, increasing only from an allocation of 0.036 to 0.04 percent of GDP between 2011 and 2015 (PB activity line 1.8.3). **Thirdly, the need for expanded scholarship arrangements was emphasized (fully implemented).** **Another area where major progress has been made.** From only a few scattered pilots in 2010, the RGC co-developed and took over responsibility for a major scholarship scheme in 2015 and has since increased both the number of recipients and benefit levels. In 2015 the total number of recipients, in the government scheme alone, was 150,644 students across primary and secondary education levels and the RGC expenditure had increased from near-zero to 10.9 million USD, or 0.06 percent of GDP.

**In the medium term, the PER 2011 emphasized lagging quality improvements and the necessity of strategic planning (ESP), with a strengthened feedback process determining target achievement and identifying performance and non-performance (partially implemented).** To allow this, development of a strong quality measurement system through student assessments was recommended, as a key data collection mechanism. National test scores have been providing a solid basis for assessing student performance. The development of EMIS is also showing promising progress, allowing for analysis to inform strategy and allocation adjustments. The quality of education remains low, however. According to the World Economic Forum, quality of education remained stagnant for most of the past decade, prior to increasing from 3.15 in 2015/16 to 3.5 in 2017/18, compared to ASEAN and lower middle-income country averages of 3.84 and 3.44, respectively. Nonetheless, education quality and learning outcomes remain a challenge.

**Other aspects were noted, while no specific recommendations were presented in the PER 2011.**

First, the issue of **teacher absenteeism** was noted as a concern and connected to the low wage levels received by teachers. Absenteeism remains a key issue and while minimum wages have been increased from around 80 USD per month in 2012 to 160 USD in 2015 (with a target of 250 USD/month by 2018), it remains to be seen whether this alone will reduce absence.

**Teacher shortages and surpluses** were also highlighted, a daunting challenge that is discussed in this report.

**The wage share in expenditure was noted as high, but not problematic**, at ¾ of total education spending. It had further increased to 81-88 percent by 2016.

**DP dependence for Technical assistance was noted as a cause for concern**, noting that it had “declined much less than targeted under the ESP 2006-2010”. This dependency remains, with DPs financing 69 percent of all non-wage expenditure and across most policy relevant areas in 2015, including capital expenditures, quality improvements, sector policy and teacher training.

Finally, it was noted that while the Public Financial Management Reform was progressing reasonably well, **lack of autonomy for budget entities**, especially with regards to SOB transfers, remained a problem causing low execution rates. The disbursement systems and autonomy have subsequently been improved significantly, with moves to bank transfer disbursements and introduction of increased flexibility in SOB allocations. Room for improvement remains however, as disbursement procedures remain lengthy in many cases.

in education as a share of total public expenditure increased from 12.6 percent in 2010 to an estimated 15 percent in 2017, which is similar to the level observed in other lower middle-income economies. Government spending through the Ministry of Education, Youth, and Sports (MoEYS) increased from an average of 1.6 percent of GDP in 2010-12 to close to 2.1 percent of GDP in 2015, and was budgeted at 2.8 percent of GDP in 2017. The Ministry of Labor and Vocational Training (MoLVT) spending on technical and vocational education and training (TVET) is estimated to have amounted to 0.05 percent of GDP in 2015.<sup>48</sup> Yet despite these increases, public education spending in Cambodia remains below the 4.2 percent of GDP spent on average by low-income and lower middle-income economies,

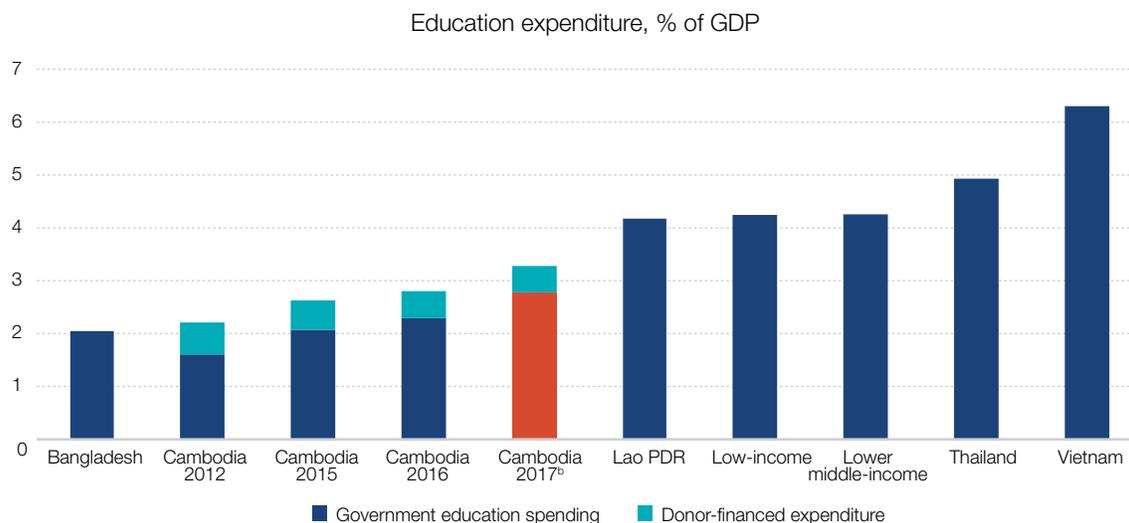
even if DP funding (0.6 percent of GDP in recent years) and NGO funding (0.4 percent of GDP) are taken into account (Figure 38).

**The increase in public education expenditures has been driven mainly by higher public-sector wages.**

Between 2012 and 2016, government spending in education more than doubled in nominal terms, mostly driven by an increase in public sector wages (Figure 39). During this period, the number of teachers increased by 3.6 percent, while teacher salaries increased from about USD 80 a month in 2012 to USD 160 in 2015, in line with the increases in the public sector minimum wage. The minimum wage has since increased further, surpassing USD 200 per month in 2017, with plans to

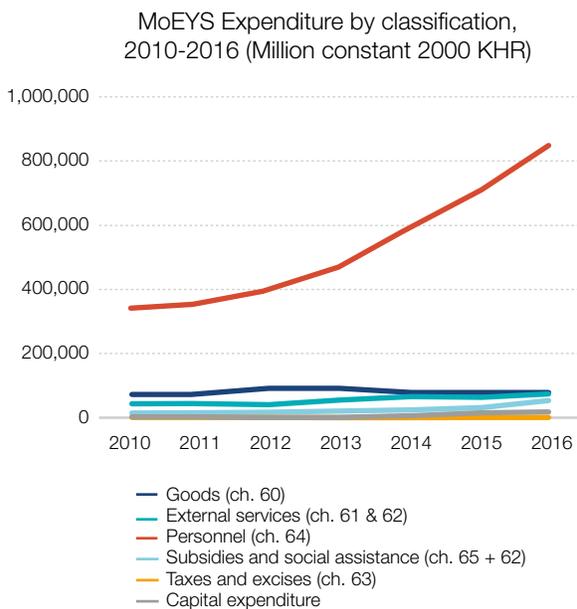
48 MoLVT TVET allocation was taken from MoLVT Program 2: “Development of technical and vocational training and education.” However, actual allocations to TVET may be higher, as salaries for provincial departments have been lumped in a general line department support program. TVET spending was calculated by assuming that TVET received a share (33.1 percent) of MoLVT-executed expenditure equal to that in the budget.

Figure 38. Public spending in education has increased significantly but remains below that of comparator countries



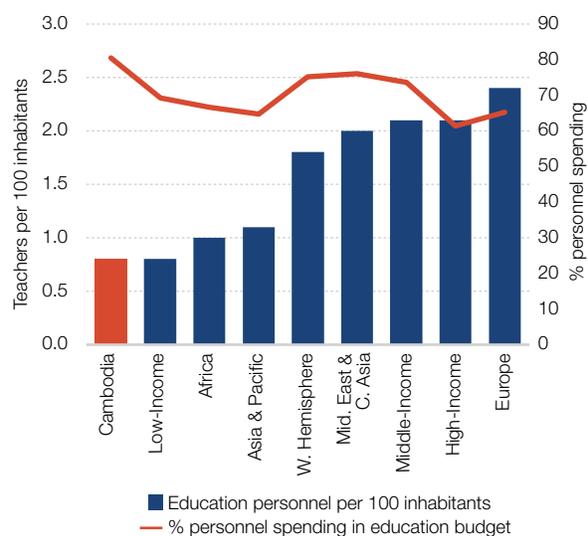
Source: Cambodia: MEF TOFE, GDC Database. Comparator countries: WDI.  
 Note: b. Cambodia 2017: RGC budget and assumed DP funding. For comparator countries, government education spending includes transfers, latest available year.

Figure 39. The increase in public sector wages has driven the rapid increase in Government spending on education



Note: Data in constant 2000 KHR, using the WDI GDP deflator.  
 Source: 2010-2014 capital expenditure from MEF TOFE, recurrent and all 2015-16 expenditure data from MEF Treasury Accounts.

Figure 40. Although Cambodia has a relatively low proportion of teachers, it spends a relatively large share of its education budget on salaries



Source: Cambodia: 2016 budget. Comparator countries: IMF, FAD, Evaluating Govt Employment and Compensation.

surpass USD 250 in 2018 as discussed earlier. As a result, Cambodia now spends a relatively large share of the education budget on salaries at 81 percent<sup>49</sup> compared to 69 percent for low-income countries, while it lags behind in the proportion of teachers (Figure 40).

### Meanwhile, DPs continue to fund more than two-thirds of non-wage expenditure in education

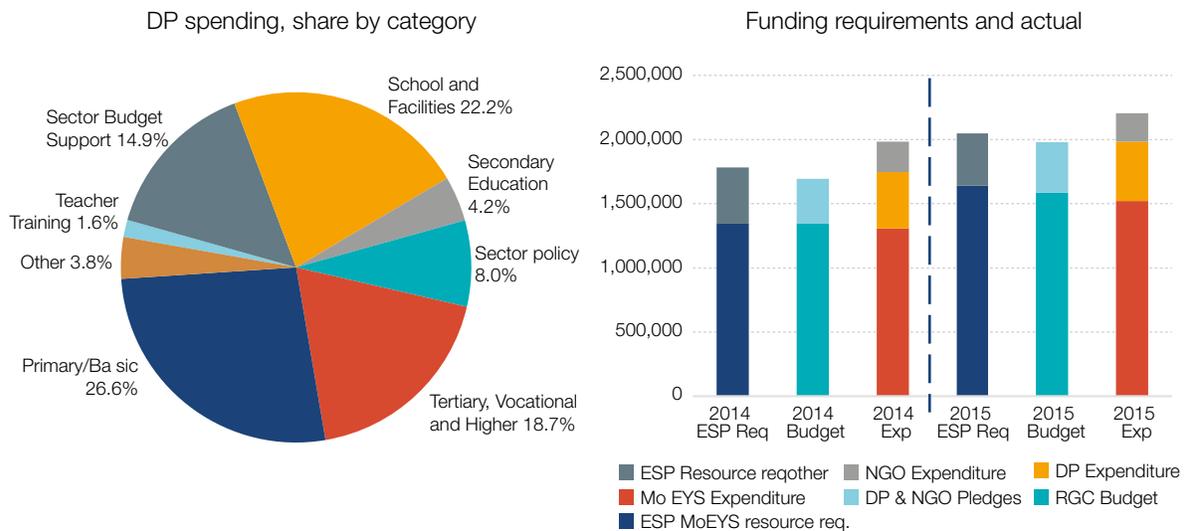
**DPs and NGOs contribute significantly to the funding and operation of the education sector.** DPs fund 69 percent of all non-wage expenditures in the education sector, including cross-cutting functions such as construction of schools, quality improvement programs, sector policy formulation, and teacher training (Figure 41, left panel). In addition, 180 NGOs, registered in the database of the Council for Development of Cambodia, carry out education-related activities, from running primary education and TVET centers to the provision of school facilities and materials. As discussed earlier, as Cambodia becomes a middle-income country, external

funding is expected to dwindle, and the government will need to increase its stewardship of non-wage expenditures in the same way they have recently taken over the provision of scholarships from DPs.

### When DP resources are added, the overall budget envelope is nearly sufficient to cover the funding requirements spelled out in the Education Strategic Plan (ESP), while falling short in capital expenditure.

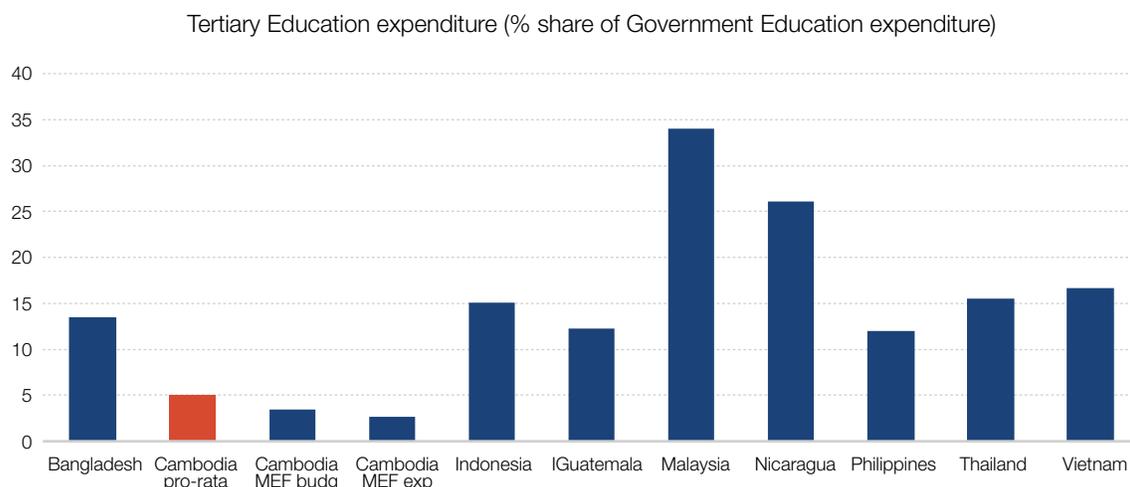
The ESP is the key medium-term planning instrument which details spending requirements associated with sector and sub-sector objectives, thus providing a road map and a benchmark for assessing progress and performance. Despite the overall increase in education expenditure, the allocated government budget remained below ESP requirements in 2014 and 2015, although DP and NGO funding helped bridge the gap (Figure 41, right panel). Although Government-funded capital expenditure in education has increased in recent years, it remains modest (0.036 and 0.039 percent of GDP in 2015 and 2016 respectively). In 2015, the combined government and DP expenditure amounted

Figure 41. DP and NGO spending helps meet spending goals in the Education Strategic Plan



49 In addition, 36 percent of the non-wage component was spent on social benefits and per diem in 2016 which, if added to salaries, would amount to 87.5 percent of total education budget for that year.

Figure 42. Cambodia's share of spending on higher education is much lower than in comparator countries



Note: Pro rata is the term used to describe a proportionate allocation. It is a method of assigning an amount to a fraction according to its share of the whole. The method was utilized by RGC (2015) to estimate sub-sector expenditures, using a combination of students and staff numbers to determine the share of non-specified expenditure. It is included here as an upper estimate of possible HE spending.  
 Source: Cambodia: MoEYS 2015 Budget and Treasury accounts, SNEC pro-rata calculations (highest estimate) in red. Comparator countries: UNESCO Education Dataset (June 2016 release).

to 0.21 percent of GDP and covered just 57 percent of the capital expenditure requirements envisaged in the ESP. There are promising signs: the RGC increased its capital budget for 2017 to KHR 90 billion, nearly tripling the budgeted KHR 35 billion in 2015. However, while the increase is dramatic in relative terms, the allocations are still low in absolute terms.

**Overall, the distribution of funding through different education levels seems well-aligned with ESP requirements, except in the case of tertiary education.** Cambodia's higher education share in total spending is significantly lower than in any comparator countries (Figure 42). However, it should be noted that the shortfall in higher education expenditure may have partly been mitigated by the additional funding accessed through tuition fees and not accounted for in the budget (RGC, 2015). Nevertheless, the financial autonomy of higher education institutions remains limited. In the context of ASEAN integration, the stark difference in funding between Cambodia and neighboring countries may leave Cambodia at a disadvantage in the medium to long term as it tries to move up the value chain and diversify beyond garments (ADB, 2015).

Significant efforts have been made to improve program budgeting and the flow of funding to schools, but challenges remain

**Significant progress has been made in introducing program budgeting (PB) in education, but more remains to be done to make it a meaningful instrument of policy implementation.** PB was first piloted at the MoEYS in 2007 and was formally introduced in 2015 as part of PFMRP Phase III, with the aim of improving the linkages between budget and policy outcomes. Despite having been piloted for 8 years and fully implemented in 2015, challenges with PB remain. First, linkages between the BSP, ESP, and Annual Operating Plan (AOP) are limited, and some misalignments have been identified (RGC, 2015). Second, the amounts requested in the BSP by budget entities (bottom-up approach) are often not realistic or in concordance with previous years, making it less effective as a tool (World Bank, 2016). Third, the PB structure does not adequately capture program cost including capital expenditure, staff, and other costs, as nearly all personnel expenditure is lumped in one single program rather than being distributed to

pertinent subprograms. In addition, DP financing is not included in the BSP/PB, and the categories under which it is classified in the CDC database do not correspond with the programs and sub-programs defined. While DP funding is included in the AOPs, non-inclusion in planning documents hampers assessment of sub-sector allocations and performance.

**Despite improvements, delays in the flow of funding to schools persist.** Initially, the implementation of program budgeting resulted in a falling execution rate for non-wage expenses (falling from roughly 90 percent during 2010-2013 to 83 percent in 2015). Two main reasons have been identified. First, funding was initially attached to specific sub-accounts, and budget managers did not have the flexibility and authority to reallocate unspent budget from one line to another when required (Ung, Oung, Tep, Kann, & Pring, 2016, p. 17). To respond to this challenge, further flexibility was granted to budget managers in 2017, especially with regard to execution of the School Operating Budget (SOB). Second, a recent Public Expenditure Tracking Survey (World Bank, forthcoming) reveals that, while no significant leakages were identified, most schools only received their 2016 SOB budget allocations in March (rather than January). While there has been some streamlining of internal MoEYS procedures—notably the introduction of direct bank transfers which has reduced disbursement time—significant delays persist at the Provincial Departments of Education in consolidating, reviewing, and processing fund requests to the Provincial Treasuries (World Bank, forthcoming).<sup>50</sup>

**To promote high-quality spending decisions and accountability, increased fiscal autonomy for schools would require finance training for administrators as well as a School-Based Management system which involves communities in school decision making.**

School-Based Management is a system in which fiscal decision making is delegated to school management, but with parents and community stakeholders given formal influence and authority to participate in management decisions and monitor expenditure and activities. By introducing community members and parents in budget decisions, the system attempts to induce parents to actively engage in their children's education, both at school and at home, while providing a cost-effective and well-informed check on school administrators. The MoEYS aims to introduce this system to complement the planned expansion of funding provided through flexible SIF transfers. If implemented well, the system of disbursement and management will result in effective spending decisions based on local knowledge and therefore effectively address school-specific needs and challenges. In order for the system to work, however, considerable training and follow-up is required to empower all involved stakeholders to fill their roles effectively.

## Access and equity of spending

As enrollment increases, public spending in education is becoming more pro-poor

**Despite significant progress, Cambodia still has an enrollment challenge, especially for secondary education.** After successfully having been increased and maintained at high levels over the past decade, primary school enrollment seems to be facing headwinds. The primary net enrollment rate peaked at 96.4 percent in 2011 but is estimated to have contracted to 93.9 percent in the 2015-16 school year. Lower secondary net enrollment has increased considerably over the last five years, from 35 percent in 2010 to an estimated 38.9

<sup>50</sup> Funding for SOB, which is used for basic school expenditures (excluding personnel costs and major procurement such as curriculum material), is delivered as cash advances in four installments at the beginning of each quarter, from respective provincial treasuries. It is deposited directly into each school's bank account starting from 2015, as indicated in the inter-ministerial prakas no 366, between Ministry of Economy and Finance (MEF) and Ministry of Education, Youth and Sport (MoEYS) dated 06 April 2015. Before funds are released to schools, each Provincial Department of Education (PDE) prepares a consolidated cash advance request for all schools based on school development plans and approved budgets within respective provinces. The request is submitted to the Provincial Department of Economy and Finance (PDEF) for review and approval at the beginning of each quarter. Upon review and approval, the PDEF further submits the request for cash advance to the Provincial Treasuries (PTs), which disburses SOB into the bank accounts of each school (Ung, Oung, Tep, Kann, & Pring, 2016).

Table 22. Education expenditure is still pro-rich but seems to be becoming more pro-poor  
Share of education expenditure received by quintiles

Quintile	2004					2014				
	Pre-primary	Primary	Secondary	Tertiary	Total	Pre-primary	Primary	Secondary	Tertiary	Total
1	11%	17%	7%	3%	12%	19%	18%	16%	13%	17%
2	12%	19%	12%	6%	16%	15%	19%	18%	15%	19%
3	9%	21%	16%	12%	18%	18%	21%	20%	19%	20%
4	26%	21%	25%	19%	23%	26%	21%	22%	23%	22%
5	42%	22%	40%	60%	32%	22%	21%	23%	31%	22%
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: MoEYS budget 2015, EMIS enrollment data 2015, CSES 2004 and 2014.

Note: Per child unit cost is based on MoEYS budget expenditure by education level from 2015 and EMIS enrollment data by education level, hence unit costs only vary by education level. This unit cost is applied to the enrollment data from CSES 2004 and 2014, hence unit cost does not vary across time. The table is an extension of the work in Phay and Tong (2014) and differs in that the analysis relies on all households (as opposed to only households with children) and that student unit costs vary by education level.

percent in 2015, with gross enrollment at 53.8 percent.<sup>51</sup> Overall upper secondary enrollment remains low, with a gross enrollment rate of 24.3 percent in 2015. Divided by gender, primary female net enrollment stood at 94.7 percent in 2015-2016, with gross lower secondary and upper secondary estimated at 56.7 and 25.2 percent, respectively—all above overall enrollment rates.

**Education expenditure on pre-primary, primary, and secondary has been pro-rich, but seems to be becoming more pro-poor.** A benefit incidence analysis shows that in 2004, about 32 percent of government educational expenditures on pre-primary through tertiary went to the richest quintile, while the first quintile received only 12 percent. The skewed benefits were driven by pre-primary, secondary, and tertiary education having more enrollment among wealthier households. However, with increased enrollment for all quintiles, expenditures were more equally distributed in 2014, with 17 percent of expenditures going to the poorest quintile and 22 percent going to the richest quintile of households (Table 22). By many standards this is not alarming, but it does highlight that the challenge of achieving equal enrollment for all is a challenge of increasing enrollment among the poor.

**Wealthier households are more likely to enroll at all levels.** For instance, 6, 77, and 53 percent of households in the first quintile are enrolled in pre-school, primary and secondary, respectively, compared to 7, 88, and 72 percent in the fifth quintile for same levels. Non-enrollment in primary and lower secondary is especially concentrated among the poorest, while enrollment in upper secondary and preprimary is also low for middle-income families. Pre-primary enrollment is notably less dependent on wealth.

**Income variation can explain the rural/urban variation in enrollment in primary and lower secondary, while other additional factors are at play in pre-primary and upper secondary.** Enrollment at all levels is higher in urban areas. Regression analysis reveals that, at the primary and lower secondary levels, a child with the same income level in urban and rural areas is equally likely to enroll. Wealth differences explain the entire urban enrollment gap shown in Table 23. For the pre-primary and upper secondary levels, however, roughly half of the lower enrollment of children in rural areas is due to income differences, while other factors (e.g., lack of schools) also play a significant role. Unevenness in enrollment (across quintiles and between rural and

51 Enrollment rate data from MoEYS, EMIS department, Education Statistics.

Table 23. At all levels of education, non-enrollment is higher in rural areas  
Non-enrollment by age

	Preprimary 4-6 years	Primary 7-11 years	Lower secondary 12-14 years	Upper Secondary 15-17 years
Urban	53%	5%	7%	27%
Rural	65%	8%	14%	49%

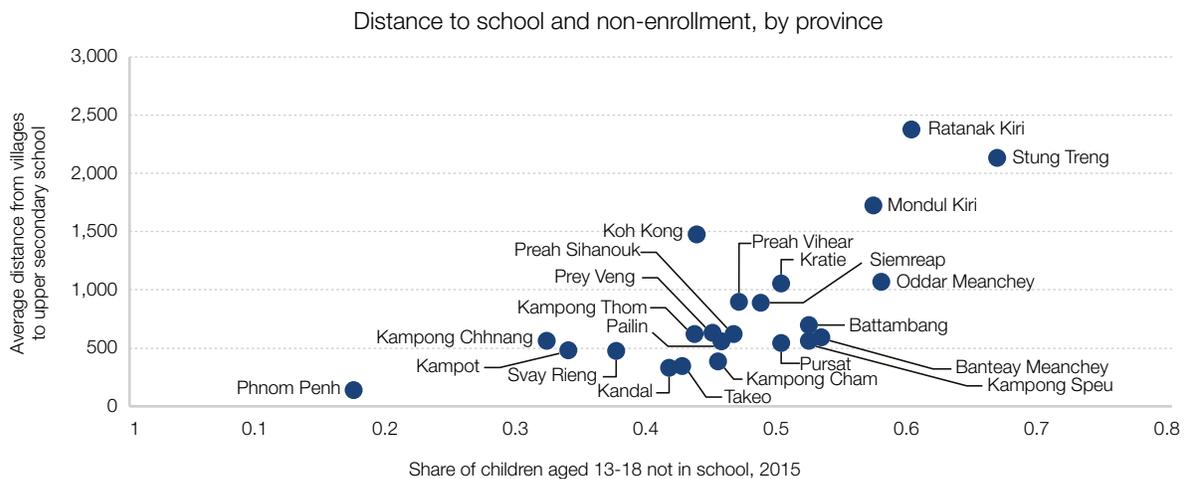
Source: CSES 2014.

Table 24. The reasons for not enrolling in school vary by age group and location

	Preprimary 4-6 years		Primary 7-11 years		Secondary age 1 2-17 years	
	All	NE provinces	All	NE provinces	All	NE provinces
Don't want to	4	7	31	40	19	32
Did not do well in school	0	0	7	3	14	11
Lack of school/teacher	1	5	9	28	4	11
Financial reasons	2	2	20	19	58	45
Disability/illness	0	0	5	0	2	1
Too young	92	87	26	10	1	0
Other	0	0	2	0	1	0
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: CSES 2014.

Figure 43. Non-enrollment in the Northeastern provinces is partly explained by long travel distances



Note: Data is GPS location of villages and secondary schools, and out-of-school population is from CSES 2014. Distance is based on GPS locations of upper secondary schools and villages and based on nearest neighbor matching of distance measured "as the crow flies."  
Source: EMIS from MoEYS (2015).

urban areas) is common for most developing countries, with conditional cash transfers and scholarship schemes being proven mitigating measures (Evans & Popova, 2016). Pilot scholarship projects in Cambodia have obtained strong results in retention/enrollment, although they do not seem to have resulted in improved learning outcomes (World Bank, 2012; ADB, 2012). Following multiple pilots funded by DPs, the RGC has assumed responsibility for and included a scholarship component in its budget. The planned expansion of this scheme is expected to have a positive impact on enrollment.

**Most families of children who are out of school in pre-primary and primary are reporting reasons other than financial and access issues.** Out of 100 families with children aged 4-6 who are out of school, 92 percent of household heads give age (being too young) as the main reason. In the case of primary education, 31 percent report that their children aged 7-11 do not want to go to school, and 26 percent think they are too young (Table 24). In contrast, 58 percent of households with children aged 12-17 who are not enrolled in secondary education point to financial reasons, since the opportunity cost of being at school (instead of working) is perceived as high.

**In some remote provinces, lack of schools and teachers seems to be a significant barrier to enrollment.** As presented in Table 24 above, the percentage of households who cite lack of schools and teachers as the main reason for non-enrollment is significantly higher for provinces in the Northeast of the country. In particular, for upper secondary, household wealth does not explain all non-enrollment for provinces such as Stung Treng, Oddar Meanchey, and Ratanak Kiri, with access challenges at play. At other education levels, only Ratanak Kiri consistently has lower enrollment levels that cannot be explained by household wealth. Households' own reporting of access barriers as reasons for not enrolling is consistent with spatial analysis, as secondary and upper secondary schools are scanty in the Northeast provinces. Distance

measures between villages and the local enrollment levels show the same pattern, as large shares of youth are not attending secondary school in provinces where villages are situated farther away from schools (Figure 43). Increasing enrollment efficiently thus requires localized solutions.

## Expenditure efficiency

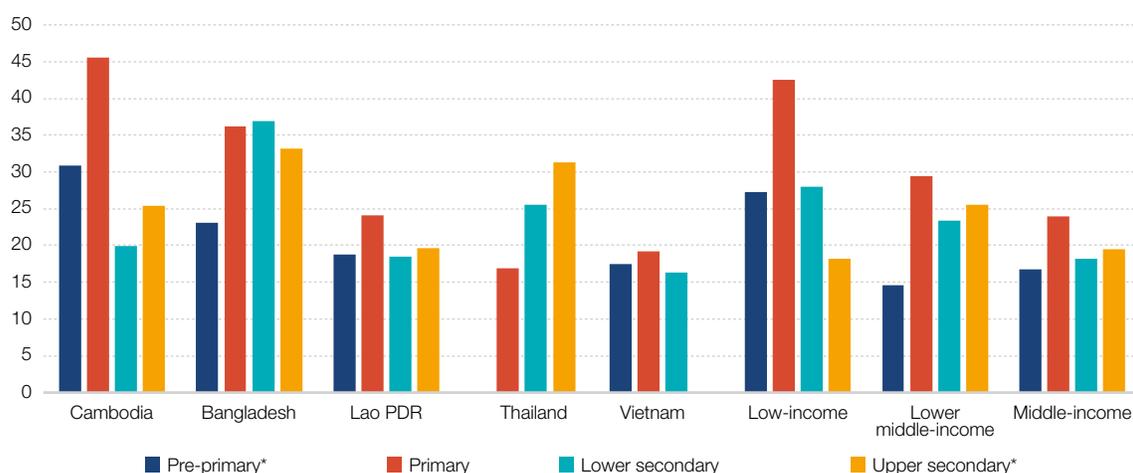
**Cambodia has a large net shortage of teachers in pre-primary and primary, exacerbated by poor distribution of teachers**

**Cambodia's large net shortage of teachers in pre-primary and primary translates into High student-teacher ratios compared to other countries.** Based on class-size norms for 2014, at the national level, Cambodia had a net shortage of about 8,000 pre-primary teachers and 22,000 primary teachers.<sup>52</sup> For primary, there is a downwards trend in student-teacher ratios, as the student population appears to be falling. For pre-primary, booming enrollment is pushing student-teacher ratios higher. In both cases, the student-teacher ratios are significantly above the averages of any other comparator country (Figure 44).

**The net shortages mask a more complex problem, as most provinces have both schools with shortages and schools with a surplus of teachers.** A series of rules allowing teachers to relocate after a few years of service plus lack of enforcement of teacher-to-students and teacher-to-classroom norms have resulted in a significant number of teachers relocating to schools with surplus. While Cambodia has a total shortage of 39,000 teachers, or more than 44 percent of the current number of teachers, it also has around 8,000 surplus teachers in schools with redundancies (those which would be complying with the norm even if those teachers were not there) (Table 25). The problem is particularly noticeable

52 The calculation of teacher shortages and surpluses is based on the 2014 student teacher and class norms.

Figure 44. Cambodia has high student-teacher ratios compared to other countries



Note: \* indicates old data included. The pre-primary number for Bangladesh is from 2002, the upper secondary number for Cambodia is from 2007. Source: UNESCO Institute of Statistics (UIS), latest year available.

Table 25. Cambodia has both schools with teacher surpluses and shortages (2015)

		Preprimary	Primary	Secondary	Total
National	Current teachers	4,537	44,884	40,924	90,345
	Surplus teachers	34	2,718	5,403	8,155
	Shortage teachers	-8,005	-25,061	-6,789	-39,855
	Net shortage teachers	-7,971	-22,343	-1,386	-31,700
Urban	Current teachers	957	9,712	12,636	23,305
	Surplus teachers	25	1,162	2,794	3,981
	Shortage teachers	-1,172	-1,919	-766	-3,857
	Net shortage teachers	-1,147	-757	2,028	124
Rural	Current teachers	3,580	35,172	28,288	67,040
	Surplus teachers	9	1,556	2,609	4,174
	Shortage teachers	-6,833	-23,142	-6,023	-35,998
	Net shortage teachers	-6,824	-21,586	-3,414	-31,824

Source: CSES 2014.

in secondary education, as teachers in schools with redundancies amount to 80 percent of total shortages.

**Some of the teacher shortages could be solved through “reasonable” relocations or incentives for teachers to teach in neighboring schools with shortages.** Notably, while shortages are significantly

larger in rural areas as shown in Table 25, the challenge is not just excess teachers being located far away in the nation’s capital and remote villages having no teachers, although this is part of the problem. In fact, most provinces have both schools with surplus and schools with shortages. A large share of the shortages at the primary level, in the provinces of Phnom Penh

and Banteay Mancheay, could be addressed by simply relocating teachers from surplus schools to deficit schools. At the secondary level, Phnom Penh, Kandal, Preah Vihear, Pursat, Strung Treng, Kracheh, and Koh Kong would still have excess teachers even if all the schools with shortages were “filled” through relocations. In total, 43 percent of primary schools and 28 percent of secondary schools with shortages are located within 5 kilometers (“as the crow flies”) of the nearest school with a surplus.

### The cost of misallocated teachers is significant and rising

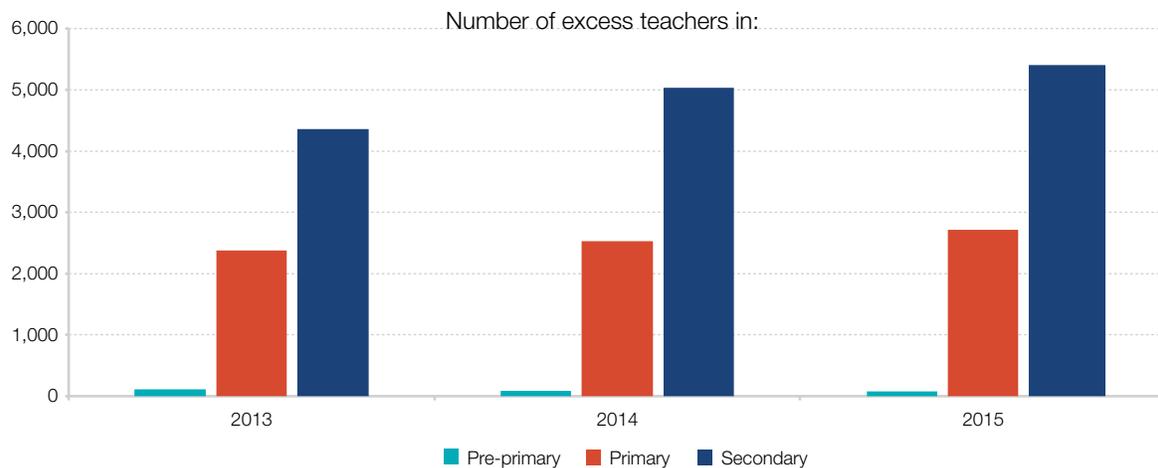
**Authorities have undertaken a series of measures to try to address teacher shortages in the short term, but this has not been sufficient.** The fact that some teachers are located at schools where they are not needed is not a new finding, and solutions to the problem have been discussed for a while. To partly address this challenge, contract teachers, receiving a higher salary, have been introduced in hard-to-fill positions (often in remote areas). Monetary bonuses for remote schools have also been introduced to increase incentives for teachers to take less attractive positions, and efforts are being made to recruit new teachers in

locations with shortages. While no doubt mitigating, these measures have proven insufficient.

**The number of teachers teaching in schools where they are not needed increases every year.** The number of teachers in schools with redundancies grew by more than 1,300 between 2013 and 2015, an increase of almost 20 percent (Figure 45). As of 2015, an estimated 10 percent of teachers’ salaries were going to teachers who were teaching in schools with redundancies. The monetary loss is equivalent to the annual salary of more than 10,000 primary or pre-primary teachers—this is arguably a large loss of resources in a budget-constrained environment.

**Fulfilling all teacher norms by hiring new teachers would increase teacher salary costs by 40 percent, but this would be reduced to 30 percent if teachers were distributed optimally.** If authorities were to address the entirety of teacher shortages by hiring new teachers, this would drive the MoEYS payroll up by 40 percent. Alternatively, if all teachers teaching in schools with redundancies were relocated, this could result in savings equivalent to 10 percent of the payroll. Considering the continuing flow of teachers from deficit to surplus schools currently, it is likely that the loss (and

Figure 45. The number of excess teachers has been growing each year



Source: EMIS 2013-2015 and World Bank staff calculation.

consequently, potential gains from relocation) would grow beyond these magnitudes if unaddressed.

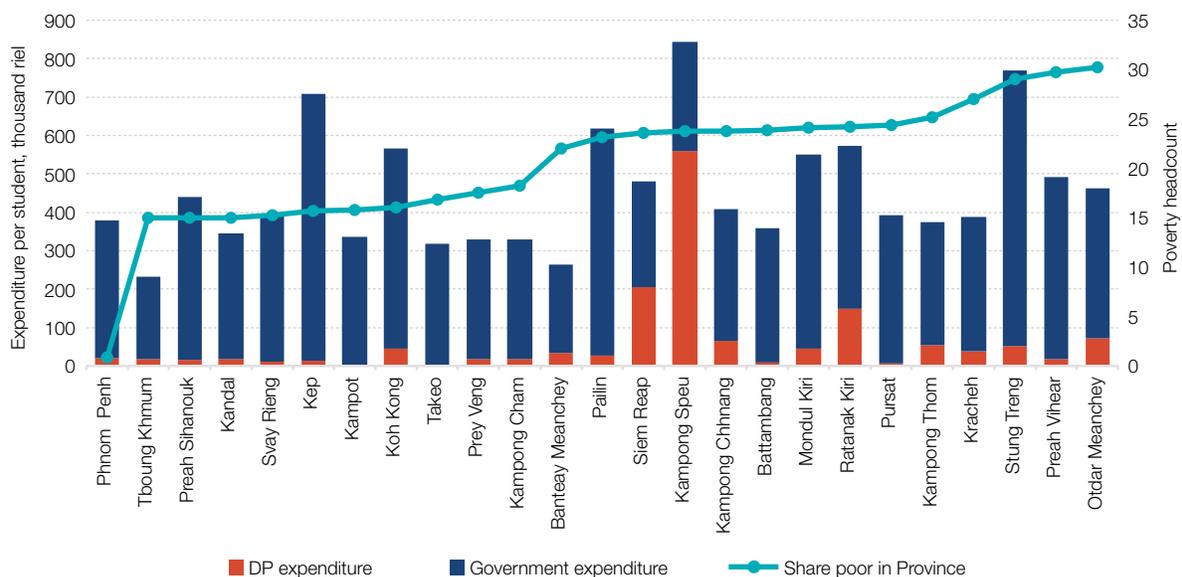
### Variation in provincial student unit costs are driven by challenges in service delivery, especially to remote areas

**Per student funding varies significantly across provinces but is not targeted in favor of the poorer provinces.** Figure 46 shows that per cost-equivalent student funding<sup>53</sup> varies significantly across provinces, with some provinces spending up to two times more per cost-equivalent student than others. However, variations in both DP and government funding per student do not seem to be associated with poverty incidence across provinces. While there is some variation over time, provinces like Kampong Speu, Siem Reap, and Prey Veng had among the lowest government expenditures

per student, both in 2015 and as an average over the period 2010-2015. Similarly, provinces such as Stung Treng, Kampot, and Banteay Meanchey consistently had among the highest government expenditure per student, both in 2015 and over the 2010-15 period.

**It seems that variation in per cost-equivalent student spending is driven not only by teacher shortages but also by the difficulty of service delivery (remoteness).** It could be thought that variation in per cost-equivalent student spending would be determined entirely by existing teacher shortages. However, this does not seem to be the case, as regional student unit cost displays a similar ranking, even when corrected for net cost of the misallocated and missing teachers. Regional student unit costs are highly correlated with population density and average school size, which indicates that variation in unit costs are at least partly driven by the

Figure 46. Provincial variations in expenditures per student are not associated with poverty incidence

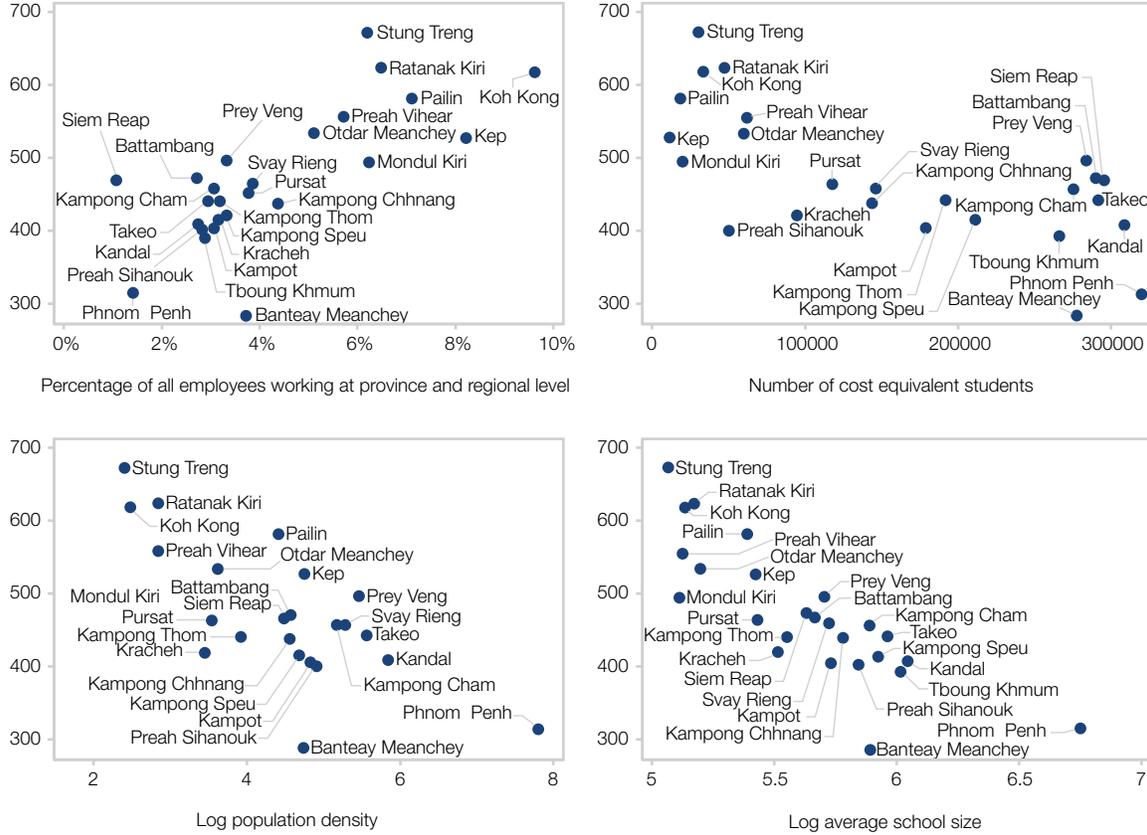


Source: World Bank staff calculations based on province-level education expenditures, EMIS student data for 2015 and MoP (2014).

53 Per student funding is calculated as all expenditures on preprimary, primary, and secondary in each province divided by number of “primary equivalent students.” A secondary student cost two times more than a primary student on average, and a pre-primary student costs 1.5 times more than a primary student on average. The total number of primary equivalent students is therefore the number of primary students plus two times the number of secondary students plus 1.5 times the number of pre-primary students in each province. Utilizing primary equivalent students ensures that provinces with higher pre-primary and secondary enrollment are comparable to other provinces, avoiding the appearance of higher student unit costs just because of higher enrollment shares of costlier students.

Figure 47. Regional student unit costs are driven by numerous factors

Drivers of regional student unit costs, in thousand riel (2015)



Source: World Bank staff calculations based on EMIS and provisional education expenditures.

difficulty of providing educational services, with a more scattered population being costlier to serve (Figure 47). Notably, factors such as the share of the population living in urban areas and the share of students in two shifts are not correlated with student unit costs.

**Larger regions also seem to benefit from economy of scale in administration costs.** Regions with a relatively small enrolled population have higher unit costs, which in part are driven by higher ratios of administrative personnel to teachers/students (Figure 47). Notably, all regions with unit costs under KHR 500,000 per student have less than 5 percent of the workforce employed in administrative functions at the provincial and regional levels, while those regions with unit costs higher than

KHR 500,000 have at least 5 percent of the workforce employed in administrative functions at province and regional level.

**Additional increases in enrollment are likely to come at higher student unit costs.** Analysis reveals that the regions with lower shares of children enrolled are also the regions with higher average unit costs. This is consistent with the abovementioned finding that these regions have lower population density and lower average school sizes. Hence, reaching the remaining children is very likely to be more difficult and more expensive compared to the students already enrolled. Future enrollment costs per student are therefore likely to increase. There is evidence that small secondary schools in scarcely

populated areas already have their students traveling the farthest, and most of the additional enrollment would need to take place in these schools (and would be costlier). The additional salary bonuses to teachers in remote locations also raise costs. However, the higher costs could be partly offset if the number of positions at the provincial and regional levels do not increase at the same rate as additional enrollment. The variation in administrative cost across regions would decrease, as regions with relatively higher administrative costs also tend to have larger scope for additional enrollment.

### Greater utilization of per-student funding could have many advantages

**The School Operating Budget (SOB) is a relatively small amount that does not meet school needs.** The SOB is a direct transfer of government funding to schools, covering operating expenditures, but excluding salary payments and major procurement.<sup>54</sup> Only 3.3 percent<sup>55</sup> of government educational expenditures on pre-primary, primary, and secondary education are distributed through the SOB formula.<sup>56</sup> It is equivalent to less than 20 percent of all non-wage expenditures (21 percent at the pre-primary and primary levels and 17 percent at the secondary level), an amount that is viewed as insufficient for general operation of schools (ITAD, 2016). The SOB formula assumes different degrees of economy of scale in pre-primary, primary and secondary, which results in different net per-student funding to schools in pre-primary, primary, and secondary as a function of school size.<sup>57</sup> At the median, the total net per student funding (fixed amount plus variable amount, divided by number

of students) was KHR 20,000 for pre-primary, KHR 14,000 for primary, and KHR 25,000 for secondary in 2015. As a recent PETS survey indicated, however, the amount received by small schools could frequently be too low to meet minimum spending requirements (World Bank, forthcoming).

**Evidence also indicates that the School Improvement Grants (SIG) are insufficient to ensure that small schools are in good condition.** While the SOB is government funding covering operating expenses, the SIG scheme is DP funded and finances capital expenditure at the school level. Small schools receive a larger SIG subsidy per student but also seem to be in worse physical shape, as assessed using a school quality index,<sup>58</sup> which would mean funding may be insufficient to cover needs. This is especially the case for primary and secondary schools with less than 100 students, which are in much worse condition than any school with over 200 students.<sup>59</sup> Ensuring sufficient allocations will be essential as preparations are underway for a government takeover of the SIG component and the merger of the SOB and SIG systems into a School Improvement Fund (SIF) system, fully financed by the government.

**There is evidence that providing funding directly to schools through SOB and SIG is contributing to improved facilities and equipment.** International experience with money following the student highlights advantages such as greater transparency, greater predictability, and a school system more adaptable to change in enrollment patterns (Alonso & Sánchez, 2011). Evidence indicates that combined SOB and

54 The SOB finances expenditures like office supplies, small scale repair of school equipment, books for library, arts and crafts, clean water, electricity etc.

55 Estimated by multiplying school characteristics in EMIS 2015 with SOB subsidies divided by MoEYS combined budget for pre-primary, primary, and secondary. There is a small difference in using EMIS data times the formula which amounts SOB to 45.0 million riels, compared to MoEYS budget number of 45.6 million riels in 2015.

56 The SOB is based on a funding formula mixing a fixed amount per school and a variable amount per student. Both components vary with the number of classrooms in the school. In addition, a total of 300 schools (pre-primary, primary, and secondary) are designated as disadvantaged schools, and these schools receive higher amounts of both subsidies.

57 For primary, for instance, the formula is largely a per-student subsidy only, as the fixed amount is relatively small and only matters for very small schools with less than 50 primary students (and only 4 percent of primary schools have less than 50 students). In contrast, 36 percent of secondary schools and 93 percent of pre-primary schools have less than 100 students, and these experience significant boosts in net subsidy per student.

58 The index of school quality is the first component of a principle component analysis based on presence of water, toilets, black board, chairs, desk, playground, quality of structures (concrete and wood).

59 While per-student funding may be higher for small schools, it is difficult to see how significant improvements in school facilities could be made with a SIG disbursement of USD 118 (the average received by the lowest quintile of stand-alone primary schools in 2016) or USD 196 (for the corresponding quintile for lower secondary schools). Combined SOB and SIG allocations or operational funds were disbursed as low as USD 248, with the lowest quintile receiving between USD 248 and USD 1,092. In recognition of this, the SOB allocations for 2017 included a “top-up” of KHR 1 million per school as a pilot allocation increase.

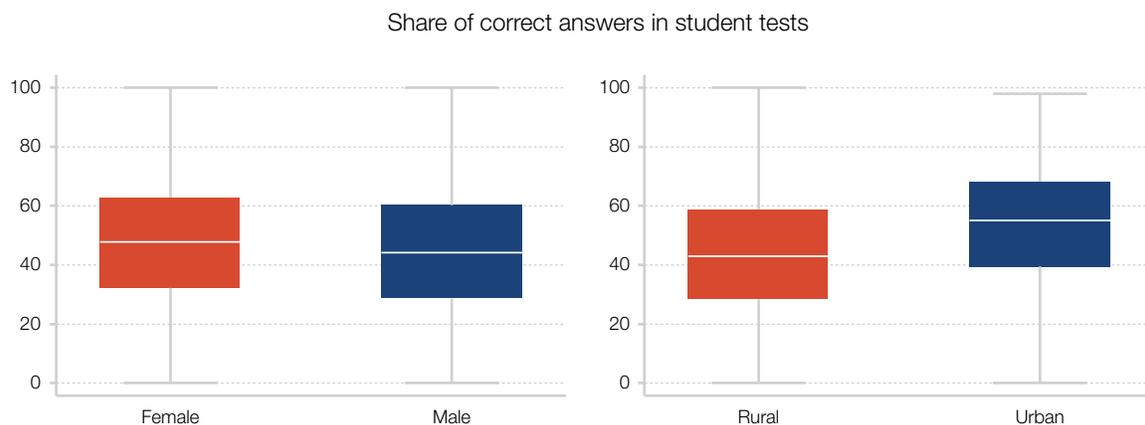
SIG funds are at the moment positively correlated with school quality (e.g., learning materials, library, furniture), financial quality (compliance with ministerial financial management guidelines), and environmental quality (safety, utilities) (World Bank, forthcoming). Providing funding directly to schools, combined with more flexibility in its use at the school level, could lead to greater efficiency as money could be directed toward areas where the school sees a larger need.

**In addition, a higher per student component, combined with improved supervision and accountability, could provide further motivation for schools to maximize enrollment and student presence.** Analysis in Section 4.3 indicates that some primary students might not enroll due to lack of knowledge or motivation, as opposed to financial cost or access to schools, while there is evidence of better outcomes for students that have higher attendance (Section 4.5). As such, implementation of per-student funding could potentially result in an additional improvement in both enrolment and student outcomes through incentive externalities.

## Quality and learning outcomes

**National student test scores reveal significant differences between urban and rural areas, between boys and girls, and across provinces.** On average, students located in urban areas answer 55 percent of questions correctly, compared to less than 50 percent in rural areas. This is a significant difference, but Figure 48 also shows that the 50 percent of urban students in the 25- 75th percentile score between 42 and 68 (illustrated by the solid box), while the 50 percent of rural students in the same percentiles score between 36 and 52. Hence, there is also a substantial variation within the different groups, and overlap in scores. Similar patterns can also be seen for provinces and male and female students, with female students having statistically significantly higher scores than male students (average difference of 2.5 percentage points). Decomposing student outcomes into variation within and between schools shows that about half the variation can be explained by variation within the same class.

Figure 48. Significant differences in test scores can be seen between males and females and between urban and rural students



Source: MoEYS Quality Assurance Department test scores for 3rd and 8th grade.

Table 26. Regressions for 3rd and 8th grade test scores

	Both grades		3rd grade		8th grade	
	coef	se	coef	se	coef	se
<b>Student Characteristics</b>						
Student social economic characteristics	1.5***	0.3	0.5	0.4	1.9***	0.3
Student absenteeism	-1.5***	0.2	-0.6**	0.3	-1.8***	0.2
Student's homework	0.7**	0.3	0.8	0.6	0.6**	0.2
<b>Teacher Characteristics</b>						
Teacher received on job training	-0.3	1.0	-6.4***	2.3	1.0	1.0
2 years of teaching training	-1.7	1.6	-1.0	1.6	6.7***	1.8
3 years of teaching training	-0.5	2.1	-1.2	4.4	8.9***	2.1
4 years of teaching training	2.7	3.1			13.1***	3.0
Standardized teaching behavior in class room	2.5***	0.3	1.9***	0.5	2.4***	0.3
Teacher understand curriculum	1.5*	0.9	3.6***	1.3	0.7	1.0
Teachers absenteeism	0.1	0.0	0.0	0.1	0.1**	0.1
Hours spend on preparation	0.0	0.0	-0.0	0.0	0.0	0.0
<b>School Characteristics</b>						
Education of School Principal	0.3	0.3	1.1**	0.5	-0.0	0.3
Total Service of School Principal	0.0	0.1	-0.1	0.1	0.0	0.1
School size	0.0***	0.0	0.0***	0.0	0.0**	0.0
Schools size squared	-0.0***	0.0	-0.0***	0.0	-0.0	0.0
Student teacher ratio	-0.0	0.0	0.0	0.0	-0.1**	0.0
School has more than one shift	-3.2***	1.0	-1.4	1.6	-2.6***	1.0
Distance from school to commune: Kilometer	-0.1	0.1	0.1	0.2	-0.4**	0.2
Urban school	3.2***	1.2	4.1*	2.3	0.4	1.3
<b>Fixed control variables</b>						
Grade 8 dummy	6.9***	1.5				
Math test dummy	-2.9***	0.9	5.9***	1.2	-11.8***	0.9
Physics test dummy	1.7	1.1			-2.7***	1.0
Constant	38.9***	3.2	27.8***	4.9	49.8***	3.1
Number of observations	21,388	8,590	12,798			
Adjusted R2	0.186	0.205	0.170			

Source: Authors' calculations based on EQUAD 2014 and 2015. note: .01 - \*\*\*; .05 - \*\*; .1 - \*; Standard errors take school level clustering into account. Additional regressions and robustness test are available in (Sohnesen, 2016).

## Teacher characteristics and behavior in classroom significantly affect student performance

**Regression results<sup>60</sup> show that teacher characteristics affect student performance more than socioeconomic background.** For students in eighth grade, a teacher with four years or more of teacher training is associated with an increase of 13.1 percentage points in student scores (Table 26). Teacher behavior in the classroom<sup>61</sup> has an impact on both eighth grade (+2.4 points) and third grade (+1.9) students, the levels for which test data was available. For third grade, even when on-the-job training does not seem to have a positive impact, teacher understanding of the curriculum does have a significant effect on student scores (+3.6).

**There is clear consensus from studies on learning outcomes that teachers' effort, as well as understanding of material and teaching methods, are essential to results.** In a review of the existing literature and assessments on learning outcomes in developing countries, Evans and Popova (2016) found that, while there was large variation in results and recommendations, consensus on effectiveness was evident for the introduction of high-quality pedagogical interventions (curriculum, teaching methods, and technological aids) and matching of teaching to student learning. However, this depends critically on teachers' understanding of the material, technological aids, and pedagogic teaching methods. In the absence of teacher training and continuous follow-up, the results of curriculum improvements and other measures are much less positive. Further studies<sup>62</sup>, indicate that teacher effort may matter more than qualifications, with teacher performance pay schemes that are connected to student test scores or teacher absenteeism achieving significant positive results.

Muralidharan (2012) further found that an individual performance pay program could be 15 to 20 times more cost-effective than traditional measures (such as increasing the number of teachers) in improving learning outcomes.

**Further, there is notable scope for increasing learning outcomes through improved in-classroom teaching in Cambodia.** This is reflected in Benveniste, Marshall, and Aranjo (2008) and Tandon and Fukao (2015), with the latter listing encouragement of stronger classroom performance as one of their three key policy pillars for improvement of learning outcomes. A high degree of variation can be seen in the in-classroom behavior index: for example, only 1 percent of teachers in the bottom (first) quintile of the index (the teachers with the worst behavior) correct all homework, while 93 percent of teachers always correct all the homework in the top quintile. Similarly, 6 percent of teachers in the first quintile have students at the blackboard and 7 percent use multiple choice tests in their teaching, while 75 and 46 percent of teachers in the fifth quintile have students at the blackboard and use multiple choice tests. The significant positive relationship between teacher behavior and outcomes is a robust result found in both 3rd and 8th grade, in urban and rural areas, and for all subjects (Sohnesen, 2016).

## School characteristics and students' own efforts also matter

**Students in large schools perform better.** School size is significantly correlated with student scores, with large schools obtaining higher scores. Larger schools have better inputs both in terms of education of teachers and physical inputs, but several other factors could also explain why larger schools perform better, including better management and better utilization of teachers (e.g., through specialization). Interestingly, the student-

60 The regression corrects for aspects of the students that are beyond government control, such as education and employment of parents. All these aspects are controlled for with a Social Economic Characteristics (SEC) index..

61 Teacher behavior in classroom is captured by eight questions answered by students on teachers' teaching styles, including if teachers are angry with students, help them with homework, and allow them to come to the blackboard.

62 See Glewwe & Muralidharan (2016), Dufló, Hanna & Ryan (2012), Contreras & Rau (2012) and Muralidharan (2012)

teacher ratio alone does not seem to have a significant impact on student test scores. School size and excess/surplus of teachers do not seem to be correlated, while students attending a school with more than one shift obtain lower scores.

**Students' own efforts matter and could be supported by the active engagement of parents.**

Students who are more absent have lower scores, and students who do more homework have higher scores in 8th grade. This is true even among students with similar socioeconomic characteristics, teacher characteristics, and school characteristics. The 6 percent of 3rd grade students and 9 percent of 8th grade students reporting more than 11 missed days of school have scores that are on average 7 and 11 percent lower, respectively, than students with no absence.<sup>63</sup> Marshall et al. (2012) found a similarly large impact of student absences on student scores in their analysis of 6th graders in 2006 and 2009. Although not an input the government has direct control over, it might be an aspect that could be influenced at low cost through information campaigning or other forms of motivation for students, parents, teachers, and schools as discussed in the following section.

## Policy options

### Government expenditure stewardship could be strengthened

**The government should keep expanding the funding for, and ownership of, education policies.** Greater stewardship of the sector could be taken, as DPs currently fund 69 percent of all non-wage expenditures, leaving most policy-relevant expenditures to DPs. Since DP funding to education as a percentage of GDP is expected to remain flat and eventually start declining, the government should expect to keep assimilating and funding an increasing number of functions previously

covered by DPs (as has been done with the scholarship programs, for example). In this regard, it is worth noting that the 2017 budget included a significant increase in government-funded capital allocation, with a planned capital allocation of KHR 90 billion riel, up from zero in 2014, 35 billion in 2015, and 40 billion in 2016. While still not a large allocation, this signals that the government is willing to take more responsibility by scaling up its activity. If Cambodia is to achieve the ESP objective of adequately funded education, this trend will need to continue.

**To scale up stewardship of the sector, continued improvements in the allocation and use of resources are needed through stronger program budgeting.**

While the ESP provides the direction for the education sector, the linkages between policy and funding are still weak. Addressing this challenge would require a series of measures, including (i) improving clarity of allocations to different programs by unwrapping lumped wages and mapping personnel costs by program in budgets and accounting reports; (ii) moving toward more realistic BSPs by facilitating information exchange between MEF and MoEYS (including on the available budget envelope); (iii) continuing to provide change management and leadership training for managers and budget entities in charge of implementation; (iv) shifting responsibility and accountability to budget managers by allowing all expenditure receipts to be retained at the spending ministry for audit at a later date, in line with the government budget reform strategy; and (v) further improving DP coordination mechanisms and including funded projects in the BSP, since they will have an impact on the results obtained. The Annual Operational Plans already include DP funding in a quite detailed manner. If a similar—albeit tentative—inclusion could be made in the BSP, plans and outcomes could be compared with DP contributions taken into account. The above is in line with the ESP, which sets out objectives of continued improvement and clarification of BSP processes, while also emphasizing management capacity improvement.

63 Absence can also be correlated with ability and/or interest, but the analysis is unable to control for this directly.

**Increasing both funding and accountability at the school level could play a key role in improving schools' inputs and outcomes going forward.** A recent report (ITAD, 2016) details the potential benefits and challenges of combining SOB and SIG funding into a single school funding program, including moving toward medium-term funding, which would allow improved school financial planning. In 2017, authorities already moved to reduce SOB spending restrictions and were preparing for the merger of the SOB and SIG systems into a SIF system as mentioned earlier. This would be a good opportunity to (i) reduce the number of annual transfers and simplify auditing standards and procedures; (ii) grant further flexibility with regard to how funds are spent (instead of earmarking), while reinforcing accountability mechanisms; (iii) include a base amount for travel allowances to allow schools to cover immediate teacher shortages (particularly for subject teachers) by offering travel compensation for teachers in nearby schools with spare capacity; (iv) revise the formula for the distribution of funding, as while there is currently some allowance for “disadvantaged schools,” the formula does not seem to take specific school characteristics into account sufficiently. An assessment of general school needs based on size, location, and education level should guide future adjustments to the SOB formula (now SIF) so each school receives sufficient funding to cover its operational needs. If managed well, a gradual increase in the SIF allocation is likely to allow localized solutions and improved spending execution and efficiency. These measures could contribute significantly towards the ESP target of improved school quality and improved disbursement procedures.

**In the case of higher education, which is currently underfunded in Cambodia, increased financial autonomy combined with accreditation and quality assurance mechanisms are important priorities.** Tertiary education spending is usually not pro-poor and may not be viewed as the top priority in developing economies that are focusing on increasing primary and secondary enrollment. However, estimated higher

education spending in Cambodia is by far the lowest among comparator countries, at 5 percent (highest estimate) of total sector spending. While ensuring access to lower levels of education, attention should also be given to higher education programs in line with Cambodia's IDP (RGC, 2015b) to ensure that the necessary skills are available at a sufficient quality to meet national strategic goals. The need for advanced skills warrants increased expenditure in higher education, with a focus on quality improvement. The ESP recognizes this and targets increased spending and improved quality in higher education. In general, greater financial autonomy could allow the sub-sector to derive more benefits from tuition fees than under current arrangements. This would provide funding for advancing their research facilities and human resources to implement an updated curriculum. In return for increased autonomy at the institutional level, the management of public higher education institutions could be held legally accountable through accreditation and quality assurance mechanisms. The block grant introduced by the MoEYS is a step in the right direction, but there is still potential for substantial expansion of autonomy.

### Cost-efficient measures could be used to expand enrollment

**Future increases in enrollment are likely to be costlier and will require interventions that are specific to the challenges at different school levels and geographical locations.** Additional enrollment and expansion of the school network is likely to be in more remote areas and areas with lower student density. As discussed earlier, serving these areas is more expensive than serving the existing school network. In the Northeast and other remote areas of Cambodia where physical access is still a challenge to enrollment, local cost-benefit analysis should be used to determine whether expanding access through construction of more schools, reducing access costs through transport, or utilizing housing or grant options are optimal solutions in these provinces.

**At the pre-primary and primary levels, awareness and communication campaigns targeting both parents and children would be needed to enroll those out of school.** Spreading knowledge and changing expectations might be a cost-effective intervention for increasing enrollment further, as many school age-children are not enrolled because parents perceive them as being too young as discussed earlier. This would require targeted interventions such as awareness campaigns. Nonetheless, it is worth noting that this measure may not be effective if not accompanied by construction of new preschools, where there is currently a shortage. The ESP targets increased ECE enrolment and provision and quality improvement in both primary and ECE, with reference to parent education on benefits of ECE, indicating intent to make efforts on both fronts.

**For secondary education, the expansion of grant programs could help reduce the opportunity cost of being at school.** In the secondary-level age group, 58 percent of the children that are out of school cite financial reasons as the main cause. Past experiences have shown that scholarship schemes do increase enrollment, although limited impact was found on learning outcomes (Evans & Popova, 2016; World Bank, 2012). Expanding the coverage and funding of current student scholarship programs would help mitigate the direct and opportunity costs of schooling, especially for secondary education. This is recognized in the ESP, which targets expansion of scholarship programs for primary and secondary levels.

**Income- and merit-based scholarship schemes could be used to expand higher education enrollment, especially for areas of study that are higher strategic priorities.** These schemes, combined with similarly targeted education quality improvement measures, could be provided for students entering IDP priority courses such as natural sciences and engineering to ensure the supply of desirable high-quality skills. Such schemes would not only advance skills development but also help maintain the pro-poorness of overall spending.

This measure would support the IDP, while being in line with the ESP policy objective of increasing enrolment for disadvantaged students through income- and merit-based scholarships.

### Improved allocation of resources would help increase expenditure efficiency

**Some teacher shortages could be solved through “reasonable” reallocations.** In 2015, about 10 percent of MoEYS salaries were going to teachers teaching in schools where they are not strictly needed to maintain student-teacher norms (redundant). About half of the teacher shortage could be solved if all excess teachers were relocated to schools with shortages. Some of these relocations could be done with minimal cost to individuals. As noted earlier, 43 percent of primary schools with a shortage of teachers have a school with a surplus of teachers within 5 kilometers. While wholesale reallocations may be unfeasible, this calls for pragmatic reallocation of teachers to nearby schools, especially for primary education. When not possible, teacher shortages in certain schools could be mitigated by including allocations in SOBs to provide monetary incentives for teachers in nearby schools/locations to travel and do shifts at the school in need. At the secondary level, this allocation could allow deficit schools to meet specific needs by enabling travel and compensation for subject teachers from nearby surplus schools, potentially even allowing one teacher to cover multiple minor deficits.

**An effective and long-term solution to poor allocation of teachers would need to include teacher management reform and enforcement of student-teacher ratio norms.** While school teachers have a right to relocate after a set number of years of teaching, they should not go to schools that are already above the teacher-to-student threshold. Yet common practice is that this takes place despite existing norms. Unless the flow of teachers from deficit to surplus schools is stopped and rates of teacher absenteeism are reduced, they will remain a perpetual drain on government

resources and educational quality. While many remedial measures have already been implemented and other remedial action can help mitigate the problem in the short term, improved teacher management and enforcement of existing norms for student-teacher ratios and instructional hours are essential to reducing the suboptimal use of resources in the medium to long term. Hence, a first and very critical step is to start enforcing the existing ratio norms to stop the flow of teachers to schools where they are not needed. As done in Uganda and other countries where absenteeism is prevalent, school principals and students could also use mobile technologies to report teacher absence, with the information being transmitted to a central database at the Ministry of Education (World Bank, 2016). The above findings could be helpful in ESP policy actions including revision of teacher staffing norms, deployment principles and financial management.

### Increasing education quality is another key reform priority

**Given that the largest spending is on salaries which will continue to increase, future increases should be leveraged to raise the quality of teaching.** Educational outcomes are significantly linked to teachers' behavior in the classroom and understanding of the curriculum and as is rightly also reflected in policy priorities in ESP. Part of the quality challenge could be addressed with the provision of teacher training. Although both the government and DPs allocate some resources (KHR 34 billion in 2015) to teacher training, it is done in a patchy way, as recognized by stakeholders. The current Teacher Policy Action Plan is aimed at addressing some of these challenges, emphasizing mentoring programs in the short to medium term, and introducing the requirement that all teachers must hold bachelor degrees in the long term. In addition, authorities could consider linking future increases in salaries to teachers' performance or passing of quality-enhancing teaching certificates, based on knowledge of the curriculum and classroom behavior "best practices." Introduction of

technologies to monitor teacher absenteeism would also be advisable. This should be considered when meeting ESP objectives of revising guidelines for performance management, capacity assessment, career path development and extensive plans for teacher training improvements.

**Increased parental knowledge and involvement could also improve learning outcomes.** Students that show up to school every day also perform better in school, hence involving parents to encourage students' full-time participation could improve learning outcomes. International experience, from Mexico among other countries shows that active parental engagement can have very positive impacts on school management and student outcomes (Gertler, Patrinos, & Rubio, 2012). In a review of studies, Ganimian & Murnane (2016) found that more informed and involved parents improved both retention and learning outcomes of students. Nguyen (2009) found that teachers informing parents and children of economic returns to schooling was effective in increasing attendance and learning outcomes, while outreach by other role models obtained mixed results based on personal backgrounds.<sup>64</sup> The School Based Management policy foresees community and parents engagement in school-related meetings, which is a welcome step expected to contribute to improved learning outcomes. These findings support the ESP strategy intended to establish a quality assurance framework involving parental participation.

**Notably, small schools are in need of special attention with regard to quality.** To increase the quality of poorly performing schools, small schools need special attention as they have both the poorest inputs and the poorest outcomes. This is related to the fact that small schools are the ones in poorest condition (due to higher administrative costs and low absolute values of operational funds received) as well as to the fact that the best teachers self-select themselves into larger schools (to attain more status and extracurricular economic opportunities). A comprehensive solution would thus

<sup>64</sup> The method of dissemination matters. A study in Indonesia (Cerdan-Infantes & Filmer, 2015) found that informing parents through facilitated meetings or through mobile phone text messages yielded increased parental participation, while leaflets and letters were ineffective.

require the implementation of a range of policy options presented above to ensure sufficient operational funds as well as to improve cost efficiency and teaching quality, including the enforcement of existing rules on relocation and the increase in funding directed to schools.

For the proposed reforms to succeed, administration and management will also need to be strengthened

**The increased focus on School-Based Management is expected to help increase enrollment and improve learning outcomes, provided that it is accompanied by some additional elements.** For example, the recent introduction by authorities of increased flexibility in the use of funding at the school level and the planned increase in funding channeled through the new SIF will require a faster and well-functioning authorization and disbursement system. Improved financial recordkeeping and collection of EMIS indicators will also be necessary for more efficient public spending and increased enrollment / reduced absenteeism. Improving administrative systems to ensure the quality of classroom interactions, through teacher allocation, training and certification, and accountability, will also be crucial to ensure the provision of quality education for all Cambodians. The ESP outlines ambitious objectives of improvement in planning, disbursement, monitoring and reporting, thus recognizing these challenges.

Table 27. Policy options to improve expenditure efficiency and outcomes in education

Challenge	Short-term policy options (1-2 years)	Medium-term policy options (3+ years)
Two-thirds of non-wage spending remains financed by DPs, and schools have traditionally had little flexibility in using funding	<p>Introduce further delegation of authority to budget managers at the MoEYS to facilitate expenditure execution, while demanding to assign personnel costs to specific programs and include DP-funded projects in the BSPs</p> <p>Conduct an assessment of school needs based on size, location, and education level to adjust the distributional formula in the School Improvement Fund</p>	Complete progress towards school-based management, with schools and higher education institutions enjoying greater autonomy while being held legally accountable through monitoring and quality assurance mechanisms
Education expenditures on pre-primary, primary and secondary is becoming more pro-poor, but is still pro-rich, and this is driven by enrollment gaps	<p>Prepare awareness and communication campaigns targeting both parents and children to further increase enrollment in pre-primary and primary (where a number of children are considered “too young to attend”)</p> <p>Conduct local cost-benefit analysis to determine whether building more schools or reducing access cost through transport, housing options or grant options is most optimal in Northeastern provinces with significantly lower enrollment</p>	Expand the coverage and funding of the current student grant programs to reduce the opportunity cost of being out school, especially for secondary education
As of 2015, about 10 percent of teacher MoEYS salaries went to redundant teachers in schools with excess staff, while teacher shortages in other schools are equivalent to 40 percent of the current payroll	Reallocate teachers to nearby schools, especially for primary education (43 percent of schools with shortage are within 5 km. of schools with excess). When not possible, provide monetary incentives to travel / do additional shift	Enforce student-teacher ratios and implement norms that prevent relocations to schools with excess teachers
Learning outcomes in Cambodia remain poor across levels. Teacher and student behavior are found to impact test scores	Increase parent engagement in school-related meetings and enhance parents’ awareness on the importance of school attendance and homework habits	Introduce the requirement of passing quality enhancing teaching certificates based on knowledge of the curriculum and classroom behavior “best practices”. Use mobile technologies to better control for teacher absenteeism

Source: World Bank staff elaboration.

# 5 SUPPORTING AGRICULTURAL DIVERSIFICATION AND RESILIENCE

## Introduction and motivation

**D**uring 2004-2012, strong agricultural growth played a critical role in Cambodia's impressive poverty reduction. Especially between 2008 and 2012, high international commodity prices incentivized farmers and others to expand their planted area, increase their use of improved technologies, and diversify production, all leading to increased productivity. This contributed to a remarkable decline in the poverty headcount, from 47.8 percent of the population in 2007 to 13.5 percent in 2014. An open trade policy, including allowing the exports of unmilled paddy and other raw materials, enabled the quick pass-through of international prices to farmers (and farm laborers). While the process of economic structural transformation typically involves a declining role for agriculture, the sector still accounts for 26.6 percent of GDP and 41.5 percent of employment in Cambodia.<sup>65</sup> During this period, a Public Expenditure Review exercise was undertaken. See Box 7 for a summary of the 2011 Review findings and subsequent developments.

**Since 2013, agricultural growth has slowed significantly in a context of low international commodity prices and adverse weather events.** After averaging 4.7 percent during 2006-2012, Cambodia's agricultural GDP growth fell to an average

of 0.8 percent over the subsequent three years, in a context of plummeting prices (Figure 49). Adverse weather conditions have also played a role, with a large proportion of paddy and cassava-growing areas experiencing production losses during the 2015/16 *El Niño* drought. Due to its large share of harvested area (76 percent) and agricultural value added (approximately one-third), the slowdown in paddy production has had the largest proportional impact on aggregate agricultural GDP growth. Paddy production grew by an average of 7.6 percent between 2010 and 2012 then was more or less flat in 2014 and 2015. Cassava, an important secondary food and feed crop, saw rapid growth up through 2012 followed by sharp declines and rubber production, while expanding, has seen dramatically falling prices since 2011. Livestock production has been affected by disease outbreaks (for poultry) and structural changes (i.e. a shift from draught animal power to land preparation machines). Forestry output has declined following the enforcement of logging restrictions and a curtailment of new economic land concessions, measures needed to ensure sustainability. Hence, the agricultural sector as a whole has recently experienced some very strong headwinds, in relation to factors that previously had spurred growth.

**Increased agricultural public expenditures in recent years do not yet seem to have translated into a**

<sup>65</sup> Percent GDP from NIS national accounts 2015, percent of employment from CSES 2015.

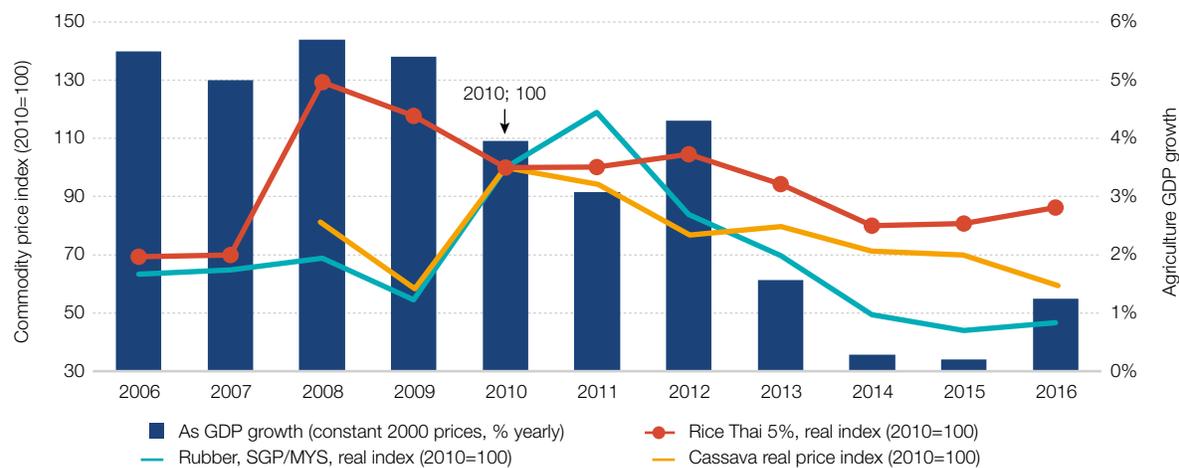
**more resilient and profitable sector, pointing to the need for a new strategic approach.** Certainly, there are examples of public programs and DP-supported projects that are having a positive impact on farm productivity and incomes. However, these impacts have tended to be localized, with limited spillovers beyond the areas targeted by the projects and limited impact on broader value chains and overall sector performance. A larger return on such programs and projects is needed as Cambodian agriculture cannot sustainably expand its land area or further intensify its fishing efforts, nor can it rely upon a return to exceptionally high commodity prices. As recognized in the Agriculture Sector Strategic Development Plan (ASDP) 2014-18, the sector needs to pivot toward a strategy of sustainable intensification, diversification, and value addition, both by strengthening the provision of core public goods and by improving the enabling environment for private investment and services. In this pivoting process, the quality of public agricultural spending and the synergies achieved across programs will become increasingly important.

**Drawing from the analysis of public expenditure trends and policies in Cambodia as well as from international experience, this chapter identifies interventions aimed at boosting agricultural growth**

**going forward.** Section 5.2 provides an overview of public spending trends in agriculture and irrigation, putting their magnitude into an international context. Section 5.3 then reviews the functional composition of agriculture spending and the provision of core public goods. Section 5.4 focuses on public spending in irrigation and some strategic considerations to help foster higher returns from such investment. Section 5.5 summarizes the experience with program budgeting thus far in MAFF and the Ministry of Water Resource Management and Meteorology (MOWRAM). Finally, Section 6 suggests policy options to support agricultural diversification and resilience.

**A few caveats to the findings should be noted.** Cambodia's situation is unusual in that a majority of public agricultural spending is financed by DP organizations, with a significant proportion of projects occurring outside of government budgets and/or institutions. In relation to government spending, since program budgeting has been introduced just recently, there is still little information on program and activity outcomes, which precludes an assessment of agricultural expenditure effectiveness and efficiency. To remedy this going forward, collecting detailed information on agricultural program outcomes as defined in sectoral and budget strategic plans will be essential.

Figure 49. Once spurred by rising commodity prices, agricultural growth has fallen as prices have declined



Source: Rice and Rubber Index data from World Bank Global Economic Monitor (Commodities); Cassava price data from Thai Tapioca Starch Association; Cambodian growth data 2006-2015 from NIS, 2016 MEF estimate.

## Agriculture and irrigation in the 2011 Public Expenditure Review

This box summarizes key findings and recommendations related to agriculture and irrigation in the previous Public Expenditure Review for Cambodia (World Bank, 2011), as well as subsequent developments that are discussed in this chapter.

**The 2011 PER recommended raising public spending in agriculture, which was significantly lower than in comparator countries (fully implemented).** Due to limited fiscal space, the PER recommended increasing government spending only in line with responsible government expenditure, while focusing on the efficiency of spending. Following the report, the RGC increased agriculture (including irrigation) spending by 82 percent from 2010 to 2015, reaching levels similar to those of comparator countries. Meanwhile, overall government spending was kept in line with domestic revenue expansion.

**The PER recommended that spending increases be directed toward extension, irrigation (particularly secondary and tertiary canals and O&M), research, and rural roads (partially implemented).** The PER also noted low wage allocation, at 33 percent of MAFF budget and 17 percent of MOWRAM budget. Subsequently, RGC spending increases have come primarily in irrigation investment and wage increases, with the recent introduction and increase of irrigation O&M budget. Research spending has remained very low but received increased attention in the 2017 budget. While RGC extension spending has remained low, DPs have allocated large funding shares to this activity. DPs covered 57 percent of agriculture spending in 2010, with this share increasing to 66 percent in 2015. During 2013-2015, 73 percent of DP agriculture funding went to irrigation construction/rehabilitation. While spending has increased in most of the recommended areas, MOWRAM still suffers from limited water management funding and capacity as well as insufficient staffing.

**The PER also identified needed institutional changes in extension and research to clarify responsibilities and improve institutional functionality (partially implemented).** The RGC began such a process for research in 2017. The extension policy was recently introduced, outlining institutional requirements for an effective extension service. The RGC will now focus on successful implementation of the policy.

**In terms of policy and planning, the PER noted that the lack of coordination between policy, programs, and the budget process needed to be addressed (partially implemented).** The process of strengthening the program budgeting process is ongoing, and many improvements have been made. At this stage, the Ministries face different challenges. For MAFF, challenges remain in DP funding inclusion, sub-program consolidation, outcome indicator strengthening and collection, and lack of clear prioritization. MOWRAM's immediate challenges are lack of realism in BSP preparation, limited alignment between programs and the water law that sets out its mandate, unclear sub-program titles and objectives, limited expenditure inclusion and breakdown in strategic documents, unrealistic and unclear outcome indicators, and discrepancies between MOWRAM closing reports and MEF Treasury reports.

**For implementation efficiency, the PER 2011 produced benefit-cost ratios to indicate that irrigation investment had fallen short of potential, and it recommended refocusing irrigation spending (partially implemented).** The PER pointed to problems such as incomplete rehabilitation, missing O&M funding, and insufficient attention to secondary- and tertiary-level systems. While allocations to lower-level irrigation systems and O&M have increased, functionality concerns remain with regard to irrigation schemes, in terms of both O&M and design.

The PER 2011 recommendations also included the need for a monitoring system to allow for assessment of extension efficiency as well as for other programs (not implemented). The PER demonstrated the potential return to extension services, but the effectiveness of current extension arrangements is uncertain. Insufficient intermediate outcome data collection in both ministries still prevents specific program assessments. As such, one cannot determine how public spending and other agriculture inputs translate into agriculture sector outcomes.

Finally, the PER 2011 cited climate, substantial available land area, and surface water as key strengths in the Cambodian agricultural sector, but new sources of agricultural growth are needed going forward. Around 60.5 percent of the subsequent growth (2010-2012, plus 229 percent of 2014 growth) came from land expansion, with this opportunity now largely exhausted. In the current situation, intensification and diversification have therefore become the potential sources of growth, making the need for quality infrastructure and support services even more pressing.

## Public spending trends in agriculture and irrigation

**Public expenditure in agriculture has increased significantly over the past decade.** Looking first at the MAFF, its budget increased more than threefold in nominal terms and twofold in real terms between 2007 and 2016 (Figure 50, left panel). As a share of GDP, the MAFF budget grew from 0.18 percent to 0.26 percent over the same period, while its share in the total budget remained at about 1 percent. The allocations to MAFF were boosted significantly in the 2017 budget, reaching 1.28 percent of total budget and 0.3 percent of GDP.

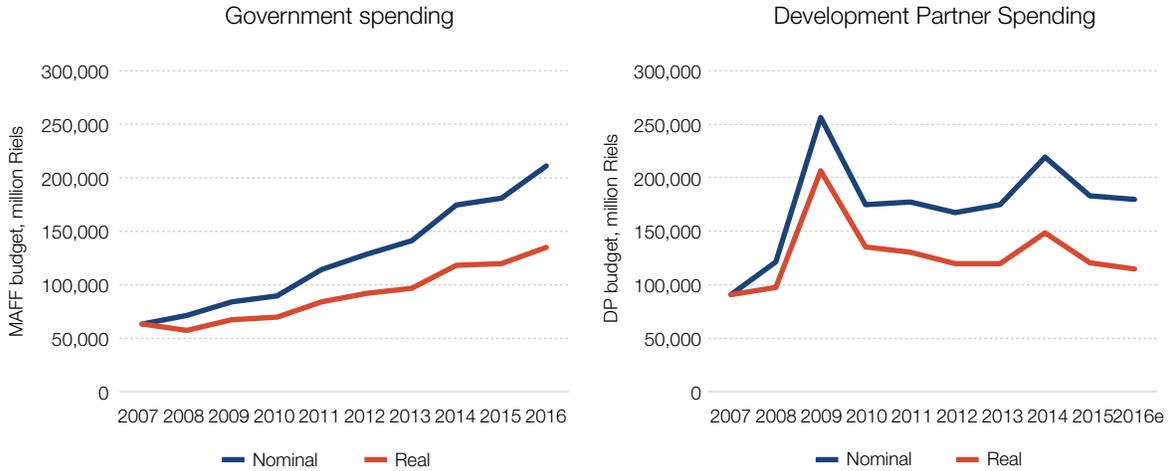
**DP-funded agriculture-related spending also more than doubled in nominal terms between 2007 and 2015.** DP-funded spending in agriculture (excluding irrigation) jumped from KHR 90 billion in 2007 to KHR 183 billion in 2015 (Figure 50, right panel), remaining higher than government funding. Estimates for 2016 indicate that the government may have surpassed DPs however. It should also be noted that the two are not directly comparable.<sup>66</sup> In real terms, government

spending has nearly doubled, while DP contributions have remained largely stable since 2010. DP funding for non-irrigated agriculture now seems to be on a downward trend. Nonetheless, the total (MAFF plus DP) agricultural budget in 2015 was around KHR 365 billion, a figure nearly double that of the late 2000s—a period in which there was some consensus that there was underinvestment in Cambodian agriculture (World Bank, 2011).

**When irrigation spending is included, total agricultural outlays triple, mainly thanks to the scaling up of DP funding for irrigation schemes in recent years (Figure 51, left panel).** Government spending in MOWRAM has traditionally been higher than that of MAFF, although recent increases in the latter have narrowed the gap. DP spending in irrigation has been about three times the amount spent on other aspects of agriculture in recent years. When taking irrigation into account, DPs financed more than two-thirds of total public agricultural spending, and irrigation-related spending also represents around two-thirds of total public spending in the sector (Figure 51, right panel).

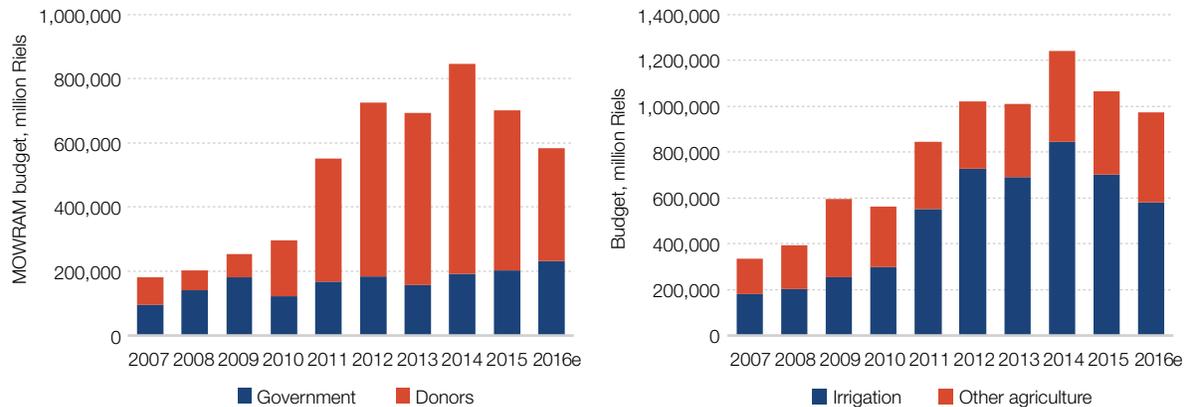
<sup>66</sup> Some DP projects are implemented by or through MAFF, yet the majority are implemented directly by DPs or their subcontractors. In some cases, considerable resources have gone to cover the costs of expatriate managerial and technical staff, including the overhead costs of their home institutions. Grants to non-state actors are an important element of some DP-supported projects. Hence, some DP spending should not be regarded as 'equivalent' to that of the RGC. Deciphering whether DP spending is/is not of a similar nature to MAFF is not possible given the absence of systematic information on the economic composition of DP (non-capital) spending. For illustrative purposes, therefore, DP agricultural spending was simply combined with that of the MAFF budget to obtain the "total agricultural budget."

Figure 50. Government spending in agriculture has more than doubled in real terms since 2007, while DP spending in agriculture (excluding irrigation) has remained relatively stable in real terms since 2010. Nominal and real expenditure trends in agriculture spending



Note: e.2016 estimated DP expenditure.  
Source: MEF of Cambodia, CDC website for development budget.

Figure 51. DP spending in irrigation has increased dramatically (left side), and irrigation now makes up two-thirds of total agriculture spending (right side)



Note: e. 2016 estimated DP expenditure.  
Source: MEF of Cambodia, CDC website for development budget.

Although investments in irrigation can potentially play a significant role in supporting sustainable agricultural intensification and diversification in Cambodia, it is too soon to determine the effectiveness of the sharply increased irrigation spending in recent years. Much of this investment has been made at high (primary and secondary) levels, with insufficient attention given to operations and

maintenance (O&M) and tertiary canals, limiting the connection to the fields. Investments have also been completed without being fully operational, lacking a reliable year-round water supply and functioning operational arrangements, thereby failing to allow for year-round agriculture. Potentially further limiting investment returns, coordination between MOWRAM (for water delivery) and MAFF (for agricultural service

delivery) has not been strong. Finally, the focus of recent investments appears to be almost entirely on rice, as opposed to higher-value crops which could deliver a higher return on the infrastructure investment and support an effective response to changing domestic dietary patterns in Cambodia and neighboring countries. Given their scale and importance, irrigation investments, their functionality, and their linkages with the evolving strategic orientations for the agricultural sector should be monitored closely.

**Overall, government spending in agriculture and irrigation, at 0.5 percent of GDP in 2014, is similar to that of other middle-income economies.** As a share of agricultural GDP (1.9 percent), it remains below the levels observed in other countries (Table 28), mainly due to the fact that agriculture still represents a large share of the economy in Cambodia while the comparator countries have already experienced deeper economic structural changes. When DP spending is added, total spending triples, reaching 1.8 percent of GDP. It should

be noted that for a few other comparator countries—i.e. Vietnam and the Philippines—DP spending in agriculture is likely to be substantial, but not included in this table.

**In summary, agricultural spending has increased significantly in recent years but remains dominated by DPs.** From the country’s fiscal resource allocation perspective, the agricultural sector is already a significant recipient of public funds, especially when irrigation is taken into account. The continued high reliance on DPs to finance agricultural programs calls for a more proactive and strategic engagement among public actors and DPs during project selection, design, and preparation to ensure a strong alignment with government programs and priorities, as well as coordination with other ongoing activities. The next two sections delve in more detail into the economic and functional allocation of public resources going into irrigation and agriculture. See Box 8 for an overview of international experiences regarding agricultural spending to frame the following discussion.

Table 28. Government spending in agriculture as a share of GDP is similar to comparator countries, although agricultural budget as a share of agricultural GDP is relatively low  
Agricultural budget as a share of total and agricultural GDP, 2014

	Agricultural budget as a share of total GDP, %	Agricultural budget as a share of agricultural GDP, %	Agricultural budget as share of Government revenue, %
Chile	0.30	8.49	1.4
Turkey	1.25	15.00	3.4
South Africa	0.23	9.05	0.8
Vietnam	0.24	1.28	1.1
Brazil	0.48	5.89	1.9
Philippines	0.48	3.73	3.2
China	0.66	7.48	4.2
Cambodia (MAFF)	0.26	0.89	1.6
<b>Cambodia (MAFF and MOWRAM)</b>	<b>0.54</b>	<b>1.88</b>	<b>3.3</b>
Cambodia incl. DP (Agriculture)	0.59	2.04	
Cambodia incl. DP (Agriculture & Irrigation)	1.83	6.33	

Source: Agriculture spending: MEF for Cambodia, OECD for comparator countries. Government revenue: World Development Indicators.

## Public Expenditures and Agricultural Performance: Lessons from International Experience

Over the years, the World Bank, International Food Policy Research Institute, and other actors have examined the linkages between various forms of public spending and the performance of the agricultural sector. Several broad lessons can be drawn from these analyses, all of which are pertinent for Cambodia.

**Lesson #1: Public expenditures matter for agricultural growth.** A study of ten Latin American countries found that a 10 percent increase in agricultural public expenditures lifted agricultural growth by 0.6 percent during 1985-2000 (Lopez, 2005). The rationale for public investments is derived from two fundamental sources: (i) economic inefficiencies resulting from market failures and (ii) inequalities in the distribution of goods and services. The benefits from public goods for agriculture, which stimulate growth, can be grouped into four pathways (World Bank, 2016):

- a. **Generating technology:** Investments in research and development (R&D) are among the most important public goods and a critical component of agricultural public spending. The returns to R&D include benefits not only to the farm sector but also to the food industry and consumers. The private sector tends to underinvest in agricultural R&D, requiring governments to correct this market failure although the actual conduct of the research need not be by government agencies.
- b. **Disseminating knowledge and building more human capital:** Human capital-enhancing effects can be associated with public spending on extension, training, and information services that transfer knowledge and skills to those engaged in farming.
- c. **Reducing transaction costs:** Rural roads are a critical element of public infrastructure for agricultural growth. Similarly, institutional investments to overcome barriers to collective action and reduce transaction costs to improve collection, storage, input and output quality control, and price information can optimize supply chain management.
- d. **Attracting private capital:** The crowding-in effects of agricultural public spending on private capital occur when public and private investments are complements in production. An example is public investment in large irrigation infrastructure such as dams and canals, which then make it profitable for farmers to make small on-farm investments in water management and a wider range of production technologies.

**Lesson #2: Not all public expenditures are productive.** Many empirical studies find that aggregate spending has a weak impact on agricultural growth (IFPRI, 2012), implying that all investments are not equal. Governments sometimes spend on things that are not public goods. In addition, even when clear failures exist in particular markets, government spending will not necessarily improve the situation. Strong empirical evidence comes from Latin America, where a study found that agricultural public spending on public goods was much more productive than public spending on private goods (Lopez, 2005). The study found that reallocation of 10 percentage points of total public expenditures from subsidies to public goods increased per capita agricultural income by 2.3 percent. This was obtained without increasing total expenditures. Another study found that different types of spending have had varied impacts on agricultural growth and rural poverty reduction in India, with returns also changing over time (Fan, Gulati, & Thorat, 2008). The study highlighted the continuously high return to public goods (particularly R&D) compared to other measures, something later echoed by Rashid et al. (2013), who found that technology adoption in India, Bangladesh, Pakistan, and Indonesia was far more influenced by effective agricultural R&D, road improvements, and improved irrigation services than the provision of fertilizer subsidies.

**Lesson #3: The economic composition of spending must be well-balanced to achieve high impact.** For example, when an entire budget for extension services is spent on salaries and there is no fuel for motorbikes and vehicles for farm visits, high spending on extension is not effective. Likewise, inadequate spending on O&M for rural roads and irrigation investments reduces the economic value of these assets, leading to higher budget outlays in the longer run. The lesson from around the world is that the agricultural budget needs to be well-balanced across subcategories (wages, nonwage recurrent, and capital expenditures) to make agricultural programs effective (World Bank, 2011).

**Lesson #4: Quality of implementation affects the outcomes of even justifiable public programs.** When delivering public programs, attention must be given to: unit costs and value for money, implementers' capacity, a targeting strategy to identify and reach intended beneficiaries, collaboration of various departments within and between the ministries, division of labor between central and local governments, and establishment and use of effective monitoring and evaluation. Monitoring the absorption capacity of institutions through budget execution is also important. In the case of Cambodia, the effectiveness of, and synergies between, DP-supported investments and the relationship of these to national and provincial programs are particularly important.

**Lesson #5: Investments in public goods combined with better policies and institutions bring about the best results.** Improvements in the policy environment through trade and regulatory reforms augment public spending by enhancing incentives for producers and innovators to take advantage of public goods, thereby crowding in private investments. In contrast, distortions such as input, credit, or output subsidies usually crowd out private investments, while restrictions on marketing, trade, land use, and other functions often dull the incentives to invest.

## Agricultural spending allocations and the provision of core public goods

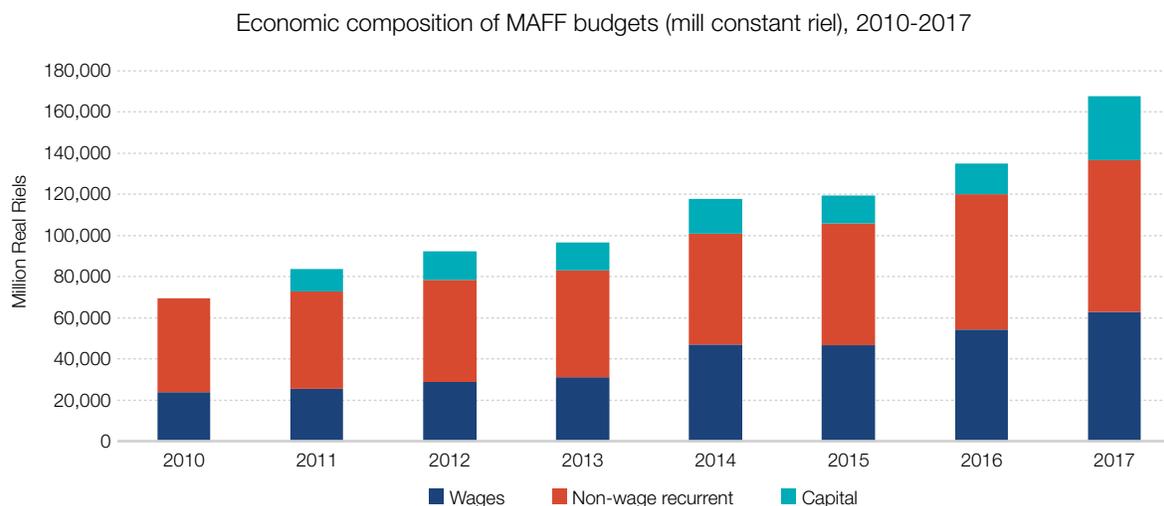
In terms of economic composition, government spending in agriculture seems to be well-balanced overall

**Government spending in agriculture has increased significantly in recent years, both in terms of wages and other recurrent spending.** Similar to other ministries, between 2013 and 2017, the public payroll at MAFF grew at an average rate of 8.2 percent in real terms. This has been driven by rising public sector wages rather than significant increases in personnel numbers. Over the same period, non-wage recurrent spending rose at an average rate of 8.4 percent in real terms. Government-financed capital spending remained

flat in real terms until 2017, when allocations were more than doubled in real terms with significant investments in laboratory facilities and equipment as well as some investment in food storage facilities.

**Purchases and services accounted for 80 percent of total non-wage recurrent budget allocations in 2017.** Within purchases (Chapter 60), allocations to supplies and food and agricultural goods increased in a contained manner, at yearly rates of 3.4 and 5.9 percent, respectively, during 2010-17 (Table 29). Under services (Chapter 61), travel allowances and vehicle rent (growing around 20 percent a year) and communications (15 percent) experienced very significant increases. Training fees also surged, and overall, this suggests that frontline service providers are receiving better training and more operational funds to perform their day-to-day duties which, accompanied by rising wages, is

Figure 52. Wages and other recurrent spending in agriculture have increased significantly in recent years



Note: Adjusted budget for 2010-2015, approved budget for 2016-2017.  
Source: MEF Treasury Accounts.

expected to result in improved outcomes. However, the maintenance and repair budget and research activities have seen more modest increases in recent years (at 2.3 percent and 5.6 percent, respectively).

**Overall, the economic composition of the MAFF budget and its major programs seems to be well-balanced between wage and non-wage recurrent expenditures.**<sup>67</sup> In 2010-16, wages represented around one-third of total MAFF spending (35.3 percent), with the remainder going to non-wage recurrent expenditures (53.5 percent) and capital expenditures (11.2 percent). The shares have been fairly stable, and wage increases do not seem to have crowded out recurrent spending (Figure 52). The budget allocations for training, travel, and communication have increased over time, facilitating the operation of frontline service providers. Spending in O&M may need to increase more rapidly going forward, in line with the boost of capital spending allocations to MAFF included in the 2017 budget. Thus far, most capital-intensive agriculture-related programs have been implemented by other ministries, such as MOWRAM and Ministry of Rural Development (MRD).

Public spending is geared toward funding public goods, although Cambodia may be underinvesting in the areas of agricultural research and disease control

**This analysis of the functional composition of public spending aims to assess whether public funds are allocated to priority functions, consistent with the country's and sector's strategic objectives.** Global experience shows that allocation decisions matter, because some functions and activities have higher rates of return than others (see for example Box 9 on the topic of fertilizer). These 'returns' can relate to aggregate sectoral growth, growth among focal commodities or sub-sectors, impacts on poverty, contribution to health and nutritional outcomes, support for lagging regions, or other goals. Unfortunately, during preparation of this PER, data that would enable an assessment of linkages between agricultural spending in specific activities and outcomes was not available. Thus, this section focuses on analyzing public expenditure allocation across functions during the first two years of program budgeting implementation (2015 and 2016).

67 A caveat is that insufficient information on DP funding allocations to agriculture by economic classification limits the ability to draw conclusions.

Table 29. Budget allocated to Chapters 60 and 61 and their sub-accounts, mill Riels (nominal)

	2010	2011	2012	2013	2014	2015	2016	2017	Percent of total Non-wage recurrent, 2017	Avg. yearly real change, percent
<b>Chapter 60: Purchases</b>	<b>18,508</b>	<b>22,862</b>	<b>24,021</b>	<b>28,611</b>	<b>27,572</b>	<b>25,651</b>	<b>28,654</b>	<b>32,102</b>	<b>27.0</b>	<b>5.2</b>
Maintenance and supplies	5,168	5,014	5,999	7,118	7,629	7,001	7,656	7,899	6.6	3.4
Food and agricultural products	5,111	4,403	4,932	6,712	6,865	6,682	8,107	8,917	7.5	5.9
Office supplies	2,559	2,688	2,445	3,113	3,368	4,330	4,113	4,127	3.5	4.5
Furniture, equipment	2,819	7,200	6,761	7,750	6,278	4,119	4,522	5,677	4.8	16.5
Utilities	2,597	3,245	3,557	3,588	3,150	3,236	3,486	3,833	3.2	2.9
Uniform and decorations	254	311	327	332	283	283	761	1,618	1.4	37.9
<b>Chapter 61: Services</b>	<b>24,732</b>	<b>24,880</b>	<b>28,362</b>	<b>28,761</b>	<b>34,609</b>	<b>46,163</b>	<b>54,764</b>	<b>63,964</b>	<b>53.8</b>	<b>11.6</b>
Maintenance and repairing	10,671	11,215	10,600	12,252	12,266	12,709	13,199	15,376	12.9	2.3
Local allowance/travel	5,459	5,573	6,791	7,180	9,156	15,979	21,571	23,958	20.1	21.7
Communication & dissemination	3,845	4,163	5,687	4,239	6,088	8,860	9,548	10,943	9.2	15.2
Vehicle rent	790	345	799	991	1,813	2,132	1,438	1,307	1.1	19.3
International allowance/travel	930	1,000	1,165	1,200	1,528	1,893	2,154	3,459	2.9	18.1
External staff	787	564	583	1,042	1,751	1,827	1,673	1,515	1.3	12.0
Research and studies	1,107	1,246	2,022	997	990	1,080	1,077	1,394	1.2	5.6
Training fees	365	128	115	204	288	957	3,362	4,804	4.0	76.2
Other contracted services (rent, transportation fees, media, etc.)	778	644	601	657	730	722	720	1,205	1.0	5.6
<b>TOTAL Chapters 60 and 61</b>	<b>43,240</b>	<b>47,743</b>	<b>52,384</b>	<b>57,373</b>	<b>62,182</b>	<b>71,815</b>	<b>83,418</b>	<b>96,066</b>	<b>80.8</b>	<b>8.7</b>
<b>TOTAL Non-Wage Recurrent Budget</b>	<b>58,808</b>	<b>64,626</b>	<b>69,534</b>	<b>75,767</b>	<b>79,911</b>	<b>90,133</b>	<b>103,284</b>	<b>118,969</b>	<b>100.0</b>	<b>7.2</b>

Source: MEF Treasury Accounts.

Table 30. While allocations in some areas have fallen short of planned ASDP spending, the government agricultural budget seems well-aligned overall

Total recurrent agricultural budget by program, ASDP versus budgeted, mill Riels

Programs	2015			2016		
	ASDP	Budget	DPs	ASDP	Budget	DPs
Program 1: Improved agric. productivity, diversification, and commercialization	46,184	30,531	112,682	46,877	36,487	87,784
Program 2: Support to animal production and health	29,743	14,491	10,879	32,717	16,712	14,042
Program 3: Sustainable fisheries resource management	23,569	19,979	15,405	25,457	22,584	22,723
Program 4: Sustainable forest resources and wildlife management	34,061	23,180	5,097	45,894	26,287	1,431
Program 5: Support to institutions, support services, and human resources	32,716	62,116	39,182	35,624	85,954	53,642
<b>TOTAL</b>	<b>166,275</b>	<b>150,297</b>	<b>183,246</b>	<b>223,886</b>	<b>188,025</b>	<b>179,622</b>

Source: ASDP, recurrent expenditure requirements, World Bank staff estimates based on the data from MEF and CDC.

**Allocations by program have been falling short of those reflected in the ASDP but are well-aligned overall.** Government budget allocations to Programs 1 to 4 seem to have fallen short of ASDP planned spending (Table 30). The resource gap is especially significant for Program 2 (animal production) and Program 4 (forestry), where additional DP funding has been limited and, in some cases, insufficient to compensate for low government spending. At the same time, DPs alone have been funding three times the ASDP planned outlays in Program 1 (agriculture). Budget allocations to Program 5 (institutional support and human resources) have been significantly higher than those estimated in the ASDP, which may simply reflect that the payroll and training of MAFF staff have been lumped in Program 5 (regardless of whether they are working on agriculture, fisheries, or administration). Thus, the gaps in budget allocations vis-à-vis ASDP for the other programs would be smaller, and the government budget is well-aligned overall in terms of distribution across programs.

**DP funding is concentrated in programs related to crop production and institutional support.** DP funding in crops (and agricultural extension) is more concentrated than that of government, with Programs 1 and 5 receiving 83 and 79 percent of total DP spending in 2015 and 2016, respectively. The reduction in DP funding under Program 1 from 2015 to 2016 largely reflects the end of the USAID HARVEST project in 2015, with HARVEST II making its first disbursement in 2017. As such, it is likely that 2017 will see a rebound in this area. The limited DP support to animal production and forestry may be due to a combination of concerns about governance (i.e. illegal logging) and implementation risks. Otherwise, these areas—and especially those related to sustainable natural resources management—are entry points for significant development support programs elsewhere in Southeast Asia.

**Among cross-cutting functions, transfers to provincial programs, planning and management,**

and human resource development account for two-thirds of the total, while allocations for activities promoting agricultural diversification have been low. Table 31 shows the result of grouping sub-programs and activities that respond to the same functions even if they are in different programs (e.g., education in agriculture and in livestock). Nearly 30 percent of the MAFF recurrent budget has gone toward provincial programs, consistent with the aim of increasing the decentralization of essential services.<sup>68</sup> Another quarter has been devoted to sector planning and management capacity. Functions associated with the provision of core public goods (highlighted in orange in the table) such as education,

research, inspection services and laboratories, and extension represented 18 percent of recurrent budget in 2016. Considering the ASDP objective of promoting agricultural diversification, funding to support productivity, post-harvest management, or other advances for commodities other than rice and rubber has been small and very likely inadequate. For example, funding to support animal (2.4 percent) and horticultural (0.8 percent) products remains limited despite growing demand from consumers and tourists and despite the need to boost the quality of domestic production and manage biosecurity risks. Growing demand for higher-value foods has mainly been met by imports from Vietnam, Thailand, and elsewhere.

Table 31. Functional composition of the MAFF recurrent budget

Functional category MAFF	2015 (mill riel)	2016 (mill riel)	2015 (% of MAFF recurrent budget)	2016 (% of MAFF recurrent budget)
Provincial programs	44,033	56,965	29.3%	30.3%
Planning and management capacity	37,322	43,667	24.8%	23.2%
Human resources	18,952	28,615	12.6%	15.2%
Education	8,649	11,431	5.8%	6.1%
Production support to Fisheries	1,627	2,226	1.1%	1.2%
Production support to other products	6,840	7,113	4.6%	3.8%
Research	6,464	7,632	4.3%	4.1%
Inspection services	6,464	6,454	4.3%	3.4%
Extension and farmer organizations	3,437	4,888	2.3%	2.6%
Animal health services	4,108	4,453	2.7%	2.4%
Rubber programs	3,969	4,420	2.6%	2.4%
SPS and laboratories	2,776	3,197	1.8%	1.7%
Agro-industry development	2,361	2,954	1.6%	1.6%
Rice	2,095	2,599	1.4%	1.4%
Horticulture	1,200	1,412	0.8%	0.8%
<b>Total</b>	<b>150,297</b>	<b>188,025</b>	<b>100%</b>	<b>100%</b>

Source: MEF and MAFF, based on sub-program level data.

Note: Cross-cutting public goods highlighted in red.

68 In some cases, DPs have provided very substantial supplements to the provincial budgets to implement dedicated programs. In particular, the IFAD-supported ASPIRE project cooperates closely with Provincial Departments of Agriculture Forestry and Fisheries (PDAs) and aims to develop an enhanced model of agricultural extension services, both with regard to PDA staff capacity and the content of services. Another DP project that works closely with PDAs is the CAVAC project funded by Australia.

Table 32. DP Expenditure in Agriculture by function, mill riels 2013-2015

Categorization	2013	2014	2015	2016	share 2015	share 2016
Food Crops, Food Security, Nutrition	28,694	38,227	35,211	40,375	19.2%	22.5%
Agricultural Sector Policy and Management	59,086	18,574	20,201	23,818	11.0%	13.3%
Extension Services	35,339	87,888	56,013	23,544	30.6%	13.1%
Fisheries	9,102	7,680	15,405	22,723	8.4%	12.7%
Agricultural Finance Services	2,790	17,102	17,409	16,332	9.5%	9.1%
Livestock and Veterinary	8,078	4,299	10,879	14,042	5.9%	7.8%
Education, Training	17,905	12,586	10,553	8,973	5.8%	5.0%
Industrial and Export Crops	3,556	5,291	2,245	4,153	1.2%	2.3%
Agricultural Inputs	1,598	-	573	2,342	0.3%	1.3%
Forestry	5,542	13,689	5,097	1,431	2.8%	0.8%
Agro-industry	-	-	695	874	0.4%	0.5%
Post-harvest	-	367	536	162	0.3%	0.1%
Other	3,329	13,963	8,428	20,851	4.6%	11.6%
<b>Total</b>	<b>175,018</b>	<b>219,664</b>	<b>183,246</b>	<b>179,622</b>	<b>100.0%</b>	<b>100.0%</b>

Source: CDC Database.

**In terms of functional areas, DP spending has been focused on crops, food security, and nutrition as well as the provision of some public goods such as extension and finance services (Table 32).** These foci, together with agricultural sector policy and management, accounted for nearly 70 percent of total DP spending in 2015, and an estimated 58 percent in 2016. Historically, most DPs have been supportive of extension and food security and nutrition initiatives, although attention is increasingly shifting toward funding commercial competitiveness and value chain development. In relation to this, agricultural finance services have experienced the most dramatic increase in DP funding. Meanwhile, funding to support the development of industrial and export crops or to support improved post-harvest management—both

pertinent to the goal of agricultural diversification—has been very limited.

**Government spending on extension services has been low, however this is consistent with the aim of supporting a pluralistic system of advisory services and has been supplemented by heavy DP funding.** The recent National Agricultural Extension Policy (2015d) called for a pluralistic, demand-driven system in which government provides an enabling environment for a broad range of (private, NGO, academic) service providers, in line with international best practices (Box 10). In this context, government spending on extension increased by 50 percent between 2015 and 2016, driven by wages and service spending, but remains limited, leaving space for other actors. DPs financed 96 percent of extension spending in 2015.

## Promise and perils of fertilizer subsidies (excerpt from Annex 2 of the PER agriculture discussion paper)

One area of potential relevance to Cambodia is input subsidies. The benefits of judicious use of chemical fertilizers are well-known and played an important contributing role to the productivity and food security gains during the Green Revolution in Asia. Yet in many parts of the world less-than-optimal rates of fertilizer use occur, and the mix of nutrients applied often does not meet specific local needs based on the farmer's soil and other growing conditions as well as the crops being grown. Various factors contributing to this situation include:

- **Risk:** Agriculture is a risky endeavour, given the impacts of weather and uncertainties in both output and prices. Farmers may reduce their financial risks by using levels of inputs lower than the level that could increase their profitability.
- **Knowledge:** Farmers may not be aware of the benefits of fertilizer use or may lack the information or skills to apply it correctly.
- **Non-affordability:** Extremely poor farmers may lack the money to purchase fertilizer, especially at the time when its application is needed.
- **Non-accessibility:** Due to high transport costs or other logistical barriers and perhaps the very limited local market potential for distributors, some farmers may not have ready access to fertilizer.
- **Underdeveloped supply:** Limited domestic demand may contribute to low investment in fertilizer manufacturing and distribution systems, leading to overall low levels of fertilizer available for farmers anywhere in the country.

Where such conditions apply, fertilizer subsidies can potentially encourage technology adoption and diffusion by reducing the initial (financial) risks and the costs of learning a new technology (World Bank, 2008). They can potentially contribute to a variety of objectives (Timmer & McCullough, 2010), including increasing overall agricultural productivity, enabling pro-poor growth, and providing a safety net for the extreme poor. Sometimes, subsidies are justified simply on the basis of wanting to achieve higher output of one or many crops. Fertilizer subsidies are also a very visible way for a government to demonstrate its support for agriculture even where the economic and social benefits are modest or unknown (Jayne & Rashid, 2013).

Where fertilizer subsidies are introduced, World Bank (2008) advocates that the programs apply a set of 'smart subsidy' principles. That is, programs should be:

- **Focused**, targeting farmers who were not utilizing fertilizer, yet would find it profitable to do so;
- **Market supporting**, using the production/distribution systems of the private sector to deliver the subsidy;
- **Synergistic**, implementing the subsidies as part of multi-dimensional efforts to improve technology use and agricultural market development; and
- **Temporary**, having a clear 'exit' strategy based upon monitored results.

In practice, several of these principles have been difficult to apply. In addition to the above, fertilizer subsidies need to be fiscally responsible and not crowd out investments in important public goods—such as agricultural research, animal disease control, and others—which have been demonstrated in many countries to have more significant and sustainable impacts on agricultural productivity.

Ideally, the design of a fertilizer subsidy should reflect a deep analysis of the underlying constraint, information gap, or market failure that is resulting in the less-than-optimal levels of fertilizer use.

This is not always done, and where agriculture features considerable heterogeneity in growing conditions and farm types, applying a single technical solution or subsidy delivery mechanism can be too blunt. In Sub-Saharan Africa, responses to fertilizer subsidy schemes have been found to be generally disappointing but with much higher gains in irrigated areas than in rain-fed areas (Jayne, Mather, Mason, & Ricker-Gilbert, 2013). A conclusion of many studies has been that poor and declining soil quality has substantially reduced the efficiency with which food crops utilize fertilizer nutrients.

In Asia, following the Green Revolution, studies are finding adverse relationships between farmer yields and very high chemical fertilizer usage. In China, past subsidies have helped create a robust fertilizer industry and have contributed to enormous increases in fertilizer use and progress in raising food output. However, the large subsidies, combined with deficiencies in education and extension efforts, have also resulted in overuse and massive environmental problems including air and water pollution (Li, et al., 2013). In India, unbalanced fertilizer use, stemming from high subsidy rates for nitrogen (in the form of urea), has been associated with negative yield patterns (World Bank, 2014). A common problem in Asia is untested soils, leaving a high likelihood that many farmers are applying suboptimal or even damaging mixes of nutrients. In these cases, a fertilizer subsidy does not contribute to more informed decision-making by farmers and in some circumstances, may even be incompatible with strategies to promote organic or other forms of 'green' agriculture.

These findings may be instructive for Cambodia, where the bulk of cultivation is, and will continue to be, rain-fed and where rising land pressures, more continuous cultivation, and soil degradation are emerging problems. While increased use of synthetic fertilizers could be beneficial in some areas, the challenge is not simply to increase. Equally important would be efforts to better educate and advise farmers about agronomic practices to rebuild soil organic matter and to practice inter-cropping or crop rotation to help fix nitrogen and otherwise help restore the responsiveness of soil to fertilizer applications. In lieu of fertilizer subsidies, a comprehensive soil fertility management program could be implemented involving soil testing services, more specific fertilizer blends appropriate to farmers' specific conditions, investment in drainage, and restoration of soil organic matter through various conservation farming practices (e.g., minimum tillage, use of green manures). Tying this to better water management would have an even bigger impact.

**In other areas, however, public funding may not be sufficient to support a critical mass of activity, as in the case of agricultural research.** At 0.2 percent of agricultural GDP, public spending in research in Cambodia is well below the world average (0.9 percent). Similarly, the number of researchers per 100,000 farmers is low at 5.6, compared with neighboring countries such as Vietnam (12.5) and Lao PDR (9.3) as well as countries at comparable levels of GDP per capita (Figure 53). DP spending on agricultural research has been higher than that of government. There are 14 active programs involving collaborative work between

the International Rice Research Institute, MAFF, and the Cambodia Agricultural Research and Development Institute. Other research support comes from the long-standing cooperation with the Australian Centre for International Agricultural Research,<sup>69</sup> as well as support on a smaller scale from the IDRC-Canadian International Food Security Research Fund and the U.S.-funded Feed the Future Innovation Labs. Overall, DP funding for research is estimated to be twice that of government funding, yet the total would still remain well below international standards.

69 The ACIAR cooperation project has run from 2007, with average yearly spending of 2,659,399 USD, including total counterpart funding of 1,073,663 USD from the RGC between 2007 and 2015, according to the CDC database.

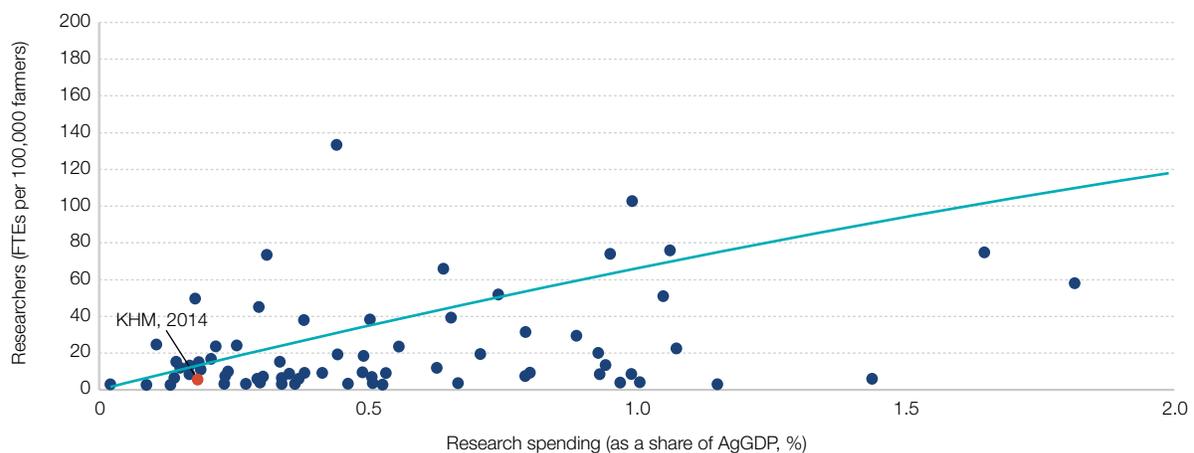
## Reforming the goals, delivery, and financing of agricultural extension

Agricultural extension has evolved significantly as a concept and practice since the 1970s when it spread widely to developing countries. At the time, agricultural extension was by and large a public-sector service focused on raising yields and productivity by providing technical training to farmers. Today, the vision for effective agricultural extension is less that of a public technology transfer service than that of a pluralistic system of public and private sector actors offering technical and non-technical services, not only to help raise farm-level productivity but also to improve business, health, social, and environmental outcomes in the sector more broadly. This type of thinking is embedded in Cambodia's National Agricultural Extension Strategy.

Extension-plus, as it is sometimes referred to, is focused as much on the brokerage of relationships and the facilitation of reciprocal knowledge flows as it is on the direct, one-way provision of information and technology from knowledge institutions to end users. In its broader quest to improve sector performance by boosting the capacity to innovate, it is meant to enhance value chain actors' access to knowledge, information, and technology and their interactions with research, education, agribusiness, and other institutions. In the same vein, enhanced extension systems strive to help value chain actors develop their own technical, organizational, and management skills as well as the capacity to continuously absorb new knowledge and technology. Extension-plus tends to involve multi-directional information flows and involve multiple disciplines, methods, and stakeholders.

Diverse circumstances—in terms of the targeted clients, the types of advice being provided, and the structure and capabilities of value chain players—call for the use of various models for the delivery and financing of farm advisory services. For example, government may finance public advisory services in the field, or alternatively, could contract private companies, NGOs, farmer-based organizations, or others to perform this function. Private companies may have an extension need and contract staff from the public advisory service or from an NGO. Otherwise, they can embed advisory services into their input provision and/or product marketing functions.

Figure 53. Cambodia's public agricultural research spending and staff are well below average



Source: ASTI database. International Food Policy Research Institute (IFPRI).

Finally, government efforts in the areas of plant protection, animal disease control, food safety, and other regulatory services may be falling short of needs. The adequacy of spending—and the functionality of public systems—in these areas would need to be reviewed closely, not only taking current risks into account but also anticipating future challenges, given demographic and changing dietary trends. In 2016, the combined budgetary allocations for inspection services, sanitary and phytosanitary (SPS) measures, and the laboratory testing sub-program were

equivalent to only USD 2.2 million. This is unlikely to be adequate for developing and maintaining the necessary facilities, equipment, and human capital to provide highly professional services in these areas. It is not uncommon for countries to underinvest in these and other regulatory functions, only to incur much higher direct and indirect costs following an avoidable disease outbreak, food safety scare, or SPS-related market access restriction. Investing in preventative measures and supporting 'good' agricultural, manufacturing, and hygiene practices can help Cambodia avoid high future costs (Box 11).

## Box 11

### Food safety: spending public resources wisely

With demographic and dietary changes, the assurance of food safety will become a growing policy concern in Cambodia. Increased investment will be needed to strengthen core capacities in the public sector to provide effective regulatory oversight, even as the food system players themselves are given primary responsibility for ensuring that food safety. International experience points to several principles that can enable governments to prioritize actions and make strategic use of public expenditures in this area. For example:

- **Proactive prevention.** Governments should give precedence to the prevention of hazards over the inspection of finished products. While this approach has been spearheaded in developed countries, it is highly relevant to emerging market countries. The hazard analysis and critical control points (HACCP) approach is one of the best known and most widely adopted prevention approaches. HACCP is a management system in which food safety is addressed through the analysis and control of biological, chemical, and physical hazards from raw material production procurement and handling to manufacturing, distribution, and consumption of the finished product. Its principles require that (identified and realistic) food safety hazards be prevented, eliminated, or reduced to acceptable levels.
- **Risk profiling.** One of the defining pillars of proactive prevention (i.e. HACCP) is the principle of hazard monitoring. One practical way to do this involves auditing and assigning risk profiles to enterprises. Risk profiling generally entails a shift from the retrospective recording of food safety breaches to the more proactive assessment of how likely future problems are. Risk profiling generally places less emphasis on the safety of end-products than on that of business facilities and practices. Ideally, risk profiling also takes into account risks that arise through sourcing and primary production of the foods that firms use.
- **Influencing behavior.** Some of the most effective uses of public resources are ones that seek to influence the behavior of farmers, firms, and consumers in ways that help prevent unsafe food. For example, it is common for public extension services to develop and disseminate agricultural best practices that are designed with food safety in mind. Also common is having public agencies regularly publish protocols and instructions on safe food handling in the manufacturing and service sectors. In some countries, (subsidized) training and capacity building programs are offered to SMEs. Not only do these impart knowledge on safe food handling and the serious risks associated with departures from protocol, but they also (presumably) build a professional identity and ethic that can be instrumental in changing the behavior of individuals employed in firms, even in the absence of public scrutiny. Consumer education (including through schools) is typically highly cost-effective in improving food safety outcomes.

## Ensuring returns to investment in irrigation

The focus on irrigation scheme rehabilitation and O&M spending has increased, but ensuring returns to investment will also require other integrated resource management activities

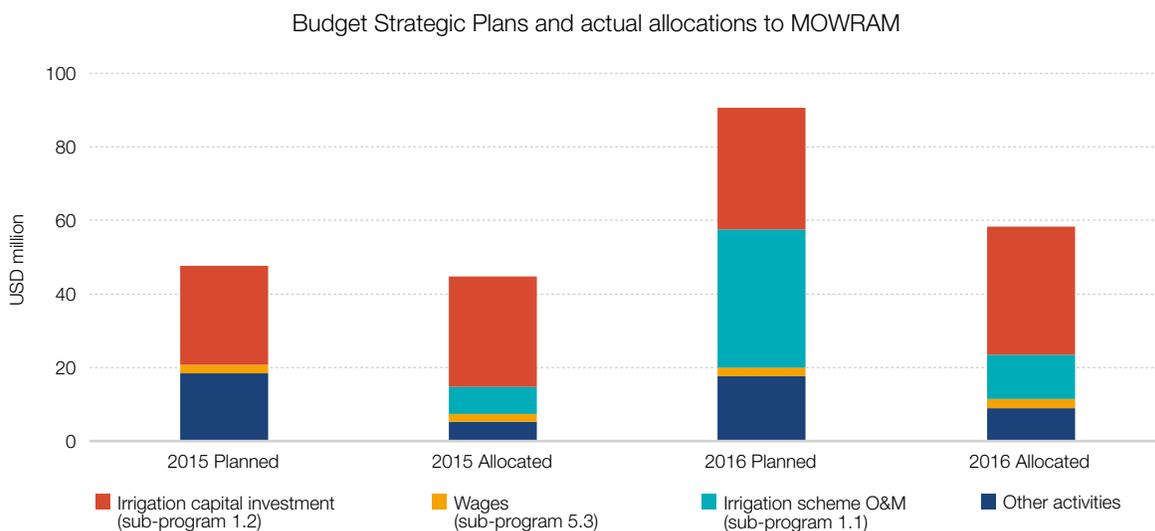
In Cambodia, the MOWRAM is in charge of sustainable water development, water resources management (surface water and groundwater), and delivery of water services, including irrigation for agriculture. MOWRAM is responsible for implementing the Law on Water Resources Management of 2007 and related regulations. Some of the core functions foreseen in the law, as well as in the RGC Rectangular Strategy Phase III and the NSDP 2014-2018, include: to develop, expand, and rehabilitate irrigation systems that meet quality design and construction standards; to expand water resources monitoring and forecasting; to enhance flood prevention; to establish a national water resources inventory; to develop regulations for river

basin management, irrigation system management, and sustainable water use; and to support farmer water user committees (FWUC). This section focuses on irrigation, which makes up the bulk of capital spending on agriculture, but it should be recognized that for irrigation system development to be successful, the complementary functions and services discussed earlier must also be taken into consideration.

**Capital investment in irrigation, together with the O&M budget, makes up the lion's share of the budget allocations to MOWRAM.** Focusing again on 2015 and 2016, the first two years of program budgeting implementation, irrigation capital investment and irrigation scheme O&M amounted to around 80 percent of total expenditure allocations (Figure 54). Planned allocations jumped in 2016 because O&M spending was only introduced in the BSPs in 2016. The payroll represented only around 4.5 percent of total MOWRAM allocations in 2015 and 8 percent in 2016.

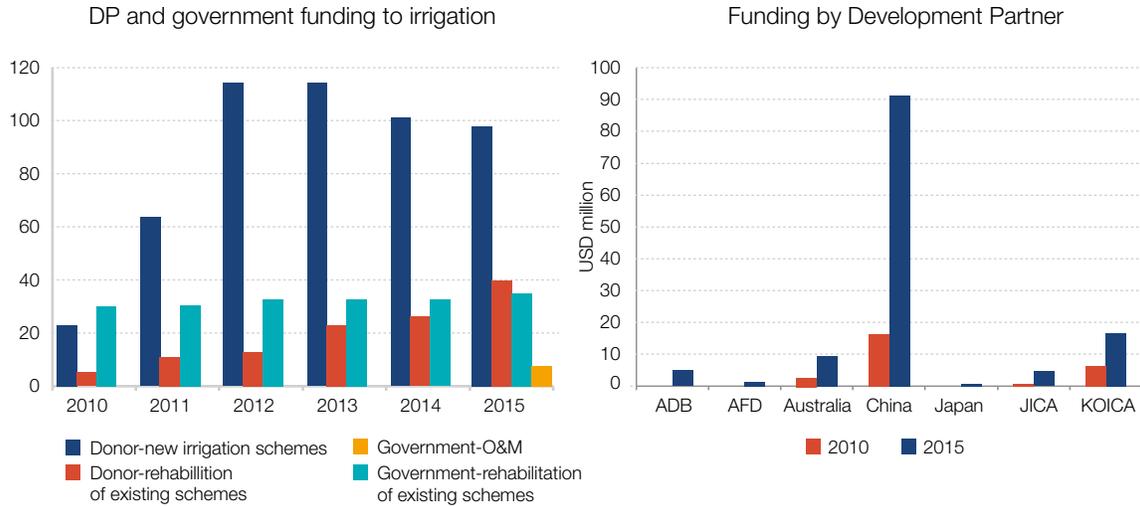
**In recent years, government-funded capital investment has gone mainly to the rehabilitation of irrigation schemes, while new scheme development**

Figure 54. Capital investment in irrigation and O&M make up the largest share of MOWRAM budget allocations



Source: MOWRAM, BSP 2015-17 and 2016-18, MEF Budget Law 2015, MOWRAM Annual Work Plan 2016.

Figure 55. The significant boost in new irrigation schemes has been funded by DPs, particularly China



Source: RGC investment: MEF Treasury Reports for 2010-2014, Budget for 2015; DP investment: CDC Database [accessed June-December 2016] and consultations.

**has been undertaken by DPs.** Investment in new irrigation schemes increased from USD 23 million in 2010 to USD 114 million in 2012, driven by DPs (Figure 55, left panel). Among DPs, Chinese investment projects make up the majority of the increased investment over 2010 to 2015, followed by smaller increases by Korea, ADB, Australia and JICA (Figure 55, right panel). Since many of the existing irrigation schemes were damaged (e.g., by flooding) or not fully functional, DP funding for the rehabilitation of existing schemes has also increased over the past few years. Likewise, government capital investment to support the rehabilitation of existing irrigation schemes has increased, rising from USD 30 million in 2010 to USD 35 million in 2015. At this stage, there is no government budget to support the construction of new irrigation schemes.

**The recent increase in budget allocations to O&M is a positive development, but is likely to be insufficient for covering the entire irrigated area.** Although definitive figures do not exist, total capital investment is estimated to support the establishment of 200,000 ha of new irrigation area (150,000 ha from new

irrigation schemes and 50,000 ha from rehabilitated irrigation schemes). As of 2016, the allocated USD 11.9 million O&M budget could support approximately 26 percent (258,700 ha) of the estimated annual irrigation area in Cambodia (1,000,000 ha for wet season, 300,000 ha for dry season).<sup>70</sup> Notably, only one-third of the existing 2,700 irrigation schemes are considered to be fully operational. Further analysis is needed to determine which of the existing schemes are suitable for O&M support, rehabilitation and O&M support, or to be written off. Evidence suggests that with no O&M, the internal rate of return of an existing scheme drops below 12 percent after about 17-25 years (Egis, 2014). This finding highlights the importance of O&M allocations, especially at a time when large investments in new schemes are being made.

**Integrated water resource management (IWRM) activities, which are key to ensuring the sustainability of water availability, also seem to be underfunded.** The budget allocated to supporting other IWRM activities has increased significantly in recent years, from USD 5.3 million in 2015 to USD 9 million in 2016

70 Based on an O&M rate of USD 46 per ha as calculated under the ADB Water Resources Management Sector Development Program – Kong-shot O&M and completion cost estimate report.

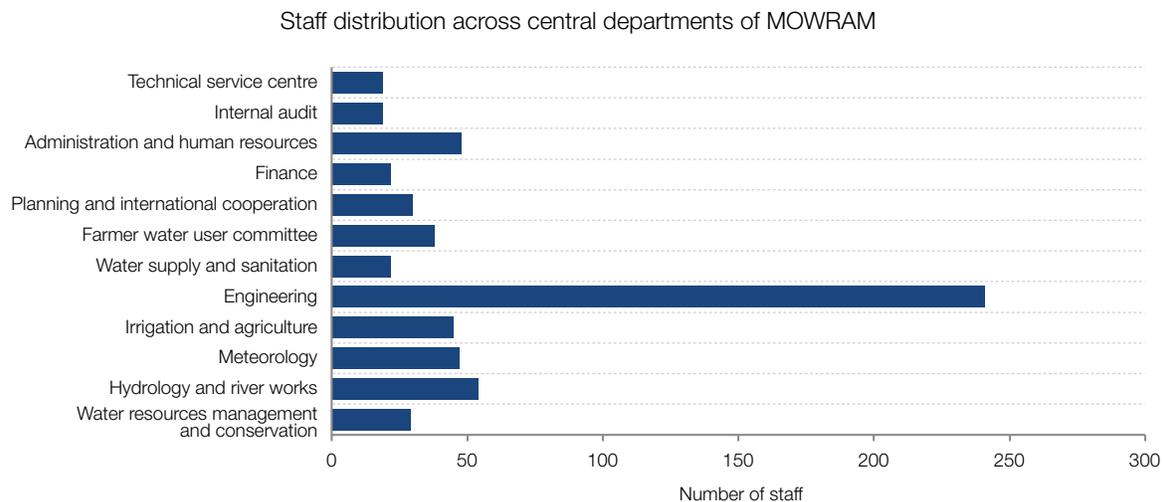
(see Figure 54 above, 'other activities'). If equally divided among the 25 sub-programs included there, the average allocation would be USD 360,000. In practice, however, not all sub-programs received budget allocations. For example, only three of the six sub-programs under water resources and meteorological information management (Program 4) received a funding allocation, and the total allocation for the program was only USD 16,500. This amount is unlikely to be sufficient to cover the water resources monitoring needs of Cambodia's 39 river basins, although it should be noted that, allocations to Program 4 were adjusted to USD 238,000 in 2015, according the 2016 program budgeting document.

**Furthermore, there are no sub-programs to specifically support river basin planning and water allocation planning, the strengthening of water resources data collection, and establishment of a water resources modeling platform to support water allocation and the setting of minimum flows.** Without a credible, science-based understanding of water availability and without transparent rules

in place for managing water usage, it will difficult to achieve sustainable development of Cambodia's water resources, and investors' confidence is likely to decline. Recent water resources assessments have shown that some river basins in the northwest of Cambodia are already stressed.<sup>71</sup>

**Increased funding to O&M and IWRM activities would require adequate staffing.** MOWRAM counts around 1,250 staff, of which 620 are based in the national office departments and 630 across 25 provincial departments (Egis, 2012). At the national level, almost 40 percent of the staff is located in the Department of Engineering, representing over four times the number of staff in all other departments (Figure 56). In contrast, the Department of Water Resources Management and Conservation, which is in charge of most IWRM planning responsibilities, has less than 5 percent of the staff. With an average of 25 staff, provincial offices are generally understaffed, making it difficult for them to make progress in establishing management systems for water resources, including O&M of irrigation schemes.<sup>72</sup>

Figure 56. The highest proportion of MOWRAM staff is in the Department of Engineering



Source: ADB, 2012. Training Needs Assessment Report: Ministry of Water Resources and Meteorology. Prepared by Egis-eau. Phnom Penh.

71 In 2014, a water balance assessment of the Stung Sreng River Basin found that the river basin has potentially been under severe stress over February to May and may/will suffer a water deficit in April by 2025. Over USD 115 million of investment has taken place since the mid-2000s for construction of a large irrigation scheme and rehabilitation of a number of existing schemes in that basin.

72 A recent assessment of staffing requirements, under the ADB Water Resources Management Development Sector Program (CDTA) identified that the newly built 40,000-ha Kanghot Irrigation Scheme would require a minimum of 62 staff to support O&M of the scheme. This includes a scheme manager, operation and maintenance supervisors, local operators and labor teams.

Based on recent estimates, the Siem Reap provincial department of MOWRAM, responsible for 20 percent (180,000 ha) of the irrigated area in Cambodia, would require a workforce of at least 200 staff to fully support O&M of the irrigation schemes (compared to actual staffing of 40).<sup>73</sup> This calls for a more detailed analysis of staffing requirements<sup>74</sup> to support O&M of irrigation schemes and water resource monitoring and reporting activities, in order to help ensure effective use of funding.

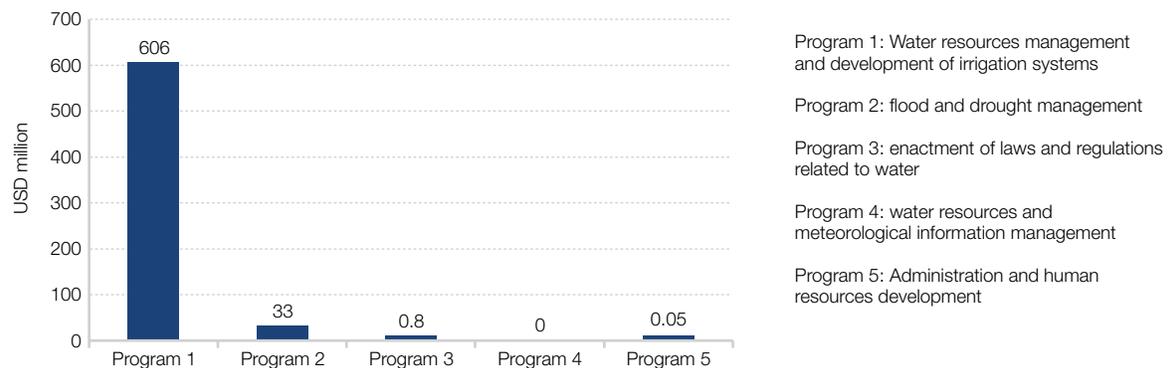
### Cambodia could benefit from an integrated framework for efficient and effective irrigation scheme development

**Most DP support has not yet resulted in obvious improvements in MOWRAM's capacity to oversee the sustainable development of Cambodia's water resources.** DPs have mainly been funding activities corresponding to Program 1 (water resources management and development of irrigation systems) in the MOWRAM budget<sup>75</sup> as well as to a lesser extent

Program 2 (flood and drought management), but no funding has been allocated to Program 4 (Figure 57). Support to Program 3 (enactment of laws and regulations related to water) has also been scanty. As of 2016, only two of the four key sub-decrees aimed at supporting the 2007 Water Law had been passed, and few provisions had been implemented. This includes the establishment of a national water resources inventory, which is needed to manage the development of Cambodia's water resources sustainably.

**National irrigation and drainage design and construction standards as well as the associated auditing systems are not yet established to ensure a minimum standard of design and construction.** In general, irrigation project feasibility assessments have not included a comprehensive analysis of current and projected water demands in the basin and rainfall projections to determine the level of reliability of water supply to the site. Project design and construction assessment methods can also vary among DPs.

Figure 57. DP support has been concentrated in Program 1 of the MOWRAM budget



Source: Council for the Development Cambodia Database, supplemented by consultations.

73 Reallocation of staff from the Department of Engineering to provincial offices may help address the current shortage of provincial staff over the next five years, although the reallocated staff must have the appropriate skill sets required at the provincial level. The reallocation could be offset by outsourcing aspects of their current responsibilities, such as the design of rehabilitation works of existing irrigation schemes funded by government. The Department would still have the oversight role to ensure designs meet relevant quality standards.

74 An organizational assessment of MOWRAM's departments and PDWRAMs, in line with their objectives, would be needed to understand staffing constraints and areas requiring immediate support. This includes a review of actual permanent staff numbers and attendance rates and an analysis of the reasons for any low attendance. It should also include an assessment of the general technical capacity of the department and individual staff.

75 A few projects that have been accounted for under Program 1, such as the Australian Government funded Cambodian Agricultural Value Added Chain (CAVAC) project, the ADB Water Resources Sector Development Program (WRS DP), and JICA's River Basin Water Utilization Water Program, have multiple objectives that include water infrastructure works and rehabilitation and IWRM activities such as strengthening water resources-related legislation, river basin planning, and supporting the establishment of self-sustaining FWUCs. The CAVAC program has had success in rehabilitating and establishing around 20 FWUCs to manage small (<500 ha) irrigation schemes in the southeast of Cambodia.

Different formulas have been applied for estimating water requirements and reservoir capacity limits, and geographical aspects are not always appropriately considered. Development proposals may also fail to consider the economic, social, and environmental impacts across the basin, and some impact assessments are not made public. In a number of recent cases, irrigation projects have finished but have left a scheme that is not fully functional due to poor design, selection of material, and quality of construction.<sup>76</sup> If not addressed, it could affect the number of possible crops per year and damage the canal structure, leading to reduced returns to investment and increased O&M costs.

**It is important to undertake cost-benefit analysis for irrigation projects and assess project outcomes, but only a few projects have undertaken such analysis and have published the information.** One of them is the CAVAC Phase 1 (2010-2015) project that rehabilitated 20 small- to medium-sized irrigation schemes (up to 5000ha). Key findings were that most schemes increased their crop cycles from two to three per year with an additional dry season crop, with the following average yield increases: additional 6 t/ha per dry season, early wet crop increasing from 2.5 t/ha to 4.8 t/ha, and for wet season from 3.6 t/ha to 5.6t/ha. The average cost per ha was USD 2,148. The CAVAC program is unique among most DP projects in that it works directly with farmers, the private sector, and PDWRAMs and maintains their presence until the irrigation scheme is fully operational and close to self-sustaining. More focus is now needed on understanding the success of other projects and the potential costs and benefits of project proposals. A starting point could be a nationwide assessment to identify suitable locations and activities that could deliver high returns to irrigation investment. A range of factors would need to be assessed, including the value of the rehabilitation of

existing schemes versus the construction of new ones, optimal size of irrigation schemes, security of water supply, soil fertility, access to markets, and comparative advantage crops.

**The uniqueness of water infrastructure, together with limited access to data, prevents the undertaking of an informative comparative cost analysis of new and rehabilitated canals and reservoirs.** Not having national irrigation and drainage design and construction standards makes it difficult to assess the quality of projects and to enable a level of quality and consistency to be achieved and maintained. For development of irrigation land, the average cost ranges from USD 2,000 to USD 3,900 per ha.<sup>77</sup> Without knowing specific project breakdown costs, it is not clear what portion of total project funds have been allocated to a specific activity. The Cambodian Information System of Irrigation Schemes (CISIS) is expected to help in understanding the condition of the 2,540 existing irrigation schemes across the country, as well as the status of rehabilitation and construction projects underway. However, CISIS data has not yet been made publicly available.

## The program budgeting experience

**The roll-out of PB represents a key policy development aimed at eventually introducing performance-informed allocations of public funding to increase value for money.** PB falls under the broader Public Financial Management Reform and, following its pilot phase, was fully introduced in ten Ministries (including MAFF, MOWRAM, and MoEYS) in 2015. PB is expected to help shift the focus from activities being determined by funding interests to policy guiding what funding should support. Funding is directly linked to key

<sup>76</sup> For example, recently completed secondary canals in Stung Sreng (25,000 ha) and Spean Sreng (4,751 ha) become completely submerged during the wet season due to poor drainage and lack of flood control structures.

<sup>77</sup> This is a rough estimate based on limited information from six projects: ADB Water resources management sector development program, ADB Tonle Sap lowlands rural development project, ADB Northwest irrigation sector project, CAVAC, Kangshot irrigation development project (China funded), and Stung Sheng Water resources development project (China funded). For large irrigation schemes (>5,000 ha), the cost of the development of irrigation land is likely to be higher as these estimates are unlikely to include all major costs such as full completion of tertiary and quaternary canal systems, necessary flood control works, and training of PDWRAMS to operate and maintain the scheme.

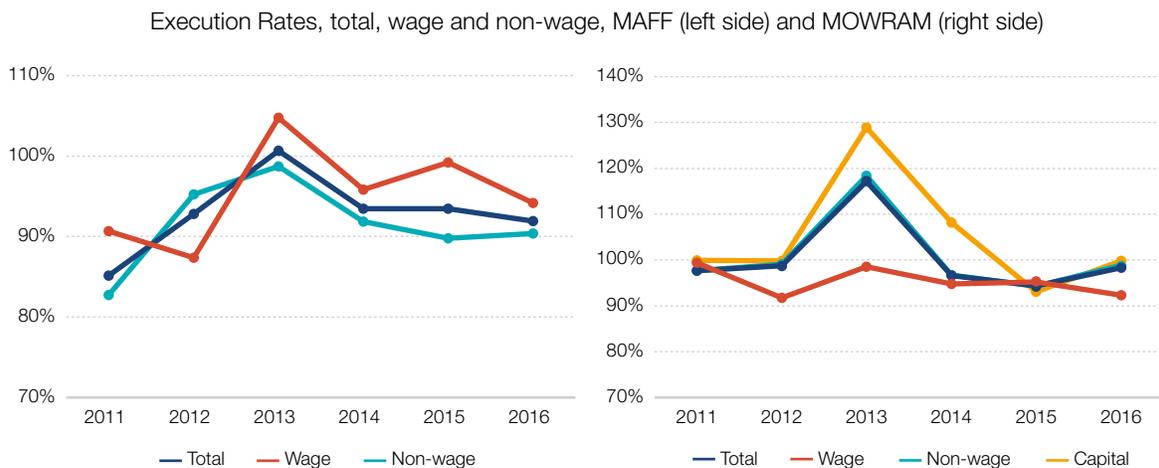
deliverables and measurable outputs, allowing for the effectiveness of spending to be assessed. Ministries have to make trade-offs between available funds and reform priorities by weighing which activities are essential now or can be postponed, reduced in scale, or canceled. All Ministries are to submit a five-year Strategic Development Plan in line with the NSDP and annually submit a three-year rolling BSP and an Annual Work Plan to MEF.

**Significant progress in PB has been achieved since 2015.** The MEF and relevant line ministries have been involved in a continuous process of improvement, consolidating the number of sub-programs and refining indicators year-to-year. MOWRAM is one of the few ministries that has included DP-financed capital into the Strategic Development Plan and BSP, although these have not yet been aligned at the sub-program level. MAFF has also excelled in a number of PB areas, including setting out sub-programs already in the ASDP, assigning annual targets (from 2014-18) for all programs and subprograms in the BSP, and including government payroll in PB documents.<sup>78</sup> These developments lay the foundation for effective use of PB, although further work

is needed, especially in the areas of data collection and monitoring as described below.

**Overall, budget execution at MAFF has been improving driven by personnel execution, while MOWRAM overall performance is dominated by variable capital execution rates.** The MAFF budget execution rate markedly improved from 85 percent in 2011 to an average of 94.5 percent during 2012-2016, pointing to increased absorptive capacity in the Ministry. A breakdown into wage and non-wage execution rates shows that the improvement was led by wage expenditures, with non-wage execution first improving then seeing a modest reduction (Figure 58, left panel). This pattern is also evident in MoEYS, another PB implementing ministry. The pattern could reflect general execution improvements, with some adjustment issues in early PB implementation for non-wage execution, while the automatization of wage payments (introduced in 2013) has improved wage execution significantly. For MOWRAM, personnel execution has been solid throughout the period, but the overall execution rate is determined largely by capital execution given its dominant share of expenditure (Figure 58, right panel).

Figure 58. Budget execution has improved at MAFF, and personnel execution has been solid at MOWRAM, although overall execution largely is determined by capital execution



Source: MEF Treasury Accounts.

78 However, this practice was ended in the 2017 budget, as it was considered too cumbersome. While this is a step back with regard to outcome-based budgeting and accountability, it is significant that it has been done and can be reintroduced when considered appropriate.

**Overall, the BSPs are aligned with sectoral and national strategies, although there is room for further improvement.** For example, a few key mandates of the Water Law, such as the establishment of a national water licensing framework, a water user fees framework, the implementation of protected water use zones and flood retention areas, and the improvement of groundwater management, do not seem to be covered in specific sub-programs. A specific sub-program has been established for implementing the Sub-decree on Farmer Water User Committees but not for the Sub-decree on River Basin Management. In addition, the quality of these documents is not consistent across Ministries, with BSPs often being unrealistic due to the lack of an overall strategic budget framework, thus limiting the role they play in decisions about the annual budget. For example, MOWRAM BSP figures for 2016 (USD 90 million) doubled those of 2015 and were 33 percent higher than actual allocations.

**The implementation of PB has followed international good practices by limiting the number of programs and goals, with ongoing efforts to consolidate the number of sub-programs and activities.** The number of programs has been limited to five per ministry, although there does not seem to be a clear selection criterion. In the case of MAFF or MoEYS, programs seem to follow the administrative structure of the Ministry, whereas in MOWRAM, they are aligned with the strategic areas specified in the Rectangular Strategy.<sup>79</sup> The ASDP 2014-18 has 60 sub-programs, compared to 28 in MOWRAM's Strategic Development Plan. A large number of sub-programs complicates the budget allocation process and program monitoring. For example, in 2015, there were 6 sub-programs related to rubber sector development, which could be merged into a smaller number of sub-programs since they share a similar goal. Some progress has been made in consolidating sub-programs and activities, with the number of activity budget lines in MAFF falling from 415

in the 2015 budget to 156 as of 2017. There is scope for further improvement in selecting priorities at the sub-program level when the annual work plans and the budget strategic plans are submitted to the MEF.

**While indicators have been defined for all sub-programs, not all of them are appropriate for measuring progress toward goals.** In some cases, indicators are not SMART (specific, measurable, assignable, realistic, and time-bound). For example, MOWRAM's sub-program 1.1 (irrigation system maintenance and process) has a target of 331 improved schemes by 2016, but no explanation of how to determine that an improved scheme was provided. In other cases, many sub-programs target outputs such as "staff trained, workshops organized, and meetings held," but the outcomes of the training and meetings are not specified and measured. While output indicators can be appropriate and important for measuring execution, they are generally insufficient to measure performance in terms of the effect—and thereby quality—of activities. For example, indicators for sub-program 1.8 (strengthen and improve agricultural extension system and service) under MAFF measure outputs (i.e. farmer outreach and number of extension officers trained) but fall short of measuring the extent of adoption of farm technologies promoted by extension services and their links with research. Overall, indicators associated with ASDP Programs 2, 3, and 4 are generally sound, whereas others could be reformulated or complemented (Table 33 proposes some additional indicators).

**A more daunting challenge is that data is not systematically collected for the indicators already defined due to the lack of an effective monitoring system.** As highlighted in a recent program budgeting review (World Bank, 2016), performance data is not available on a sufficiently complete, timely, or reliable basis to track performance, and there is no process in place for regular monitoring and evaluation of programs.

79 MAFF: 1. Improved Agricultural Productivity, Diversification and Commercialization; 2. Animal Health and Production; 3. Sustainable Fisheries Resource Management; 4. Sustainable Forest Resources and Wildlife Management; and 5. Strengthening Institutions, Improving the Efficiency of Supporting Services and Developing Human Resource in the Agriculture Sector. MOWRAM: 1. Water resources management and development of irrigation systems; 2. Flood and drought management; 3. Enactment of laws and regulations related to water; 4. Water resources and meteorological information management; 5. Administration and human resources development.

Table 33. Additional indicators could be used to help measure the impacts of ASDP Programs

Programs	Existing indicators	Proposed additional indicators
Program 1: Improved agric. productivity, diversification, and commercialization	<ul style="list-style-type: none"> <li>- Areas under all crops</li> <li>- Paddy yield</li> <li>- Paddy surplus</li> </ul>	<ul style="list-style-type: none"> <li>- Cropping intensity of land</li> <li>- Yield of non-paddy crops</li> <li>- Area of paddy applying GAP/SRI systems</li> <li>- Number of farmers adopting technologies promoted by the extension services</li> <li>- Improved varieties (by crop) released by research</li> </ul>
Program 2: Support to animal production and health	<ul style="list-style-type: none"> <li>- Livestock production</li> <li>- Ratio of animals vaccinated</li> <li>- Slaughterhouses implemented good health practices</li> </ul>	<ul style="list-style-type: none"> <li>- Number of farmers reached by the animal promotion extension services</li> <li>- Number of farmers applying good animal husbandry practices</li> <li>- Number of farmers adopting bio-digester technology</li> </ul>
Program 3: Sustainable fisheries resource management	<ul style="list-style-type: none"> <li>- Aquaculture production</li> <li>- Capture fisheries production</li> <li>- Rate of processors that improved quality and safety of fishery products</li> </ul>	<ul style="list-style-type: none"> <li>- Number of operational fishery communities</li> <li>- Number of fishermen satisfied with extension services</li> <li>- Fish seed and fingerlings produced</li> </ul>
Program 4: Sustainable forest resources and wildlife management	<ul style="list-style-type: none"> <li>- Protected and wildlife conservation areas</li> <li>- Reforestation</li> <li>- Forestry communities established and strengthened</li> </ul>	No need for additional indicators
Program 5: Support to institutions, support services, and human resources	<ul style="list-style-type: none"> <li>- Ratio of activities achieved in the PB</li> <li>- Students graduated</li> <li>- Staff obtained local and overseas training</li> </ul>	<ul style="list-style-type: none"> <li>- Employment rate of graduated students</li> <li>- Farm input shops inspected and in compliance with the law</li> <li>- Number of women in management positions in MAFF</li> </ul>

Source: ASDP 2014-2018, World Bank staff illustrative suggestions.

This limits the usefulness of program budgeting, since lack of performance information prevents improvement in the allocation and effectiveness of public resources. In this PER, lack of access to data has been a severe limitation, precluding the analysis from linking inputs (funding) with program outcomes.

**DP funding and public payroll are often excluded from the BSP, which prevents analysts from determining total resources devoted to the different programs and activities.** DP funding comprises about two-thirds of total public expenditure in agriculture

and irrigation, but this is not reflected in program budgeting documents. For example, for subprogram 1.8 (strengthen and improve agricultural extension services), the government allocation in 2015 was KHR 2.2 billion, while the KHR 52.5 billion allocated by DPs to agricultural extension was not reflected in the BSP. Meanwhile, government payroll is managed centrally, and the information for mapping personnel to specific sub-programs is insufficient. Without explicit accounting for DP funding and the payroll within program budgeting, it is not possible to properly attribute the achievement of activity outcomes.

## Policy options to support agricultural diversification and resilience

**Going forward, Cambodia may not be able to rely on the same factors that drove agricultural growth in the past.** Agricultural commodity prices are not expected to return to the levels that prevailed in the late 2000s to early 2010s. Setting aside forested and protected areas, the scope for agricultural land use expansion is also much more limited now than in the past. In addition, Cambodia is expected to find it increasingly difficult to compete internationally, regionally, and locally on the basis of low-cost, high-volume production.

**New drivers of inclusive growth will need to be nurtured through the provision of core public goods.**

Going forward, Cambodia's agricultural sector will need to generate 'more from less'—that is, realize higher levels of farmer, fisherman, and consumer welfare and non-farm spillovers, while improving its natural resource use efficiency and reducing its overall environmental footprint. To achieve this, a gradual transformation of the sector would involve a combination of increased irrigation, more diversified production systems, and greater value addition, which would contribute to increased productivity (of labor, land, and water), greater climate resilience, and higher farm income and supply chain employment opportunities.<sup>80</sup> This will require improving the availability of core public goods while strategically aiming to differentiate Cambodian agriculture (and agro-industry) on a qualitative basis. This section provides some policy options aimed at orienting public spending toward these broader goals (Table 34).

**Except for a few specific areas highlighted below, the focus going forward should be to improve the allocation and execution of spending in agriculture**

**and irrigation rather than to spend more, which will require significant improvements in coordination among actors.** As noted earlier, Government spending on agriculture and irrigation is now similar to the level observed in other middle-income economies, and if DP spending in agriculture is also taken into account, total public spending (1.45 percent of GDP in 2015) would be higher than in most countries. At the same time, while there are examples of both government- and DP-supported projects that have had positive effects on farm productivity and income, the impacts have tended to be localized. This calls for more proactive and strategic engagement among public actors and DPs during project selection, design, and preparation to ensure strong alignment with national priorities, coordination and linkages with other ongoing activities, and sustainability of efforts. The next agricultural plan could include a vision for irrigation, and efforts should be made to prioritize and integrate potential DP pipeline projects into budget planning. The Technical Working Group on Agriculture and Water (TWGAW) would be the natural forum for discussion and will require significant revamping of its agility and decision-making responsibilities.

**There are multiple opportunities to improve PB and its links to sectoral performance.** Priority attention should be given to: (i) further consolidating sub-programs to facilitate their management and increase synergies, while at the same time improving their alignment with higher-level goals;<sup>81</sup> (ii) detailing, in sub-program work plans, their general background and objectives, key activities, outputs, timelines, and staffing requirements (skill sets and number of staff) for both national and provincial departments; (iii) developing and applying lower-level and more attributable outcome indicators, adhering to the SMART principles; (iv) improving data collection to better track the performance of sub-programs; (v) where possible, piloting then improving upon outcome-

80 Going forward, we would expect to see far fewer people regularly employed in rice farming, more people engaged in horticultural and livestock production, and increasing numbers of people involved in upstream (i.e. mechanical services) and downstream (i.e. food processing; food service) dimensions of the agro-food system.

81 Core IWRM areas of focus include: river basin planning and water allocation planning; strengthening of the hydro-met monitoring equipment and corresponding O&M program; and establishment, maintenance, and operation of a water resources modeling platform to support allocation of water and minimization of water impacts.

Table 34. Policy options to support agriculture diversification and resilience

Challenge	Short-term policy options (1-2 years)	Medium-term policy options (3+ years)
Value for money and impact of public spending in agriculture and irrigation has so far been limited	Enhance strategic engagement and coordination among sector actors by revamping the TWGAW	
	Continue consolidating the number of BSP sub-programs and improving alignment with national priorities, while systematically collecting and monitoring performance data	
There seems to be underinvestment in a series of core technical and regulatory functions (public goods)	Undertake an institutional assessment of current capabilities and future resource needs in inspection services, plant and animal health, and water usage	Elaborate a national agricultural research strategy addressing research priorities as well as institutional and financing matters
	Collaborate with the private sector to develop business extension and/or incubator models to support agribusiness SMEs and facilitate value chain integration	Improve the efficiency of water use in agriculture from off-farm improvements with technology transfer for on-farm investments
Only one-third of irrigation schemes are fully functional	Focus on rehabilitating existing irrigation schemes that have a secure water supply, and providing capacity building and funding to operate and maintain rehabilitated schemes	Take into account both water availability and farm profitability considerations for new investments, and adopt national construction standards
	Undertake regular project unit-cost analysis, combining the information with that in the CISIS (on condition of schemes), and use it to support informed decision-making	

Source: World Bank staff elaboration.

based budgeting and performance measurement; and (vi) including DP funds in PB documents, at least for information, to justify the government budget allocations for subprograms and explain the outcomes achieved.<sup>82</sup>

**To ensure Cambodia’s future success in diversifying and adding value to its agriculture, increased resources will be needed for a variety of technical and regulatory functions.** For example, improved capacities will be needed for a broad array of sanitary and phytosanitary service functions, both for the domestic market and for supporting exports. Trading partners, citizens, as well as modern food retail

distributors and tourist facility operators will want to ensure that Cambodia has strong capabilities in pest and disease surveillance, quarantine services, laboratory testing for contaminants and residues, and other areas. In the case of MOWRAM, adequate river basin assessment and planning, water licensing, and groundwater management are essential to guaranteeing the sustainability of both natural resources and returns to investment. While increased public spending in these areas is likely to be needed, this should be considered as part of a broader institutional assessment of current capabilities and future needs (both in terms of funding and staffing). The same would apply to other

<sup>82</sup> The preparation of Annual Operation Plans for the MoEYS, while not complete, provides useful guidance for this. DP funding is included in separate columns, making it easier to identify total sub-program allocations and the interplay between DP- and government-funded projects.

types of regulatory services, for example in relation to agriculture input quality as well as fisheries, forestry, and biodiversity protection. Not all of these functions will need to be performed by government agencies—indeed, the primary responsibility for food safety lies with food providers, with the government providing the rules, oversight, and in some cases technical and other support for the adoption of improved practices.

**Cambodia and its technical partners should chart out a national agricultural research strategy, akin to the one recently developed for agricultural extension.** Agricultural innovation has played only a limited role in past agricultural growth, but this will be increasingly important in the future as the opportunity for further land expansion closes. Greater investment in agricultural research will be needed to underpin the drive toward a more diversified and resilient agricultural sector. Cambodia has so far invested only modestly in agricultural research, although the recent spending increments are welcome. A national agricultural research strategy could address not only long-standing challenges but also emerging ones such as climate change, environmental management, nutrition, and post-harvest management. As with extension, the approach should be to strengthen a pluralistic system of public, private, and other actors and to deploy institutional arrangements that will ensure that the increased agricultural research is demand-driven and both technically sound and cost-effective. Both local and international institutional partnerships could be promoted, while consideration could be given to the development of multi-stakeholder councils, competitive research grant schemes, and other types of mechanisms that have improved agricultural innovation system performance in other countries.

**Increased investment may be needed to effectively develop the next cadre of entrepreneurial farmers and agro-food business operators to help ensure inclusive growth in the sector.** While the provision of advisory and other services to SME agro-enterprises is often not done by government agencies, there may be a rationale for the government to co-finance certain support programs of business extension or incubators.

Additional resources might also be needed to upgrade or create supplemental programs for agricultural education and vocational training. In addition, the efficiency of water use in agriculture could be increased by supporting technology transfer for on-farm investments.

**Over the next few years, government funding should continue to focus on the rehabilitation and sustainability of existing irrigation schemes rather than on the development of new schemes.** First, given resource limitations, authorities could start by determining a set of priority regions at the river basin scale, based on water availability, soil fertility, and access to agricultural markets. Second, government-funded capital expenditure should focus on the rehabilitation of small- (<500 ha) to medium-scale (500-1000 ha) irrigation schemes, with those that are proven non-viable being retired and removed from the asset registry (CISIS). Third, O&M budget and staffing could be increased in line with the size of the command area under rehabilitated schemes.

**To ensure the functionality and sustainability of water infrastructure projects, minimum water security requirements and construction standards need to be developed and integrated into future feasibility assessments and contracts.** To date, feasibility studies have focused mostly on design aspects and little on water security and agricultural extension considerations that are essential for minimizing investment wastage and risks (including potentially adverse economic, social, and environmental impacts). A set of minimum requirements related to water security (Box 12) should be established and embedded in the feasibility study and should play a critical role in project selection. Notably, more investment in non-structural activities will be needed to enable credible assessments of water security for project proposals, including: improving understanding of current and potential water availability; managing scarce water resources at the basin scale; minimizing water pollution; and issuing water rights to allow farmers, water authorities, and other water users to more confidently plan, invest, and progress. For each new irrigation scheme being developed, alternative land

use options and the agricultural service implications of these choices should be considered. In addition, national irrigation and drainage design and construction standards should be prepared in line with international best practices, and both government and DP-funded irrigation investment projects should be required to meet these standards before proceeding.

**In addition, to ensure return to investment in irrigation, introducing considerations of crop profitability would be necessary.** So far, the bulk of irrigation systems remain dedicated to rice monocropping. Going forward, irrigation decisions need to be informed by considerations of farm profitability, the changing domestic food demand, and Cambodia's competitive prospects for agri-food exports in the medium and long terms.

**Assessing and enhancing the effectiveness of water infrastructure investments would require systematic unit cost assessments and collection of information.**

Undertaking regular unit cost assessments of ongoing and planned DP- and government-funded projects would help identify cost-saving measures. This could lead to a national assessment of the unit cost of water infrastructure projects to be undertaken with national irrigation and drainage design and construction standards as a benchmark. The information on unit costs could be combined with CISIS, an important tool for monitoring the condition of irrigation schemes. As a next step, it would be important to review existing data collection, storage, and reporting procedures to improve the quality and credibility of the information in the dataset to support informed decision-making. For the CISIS tool to be useful, access could be granted to all MOWRAM staff and DPs working on irrigation scheme projects. Over the medium to long term, CISIS should ultimately become a primary data source for supporting the prioritization, development, and assessment of irrigation project proposals.

**Finally, it should be noted that delivery of public goods should not be based exclusively on public funding, as there is room for public-private partnerships**

**(PPPs) and other forms of collaboration.** Elsewhere, PPPs have been applied in relation to irrigation, market, and other rural infrastructure, as well as several other areas relevant to Cambodia's rural development. Close collaborative efforts can be used to promote the transfer of technologies, strengthen farmer organizations, manage biosecurity risks, and address nutritional concerns, among others. As the sector matures, the government may need to play less of a leadership and service provision role while taking on a widening set of facilitative functions. This transition in core functions will have implications for public spending and, of equal importance, the range of technical and people-related skills required of MAFF staff. These (human) resource implications should be considered as part of a deeper institutional analysis of MAFF functions and in the context of the development of the next strategic plan for the sector.

## Water security framework



### AVAILABILITY, ACCESS, & RELIABILITY OF WATER SUPPLY

- Basin-wide annual and dry season assessments of available water resources are required to determine how much water is available for use by new projects. Historical rainfall and recharge records, climate change projections, and existing water demands all need to be considered.
- Available water for commercial use is to be within the sustainable water use limit set under the (basin-wide) water allocation plan, where one exists. This limit is set to give highest priority to the protection of human and aquatic ecosystem water requirements.
- The extent of access to available water must be assessed. There could be abundant water resources but limited delivery capacity due to canal and pipe size or no delivery system in place.
- All water users will want to know how often they are likely to receive a specific volume of water ('reliability' of water supply) to help them understand risks to water supply and plan ahead with confidence.
- Crucial to determining availability, access, and reliability of water supply is the quality of water resources data (e.g., length, extent, and type of data records) and water resources modeling capacity to undertake these assessments.

### LEGAL SECURITY OF WATER SUPPLY

- Water users not only need access to a reliable supply of available water but must also have a legal right to use it. A water right (e.g., license, permit, certificate) is a statutory instrument that sets out the total volume of water available for use, when, where, and by whom it can be used.
- Water rights provide water users and investors with a level of certainty that they will regularly receive a specific volume of water, giving them more confidence to make more informed business decisions.
- Effective water rights must be granted (issued) in line with basin-wide sustainable water use limits and existing water rights to avoid over-allocation of available water that can lead to costly government compensation.
- An effective water rights system requires ongoing monitoring and regular reporting of water use to ensure water users are not taking more water than the amount to which they are legally entitled.

### RELIABLE WATER DELIVERY SYSTEMS

- National water development design & construction standards should be established and followed to ensure a consistent, minimum level of development quality.
- O&M procedures (including roles and responsibilities and available O&M funds) for new water infrastructure should be established within the first few years of project completion.

# 6 IMPROVING THE VALUE FOR MONEY IN ROAD SPENDING

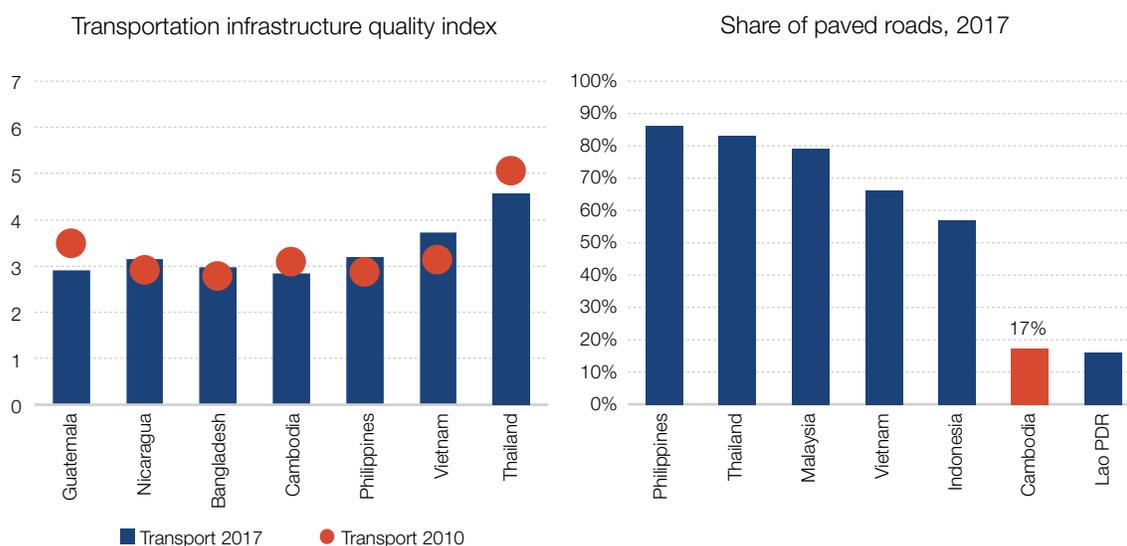
## Introduction and motivation

**C**ambodia has achieved remarkable economic development, while transportation infrastructure does not seem to have kept pace. Cambodia has attained strong economic growth over the past two decades, driven by agriculture, garment exports, tourism and, more recently construction. Although total public investment has been substantially higher (an average of 7.5 percent of GDP in 2000-15) than in most ASEAN

countries, Cambodia still lags other structural peers in terms of quality of transportation infrastructure, which does not seem to have significantly improved over the past six years (Figure 59, left panel). Cambodia ranked 73rd in the world in 2016 for the Logistics Performance Index (LPI), and is below the regional average in the transportation dimension.

**Transportation in Cambodia predominantly takes place by road, while accessibility challenges persist in some rural and remote areas.** Transportation is predominantly provided by roads,

Figure 59. Cambodia still lags behind its peers in the quality of transportation infrastructure



Source: World Economic Forum, Global Competitiveness Indicators; ASEAN statistics.

and transportation services are dominated by motorcycles and 2-axles vehicles (together, about 90 percent of the traffic). Modern forms of transportation and road network systems are limited to main cities, connection with neighboring countries and with key trade gateways, while the trucking industry is fragmented and rural connectivity in many cases remains informal and precarious. With 79 percent of the population living in rural areas as of 2016, an urban-rural gap in terms of access to services and road rural accessibility remains. Cambodia's road network has significantly increased in recent years, with total length increasing from 46,245km in 2013 to 61,379km in 2017. With the country's strategic direction of reaching out to rural population, about 75 percent of the network is comprised by rural roads, mostly unpaved. This explains why only 17 percent of roads were paved as of 2017 (Figure 59, right panel), as authorities have prioritized rural road development, at the same time that focused paving efforts in the national road network first. This strategy is appropriate for Cambodia, given its income level and large investment needs.

**Under the current Rectangular Strategy, transport sector development continues to focus mainly on roads, with aspiration towards reaching multi-modality, and emphasis in connectivity with neighbors and fostering of private sector participation.** The Rectangular Strategy phase III identifies four main priorities to tackle transport sector challenges. First, driving down transportation costs, by focusing in improving road repair and maintenance, traffic safety, and traffic congestion. The second priority aims at developing multi-modal transport connectivity to ASEAN (especially Mekong basin countries), and requires from developing the regulatory environment and cross-border facilities, among other measures. Third, increasing spending efficiency by shifting from low-cost, high-maintenance needed infrastructure projects towards projects with higher standards; this

implies changes in public investment management, public-private partnership mechanisms, and assets management. Forth, improving institutional capacity, planning and implementation, as shortcomings in terms of organizational structure and division of responsibilities, human resource capacity, and internal control systems are acknowledged.

**This chapter draws from the guiding principles set in these national level strategies, and focuses on identifying ways to improve spending efficiency and transportation service provision in Cambodia.**

The analysis presented in this chapter focuses in the road sector, in the understanding that it is, by far, the dominant transport mode of the country for people and freight, as well as for domestic and international connectivity. Section 6.2 discusses the basic foundations of the road sector in Cambodia – legal and institutional context, sector strategy, and public spending process and procedures; section 6.3 analyzes road spending patterns and trends, as well as road conditions; and section 6.4 presents policy recommendations to help address the challenges identified.

## The road sector in Cambodia— Institutional framework

The institutional framework for road construction, maintenance, and transportation regulation is fragmented among multiple agencies

**In Cambodia, the legal framework is provided by the Law on Road and the Law on Land Traffic, both from 2014.** The legal framework governing roads in Cambodia comprises the Road Law<sup>83</sup>, that focuses on the physical aspects of the network development and maintenance, and the Law on Land Traffic<sup>84</sup> that structures road use, safety and signaling.

83 Law on Road, Preah Reach Kram No. NS/RKM/0514/008, adopted by the National Assembly in April 2014

84 Law on Land Traffic, Preah Reach Kram No. NS/RKM/0115/001, adopted by the National Assembly in December 2014 and became effective in January 2015

The Road Law designates the road type and classification and distributes road network management responsibilities among the Ministry of Public Works and Transport (MPWT), the Ministry of Rural Development (MRD), and local governments.

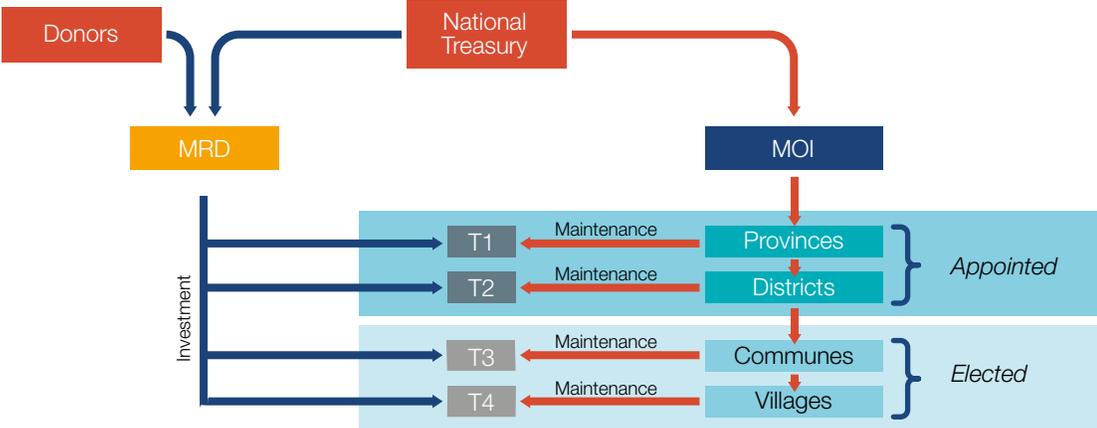
The network is divided into six categories of roads: (i) expressways, (ii) national, (iii) provincial, (iv) rural, (v) urban, and (vi) special roads. The Road Law also attributes jurisdictional responsibilities for development and maintenance of the physical network to governmental agencies. As such, the Law designates the Ministry of Public Works and Transport (MPWT) as responsible for the development and maintenance of expressways, national and provincial roads; the Ministry of Rural Development (MRD) is responsible for rural roads; cities and municipalities are responsible for urban roads (Table 35). The management of special roads however, is determined case-by-case. As of today, there are no expressways in Cambodia.

**MPWT manages both national roads and provincial roads, and is also in charge of enforcing transportation regulation.** MPWT manages road construction centrally, while using own provincial departments (DPWT), to carry out maintenance activities. The construction, and rehabilitation national roads and emergency maintenance of national

roads is carried out directly by the Heavy Equipment Department at MPWT. Urban roads in Phnom Penh are under the responsibility of the City Hall, while other urban centers are considered as provinces. In terms of transportation services, the Department of Land transport at MPWT is in charge of enforcing rules, while secondary regulation is not sufficiently developed (e.g. with regards to overload control). The Phnom Penh Bus Authority (PTMA) is the only publicly-owned urban transportation company, since services have been traditionally provided by tuk-tuk. Most of operators on the roads are private (trucking services, private vehicles, and non-motorized transport).

**Maintenance of rural roads is significantly fragmented.** Rural road management is split between the MRD (for planning, construction, rehabilitation, and emergency maintenance of all rural roads), and local governments (entrusted with periodic and routine maintenance). While some degree of decentralization is desirable, the intricate and fragmented division of labor and resource allocation often results in funding being spread too thinly (Figure 60). This especially affects the maintenance of roads in levels T2-T4, which often remain in poor condition, making it more difficult for rural population to access economic opportunities that are well-connected by national road network.

Figure 60. Resource allocation structure for rural roads in Cambodia



Source: World Bank staff elaboration in consultation with authorities.

Table 35. Cambodia's Road Transport Infrastructure Institutional Mapping

Functions -->	Planning	Construction	Rehabilitation	Periodic & Routine Maintenance	Emergency Maintenance	Operation of Services	Regulation	Policy Umbrella
<b>National Roads (NR)</b> (1-digit and 2-digit)	IMCRR with MPWT	MPWT/DPs	MPWT	DPWT in the provinces	MPWT (by Heavy Equipment Dept)	Private trucking services (fragmented and informal)  Private vehicles	Dept of Land Transport under MPWT	National Assembly through the NSDP / MPWT & MRD
<b>Provincial Roads (PR)</b> (3-digit and 4-digit)	IMCRR with MPWT	MPWT/DPs	MPWT	DPWT in the provinces	DPWT in the provinces			
<b>Rural Roads (T1)</b> (Provincial town to District center)	IMCRR with MRD	MRD/DPs	MRD	Provincial Governments	MRD			
<b>Rural Roads (T2)</b> (District center to Commune)	IMCRR with MRD	MRD	MRD	District Offices	MRD			
<b>Rural Roads (T3)</b> (Commune to Village)	IMCRR with MRD	MRD	MRD	Communes	MRD			
<b>Rural Roads (T4)</b> (Village to Village or to the field)	IMCRR with MRD	MRD	MRD	Villages	MRD			
<b>Phnom Penh Urban Transport / road</b> (roads in and ring roads around Phnom Penh)	PPCH	PPCH	PPCH	PPCH	MPWT	Bus services by PTMA (PP Bus Authority)  Private vehicles / non-motorized	Dept of Land Transport under MPWT / PPCH	MPWT / PPCH
<b>Other Urban Transport / road</b> (Others: MRT, NMT, etc.)	DPWT	DPWT	DPWT	DPWT	DPWT			
<b>Agricultural Roads</b> (in line with T4)	MAFF / MOWRAM	MAFF / MOWRAM	MAFF / MOWRAM	MAFF / MOWRAM	MAFF / MOWRAM	Private trucking Private vehicles	MAFF / MOWRAM	MAFF / MOWRAM

Source: World Bank staff elaboration in consultation with authorities.

Legend

IMCRR Inter-Ministerial Committee for Reconstruction and Repairs  
 MPWT Ministry of Public Works and Transport  
 DPWT Departments of the MPWT in each Province  
 MRD Ministry of Rural Development

PTMA Public Transport Management Authority  
 PPCH Phnom Penh Capital Hall  
 MAFF Ministry of Agriculture Forestry and Fisheries  
 MOWRAM Ministry of Water Resources and Meteorology

**An additional level of institutional fragmentation and complexity is added by having the DPs play a prominent role in financing investment.** The two key road agencies, MPWT and MRD, have a different structure, are independent from each other in both the planning and execution stages, and technical knowledge and capacity is minimal. In addition, the DP-funded projects follow separate budget and planning processes than those financed using government budget. Differences include criteria for project selection, level of project preparation, ability to finance multi-year projects and, very evidently, the relative relevance of the project in terms of the size vis-à-vis the portfolio. The implementation of DP projects follows in most cases agreed Standard Operation Procedures that differ from government procurement processes, and use international contractors.

There is no transportation specific sector strategy

**The transportation sector in Cambodia does not currently count with a specific strategy of master plan.** Both Rectangular Strategy phase II and phase III documents envisioned the elaboration of masters plans for Transport Infrastructure Development or for Urban Infrastructure Development, but these have not been prepared. Some recent progress has been achieved on the preparation of a National Logistics Master Plan (Box 13). In practice, the road sector strategic and policy guidelines remain those stipulated in the 5-year National Strategic Development Plan (NSDP). The NSDP structures key policies and actions for each ministry and agency, and sets forth the monitoring and evaluation (M&E) framework for the planning cycle. However, the

### Box 13

## A National Logistics Master Plan for Cambodia

In November 2017, the RGC established the National Logistics Council by issuing the *Organization and Functioning of National Council of Logistics Royal Decree 2017*. The National Logistics Council (NLC) is tasked with leading the drafting of the National Logistics Mater Plan (NLMP) from the Government side and to coordinate needs and inputs from different agencies. JICA and the World Bank are playing a critical role in supporting the government on the preparation of the NLMP. The NLC will be chaired by a Deputy Prime Minister, with senior officials from MPWT and MEF as members.

The NLMP is a key instrument to develop the structural transformation of the Cambodian economy with industrial sector envisioned in the Rectangular Strategy (RS III 2014-2018) as a key driver toward reaching middle-income status. The strategic vacuum is becoming evident in practice, deterring potential investors and reducing the potential benefits that comes from coordinated investments.

The objective(s) of the first NLMP is to conceptualize an integrated and effective multi-modal transport and logistics system that connects major economic poles creating three structural economic corridors: Phnom Penh–Sihanoukville, Phnom Penh–Bavet and Phnom Penh–Poipet.

The NLMP will be further developed logistics sub-sectors and propose reforms that integrate various mode of transport (such as roads, ports, railways, and waterways) together – including the integrated regulatory framework. The scope and timetable of the NLMP is to be determined, but the target is within 2018.

NSDP does not provide an explicit articulation of plans and objectives among different types of road networks (i.e. national roads, rural roads and urban roads) or among transport sub-sectors (i.e. among roads, ports, airports and logistics services).

## Budget planning and execution has improved in recent years, but continues to present challenges

**The introduction of program-based budgeting in recent years has helped improve the allocation of recurrent spending.** The Budget Strategic Plan (BSP) is a systematic attempt to perform multi-year planning, consolidate the operation, maintenance and investment budgets regardless of the source of funding, and align them with sector priorities by defining programs and subprograms. However, integration of capital spending in the BSPs for MPWT, MRD, and Phnom Penh City Hall (PPCH) has so far been limited. MPWT establishes internally a “financing working group” to plan for recurrent expenditures. Meanwhile, MRD works in coordination with their provincial branches and elected commune authorities to determine the needs for road repair and maintenance. In addition, commune councils are also allocated some funding for the maintenance of T3 & T4 rural roads, as well as for other infrastructure, such as small-scale irrigation. At the subnational level, each provincial government prepares a BSP on behalf of the district/municipality and commune/village level; in this case, the annual planning process goes through the Ministry of Interior (Mol). This multi-actor and multi-layered process reflects the overall fragmentation of road maintenance efforts in Cambodia.

**Infrastructure investment projects are split into those that are government-funded and those DP-funded, and both follow different rules and processes.** Investment funded by DPs follows PIP discussions (see chapter on Public Investment Management

for more detail). In the case of government-funded projects, annual planning discussions are conducted at the *Inter-Ministerial Committee for Rehabilitation and Repairs (IMCRR)*. The IMCRR is co-chaired by MPWT and MEF (for national, provincial and urban roads outside Phnom Penh)<sup>85</sup> and MRD and MEF (for rural roads), and comprises various technical and policy departments in the line ministries.<sup>86</sup> Authorized by the Prime Minister, IMCRR meets bi-annually (i) to establish the prioritization criteria that will be included in the year IMCRR Memo and (ii) to screen and select the specific projects warranted funds from the Treasury.

**The planning process for government-funded investment starts with a long-list of investment projects, which may have originated from politicians, provincial departments, and subnational authorities.** That long list is screened to make sure all projects included are under a size threshold and can be implemented within a year time. With these criteria, the Government guarantees that projects that could be eligible to be funded by DPs —larger and multi-year by nature— are explicitly excluded from the long-list of projects considered to be financed by the Treasury. That long list of projects is then screened with the application of yearly-revised prioritization criteria, formalized in the IMRR prioritization memo. The screening of the long-list of projects leads to the preparation of a short-list of projects that is taken to the Prime Minister around November for its clearance (Figure 61).

**There is a relatively fixed set of prioritization criteria for government-funded projects, although some are relatively open and its ranking is not clearly defined.** Recurrent IMCRR filtering criteria include projects that are considered backbones of the economy, roads that were damaged by flooding or other factors, ongoing projects that need to be finished to maximize economic effectiveness, those related to protecting national sovereignty, especially along the borders, and those

85 Since 2016, IMCRR also covers inland waterway and railways. MEF has provided about US\$20 million per year for track rehabilitation during 2016-201 as a follow-on to ADB project.

86 As a way of example, for the IMCRR for national, provincial, and urban roads, it includes from the MPWT their Technical General Department, Public Works General Department, Road Department, Technical Research Center, and Policy Department.

Figure 61. MPWT and MRD Budget Planning Timeline



Source: World Bank staff elaboration in consultation with authorities.

decided by Samdech Techo Prime Minister. There is also a mention that, <<[b]esides the above prioritization rules, selection of projects shall be based on the principles of equity between provinces, based on demographic factors, necessity to enhance development and necessity due to political reason>>. However, the way the principles of equity and demography are applied is not clearly defined.

**Only between 5 and 6 percent of the long-list gets financed each year, which may signal weaknesses in the planning process, and retention of proposals not fully developed or that may be no longer relevant.** In 2016, the implementation of the entire long-list of MPWT projects would have cost approximately US\$3 billion, while the budget available for both construction and maintenance was US\$160 million. Similarly, for the fiscal year 2018, the MRD long list included approximately 2,600 road maintenance requests from villages, while MRD could accommodate only 165 requests due to budget constraints after the annual screening. Some projects in the long-list might be overly optimistic, unfeasible and only respond to political motivations. In addition, the quality and readiness of project proposals in the long-list may vary —some would include feasibility studies; some are just concepts that represent certain “wishes”. On the other hand, the large difference

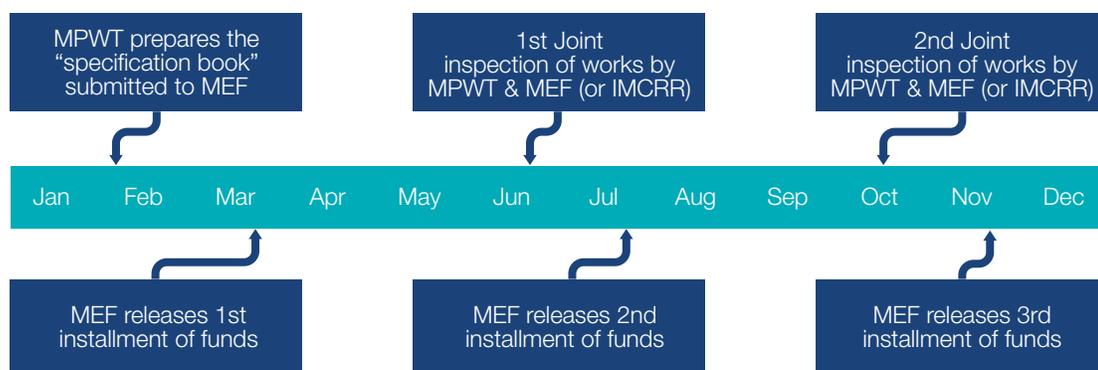
between the initial request and actual allocation can reveal underspending, under-maintenance and a formidable funding gap for roads.

**In terms of funding for investment projects financed by Treasury, allocations are determined annually even if the project is multiannual in nature, which makes its completion uncertain.** A filter applied for investment project screening during the national budget preparation process is that the project needs to be fully executed within the fiscal year. Such criterion limits the size of the investment projects to less than \$10 million and explicitly excludes large infrastructure construction.<sup>87</sup> This \$10 million limit would fund approximately 12km of concrete national road construction, or about 30 to 50km of asphalt concrete national road construction. The imposition of this limit forces implementing agencies to artificially split multi-year projects in a sequence of annual projects. It also creates uncertainty regarding securing funds for on-going multiyear projects, and creating delays in the provision of funding (as portions of the infrastructure need to be proposed and screened every year), as well as pauses in the implementation. This is likely to increase the final cost (due cost and time overruns, and rebuild of previously constructed phases), and could result in white elephants (e.g. building the support of a bridge and then abandoning a half-finished unusable asset).

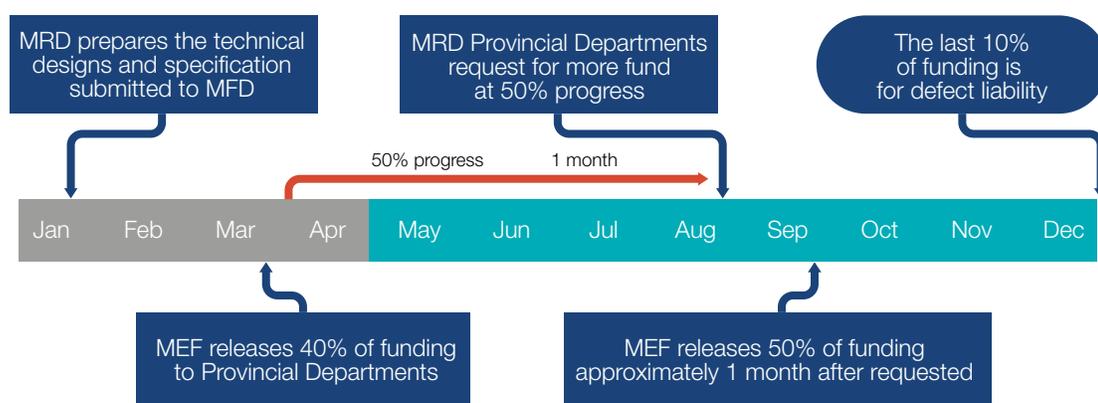
87 The only historical exception is the reconstruction of National Road 68 following border disputes with Thailand. That project amounted to \$30M and was multiyear, 2009-10. MPWT essentially used its whole budget for the execution.

Figure 62. Budget Execution Timeline

A. MPWT



B. MRD



Source: World Bank staff elaboration in consultation with authorities.

**In addition, a rigid budget execution timeline for road projects results in significant overruns.** The fund release schedule is predictable but relatively rigid, and traditionally results in delays. In the case of MPWT, following National Assembly approval of the budget, the MPWT consolidates technical specification books from 25 provinces, which can vary significantly in quality, and the review process, taking place in February, may get delayed. The first release of funds occurs around March, which leads inevitably to overlaps of works with the rainy season —which spans May to November (Figure 62a). Rainy season maintenance may cost about 40-50 percent higher than that during the dry season. Similarly,

the tendering process (including detailed design) for rural projects could take more than 6 months, with the start falling into the rainy season (Figure 62b).

**Proposed investment projects to be financed by DPs enter the Public Investment Program and follow different selection and implementation rules.**

The criteria by which a project is funded by DPs rather than by the Treasury does not respond to its complexity but rather to its size and whether it fulfills certain basic construction standards. For MPWT, usually, projects considered for PIP are multi-year, reconstruction projects that are larger than US\$10 million each.

Meanwhile, for MRD, earth or laterite rural road improvement projects would use government funding, while road improvements with concrete or pavements would be listed under the PIP to pursue DP funding. The PIP is consolidated and prioritized by the Ministry of Planning (MoP), and contains a pool of proposed investment projects to be funded exclusively by DPs. The completion of feasibility study is not a requirement for a project to be included in PIP. MEF plays a role of gatekeeper by checking the consistency of projects under PIP against national priorities and the national debt strategy. One of the problems with the existing fragmentation is that a project listed in the PIP waiting for DP funding for several years may be more of a priority than other projects included in the long-list, but would never get government funding.

## Prudent spending with rising pressures

Over the past four years, there has been a significant shift in the sources of funding for the road sector

**Road spending has traditionally received larger funding than education or health, while it has been on decline in recent years.** Road spending peaked in 2012, at around 4.3 percent of GDP, following a significant scaling-up of infrastructure investment, mostly driven by Chinese funding. Since then, it has been steadily falling, to an estimate of 2.6 percent in 2016 (Figure 63, left panel). Government spending in roads as a percentage of the national budget has remained around 10-12 percent of the national budget (Figure 63, right panel). In 2016, education overtook roads in terms of public spending, as it has been designated a priority sector.

**The decline in public road spending has been mostly driven by a decrease in funding by DPs.** In nominal terms, DP funding peaked in 2013, at around US\$ 350 million dollars, before declining to 90 million dollars in

2016 (Figure 64, left panel). This has been partly offset by increasing national budget allocations, from US\$150 million in 2013 to US\$286 million in 2016. As a percent of GDP, national budget allocations have averaged 1.4 percent in 2014-16, subnational budget 0.5 percent of GDP, and cities 0.35 percent of GDP (Figure 64, right panel). In 2017, some recovery in DP-funded spending has been observed.

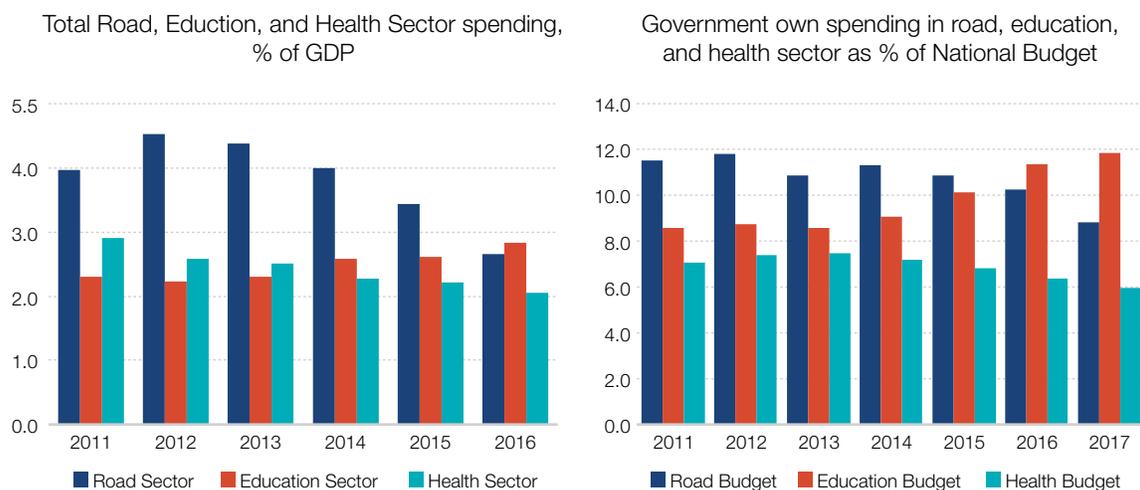
**The Ministry of Public Works and Transport is the main implementing agency, while funding executed through the Ministry of Rural Development and the Phnom Penh City Hall has increased significantly.**

Funding implemented through the MPWT declined between 2014 and 2016, as DP-funded projects executed through this agency decreased, prior to experiencing some rebound in 2017. Meanwhile, road spending implemented by MRD increased to an average of US\$70 million in 2014-16, and that implemented through the Phnom Penh City Hall to an average of US\$64 million in 2014-16, more than doubling the average for 2011-13 (Figure 65, left panel). During 2014-16, despite the decline, MPWT still implemented more than half of total transportation spending (Figure 65, right panel).

**In recent years, capital spending has been on decline, while allocations to operations and maintenance (O&M) have increased.** Driven by DP-funded spending, capital expenditure declined from 3.4 percent of GDP during its 2012 peak, to 1.4 percent of GDP in 2016, prior to experiencing some recovery in 2017 (Figure 66). Meanwhile, O&M spending increased from around 1 percent of GDP to 1.2 percent of GDP over the same period. The Phnom Penh City Hall and local governments mostly perform maintenance function, while leaving infrastructure building to DPs or other government agencies. In 2016, 70 percent of MPWT executed spending went to construction activities, and 30 percent to operations and maintenance; at MRD, the proportion was 57/43.

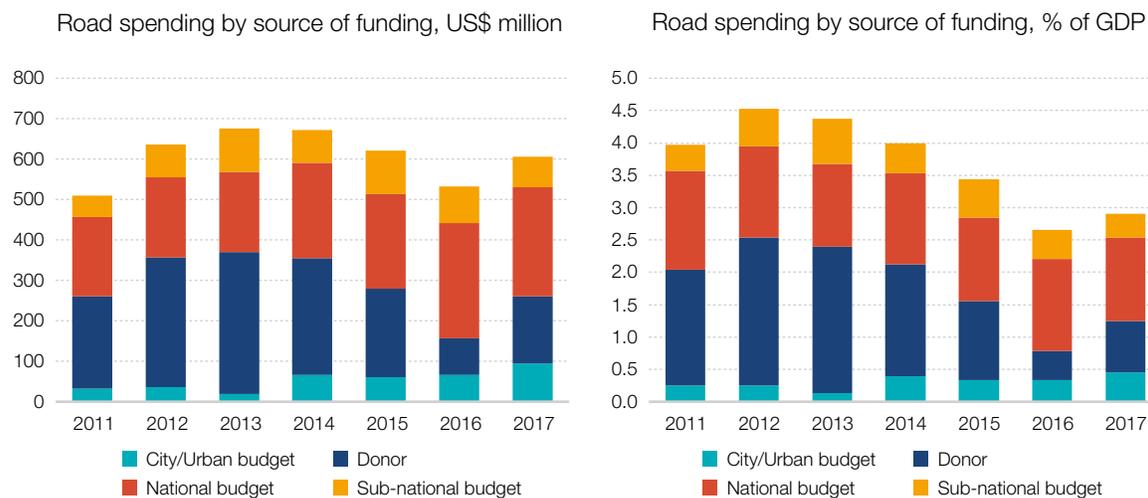
**The shares of personnel expenditures for both MPWT and MRD are relatively small.** In 2016, wage

Figure 63. Public spending in roads has been on smooth decline it peaked in 2012



Source: National Treasury database 2011-16, CDC DP database 2011-16, and sub-national budget 2011-16.

Figure 64. A decline in DP funded road expenditures has been partly offset by rising national budget allocations

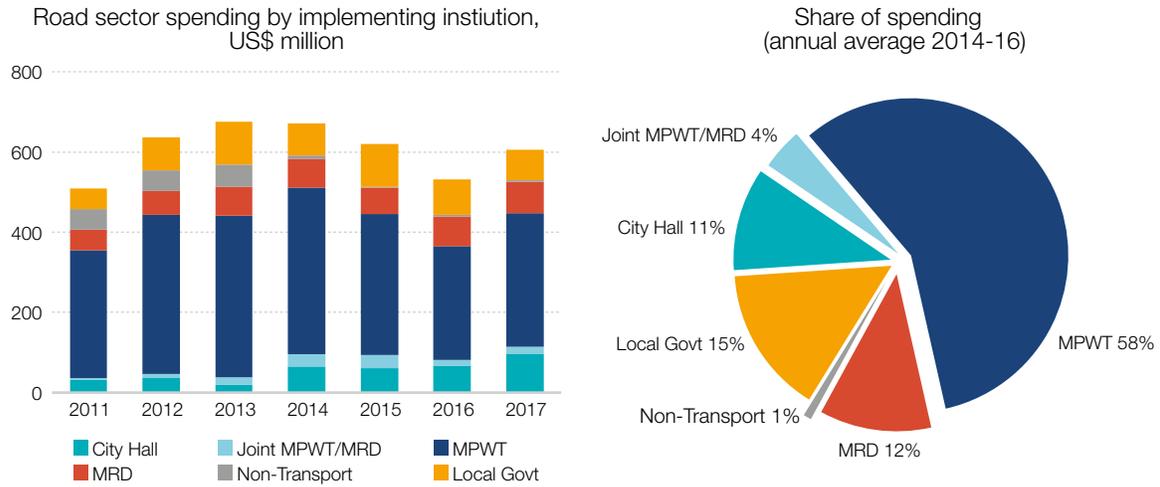


Source: National Treasury database 2011-16 and sub-national budget 2011-16.

represented around 8.1 percent of total MPWT spending (approximately US\$16 million), with non-wage recurrent expenditures of 37.8 percent and capital expenditures of 54.1 percent. From the US\$16 million wage expenditure for MPWT, US\$10.4 million is for operations (89 percent of operations spending), and US\$6.1 million is for overheads (63 percent of overhead spending). For

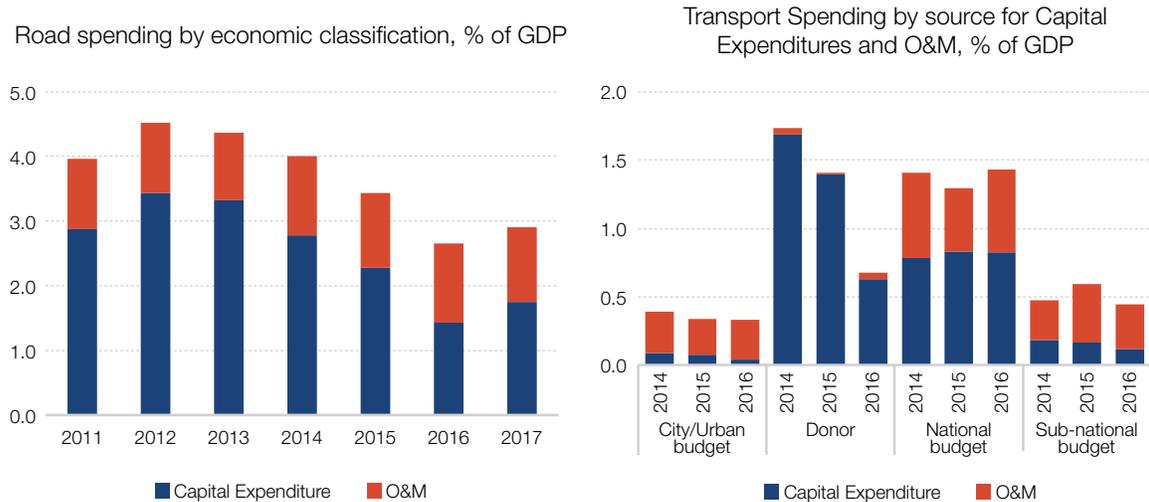
MRD, the wage represented about 6.6 percent of total spending in 2016, with non-wage recurrent expenditure of 41.5 percent and capital expenditure of 51.9 percent. From the US\$4.6 million wage expenditure for MRD, US\$4.5 million is for operations (69 percent of operations spending), and US\$0.2 million is for overheads (4 percent of overhead spending).

Figure 65. MPWT is the main implementing agency in roads



Source: National Treasury database 2011-16, CDC DP database 2011-16, and sub-national budget 2011-16.

Figure 66. The decline in capital expenditure in roads has been driven by DPs



Source: National Treasury database 2011-16, CDC DP database 2011-16, and sub-national budget 2011-16.

Capital spending continues to focus on national roads, and there seems to be underinvestment in provinces outside the main corridors

**Three quarters of total spending is directed to national roads, despite a slight decline in recent**

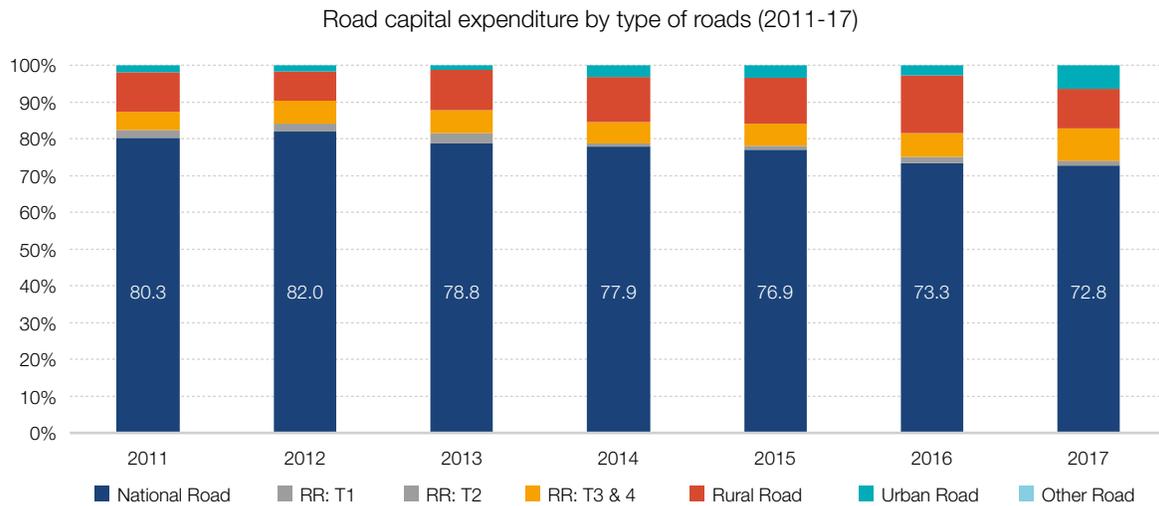
**years.** As discussed in the previous section, large-scale capital investment is usually undertaken by DPs whom, over the past two decades, have been in charge of building or reconstructing the main arteries of the road network. The recent decline in DP-funding project has driven down the share of national road spending over total spending, from 87 percent in 2013 down to

less than 73 percent in 2017 (Figure 67). The share of spending directed towards urban and rural roads has increased significantly in recent years.

**Development partners have been playing a major role in Cambodia's road sector investment.** As abovementioned, DPs have been the main supporter

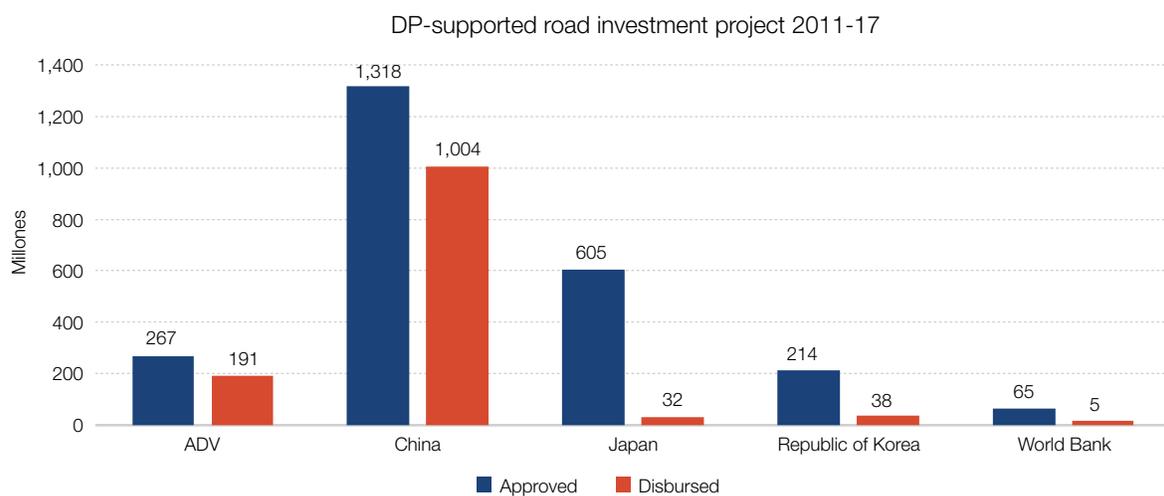
of road investment projects. Among DPs, in recent years, China has been a major player, with their support mostly focused on national road construction (Figure 68). Among the largest projects are the reconstruction and improvement of national roads No. 5 and No. 6, supported by Japan and China, respectively. Both projects span several provinces to the west of Phnom Penh.

Figure 67. Three quarters of total capital spending is directed to national roads



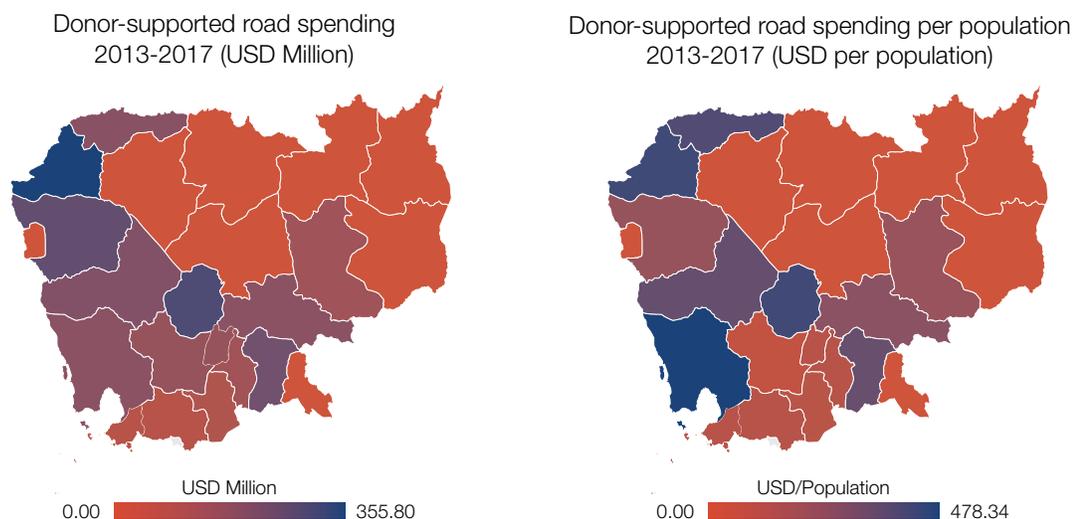
Source: National Treasury database 2011-16, CDC DP database 2011-16, and sub-national budget 2011-16.

Figure 68. China and Japan have led Development Partner capital spending in transportation in recent years



Source: CDC DP database 2011-17.

Figure 69. Sparsely populated provinces in the north and northeast of the country have not received DP funding



Source: CDC Database (2011-2017).

**During the past 5 years, DP-supported road spending has been focusing on provinces that connect to neighboring countries.** This is the case of Koh Kong (US\$478 per capita), Banteay Meanchey (US\$424 per capita), both with important border crossing with Thailand and, to a lesser extent, Battambang, Kampong Chhnang, and Prey Veng, on the way from Phnom Penh to Bangkok and Ho Chi Minh City (Figure 69). Most of the projects undertaken are national road expansions. Meanwhile, provinces in the north and northeast, which are also among the poorest in the country did not benefit from DP funded road investments during 2013-17 (Preah Vihear, Stung Treng, Ratanakiri, Mondul Kiri).

The recent emphasis on operations and maintenance is aimed at addressing road deterioration

**About 87 percent of the national and provincial roads were in good or fair condition in 2017 (Figure 70).** Aside from materials and quality standards of recent road levels, in relation to the expected traffic, what is considered relevant when assessing connectivity under a transportation network is whether the roads in good

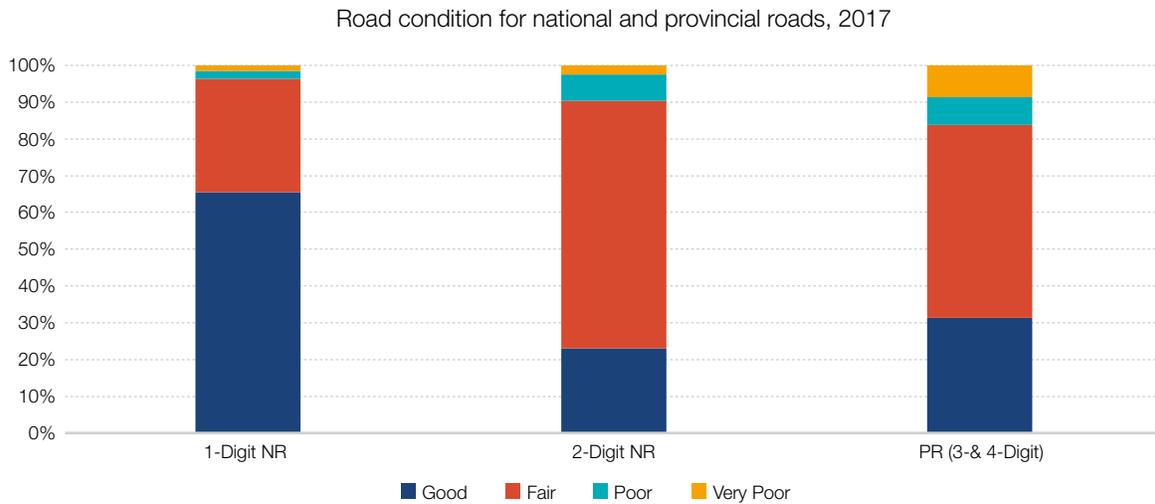
condition and drivable all-year around (or during most of the year). In this context, MPWT conducts road condition survey almost every year for all 1-digit national roads and for a set of samples 2-, 3-, and 4-digit roads. Two-thirds of the 1-digit national roads are in good or fair condition, compared to 31 percent of provincial roads and just 23 percent of the 2-digit national roads. The situation for the rural network is hard to assess, since a road survey has not been conducted. Lack of data also affects any assessment of the investment or maintenance needs that could be crucial information to ensure the efficiency of funding allocation during budget discussions. Anecdotal information points to the majority of rural roads being in poor condition.

**The sub-national budget to maintain all rural roads in the country is just slightly above the budget of the Phnom Penh City Hall.** It is worth noting that national roads and some provincial roads often see heavy trucking traffic, and deteriorate more rapidly; DPs focus solely in the building and reconstruction of these main arteries, with no maintenance funding associated. Thus, maintenance is entirely in the hands of the Cambodian agencies (Figure 71), and budgeting and spending in

operations and maintenance has not always kept pace with capital spending. An average of 46.9 percent of total roads operations and maintenance in 2014-16 was funded by the national budget and was implemented by MPWT (in charge of national and provincial roads, 33.6 percent of total) and by MRD (in charge of rehabilitation and emergency maintenance of rural roads, 11 percent of total). Appointed local governments at the province and district level receive 27.1 percent of total spending

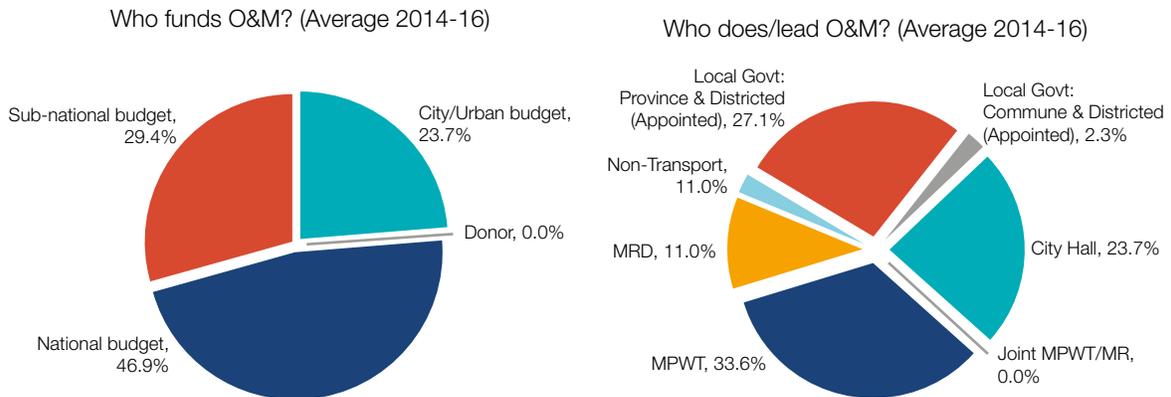
from sub-national budgets. Meanwhile, communes and villages (elected), implement 2.3 percent of total O&M spending. Finally, the Phnom Penh City Hall executes 23.7 percent of total public spending in maintenance, not far from the budget the rest of sub-national authorities count with to maintain all rural roads in the country. The estimate cost per kilometer of road construction works and maintenance, by surface type, is presented in Table 40 in the Annex.

Figure 70. About 87 percent of the national and provincial roads were in good or fair condition in 2017



Source: RDCMU, MPWT.

Figure 71. Maintenance funding and implementation is divided among different public agencies

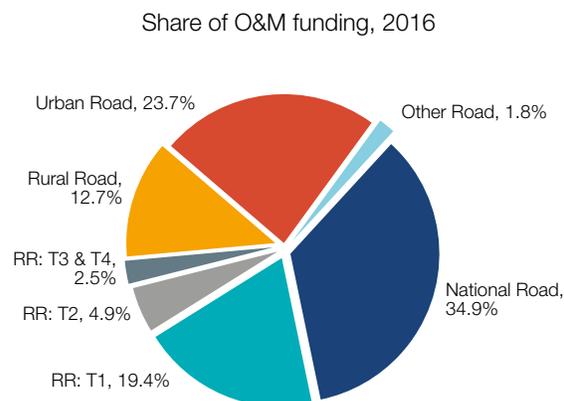


Source: National Treasury database 2011-16, CDC DP database 2011-16, and sub-national budget 2011-16.

**The share of paved national and provincial roads has significantly expanded over the past two years, while it is still below targets.** In 2016, 34.9 percent of total maintenance funding was directed to national and provincial roads, 23.7 percent to urban roads, and the rest to rural roads (Figure 72). If urban roads are excluded, national and provincial roads, which represent 80 percent of paved roads in Cambodia (and 26.5 percent of total roads) are receiving 46 percent of the maintenance funding, whereas rural roads, which represent 73.5 percent of total roads but just 20 percent of paved roads, receive about 53 percent of the maintenance funding (Table 36). The per-population road maintenance spending on rural roads (approximately US\$6/person) is higher than that of national and provincial roads (about US\$4.5/person). This is because of larger rural road network and a lower population density in rural areas. It is worth noting that, while the percentage of 2-digit national roads that is paved has significantly increased, from 38 percent in 2015 to 70 percent in 2017, it remains below the 90 percent target set in the NSDP.

**The recent emphasis on rehabilitation and O&M, beyond requirements, has led to improving road conditions.** Based on surveys, national road condition has improved recently, from 15 percent of total that were in good condition in 2011 to 17 percent in 2014 and to 36 percent in 2017. This has been driven by the

Figure 72. National and provincial roads have a share of about a third of the total maintenance spending in Cambodia



Source: National Treasury database 2011-16, CDC DP database 2011-16, and sub-national budget 2011-16.

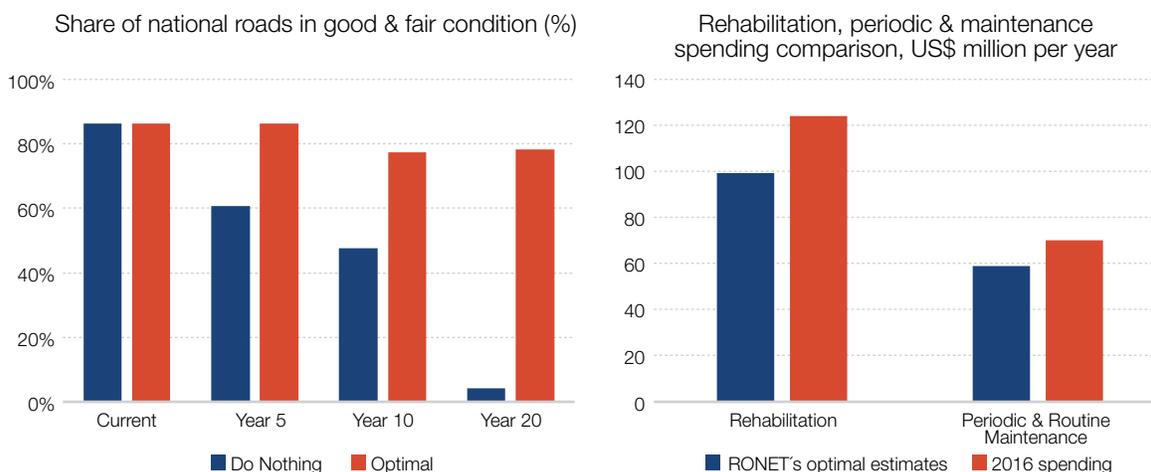
abovementioned increase in maintenance spending. In fact, in 2016, spending in both rehabilitation and periodic and routine maintenance was above the level that would be required to maintain the current share of national and provincial roads in good and fair conditions (Figure 73). While this has helped improving the condition in recent years, in a context of limited resources and an underdeveloped rural network, spending over the optimal level could potentially have higher social returns in rural roads.

Table 36. Shares of paved road (percent)

% of roads that are paved	2009	2012	2015	2017	Share in total paved roads in 2017	Share of total roads
National Road 1-Digit	99.1%	93.7%	100.0%	100.0%	21.2%	3.7%
National Road 2-Digit	30.2%	55.9%	38.0%	70.4%	33.2%	8.2%
Provincial Roads (3- and 4-Digits)	1.7%	15.1%	10.0%	30.4%	25.9%	14.7%
Rural Road	0.3%	N.A.	N.A.	4.7%	20.0%	73.5%

Source: Overview on Transport Infrastructure Sectors in the Kingdom of Cambodia: 2009, 2012, 2015; MPWT; MRD.

Figure 73. The levels of spending in O&M of 2016 would help preserving current road conditions



Source: World Bank staff calculations based in RNET.

## Policy options

**As mentioned above, the lack of a guiding sector framework, coupled with institutional fragmentation and a piecemeal approach to investment planning, implementation, and maintenance, results in sub-optimal road spending in Cambodia.** The lack of a sector masterplan, coupled with independent processes for project selection and maintenance at MPWT and MRD, as well as limited information sharing by these two road agencies, result in uncoordinated network building and maintenance efforts. This gets complicated by lack of integration of government and DP-funded capital expenditure, and limited coordination among financiers. This section discusses a series of policy options to address these challenges and improve the value-for-money of public road spending in Cambodia.

**First, develop a transportation masterplan as a guiding sector framework that can help align the efforts of the different actors.** These different actors (MPWT, MRD, sub-national entities, Phnom Penh City Hall, Phnom Penh Port Authority, airport concessionaires, etc.) may have different primary mandate, but their success often relies on good coordination due to the integrated nature of transportation network – their

efforts would need to be connected. The current lack of a sector strategy results in fragmentation of efforts and uncoordinated construction works. Preparing a sector strategy or transportation masterplan in a consultative manner and involving all the sector actors would be the only way to guarantee the achievement of the Rectangular Strategy objective of developing multimodal transportation. The strategy would draw from the recently finalized logistics masterplan as a departure point. The strategy would be also helpful in determining coordinated investment priorities, as it would consider during its elaboration the potential for economic and social benefits. Thus, it can also help improving the efficiency of the project selection and prioritization process across institutions.

**In addition, improve knowledge sharing and foster joint activities to mitigate institutional fragmentation.**

Limited coordination and communication among MPWT, MRD and subnational entities in charge of transportation functions is likely to result in inefficient operations and maintenance. Promoting more joint MPWT-MRD projects, joint capacity building workshops, and database sharing (including on the status of the roads), can help improve coordination and attain more effective results.

**In order to minimize the impact of budget fragmentation, the preparation of budget strategic plans by different public agencies would need to be coordinated and aligned with the transportation masterplan.** The definition of programs, subprograms, activities, and indicators in the BSPs at MPWT, MRD, PPCH, and subnational entities, would need to be defined along the guidelines provided in the transportation masterplan. Ideally, MPWT and MRD would have a similar structure of subprograms (construction, reconstruction, maintenance, training, etc.) and pursue measurable outputs. Improving the classification and registration of spending (construction, reconstruction, rehabilitation, maintenance, etc.) would also be necessary to identify technical and funding gaps, as well as to ascertain the economic returns of projects. Finally, DP-funded projects would need to be included in the BSPs, at least for information purposes, as they contribute to the achievement of the objectives defined. This would also help improving coordination among DPs.

**Second, revise the long-list of capital projects by applying public investment management filtering criteria, to keep only those that are realistic and in line with national priorities.** As mentioned above, the large difference in terms of funding between the long-list of projects presented by line ministries and the actual allocation (short list) may be the result of unrealistic planning or, on the other hand, it could instead reveal underspending, under-maintenance and a formidable funding gap for roads. Identifying the roots of this large divergence merits a deep assessment of the ongoing portfolio, a revision of the project selection and definition, and the inception of an integrated strategy for transport sectors that factors in local and modal targets and objectives. Authorities could consider imposing the requirement of preparing at least a pre-feasibility study for projects, as well as deparating the existing long-list. Consider also integrating projects submitted to the PIP in the long list, even if they are expected to count with DP funding.

**Third, for the government to be successful in replacing DPs in road provision, the one-year**

**budget cycle restriction for government-funded projects would need to be lifted.** As previously discussed, the current budget execution timeline implies that every year the technical specifications of all the projects need to be prepared in January (at the line ministries) and be submitted at the same time for review by MEF. If some project spans three years, it is divided in three proposals and, thus, paperwork is submitted three times. This results in excessive bureaucracy and delays, with activities often starting just a month ahead of the rainy season and then having to be frequently interrupted. Delays in project preparation, tendering, fund release, or implementation can easily inflate project costs, impacted by the rains. For a more efficient use of public funding, further flexibility in the budget cycle would need to be granted.

**Also, demanding specification books before the project enters the annual budget cycle could help avoiding some of the existing delays that lead to increased implementation costs.** Currently, the project specification books are prepared during the first two months of the budget year, which results in a delay in the effective request for funding and beginning of implementation. This could be addressed by resting line ministries to start preparing these books as soon as the shortlist of selected project has been approved by the Council of Ministers (usually around November).

**In terms of budget allocation, the recent emphasis on operations and maintenance seems to have led to a significant improvement in road conditions over the past three years and should continue to be the focus. At the same time, the decline in DP-funded construction and rehabilitation projects may need to be partly compensated by higher government spending.** Any allocation of additional funding into construction or reconstruction of national and provincial roads would need to take into the account the underinvestment by DPs in recent years in Northeastern provinces. Should this not be compensated by government funded investment in those provinces, remoteness and difficulties in access to both public services and markets would perpetuate inequality.

**In addition, it would be important to build monitoring and evaluation (M&E) mechanisms to ensure the effectiveness of road works and maintenance efforts.** It is worth noting that M&E at the subnational level does not need to comprise all the complete set of features required at the national level. For example, Lao PDR has developed the Provincial Road Maintenance Management System (PRoMMS), which is a simplified road asset management system compared to the existing national-level Road Management System. PRoMMS collects data on road characteristics, location, surface, drainage, and structure conditions, as well as socioeconomic data of population within 2km of the roads. PRoMMS data is used to support road maintenance prioritization decision making.

**Finally, a systematic and up-to-date survey of the quality and usage of rural roads would need to be**

**undertaken to discern whether current spending patterns are adequate.** Under-maintenance of rural roads seems to be a concern in practice but, at this point, it is difficult to determine the size of the problem, due to the fragmentation of O&M efforts across actors, the limited monitoring of results, and to the lack of rural road surveys. In addition, requests for rehabilitation or O&M funding under MRD (in the long-list) seem to lack filtering; therefore, whether there is a massive under-maintenance respect to the list submitted to MEF, or the funding mismatch obeys to poor planning and pre-selection of projects at MRD is something hard to assess. Conducting a comprehensive survey of rural road quality and usage would be the most practical way to address this issue. An alternative to the survey could be the adoption of new technologies, such as the use of Mapillary on motorbikes to map the rural road network and road conditions.

Table 37. Policy options towards more efficient spending on roads

Challenge	Short-term policy options (1-2 years)	Medium-term policy options (3+ years)
Transportation infrastructure provision remains fragmented across actors	Develop a transportation sector strategy or masterplan to align the efforts of different institutions	
Public investment planning remains uncoordinated and unrealistic	Require a pre-feasibility study for projects in the “long-list” of candidates for government funding	Integrate projects susceptible to receive DP funding in the “long-list”
Delays in funding and implementation result in increased cost of undertaking works during the rainy season	Lift the one-year budget restriction for capital investment, and require specification books before January	
Lack on information on rural roads condition prevent from assessing adequacy of funding	Conduct a survey of the quality and usage of rural roads or, alternatively, use new technologies for the purpose	Build simplified monitoring and evaluation (M&E) mechanisms to ensure the effectiveness of road works and maintenance efforts in rural areas

Source: World Bank staff elaboration.

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# Annex

## Additional tables

Table 38. DP Investment Project Funding, by sector

Category	mill USD			% of Total DP by sector			% of GDP		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
General Administration and Judiciary	29.61	5.93	6.05	25.8%	6.8%	7.9%	0.19%	0.04%	0.03%
Defense	-	-	-	-	-	-	-	-	-
Security (Interior)	-	-	-	-	-	-	-	-	-
Economic Services	678.41	565.98	522.76	89.2%	80.2%	80.1%	4.42%	3.42%	2.88%
Agriculture	144.98	148.65	132.52	81.5%	70.6%	81.7%	0.94%	0.90%	0.73%
Transport	383.94	310.18	263.80	101.4%	100.3%	91.8%	2.50%	1.87%	1.46%
Other Economic Services	149.49	107.16	126.44	83.9%	64.8%	73.1%	0.97%	0.65%	0.70%
Environment, incl climate change	12.77	8.84	18.90	48.7%	43.8%	62.2%	0.08%	0.05%	0.10%
Rural Development	38.27	57.21	17.02	67.9%	78.6%	58.9%	0.25%	0.35%	0.09%
Social Services	74.17	88.71	136.89	25.5%	28.3%	43.3%	0.48%	0.54%	0.76%
Health	17.39	29.11	35.17	10.8%	18.5%	24.8%	0.11%	0.18%	0.19%
Education	35.98	38.91	65.56	39.8%	36.1%	57.4%	0.23%	0.24%	0.36%
Other Social Services	20.80	20.69	36.15	52.1%	43.4%	60.6%	0.14%	0.13%	0.20%
Other	0.00	0.01	0.88	0.0%	0.1%	3.2%	0.00%	0.00%	0.00%
Emergency & Food Aid	2.24	14.00	5.29	11.8%	57.4%	36.8%	0.01%	0.08%	0.03%
Budget & BOP support	-	-	-	-	-	-	-	-	-
<b>Total Calculated</b>	<b>835.48</b>	<b>740.68</b>	<b>707.79</b>	<b>66.7%</b>	<b>61.1%</b>	<b>63.4%</b>	<b>5.44%</b>	<b>4.48%</b>	<b>3.90%</b>

Source: Calculations by World Bank staff based on CDC database.

Table 39. DP Technical Assistance, by sector

Functional Category	mill USD			% of Total DP by sector			% of GDP		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
General Administration and Judiciary	89.9	76.0	76.2	78.3%	87.2%	100.1%	0.59%	0.46%	0.42%
Defense	-	-	-	-	-	-	-	-	-
Security (Interior)	-	-	-	-	-	-	-	-	-
Economic Services	66.3	83.1	99.8	8.7%	11.8%	15.3%	0.43%	0.50%	0.55%
Agriculture	39.5	40.5	31.6	22.2%	19.2%	19.5%	0.26%	0.24%	0.17%
Transport	8.2	7.4	25.5	2.2%	2.4%	8.9%	0.05%	0.04%	0.14%
Other Economic Services	18.6	35.3	42.7	10.4%	21.3%	24.7%	0.12%	0.21%	0.24%
Environment, incl climate change	16.3	12.2	13.4	62.1%	60.2%	44.1%	0.11%	0.07%	0.07%
Rural Development	16.1	10.1	9.5	28.6%	13.9%	32.9%	0.11%	0.06%	0.05%
Social Services	209.4	193.2	163.2	72.0%	61.7%	51.7%	1.36%	1.17%	0.90%
Health	130.2	116.9	90.4	81.2%	74.1%	63.7%	0.85%	0.71%	0.50%
Education	53.1	43.4	41.2	58.7%	40.3%	36.1%	0.35%	0.26%	0.23%
Other Social Services	26.2	32.9	31.6	65.7%	68.9%	52.9%	0.17%	0.20%	0.17%
Other	10.2	10.3	18.0	89.4%	104.7%	65.3%	0.07%	0.06%	0.10%
Emergency & Food Aid	1.4	1.4	0.1	7.4%	5.7%	0.3%	0.01%	0.01%	0.00%
Budget & BOP support	0.0	13.3	8.1	-	-	-	0.00%	0.08%	0.04%
<b>Total Calculated</b>	<b>409.7</b>	<b>399.5</b>	<b>388.3</b>	<b>32.7%</b>	<b>32.9%</b>	<b>34.8%</b>	<b>2.67%</b>	<b>2.41%</b>	<b>2.14%</b>

Source: Calculations by World Bank staff based on CDC database.

Table 40. Road construction and maintenance unit cost estimates  
Capital Road Works Unit Costs

Surface Type	Current Condition	Road Work Class	Road Work Type	Two-Lane Unit Costs of Road Works (\$/km)		
				Primary	Secondary	Provincial Road
Cement Concrete	Good Condition	Periodic Maintenance	Preventive Treatment			
	Fair Condition		Resurfacing (Overlay)			
	Poor Condition	Rehabilitation	Strengthening (Overlay)	850,000	850,000	680,000
	Very Poor Condition		Reconstruction	800,000	800,000	640,000
	No Road	New Construction	New Construction	850,000	850,000	680,000
Asphalt Mix	Good Condition	Periodic Maintenance	Preventive Treatment			
	Fair Condition		Resurfacing (Overlay)	170,000	170,000	170,000
	Poor Condition	Rehabilitation	Strengthening (Overlay)	190,000	190,000	152,000
	Very Poor Condition		Reconstruction	250,000	250,000	200,000
	No Road	New Construction	New Construction	300,000	300,000	240,000
Surface Treatment	Good Condition	Periodic Maintenance	Preventive Treatment			
	Fair Condition		Resurfacing (Reseal)	35,000	35,000	35,000
	Poor Condition	Rehabilitation	Strengthening (Overlay)	140,000	140,000	112,000
	Very Poor Condition		Reconstruction	161,000	161,000	128,800
	No Road	New Construction	New Construction	182,000	182,000	145,600
Gravel	Good Condition	Periodic Maintenance	Spot Regravelling			
	Fair Condition		Regravelling			
	Poor Condition	Rehabilitation	Partial Reconstruction		63,000	63,000
	Very Poor Condition		Full Reconstruction		74,000	74,000
	No Road	New Construction	New Construction		93,000	93,000

Source: World Bank staff calculations using MPWT data.

Table 40. Continues  
 Recurrent Maintenance Works Unit Costs

Surface Type	Road Condition	Road Work Class	Road Work Type	Two-Lane Unit Costs of Road Works (\$/km-year)		
				Primary	Secondary	Provincial Road
Asphalt Mix	Very Good	Recurrent Maintenance	Recurrent Maintenance	1,100	1,100	1,100
	Good		Recurrent Maintenance	1,200	1,200	1,200
	Fair		Recurrent Maintenance	2,500	2,500	2,500
	Poor		Recurrent Maintenance	5,000	5,000	5,000
	Very Poor		Recurrent Maintenance			
Surface Treatment	Very Good	Recurrent Maintenance	Recurrent Maintenance	2,500	2,500	2,500
	Good		Recurrent Maintenance	2,700	2,700	2,700
	Fair		Recurrent Maintenance	3,000	3,000	3,000
	Poor		Recurrent Maintenance	5,000	5,000	5,000
	Very Poor		Recurrent Maintenance			
Gravel	Very Good	Recurrent Maintenance	Recurrent Maintenance	2,500	2,500	2,500
	Good		Recurrent Maintenance	2,500	2,500	2,500
	Fair		Recurrent Maintenance	2,500	2,500	2,500
	Poor		Recurrent Maintenance			
	Very Poor		Recurrent Maintenance			

Source: World Bank staff calculations using MPWT data.

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**Ministry of Education, Youth and Sport**  
**SUPPLEMENTAL REPORT TO SUPPORT THE PUBLIC EXPENDITURE REVIEW REPORT**  
**Entitled "IMPROVING THE EFFECTIVENESS OF PUBLIC FINANCE IN CAMBODIA"**  
**Dated 12-13-2018**

### MoEYS Priority Reforms and Progress

#### 1. MoEYS Priority Reforms launched in 2015

- 1) public financial management reform;
- 2) deployment of teachers;
- 3) upgrading of teachers training centers;
- 4) Upgrading of teachers qualifications;
- 5) strengthening inspection system;
- 6) strengthening learning assessments;
- 7) upgrading quality of upper secondary examination;
- 8) updating curriculum and core textbooks;
- 9) school building construction and repair;
- 10) assessment of higher education institutions;
- 11) promoting sport sector;
- 12) implementation of youth policy;
- 13) technical education;
- 14) introduction of new generation schools; and
- 15) school principals training and career pathway.

#### 2. Progress of Selected Priority Reforms of MoEYS as of December 2018

##### a. Public Financial Management Reform (PFMR)

	Key Area	Progress as of Dec 2018	Action Plan 2019-2021
A	Financial Management Information System (FMIS)	1.MEF FMIS installed and operational starting 2018 at MoEYS Dept of Finance & Procurement Office	MEF to upgrade the FMIS
		2.MoEYS installed in 2017 an interim excel FMIS at central budget entities (CBEs) and POEs for detailed reporting of budget and budget expenditures	
		3.MoEYS developed a more detailed FMIS for each central entity, POE, DOE and schools.	MoEYS FMIS for CBEs, POEs, DOEs and schools will be operational starting 2019. Monitoring and analysis of budget implementation at all levels for each type of disbursement will be facilitated.
B	Alignment of Budget Strategic Plan (BSP) and Annual Budget (AB) and Annual	1.Developed IN 2018 a software for budget formulation which linked the AB & AOP to BSP.	1. Will enhance the system to include alignment of AOP from POEs
		2.Trained all CBEs and POEs on the software for formulation of	2.Refresher training for CBEs and POEs on the upgraded



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	Operating Plan (AOP)	2019 budget. 3. Software was actually used in 2019 budget formulation	software. 3. Software will be used for 2020 budget formulation.
C	Procurement System	1. Developed a software to track the procurement process 2. Procurement Office trained POEs and State Universities on the Government procurement system	Training of Procurement officials and staff on the use of software and operationalize the software,
D	Asset Inventory System	1. Developed a software for the registration of all assets of the Ministry both at national and sub-national level	Training of DMSP and POE officials and staff and operationalize the software.
E	School Bank Account	1. All public schools in the country have bank accounts. 2. School Operating Budget (SOB) provided by the Government are transferred direct to the bank account of each public school	
F	School Accounting & Reporting System	1. Developed the School FMIS Excel system 2. Trained all POEs, DOEs and selected schools on the use of FMIS for budget formulation 3. Assessed the readiness of schools in the operation of FMIS excel system	1. Training of schools on the School FMIS excel system 2. Provision of computer & printer to each school to support FMIS operation 3. Operationalize school FMIS excel system
G	Internal Audit	1. Re-organized the Internal Audit Department and new Director on board. 2. Training for internal auditor completed with new Internal Audit Manual issued by MEF	1. Prepare MoEYS Internal Audit Manual based on generic IA Manual from MEF. 2. Training of IAD officials and staff on FMIS audit and on the MoEYS IA manual 3. Implementation of MoEYS IA Manual

### b. Sub-Sector Reforms and Progress as of December 2018

The progress included in this paper are focused on the challenges as stated in the PER report (page 97).

#### B1. Early Childhood Education: Responses to the PER Stated Challenges

Challenges (as stated in the PER Report)	Progress of ECE Reforms as of 2018	Short-term Plan (1-2 years)	Medium-term Plan (3+ years)
Education expenditures on preprimary, primary and secondary is becoming more pro-poor, but is still pro-rich, and this is driven	Access to Early Childhood Education have been improved from year to year through provision and supply of education	- Prepare guidelines on ECE SBM - Prepare guidelines on transforming community pre-schools with standard into annex of public	- Formulate Sub-decree on the establishment of center for Early childhood and care development at Public institutions, factories,

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<p>by enrollment gaps</p>	<p>service. The percentage of five-year-old children accessing all aspects of ECE services illustrates a gradual increase from 59.9% SY 2013-14 to 68.5% SY 2017-18 which achieved ESP target 68%. Enrolment of 4 year-old children increased from 24.5% to 39.9% in last 5 years, which achieved target 38% in SY 2017-18. The percentage of three-year old children in some form of ECE program has slowly progressed by 5.1% increase in last 5 years, which it is unlikely to achieve target. Among girls and boys enrolment in all aspects have been similar in last 5 years period which GPI remain equal 1.0.</p>	<p>educational institutions.</p> <ul style="list-style-type: none"> <li>-Prepare Prakas on preparing and functioning for pre-school</li> <li>-Prepare guidelines on Minimum standard for schools and Public pre-school classes</li> <li>-Prepare guidelines on management of parental education program by linking with pre-school</li> <li>-Enhance parental education programs by linking with public educational</li> <li>-Expand multi-lingual community pre-school for ethnic minorities</li> <li>-Expand inclusive education program for children with disabilities at public pre school and community pre school</li> <li>-Enhance the dissemination on the significance of ECE to parents</li> <li>-Organize parental education program for assisting instruction to Early Childhood in rural areas</li> </ul>	<p>enterprises</p> <ul style="list-style-type: none"> <li>-Expand pre-school classes in primary school location and construct community pre schools</li> <li>-Continues to expand multi-lingual community pre-school for ethnic minorities</li> <li>-Continues to expand inclusive education program for children with disabilities at public preschool and community pre school</li> <li>➤ Expand the coverage and funding of the current student grant programs to reduce the opportunity cost of being out school, especially for secondary education</li> </ul>
<p>Currently (as of 2015), about 10 percent of teacher MoEYS salaries go to redundant teachers in schools with excess staff, while teacher shortages in other schools are equivalent to 40 percent of the current payroll</p>	<p><b>Pre-school Teacher Capacity Development:</b> MoEYS has sent new teachers around 200 pre-school teachers for every year and has recruited 200 pre-school teacher trainees. Provided capacity buildings to pre-school principals and teachers on pre-school class management based on standards of quality. Trained the public pre-school</p>	<ul style="list-style-type: none"> <li>-Prepare guidelines on the provision of subsidy for ECE teachers through double shift teaching</li> <li>-Pre school teacher training responds to increase access to ECE</li> <li>-Develop core trainers' capacity and prepare implementation mechanism in accordance with guidelines and regulations.</li> <li>-Conduct feasibility study for increasing the number of pre-school teachers in</li> </ul>	<ul style="list-style-type: none"> <li>-Recruit teachers who have special education skills</li> <li>-Increase the institutions for preschool teacher training</li> <li>-Provide INSET and ONSET for Primary Teachers and Contract teachers who teach at Pre-school</li> <li>-Examine primary teachers who have desire to go to teach at pre</li> </ul>

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	<p>teachers and community pre-school teachers on inclusive education</p>	<p>response to Early Childhood development</p> <ul style="list-style-type: none"> <li>- Monitor the instructional hour's implementation on all subjects and teaching methods through detailed curriculum for preschools.</li> <li>- Select the location where it is easy for preschool teachers</li> <li>➤ Reallocate teachers to nearby schools, especially for primary education (43 percent of schools with shortage are within 5 km. of schools with excess). When not possible, provide monetary incentives to travel / do additional shift</li> </ul>	<p>schools</p> <ul style="list-style-type: none"> <li>- Train on how to use detailed curriculum, core textbooks for student and teacher, teaching materials and methods</li> <li>- Prepare training manuals through electronics for teachers' research</li> <li>- Promote preschool teachers on conducting research study of contents of national and international curriculums</li> <li>- Provide trainings for teachers' capacity for preschool classes on the implementation of detailed curriculum for public pre school</li> <li>- Develop technical library pedagogical documents and teaching materials</li> <li>- Develop public preschool teachers' capacity to hold bachelor degree</li> <li>➤ Enforce student-teacher ratios and implement norms that prevent relocations to schools with excess teachers</li> </ul>
<p><b>Learning outcomes it Cambodia remain poor across levels. Teacher and student behavior are found to impact test scores</b></p>	<p>The implementation of learning assessment tests in ECE services for 5 year-old was 20% in SY 2015-16 and increased to 39.2% in SY 2017-18 by achieved over target, 30.7%. It will be important to assess the extent of the synergy between the assessment and Cambodia's Early</p>	<ul style="list-style-type: none"> <li>- Strengthen inspection work on ECE service in all aspects</li> <li>- Strengthen the implementation of guidelines for expansion of preschool classes in primary school and community pre schools</li> <li>- Conduct assessment test on students' learning achievement for 5-year children</li> </ul>	<ul style="list-style-type: none"> <li>➤ Introduce the requirement of passing quality enhancing teaching certificates based on knowledge of the curriculum and classroom behavior "best practices". Use mobile technologies to better control for teacher absenteeism</li> </ul>



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	Learning and Development Standards.	<ul style="list-style-type: none"> <li>➤ Increase parent engagement in school-related meetings and enhance parents' awareness on the importance of school attendance and homework habits</li> </ul>
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### B2. Primary Education: Responses to PER Challenges as Stated in the Report

Challenges (as stated in the PER Report)	Progress of PE Reforms as of 2018	Short-term Plan (1-2 years)	Medium-term Plan (3+ years)
<p><b>Education expenditures on preprimary, primary and secondary is becoming more pro-poor, but is still pro-rich, and this is driven by enrollment gaps</b></p>	<p>Access to Primary Education has been improved from year to year through provision and supply of education service. The Net admission rate retains 97.7% from the year of 2013-2014 to the year of 2017-2018 and Net enrollment rate retains 95.1% of the same school year. Among girls and boys enrolment in all aspects have been similar in last 5 years period which GPI remain equal 0.95.</p>	<ul style="list-style-type: none"> <li>- Prepare guidelines on PE SBM</li> <li>- Implement SSC guideline</li> <li>- Implement CSF policy</li> <li>- Prepare standard guidelines for primary school</li> <li>- Implement and expand EGL</li> <li>- Prepare Scholarship Framework</li> <li>- Collect data by M&amp;E tools</li> <li>- Expand multi-lingual to primary education for ethnic minorities</li> <li>- Expand inclusive education program for children with disabilities at public primary school.</li> <li>- Implement Accelerate learning program</li> <li>- Organize full day learning and NGS for primary education</li> </ul>	<ul style="list-style-type: none"> <li>- Full coverage implement of EGL</li> <li>- Full coverage implement of SBM</li> <li>- Formulate Sub-decree on the establishment of Institution for primary teacher training (12+2 and 12+4)</li> <li>- Continues to expand multi-lingual community primary schools for ethnic minorities</li> <li>- Continues to expand inclusive education program for children with disabilities at primary schools</li> </ul>
<p><b>Currently (as of 2015), about 10 percent of teacher MoEYS salaries go to redundant teachers in schools with excess staff, while teacher shortages in other schools are equivalent to 40 percent of the current payroll</b></p>	<p><b>Primary school Teacher Capacity Development:</b> MoEYS has sent new teachers around 1,516 primary school teachers, continue training primary</p>	<ul style="list-style-type: none"> <li>- Increase recruitment of qualified teachers and deploy teachers where there are required needs:</li> <li style="padding-left: 20px;">Establish number of additional teacher education centers, review and implement guidelines</li> </ul>	<ul style="list-style-type: none"> <li>- Strengthen teacher capacity, especially on teaching methods</li> <li style="padding-left: 20px;">Updated curriculum for training teacher and teaching methodology based on inquiry method,</li> <li style="padding-left: 20px;">Strengthen teacher capacity on teaching</li> </ul>

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	<p>teachers 12+2 1,626 and has recruited new teachers 1,653. Provided capacity buildings to primary school principals on professional skill, administration and leadership. Trained the public primary school teachers pre-school on inclusive education</p>	<p>on teacher deployment and recruit quality teachers</p> <ul style="list-style-type: none"> <li>-Strengthen the quality of pre-service training for primary teacher</li> <li>Develop standard of teacher training system (12+2 and 12+4 by credit system)</li> <li>develop curriculum for teacher training at level of 12+2 and 12+4, develop supporting documents for teaching and learning at level of 12+2 and 12+4 and develop curriculum for teacher training in 21st century (IBL, STEM approaches) by linking with General secondary education program</li> </ul>	<p>method, especially reading and maths and Train teacher capacity from grade 1 to 3 on teaching and learning method of mathematics</p> <ul style="list-style-type: none"> <li>- Develop standard of teacher training system 12+2 and 12+4 based on Credit system</li> <li>- Strengthen quality of training-primary teacher</li> <li>- Implement Reading Methods</li> </ul>
<p><b>Learning outcomes it Cambodia remain poor across levels. Teacher and student behavior are found to impact test scores</b></p>	<ul style="list-style-type: none"> <li>-Provide scholarship for the poor students in primary education</li> <li>-Provide material and clothes to encourage students learning.</li> <li>-Strengthen positive discipline of learning and teaching</li> <li>-Textbooks made available for all grade</li> </ul>	<ul style="list-style-type: none"> <li>-Conduct and disseminate learning assessments in grades 3 and 6</li> <li>-Strengthen the implementation of internal, external inspection and area of inspection</li> <li>-Strengthen leadership and management, planning, implementing, monitoring and reporting based on results in line with good governance principles</li> <li>-Strengthen roles and responsibilities of DTMT to monitor and evaluation on the performance of SMC and teachers</li> <li>-Strengthen monitoring system and evaluation of educational staff performance</li> </ul>	<ul style="list-style-type: none"> <li>-Strengthen the Implementation on SBM framework</li> <li>-Improve performance and responsibility of school management committee, teachers, students through results of inspection and monitoring and evaluation</li> </ul>

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### B3. Secondary Education

Challenges as stated on the PER Report	Progress of SE Reforms as of 2018	Medium-Term Plan (3+ years)
<p><b>Education expenditures on primary secondary is becoming more pro-poor, but is still pro-rich, and this is driven by enrollment gaps ( DGSE)</b></p>	<p>1-Several multi-stories school building have been built, and supplied with some equipment to facilitate schools administration, and management</p> <p>2- 36 secondary resource schools have been built with 2 science labs, 2 computer labs, meeting room, library, and others facilities, and furniture, and the government provide 35 million Riels (8,750\$) per year for secondary resource block operation, and 187 network schools have got benefit from these 36 secondary resource schools.. Some new generation schools have been established, and wxpanded.</p> <p>3 -All upper secondary schools have computer for their admin- management, and admin- Examination.</p> <p>4- Somewhere libraries have been built by government budget, and charity or students alumni. Secondary schools have been increased from year to year.</p> <p>5-Lower secondary upgraded to upper secondary schools, schools with crowded students have been built extra class rooms, or building.</p> <p>6- Provide upgrade packages to 50 SRS Libraries</p>	<p>1- 14 more secondary resource schools will handover to MoEYS at the end of 2019, we will have 50 SRSs and network schools will be expanded to 247</p> <p>2- Some new generation schools will be survey to find for their opportunity to establish.</p> <p>3- Teacher housing units provided in schools, of which 70% are in the seven disadvantaged provinces and 30% are in high teacher shortage areas in non-disadvantaged provinces by Q4 2019 (SY2015/16 baseline: 0)</p> <p>4- Five lower secondary schools in the seven disadvantaged provinces are upgraded to USSs by Q4 2019 (SY2015/16 baseline: 0)</p> <p>5- 11 USSs in the seven disadvantaged provinces repaired or rehabilitated by Q4 2019 (SY2015/16 baseline: 0)</p> <p>6- 10 overcrowded USSs in five of the seven disadvantaged provinces provided with additional classrooms by Q4 2019 (SY2015/16 baseline)</p> <p>7- Convert 2 classrooms into science classrooms in 36 secondary Resource School (SRS), with equipment &amp; training materials so the science labs become 4 science labs in each SRS.</p> <p>8- Install multi-purpose, project-based life skills classrooms in 25 SRS</p> <p>9- Upgrade water and sanitation systems (with separate facilities for girls and boys) in 18 SRS</p> <p>10- Convert 2 existing classrooms into Science classrooms and Libraries in 87 US SRS Network schools, with equipment, training materials, books, and furnishings</p> <p>11- Install solar power systems in 50 SRS/USNWS</p> <p>12- Refurbish and/or resupply SRS Science Labs &amp; ICT Classrooms in 36 SRS</p> <p>13- Provide upgrade packages to 50 SRS Libraries</p>
<p><b>Currently (as of 2015), about 10 percent of teacher MoEYS salaries go to</b></p>	<p>1- SSC Guideline to in line with SBM, provision of training for SSC and monitoring supports in 150</p>	<p>1-Science teachers will be able to demonstrate the Science lab</p> <p>Some new methodology will be</p>



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<p><b>redundant teachers in schools with excess staff, while teacher shortages in other schools are equivalent to 40 percent of the current payroll. ( DGSE)</b></p>	<p>target schools ( outside 50 schools which are supported by ADB)                  2.- CFS concept have been implemented, and some manual have been produced, and used in the basic education level such as CFS manual, CFS practical guideline, EWS manual will be able to deliver to schools, and PoE key persons can facilitate when they are going to do spot-check.                  3- Secondary School Committee, and Secondary School Cluster have been approved, and deliver countrywide to use.</p>	<p>introduced in the class room teaching                  Some students can conduct their own experiment                  Some math and social Science teachers will use new methodology in class room teaching                  students performance would be better, and practical one. Conduct monitoring to the schools had been trained in order to check they have established SC, SSC or not .                  2-Technical Group Leaders in Upper secondary schools will be taken role better, Any work through the group will be Strengthen , Teaching method, teaching materials, technical group meeting will be conducted with efficiency and Student learning out will be improved with these effective group leaders and teachers.                  3- Expand implementation of SBM manual to others target schools.</p>
<p><b>Learning outcomes it Cambodia remain poor across levels. Teacher and student behavior are found to impact test scores (DGSE)</b></p>	<p>1. Some students got scholarship from government budget, and UNICEF.                  2-938 USE teachers (<i>all female teachers in the disadvantaged areas of the disadvantaged provinces</i> ) posted in the seven disadvantaged provinces, including ethnic minority areas, receive additional hardship allowances for 4 years                  3- Math and science study clubs established in 50 USSs                  4-Comprehensive teacher policy implemented                  5- Textbooks made available for all grade 12 subjects at a 1:1 textbook-to-student ratio to all grade 12 students                  6- 3,000 teacher guides for all grade 12 subjects provided to all USE schools                  7- USE curriculum on science and math reformed (to regional and/or international standards) and disseminated by Q1 2018</p>	<p>1- 6,000 students (<i>60% female</i>), of which 60% are from seven disadvantaged provinces, including <i>ethnic minority areas</i>, and 40% are from SRSs in non-disadvantaged provinces, receive 2-year scholarships to study in the science stream at the USE level by Q4 2021 (ADB)                  -Some students got scholarship from government budget, and UNICEF.                  2- Curriculum for USE pre-service and in-service teacher training revised                  3- Professional development programs or 250 USE teacher educators                  4- . Professional development programs and initiatives for 13,300 USE teachers (3,500 math, 9,700 science, and 100 ICT, teachers on career guidance, science and math                  5- INSET to SRS and USNWS STEM teachers and SRS Administrators on Gr.10-12 curriculum reforms                  6- INSET to SRS and USNWS STEM teachers on improved instruction &amp; assessment                  7- Pro-D for NIE Librarians, INSET to Librarian-Teachers in SRS and USNWS                  8- . Scholarships for advanced education programs for NIE lecturers                  9- INSET to SRS Directors and administrators on school-based management,                  10- Deliver INSET to 25 POEs on new</p>

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		<p>Regional Inspection System in collaboration</p> <p>11- Develop and pilot a STEM-Skills Extracurricular Program to permit students to acquire external skills training</p>
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### B4. Education Quality Assurance

Challenges as stated in the PER Report	Short-term Policy Option stated in the PER Report / Achievement of MoEYS as of December 2018	Mid-term Policy Option stated in the PER Report / Mid-term Plan of MoEYS FROM 2019-2021
<p><b>Learning outcomes it Cambodia remain poor across levels. Teacher and student behavior are found to impact test scores</b></p>	<p><b>PER Short-term Policy Option:</b> Increase parent engagement in school-related meetings and enhance parents' awareness on the importance of school attendance and homework habits</p> <p><b>MoEYS Achievements as of Dec 2018:</b></p> <ul style="list-style-type: none"> <li>- We have developed SBM standards in 2018 to engage parents to help their children learning at home.</li> <li>- Parents need to come to school every month to discuss the monthly results of their children on how teacher and parents should do to improve the results next month.</li> <li>- Teachers have to provide homework and ask parents to follow up and record the number of homework that parents help student to do.</li> <li>- We have developed K-12 Assessment framework in 2018 to enhance the classroom-based assessment to be standardize as national, regional and international assessments.</li> <li>- We have participated in Regional assessment (SEA-PLM) since 2016 as Field Trial and Main Survey will be in 2019.</li> <li>- We conducted the international assessment, PISA-D, in 2017</li> </ul>	<p><b>PER Mid-term Policy Option:</b> Introduce the requirement of passing quality enhancing teaching certificates based on knowledge of the curriculum and classroom behavior "best practices". Use mobile technologies to better control for teacher absenteeism</p> <p><b>MoEYS Mid-term Plan:</b></p> <ul style="list-style-type: none"> <li>- SBM of school standards will be implemented as the core-document to improve the quality of school management, teaching and learning as well as the engagement of all stakeholders, especially parents to help school, teaching and learning improvement.</li> <li>- K-12 Assessment framework will be disseminated and implemented at school level to enhance the quality of school-based assessment implementation.</li> <li>- The results of regional assessment, SEA-PLM will be disseminated to engage all stakeholders to improve Cambodia's education system as regional level.</li> <li>- Cambodia have participated PISA-D successfully and will implement full PISA 2021 as the international assessment standards.</li> <li>- National Learning Assessments will be continued</li> </ul>

## Annex 1: MoEYS Supplemental Report to WB PER

<p>and will disseminate the results to schools levels in 2019 to engage the stakeholders at school levels, especially, parents to use the results of PISA-D to improve teaching and learning.</p>	<p>implementation as Grade 6 in 2020, Grade 8 in 2021, Grade 11 in 2022 and Grade 3 in 2023 then for the next cycle. The findings from national assessment will be put in ESP as the core-breakthrough indicators which shows the strong commitment from MoEYS to improve educational system.</p>
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### B5. Personnel Department:

Challenge as stated in PER	Progress as of December 2018	Short-Term Policy Option (1-2 yrs)	Medium-term Policy Option (3-5 yrs)
<p>Currently (as of 2015), about 10 percent of teacher MoEYS salaries go to redundant teachers in schools with excess staff, while teacher shortages in other schools are equivalent to 40 percent of the current payroll.</p>	<p>1.Developed new guidelines on teachers deployment; revise guidelines on new teachers deployment</p> <p>2.Existing teachers joined fast-track training program and deploy to upper secondary schools with teacher shortage.</p> <p>3.New teachers were deployed to schools with teachers shortage</p>	<p>1.Enforce policy for school principals to report surplus and shortage of teachers</p> <p>2.Continue to dialogue with relevant Ministries to increase deployment and regional allowances of teachers.</p> <p>3.Enforce the policy for teachers to deploy to schools where they indicated before the take the entrance examination.</p> <p>4.Enforce the policy to prevent teachers from transferring to schools with surplus of teachers.</p> <p>5.Construct teachers dormitories.</p>	<p>1.Continue to dialogue with relevant Ministries to increase teachers deployment allowance.</p> <p>2.Enforce to implement new staffing norm.</p> <p>3.Prepare an action new guidelines on graduated teachers deployment.</p>





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