Cambodia

WASH Sector Brief

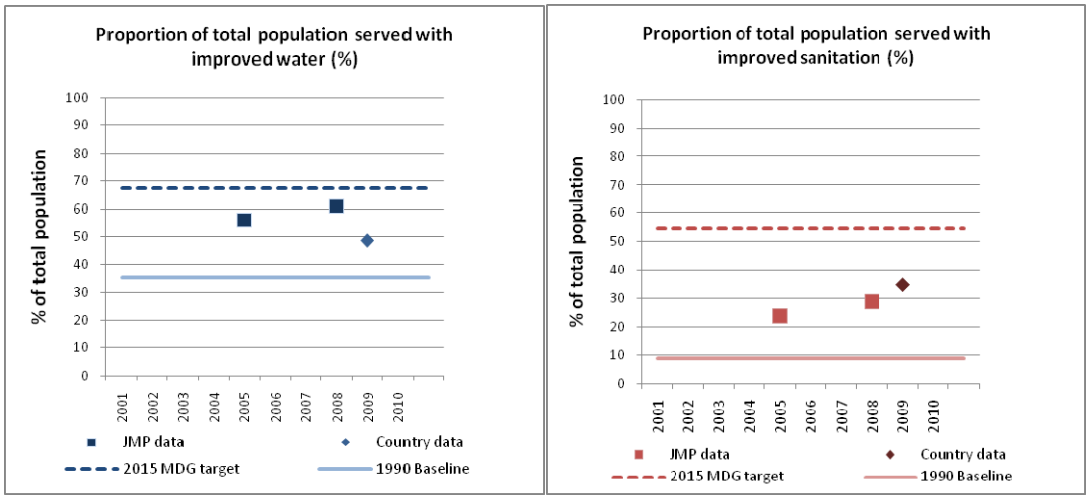
Headline issues

- Cambodia has one of the lowest rates of access to improved water and sanitation in the region and is heavily reliant on donor finance. Still recovering from decades of conflict, there are significant capacity and coordination challenges that have impeded progress in WASH, compounded in the context of decentralisation of government functions to provincial and district levels.
- The sanitation and hygiene situation is particularly urgent, reflected in health statistics with Cambodia's infant mortality rate and WASH-related disability-adjusted life years amongst the lowest in Southeast Asia. At current rates of progress, the sanitation MDG will not be met for 30 years. Significant investment and efforts are required to increase coverage.
- A comprehensive and ambitious strategy for Rural Water Supply, Sanitation and Hygiene was completed in 2010. Success in implementation will be shaped during the transition period 2010-2015, which focuses on capacity building and strengthening institutional arrangements with expected expansion of services to follow from 2015.

Coverage and WASH related health statistics

According to WHO/UNICEF Joint Monitoring Program (JMP) data the proportion of the Cambodian population with access to improved water is 81% and 56% for urban and rural areas respectively, with access to improved sanitation at 67% for urban and 18% for rural. [1] Sanitation coverage in Cambodia is amongst the worst in the region, with 22% of urban and 75% of rural populations practising open defecation.[1] National data indicates a slightly worse picture for access to improved water and a marginally better figure for sanitation, though still very low at 35% (Figure 1).

Figure 1: Access to improved water and sanitation



Source: WHO/UNICEF Joint Monitoring Program (JMP) (2010) data for 2008.[1] Country data for 2009 from the Ministry of Planning National Institute of Statistics CSES Housing Conditions in Cambodia Survey, based on an average of wet and dry season access (which obscures significant seasonal variation) as annual figures are not available.[2]

Despite significant achievements in recent years, the rate of improvement is a concern, particularly for sanitation, with the World Bank Water and Sanitation Program (WSP) estimating that the MDG target for

sanitation will not be reached for more than 30 years at current rates of coverage.[3] The Royal Government of Cambodia (RCG) has set specific targets, aiming to achieve 50% and 80% of rural and urban populations accessing safe water, and 30% and 74% of rural and urban populations accessing improved sanitation by 2015.[4]

Access to improved water and sanitation varies by season. In a recent survey of Knowledge, Attitudes and Practices (KAP) undertaken by the Ministry of Rural Development (MRD), 63% of respondents reported accessing water from unimproved sources during the dry season (compared with 34% during the wet season).[5] However the reliability of this data is unclear, and the seasonal variation reported in the KAP study is contradicted by a Ministry of Planning 2009 CSES survey of household conditions in Cambodia, which found that dry season access to improved water is actually higher than wet season access in both rural and urban areas (with the exception of Phnom Penh where differences were insignificant).[2]

The CSES survey also noted significant differences between access in rural and urban areas and between the capital Phnom Penh and other urban centres as shown in Table 1. Cambodia is one of the least urbanised nations in Southeast Asia, with almost 80% of the population living in rural areas. This indicates significant need for concerted WASH sector support in rural areas. However urban centres are growing rapidly[6] and it is projected that the urban population will at least double by 2030,[7] posing significant challenges for both household sanitation and urban wastewater management. Furthermore, WASH status may not be fully reflected in coverage data, with UN-HABITAT estimating that in 2005 79% of the urban population were living in slums.[8]

Table 1: CSES 2009 Survey of Household Conditions

	Cambodia	Phnom Penh	Other urban	Rural
Access to improved water – wet season	45.2	93.4	60.3	38.1
Access to improved water – dry season	52.2	93.7	66.6	45.9
Access to improved sanitation	34.7	98.4	73.5	22.9

Access also varies by socio-economic status, with the poorest the most excluded from service provision. According to the 2000 socio-economic household survey, less than 5% of the poorest wealth quintile had access to improved sanitation, a stark contrast with the richest wealth quintile at 63%.[9] A barrier to increased sanitation coverage is a reported preference for high-end technologies and constraints on both supply and demand sides for affordable, appropriate solutions.[3] There is an ongoing need to develop technologies for sanitation and water appropriate for challenging environments in Cambodia, with few options currently available for drought or flood prone areas and for floating villages.[10]

WASH-related health statistics for Cambodia are shown below in Table 2. Cambodia's infant mortality rate and WASH-related disability-adjusted life years (DALYs) are amongst the worst in Southeast Asia. The WSP Economics of Sanitation Initiative (ESI) has identified the overall economic impacts of poor sanitation in Cambodia to be $US448M per year ($US32/person/year). Health impacts are the most significant proportion of these costs, at $US187M or 42% of total losses.[11] The 2010 KAP survey includes data on reported handwashing in rural areas, with more than 80% of respondents reporting handwashing with soap.[5] However handwashing is typically over-reported in surveys[12] and it is likely that actual figures are much lower.

Table 2: Summary health statistics

Infant mortality (deaths per 1000 births)[13]	88
WASH-related DALYs (% of all DALYs)[14]	13%
Total WASH related DALYs (Years)[14]	651,924
Total WASH related deaths per year[15]	17,309
WASH related proportion of deaths (%)[15]	12%

Sources: World Bank and WHO as shown in endnotes

Finance trends

There is a lack of finance to improve WASH coverage in both rural and urban areas with estimated financing needs of $US470M required to achieve MDG water and sanitation targets.[4] Finance challenges include a dependence on official development assistance, regulations that prevent ministries and provincial governments borrowing for capital works, and a lack of investment in capital infrastructure in the national budget.[4] The UN-Water Global Analysis and Assessment of Sanitation and Drinking Water (GLAAS) estimates the adequacy of funding for urban areas as 'less than 50% of needs' for water and 'between 50% and 75% of needs' for sanitation.[16] Adequacy of funding for rural areas was reported to be 'less than 50% of needs' for sanitation and 'between 50% and 75% of needs' for water.[16]

Estimates of the gap vary, and it is difficult to clearly disaggregate financing needs for urban and rural areas and between water, sanitation and hygiene. Information for the rural sector is more readily available. A 2005 Rural Water Supply and Sanitation Sector Investment Plan was developed by the Ministry of Rural Development, citing investment needs to meet rural WASH CMDG targets as $US166M in capital investment and $US4.8M in ongoing annual costs for the period 2005-2015, with about 58% of this financed by external investment.[4] Construction and material costs have risen since 2005 and current investment needs are likely to be significantly higher.[4]

More recent analysis is available in the 2010 Rural Water Supply, Sanitation and Hygiene (WSSH) Strategy. The Rural WASH Strategy was developed concurrently with a National Water and Sanitation Sector Financing Strategy[10]. The Financing Strategy is based on four development scenarios with water and sanitation targets for rural areas that differ slightly from the Rural WASH strategy (100% by 2028).[10] Based on the 100% target, the Financing Strategy estimates a sizable financing gap for both water supply and sanitation.[10] The estimated gap is likely to fall short of actual financing needs, as figures include the capital, operating and maintenance costs of infrastructure but exclude support costs including software, capacity development and hygiene promotion.[10] Given the significant need for capacity development and institutional strengthening in the sector, these costs are likely to be significant.

As described in the Rural WSSH strategy, the Sector Financing Strategy proposes a substantial increase in public budget support to 2015 (followed by a decrease after 2020) and a small increase in household financing with communities expected to contribute to capital investment in infrastructure.[10] The Financing Strategy assumes a continuing constant level of support from official development assistance,[10] on which the sector is currently heavily reliant.[10]

Private sector participation in the Cambodian rural WASH sector is limited, with barriers to private participation identified by the Rural WSSH Strategy as lack of access to credit, investment risk, lack of business skills development, unfair competition and a weak regulatory system.[10] Recent sector analyses have advocated an increased role for small-scale private providers in particular for sanitation,[17] citing a review

that found informal local providers can often supply latrines at much lower costs than those available through government programs.[17]

There is also a need to investigate the relative benefits of different financing mechanisms, with the Rural WSSH Strategy noting concerns with individual household latrine subsidy approaches.[10] The Strategy identifies a lack of experience in alternative financing mechanisms or innovative subsidy approaches in Cambodia and outlines the intention to establish a steering group under the Ministry of Rural Development for exploring mechanisms for funding sanitation.[10] A group chaired by the Ministry of Rural Development's Department of Rural Health Care including ADB, WSP, UNICEF and non-governmental organisation (NGO) stakeholders now meets on an ad hoc basis to discuss sector financing.[18]

Investigation of innovative financing mechanisms needs to specifically consider how best to support the poorest communities accessing improved water supply and sanitation. A recent review of sanitation finance found that programs have often been unsuccessful in reaching the poor.[17]

Sector governance

Lead agencies for rural and urban WASH respectively are the Ministry of Rural Development (MRD) and the Ministry of Industry, Mines and Engineering (MIME) (discussed in subsector analysis below). Other central level agencies with roles in WASH include Planning; Water Resources and Meteorology; Health (MoH); Education, Youth and Sport. The Ministry of Planning is responsible for monitoring progress towards Cambodian MDGs and for guiding national socio-economic development planning.[10] MoH sets standards for and monitors drinking water quality and has responsibility for the National Environmental Health Action Plan, which incorporates aspects of sanitation and hygiene.[10] The Ministry of Water Resources and Meteorology undertakes overall water resources planning and management.[10] The Ministry of Education Youth and Sport has responsibility for school sanitation through the School Health Department, though a focus on construction of facilities with donor finance has meant limited funding for operation and maintenance or hygiene promotion.[10]

Broad policy direction for the WASH sector is guided by the Rectangular Strategy for Growth, Employment, Equity and Efficiency Phase 2 and its main delivery instrument the National Strategic Development Plan (NSDP) Update 2009-2013.[10] The Rectangular Strategy continues the policy of decentralisation and deconcentration, which aims to transfer government operations to the district level.[10] Between 2010-2012 specific plans will become clearer as during this period the NSDP update is focusing on establishing structures and systems for good governance at national and sub-national levels.[10] At present, there is uncertainty about the roles and responsibilities of different agencies at national and district levels.[10]

The ongoing process of decentralisation has compounded challenges across the WASH subsectors related to gaps in technical and managerial capacity. There is limited institutional capacity at the provincial and district levels,[4] and coordination between government departments and between government and other organisations active in the sector is challenging.[10] This is particularly the case with so many ministries having responsibility for different aspects of WASH governance.[4] Constraints relating to human resource availability are confirmed by the 2010 GLAAS report as shown in Table 3, with financial and overall planning and monitoring also scoring poorly.

Table 3: GLAAS assessment of overall perception of the sector[16]

Implementation and coordination of national policies and institutions	7/10
Planning, monitoring, and evaluation of the sectors	5/10
Financial planning and resources for the sectors	5/10
Human resources availability/development	5/10

Subsector governance

Urban sanitation

There is a lack of clarity in roles and responsibilities for urban sanitation. In Phnom Penh, sewerage is nominally the responsibility of the Phnom Penh Water Supply Authority (PPWSA), which reports to the Ministry of Industry, Mines and Energy (MIME).[4] However sanitation more broadly is considered a drainage issue and is therefore the responsibility of the Ministry of Public Works and Transport (MOPWT), which has limited capacity for household level sanitation and hygiene promotion.[4]

Similar issues exist for sanitation in urban areas outside Phnom Penh. MIME has nominal responsibility,[10] however management of networked systems falls under MOPWT jurisdiction as related to 'drainage'.[4] The situation for small towns is similarly unclear. The Ministry of Rural Development (MRD) through the Department of Rural Health Care (DRHC) is responsible for household level sanitation and hygiene in rural areas generally, however the distinction between urban and rural and related roles and responsibilities are not completely clear. In general, 'piped systems' are considered to be urban and therefore under the jurisdiction of urban authorities including in small towns,[18] which can create confusion for towns with partial or developing piped systems.

Urban water

Water supply in Phnom Penh is managed by the Phnom Penh Water Supply Authority (PPWSA). The PPWSA has undergone reform and capacity building with World Bank support, and is considered to be one of the best performing water utilities in Southeast Asia.[4,19] PPWSA reports to the Ministry of Industry Mines and Energy (MIME), which also has responsibility for urban water supply in urban areas outside Phnom Penh.[4,10] MIME's role in urban water supply in provincial and small towns extends to establishing and monitoring drinking water quality standards in piped systems and regulation of private sector providers.[10]

Private sector providers play a significant role in urban water supply services. A recent study of 60 small towns found that 1 in 5 people source water from private providers – 17% from vendors and 3% serviced by private piped water systems (with 300 private piped systems operating in small towns and rural centres with fewer than 1,000 households).[20] The remaining 80% of people in surveyed towns sourced water from rainwater jars, surface water and household wells.[20]

The private sector is considered to be an important though poorly regulated service provider, suffering from a lack of technical capacity and facing challenges in accessing capital.[4] A World Bank 2006 'Implementation Strategy for Urban Water supply Policy' identified constraints including weak capacity of water companies to implement new works and manage assets over time, and gaps in financing mechanisms including a need for more emphasis on internal generation of finance through user charges.[4]

There is some confusion in institutional responsibilities for small towns. A Memorandum of Understanding (MoU) exists between MIME and MRD giving responsibility to MIME for piped systems and MRD for all other water supplies.[4] This creates challenges for towns and peri-urban areas where piped and household systems

operate in close proximity, and for areas undergoing rapid residential or commercial development without coherent planning around infrastructure.[4]

Rural sanitation and water

The Ministry for Rural Development (MRD) is the lead agency for both rural sanitation and water supply. At the central level within MRD, the Department of Rural Health Care (DRHC) oversees rural sanitation and hygiene and the Department of Rural Water Supply (DRWS) takes responsibility for water services delivery.[10] At the provincial level, implementation is coordinated by Provincial Departments of Rural Development and District Offices of Rural Development, however district level offices have typically not been functional due to insufficient resources.[10]

The Rural Water Supply, Sanitation and Hygiene (WSSH) Strategy 2010 is the key guiding document for the sector. The Strategy was developed in consultation with all agencies involved in the sector from national to commune level.[18] It provides a comprehensive and detailed plan for the sector describing outcomes sought, actions to be taken and institutional responsibility for subcomponents of service delivery organised according to the five strategic objectives of: (i) improved water supply services; (ii) improved sanitation; (iii) hygiene behaviour change; (iv) institutional arrangements; and (v) financing.[10] The Strategy identifies 2010-2015 as a transition period to strengthen institutional arrangements and undertake capacity building, with 2015-2025 to be focused on expansion of services.[10]

Initiatives driven by the Strategy present an opportunity for increased focus on previously neglected subsectors of sanitation and hygiene promotion. The three year period 2008-2010 has been described as a 'tipping point' for sanitation, with increased budget allocations and growing political will to support a range of approaches to promote sanitation at scale including Community-Led Total Sanitation (CLTS), hygiene promotion and sanitation marketing.[21]

While the Strategy sets ambitious objectives, it also recognises a number of significant sector challenges which need to be addressed if goals are to be achieved. These include: poor management and administrative capacity; decentralisation and related uncertainty about roles and responsibilities; the scale of increased and sustained service delivery required; limited current private sector participation; poor monitoring systems; limited technology choices particularly for poorer households and those living in challenging environments such as floating communities; poverty and a related lack of inclusive participation in WASH initiatives; and gaps in financing.[10]

The private sector, particularly small scale private providers, is increasingly active in service delivery for both water and sanitation in rural areas. A 2008 World Bank Water and Sanitation Program (WSP) review of sanitation supply and demand in Cambodia found that private operators were providing most latrine constructions in both rural and peri-urban areas.[3] More recently, a study of rural sanitation in Cambodia reported that 65-88% of new household latrines built in the previous 6-8 years resulted from private investment.[9] Recently MRD, in partnership with a number of NGOs, has supported efforts to catalyse rural sanitation markets through sanitation marketing activities.[18] Sanitation marketing activities have shown great promise, with MRD developing and adopting a Sanitation Marketing Guideline for sub-national government and NGO stakeholder.[18]

Management of water and sanitation systems at the local level is the responsibility of communities, organised through Water and Sanitation User Groups as described in 2004 MRD Guidelines.[22] Community responsibilities are considerable, and extend from technology selection through to the development of

usage regulations and financial mechanisms.[10] This may present challenges for sustainability, with community management of WASH facilities generally requiring stronger external support than is often provided.[12] Support for operation and maintenance of water points (water quality testing and system monitoring) is provided by district level technical officers.[4]

Health and hygiene

Hygiene features strongly in the Rural WSSH Strategy, being one of five strategic objectives guiding the rural WASH sector to 2025.[10] As described above, the Strategy includes goals that by 2025 100% of the rural population will 'live in a hygienic environment' and 'practice basic safe hygiene behaviour in relation to water supply and sanitation'.[10]

The MRD, through the Department of Rural Health Care (DRHC), is responsible for hygiene promotion in rural areas. Despite the health focus of DRHC, contact and coordination between the MoH and DRHC is limited.[4]

Partner agencies include the National Centre for Hygiene Promotion, district Rural Water Supply, Sanitation and Hygiene Units and Hygiene Promotion Officers and Commune Committees for Women and Children.[10] The Rural WSSH Strategy describes three key risk behaviours that will be the focus of hygiene promotion activities in coming years: open defecation; lack of handwashing; and unsafe drinking water.[10]

A recent National Sanitation and Hygiene Knowledge, Attitudes and Practices (KAP) Survey undertaken by the MRD Department of Rural Health Care establishes a baseline (as described above) from which to develop targeted, strategic hygiene behaviour change programs in rural areas.[5] The KAP Survey details various activities already implemented, including CLTS; Participatory Hygiene and Sanitation Transformation (PHAST); handwashing campaigns particularly around Global Handwashing Day; forums in selected districts with Commune Committees for Women and Children; School and Community WASH activities; and Household Water Treatment and Safe Storage (HWTS) programs.[5]

Information about health and hygiene initiatives in urban areas was not available for this brief.

Climate change and water resources

Table 4 summarises climate and water resource indicators for Cambodia. With 33ML/person/year, Cambodia ranks mid-range in terms of available renewable freshwater, however water availability is highly seasonal and pollution presents a significant threat to water quality and human health. Quantities of excreta and other pollutants discharged into waterways are sufficient to mean that despite abundant volumes the quality of surface water is poor, with 234 tonnes of faeces, 2,335 cubic meters of urine, and 8,154 cubic meters of greywater discharged to waterways each day.[11]

Climate change also poses a significant threat to the Cambodian WASH sector in terms of health, weather disasters, habitat loss and economic stress, with the country scoring a 'severe' vulnerability rating for 2010 and 2030. A National Adaptation Program of Action (NAPA) on climate change has been in place since 2006 coordinated by a National Climate Change Committee. [23] The Committee is tasked with coordinating the integration of climate change concerns into water management, agriculture and rural infrastructure projects and with support from the Nordic Development Fund has been piloting programs to enhance the climate resilience of water infrastructure.[23]

Table 4: Summary status of water resources and vulnerability

Renewable water (ML/population)[24]	33
Overall Climate Vulnerability factor 2010[25] (on scale of *Acute, Severe, High, Moderate, Low)*	Severe
Overall Climate Vulnerability Factor 2030[25] (on scale of *Acute, Severe, High, Moderate, Low)*	Severe
Environmental Vulnerability Status[26] (on scale of *Extremely vulnerable, Highly vulnerable, Vulnerable, At risk, Resilient)*	Vulnerable

Donor environment

The main donors active in Cambodia's WASH sector include the World Bank, ADB, UNICEF and NGOs. ADB is supporting the Tonle Sap Rural Water Supply and Sanitation Project, a 6-year project that commenced in 2006 with a total budget of $US24M.[4] The program places more emphasis on water supply than sanitation, though over the past three years, $US5.1M has been invested to promote access to sanitation.[17] UNICEF is supporting a number of WASH initiatives including CLTS (implemented by MRD) in two provinces and a schools WASH program.[4]

DFID and UNICEF have been supporting MRD to implement a 3-year Accelerated Sustainable Rural Sanitation and Hygiene project. Beginning in 2008, the program aims to strengthen the capacity of the Department of Rural Health Care (DRHC) to manage, coordinate and facilitate sanitation service delivery and hygiene behaviour change in rural areas.[5,21]

The World Bank plays an important role in the sector, supporting research and pilot programs through the Water and Sanitation Program (WSP) and working with MIME to develop guidelines to support government engagement with private firms as part of the Provincial and Peri-Urban Water and Sanitation Project.[27]

A number of NGOs are active in both water and sanitation in Cambodia, particularly in rural areas. A Global Sanitation Fund $US5M Rural Sanitation and Hygiene Improvement program implemented by Plan International was launched in March 2011.[28] NGOs have pioneered a range of innovative approaches, including CLTS, sanitation marketing, school-based sanitation and sanitation for floating communities.[29] AusAID supports WASH activities implemented by NGOs SNV Development Organisation and Oxfam through the 2010-2011 Civil Society WASH Fund.[4]

The MRD is responsible for sector coordination, through the Technical Working Group for Rural Water Supply, Sanitation and Hygiene (TWG-RWSSH).[10] The TWG-RWSSH was established in 2007, with the aim to bring together government and development partners to ensure more effective coordination.[10] The Technical Working Group reports directly to the Government-Donor Coordination Committee.[4]

The Council for the Development of Cambodia is responsible for high level coordination of donor programs across sectors and liaising with donor agencies and NGOs.[4] However coordination is not always effective, and in discussions with AusAID the Ministry of Mining and Engineering has indicated a preference to introduce a Sector Wide approach (SWAp) to provide a framework for supporting institutional, tariff and governance reforms.[4]

In the rural sector specifically, a Rural Water Supply and Sanitation Sector Working Group has been established, open to all organisations working in the sector.[29] The group meets monthly, is chaired by MRD and operates primarily as a forum for information sharing.[10] The DRHC also chairs a number of topic-specific working groups including a CLTS Working Group, Sanitation Financing Group and Sanitation Marketing Advisory Group.[29]

Sector monitoring

Sector monitoring is in need of attention in line with other areas of institutional strengthening. Information about current and planned monitoring of the urban subsector was not available for this brief. In the rural sector, there is currently no standardised monitoring system through which to assess overall progress.[10] The recent Rural WSSH Strategy commits the government to developing a monitoring system in consultation with stakeholders, with MRD given responsibility to: reform existing multiple information databases into one management information system (MIS); make the MIS widely accessible to those with and without internet access; and oversee the collection of data on relevant infrastructure, institutional and social indicators, disaggregated for women, men, children, people with disabilities and ethnic minorities.[10] The Strategy also commits the government to periodically reviewing implementation of initiatives, with the first review scheduled for the second half of 2012.[10]

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[25] Source: Climate Vulnerability Monitor 2010 http://daraint.org/climate-vulnerability-monitor/climate-vulnerability-monitor-2010 **.** Countries are classified according to**:** *ACUTE+***,** *ACUTE***,** *ACUTE-***,** *SEVERE+***,** *SEVERE, SEVERE-, HIGH+, HIGH, HIGH-, MODERATE, LOW.* For information on included datasets and methodology for aggregation and categorising, see http://daraint.org/wp-content/uploads/2010/12/CVM_Methodology.pdf.
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