ASIAN WATER DEVELOPMENT OUTLOOK 2025

THE INDEX OF WATER SECURITY FOR ASIA AND THE PACIFIC

EXECUTIVE SUMMARY

ASIAN DEVELOPMENT BANK

ADB

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In this publication, "$" refers to United States dollar.
ADB recognizes "China" as the People's Republic of China, "South Korea" as the Republic of Korea, "Kyrgyzstan" as the Kyrgyz Republic, "Laos" as the Lao People's Democratic Republic, and "Vietnam" as Viet Nam.
ADB placed its regular assistance to Afghanistan on hold effective 15 August 2021.
ADB placed a temporary hold on sovereign project disbursements and new contracts in Myanmar, effective 1 February 2021..
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Village woman collecting drinking water from an Arsenic Free Tubewell, Narail (Photo by ADB).

Executive Summary

Since its first edition in 2007, the *Asian Water Development Outlook (AWDO)* has become the index of water security in Asia and the Pacific, highlighting key water management challenges across the region. Over nearly 2 decades, it has evolved into a flagship water knowledge product of the Asian Development Bank (ADB), offering a shared evidence base to support water-related planning, investment, and reform.

ADB published 2007, 2013, 2016, and 2020 AWDO editions, each building on the previous edition to provide snapshots of Asia and the Pacific economies' water security status.

AWDO provides a shared foundation for better decision-making. AWDO assesses water security in 50 economies, using a multidimensional framework refined over nearly 2 decades. The broad framing of water security supports national and regional progress toward sustainable and resilient development.

AWDO has a unique position in the region. Its balance of consistency and innovation enables it to track long-term trends while responding to emerging issues. In addition to its technical design strength, AWDO has fostered lasting partnerships that enhance its sustainability.

Partnerships are the engine of AWDO. While ADB leads the series, AWDO has always been a joint effort. From the outset, external partners have contributed technical expertise and financial support, shaping both the methodology and the relevance of the assessment as a decision-support tool. In this edition, ADB partnered with the University of Oxford, the International Water Management Institute (IWMI), the International WaterCentre (IWC), Griffith University, the University of Queensland, IHE-Delft, the International Centre for Water Hazard and Risk Management (ICHARM), and the Global Water Partnership (GWP).

AWDO assesses water security across five Key Dimensions (KDs), which together provide a holistic picture of how water supports people, economies, cities, ecosystems, and disaster resilience. The methodology of these dimensions has been refined over successive editions and reflects evolving water challenges in the region. Each KD draws on a distinct set of indicators, comprising the national water security score. The five KDs are:

- **KD1** — **Rural Household Water Security** – access to safe and inclusive drinking water and sanitation in rural areas
- **KD2** — **Economic Water Security** – water for agriculture, energy, and industry to support economic productivity
- **KD3** — **Urban Water Security** – safe, inclusive, and reliable water and sanitation services in urban settings
- **KD4** — **Environmental Water Security** – protection and restoration of aquatic ecosystems and water-related biodiversity
- **KD5** — **Water-Related Disaster Security** – capacity to manage and reduce risks from floods, droughts, and storms

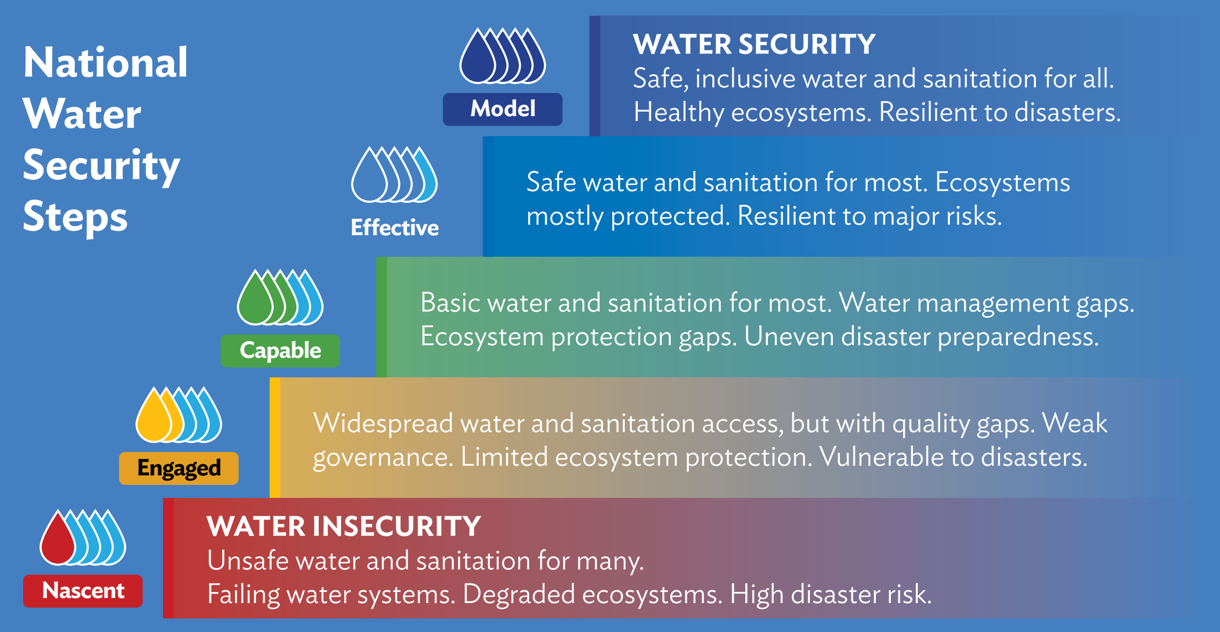
The five KDs are assessed using public datasets and composite indicators, generating both KD-specific and national water security scores. These are grouped into bands ranging from *Nascent* to *Model* steps, allowing economies to benchmark progress.

How AWDO Figures Were Calculated

Each KD is scored out of 20, then grouped into one of five water security steps: *Model, Effective, Capable, Engaged,* or *Nascent* (Figure E1). An economy's national water security (NWS) rating reflects its most insecure KD. For example, if an economy is *Capable* in three KDs, *Model* in one, and *Engaged* in another, its NWS rating would be *Engaged*. This approach highlights the areas most in need of attention. A National Water Security Index (NWSI) score, out of 100, is also calculated by adding each of the five KD scores.

AWDO 2025 continues a process of methodological improvement. This edition strengthens the underlying quantitative approach while integrating deeper qualitative analysis. It draws on publicly available datasets

Figure E1. Water Security Steps



Source: ADB.

and composite indicators to produce scores by dimension and for overall national water security. However, AWDO cautions against overinterpreting single scores, especially in a region as diverse as Asia and the Pacific.

Comparisons between economies can often be misleading. Data quality and coverage vary widely, especially in smaller or more remote economies. Country size, governance arrangements, and resource conditions also influence how relevant certain indicators are. A low or high score may reflect these structural features rather than actual water security conditions. For this reason, AWDO 2025 prioritizes tracking change within each economy rather than making direct international comparisons. This approach promotes a more honest and constructive understanding of progress, while helping to align analysis with national realities and policy processes.

Together, these design choices make AWDO 2025 not just a snapshot of regional water security, but a tool for understanding where and why change is happening.

Beyond the numbers, AWDO 2025 expands its value through new thematic chapters and country assessments. These additions unpack headline scores and offer context-specific insights to guide action. For extended information on the methodology, please refer to the AWDO 2025 Methodology and Data Report.

The four thematic chapters in AWDO 2025 are:

1. **Water Investment Needs in Asia and the Pacific**
2. **Changes to the State of the Cryosphere and the Impacts on Water Security**
3. **Unseen Impacts: Gendered Dimensions of Heat and Water Stress**
4. **Water Governance for Enhanced Water Security in the Context of SDG 6**

Boxes on youth and water security and women and girls are included throughout the report to highlight important crosscutting issues.

These additions make AWDO 2025 not only a more rigorous assessment tool but also a more practical guide for national planning, investment, and reform.

Country assessments were completed for Bangladesh, Cambodia, Nepal, Pakistan, and Tajikistan, providing deeper analysis of trends and governance progress. A special study on the Pacific was also included, reflecting the region's unique context and data challenges.

AWDO 2025 National Water Security Index: Quantitative Findings Across Key Dimensions

KEY FINDING 1

2.7 billion people in Asia and the Pacific have been lifted from extreme water insecurity over the past 12 years.

Addressing weakest water security dimensions first.

Substantial improvements in rural household water security.

Directing resources toward areas of greatest need rather than spreading efforts thinly.

Most countries are addressing their weakest water security dimensions first and it is working. This dramatic improvement shows that countries and development partners are increasingly directing resources toward their areas of greatest need. Rather than spreading efforts thinly, most have focused on improving their weakest dimensions, whether that is rural services (KD1), environmental governance (KD4), or disaster risk (KD5).

The National Water Security Index (NWSI) increased across the region during each reporting period, from 2013–2016, 2016–2020, and 2020–2025. The top 10 most improved countries are shown in Figure E3.

Yet, because this improvement started from a low base for most of these countries, much work remains before everyone in the region can be considered water secure. There are 4 billion people living in economies that still face quality gaps, insufficient ecosystem protection, or vulnerability to natural hazards despite having widespread water and sanitation access. Intensifying climate threats risk undermining progress.

Most of these gains came from substantial improvements in rural household water security. India's gains in rural water security (KD1) are a major contributor to the overall water security improvement in the Asia and Pacific region. In 2020, India was classified as *Nascent* in rural water security, but in 2025, it has moved out of this category, lifting hundreds of millions of people out of the lowest service tier (Figure E2). Political commitment, targeted investments, and scaled service delivery reforms have played a key role.

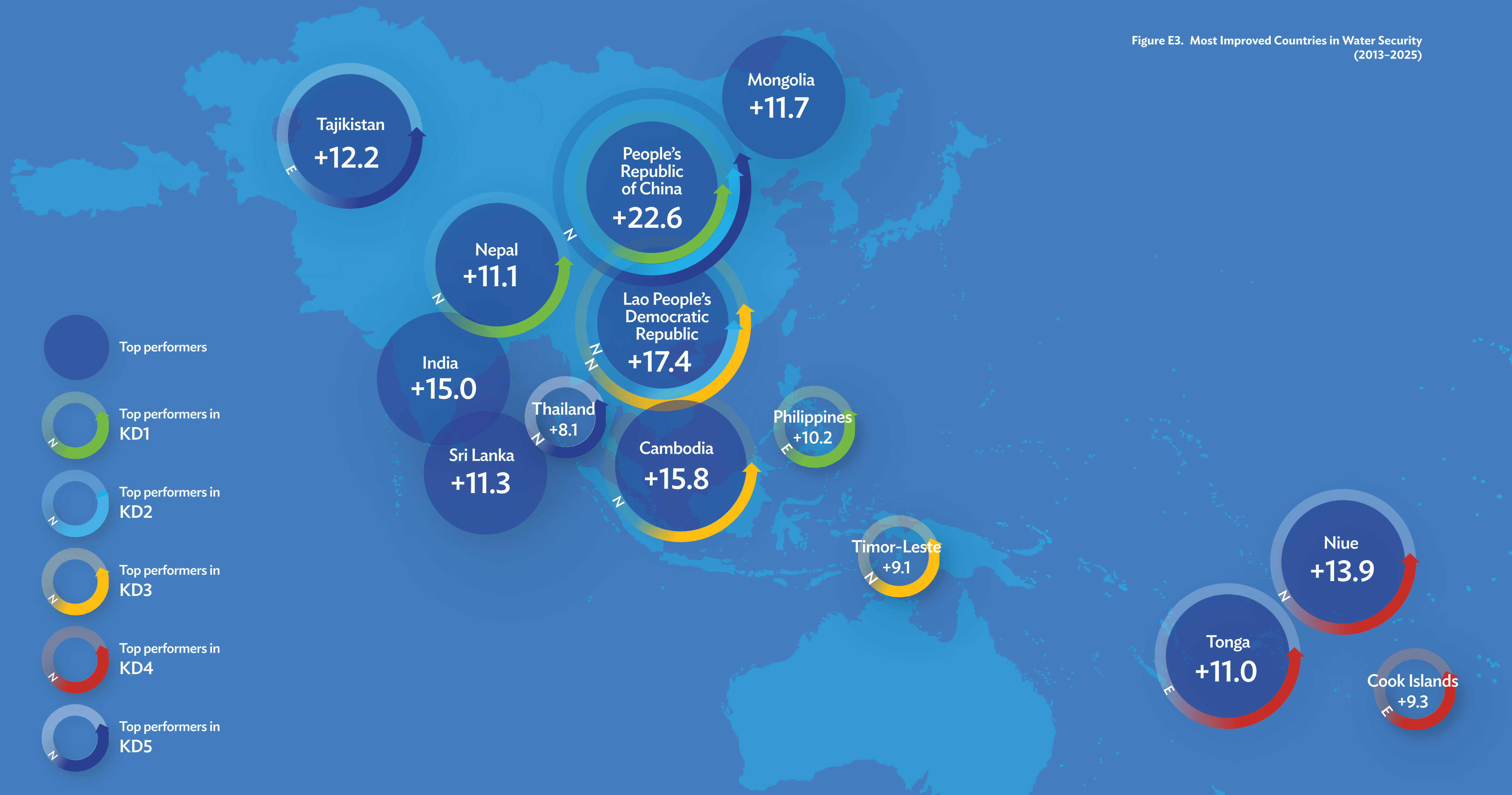
> **4 billion people** still face quality gaps, insufficient ecosystem protection, or vulnerability to natural hazards.

A lady farmer in Nepal (Photo by ADB).

Figure E2. 2.7 billion people have been lifted from extreme water insecurity since 2013, but 4 billion are still at risk.

B = billion, M = million, .
Source: ADB.

Figure E3. Most Improved Countries in Water Security (2013–2025)



E = Engaged in 2013, KD = Key Dimension, KD1 = rural household water security, KD2 = economic water security,
KD3 = urban water security, KD4 = environmental water security, KD5 = water-related disaster security,
N = Nascent in 2013,
Refer to the Pacific Regional Study for more details on AWDO data for the Pacific.
Source: ADB.

Gains have not been limited to countries that previously struggled with extreme water insecurity. Aggregate water security has also steadily improved.

Bangladesh has improved economic water security. Viet Nam has advanced urban water security through integrated planning and resilience measures. The Philippines has made inclusivity a priority in its urban utilities, protecting access for low-income users. These cases demonstrate that water security is not determined solely by a country's income or natural endowment. It is shaped by policy choices, institutional capacity, and commitment to long-term planning.

AWDO 2025 confirms that meaningful progress is achievable. When efforts are data-driven and targeted toward the highest risks, real change is possible. This observation has implications for both country-level programming and development partner strategies. The goal need not be perfection across all indicators. Strategies should focus on closing the gap between the least and most secure elements of an economy's water system. Table E1 shows all the NWSI changes from 2013 to 2025.

Table E1. National Water Security Index Score Changes (2013–2025)

	Key Dimensions of Water Security					**NWSI**
	Rural Household	Economic	Urban	Environment	Disaster	NWSI
Economy	*Index 1–20*					*Out of 100*
Armenia	2.2	−0.1	−0.4	−1.4	1.6	**1.9**
Australia	–	0.3	0.4	0.8	0.6	**2.2**
Azerbaijan	3.4	−1.1	5.4	0.6	1.8	**10.1**
Bangladesh	2.1	2.8	1.7	0.0	2.1	**8.6**
Bhutan	4.0	1.9	3.3	−1.4	1.4	**9.2**
Brunei Darussalam	0.3	0.2	3.2	−0.2	1.3	**4.8**
Cambodia	3.0	−0.9	8.3	0.2	5.1	**15.8**
China, People's Republic of	5.6	4.1	3.3	0.6	9.0	**22.6**
Cook Islands	−1.1	2.7	0.0	4.5	3.2	**9.3**
Fiji	2.2	0.8	−0.8	−1.7	0.4	**0.8**
Georgia	3.0	1.3	1.3	0.3	−1.4	**4.5**
Hong Kong, China	–	0.5	0.0	−0.3	2.0	**2.2**
India	4.6	2.2	5.0	0.6	2.6	**15.0**
Indonesia	3.4	1.0	2.9	0.0	−0.2	**7.2**
Japan	–	0.0	0.0	0.7	0.9	**1.6**
Kazakhstan	2.0	0.7	0.0	1.5	0.3	**4.6**
Kiribati	2.7	2.8	1.7	0.0	0.9	**8.0**
Korea, Republic of	–	0.2	0.4	−0.2	1.5	**1.9**
Kyrgyz Republic	3.7	−0.5	1.7	−0.9	3.8	**7.8**
Lao People's Democratic Republic	4.4	4.3	9.2	0.5	−0.9	**17.4**

Economy	Key Dimensions of Water Security					NWSI
	Rural Household	Economic	Urban	Environment	Disaster	NWSI
	Index 1–20					*Out of 100*
Malaysia	−0.1	0.6	0.0	0.9	0.3	**1.6**
Maldives	1.7	2.2	0.0	0.0	0.1	**3.9**
Marshall Islands	2.9	2.3	−0.4	−0.5	−4.8	**−0.5**
Micronesia, Federated States of	1.0	−1.3	3.3	−2.7	−3.6	**−3.3**
Mongolia	3.3	1.1	5.0	0.6	1.8	**11.7**
Myanmar	1.4	1.7	2.9	−1.4	0.4	**4.9**
Nauru	–	1.4	0.0	−2.5	0.4	**−0.7**
Nepal	5.5	0.3	3.3	0.8	1.2	**11.1**
New Zealand	–	−0.2	−0.8	−1.9	0.9	**−1.9**
Niue	0.4	4.7	0.0	4.4	4.5	**13.9**
Pakistan	3.5	0.9	1.7	−0.4	0.8	**6.4**
Palau	−0.1	0.7	−0.4	1.5	−4.4	**−2.7**
Papua New Guinea	2.0	2.0	0.0	1.5	1.1	**6.6**
Philippines	5.4	0.0	3.3	−1.1	2.6	**10.2**
Samoa	1.7	2.4	5.4	−0.1	0.5	**9.9**
Singapore	–	0.8	0.0	0.2	0.3	**1.3**
Solomon Islands	−0.2	0.8	−0.4	−1.7	1.2	**−0.3**
Sri Lanka	1.7	1.9	3.3	0.8	3.6	**11.3**
Taipei,China	–	−0.4	0.0	−0.9	1.1	**−0.2**
Tajikistan	1.9	1.5	1.7	−0.2	7.4	**12.2**
Thailand	0.9	0.6	0.0	−0.5	7.1	**8.1**
Timor-Leste	4.3	0.4	6.3	−0.9	−1.0	**9.1**
Tonga	0.8	3.5	1.7	5.5	−0.6	**11.0**
Türkiye	2.0	0.9	2.1	0.0	0.7	**5.6**
Turkmenistan	3.9	2.4	1.8	−0.9	0.3	**7.5**
Tuvalu	2.3	4.7	−0.4	0.0	−7.3	**−0.7**
Uzbekistan	3.9	1.7	0.0	0.0	0.5	**6.1**
Vanuatu	0.2	2.8	−0.4	−0.4	1.1	**3.2**
Viet Nam	3.4	1.9	3.3	−2.3	3.7	**10.0**

NWSI = Water Security Index.
Note: Experts have not been able to verify the data on Afghanistan, and therefore, the scores will not be presented in this table.
Source: ADB.

KEY FINDING 2

Asia and the Pacific face an estimated $4 trillion investment need in WASH by 2040.

The challenge is not only the scale of investment, but whether finance reaches the right projects and people.

Asia and the Pacific face a defining challenge: the urgent need to bridge a persistent and widening gap in water investment. The region must mobilize an estimated $4 trillion to meet its WASH needs from 2025 to 2040. This translates to approximately $250 billion each year. When the People's Republic of China (PRC) and India are excluded, the financing gap for ADB's developing member countries is close to $900 billion.

However, current budgets meet only about 40% of that need, leaving a yearly shortfall of over $150 billion. This deficit significantly undermines future improvements in water security and threatens attainment of Sustainable Development Goals in a region already marked by acute disparities in water access and quality.

If financial strategies do not evolve, this gap will continue to widen, and the poorest communities will be left behind. AWDO 2025 highlights the need for financial models that are not only smarter, but also fairer. Combining public resources with private capital through mechanisms such as blended finance and green bonds can help scale investment.

Critically, the traditional reliance on concessional and commercial finance must be supplemented by a greater focus on operational efficiency, presenting opportunities for technical assistance. Focus should include loss and leakage reduction, improved tariff collection, valuing water through shadow pricing, and a targeted emphasis on cost recovery.

$250 billion per year from 2025 to 2040 is needed to meet the rapidly growing WASH requirements in the region.

Current budgets meet

only 40%

of the investment need.

Rehabilitated existing wells, community ponds, and a small community water supply system. (Photo by ADB).

Progress in these areas supports the development of a virtuous cycle, where improved efficiencies unlock access to additional finance. However, to advance at scale, there is a policy-facing requirement to identify systemic inefficiencies and introduce incentives to address them, including encouraging private sector participation where appropriate.

But financial innovation alone is not enough. Lending must be structured to ensure long-term inclusivity and protect consumers, especially in rural and low-income communities.

Some countries are already testing new approaches. Indonesia has demonstrated how sovereign and municipal green bonds can finance integrated water resilience, directing climate-aligned capital toward flood protection, wastewater systems, and river restoration. In Cambodia, Phnom Penh's utility has expanded equitable access through a Social Fund and differential pricing model that cross-subsidises low-income households using revenue from higher-income service areas.

Multilateral development banks (MDBs) approved just $19.6 billion globally to water infrastructure, including WASH in 2024. Yet these limited resources can be catalytic if used to de-risk investment, strengthen affordability, and improve long-term service performance.

The challenge is not only the scale of investment, but whether finance reaches the right projects and people. Without public accountability and appropriate safeguards, new finance flows may deepen inequality or reinforce failing systems. Closing the investment gap will require both innovation and alignment. Financial models must deliver impact where it matters most: for communities with low levels of financial access, climate resilience, and inclusive water security. Thus, smarter investments, not just more money, is key to closing the gap.

KEY FINDING 3

Climate and water-related disaster risks are rising faster than readiness.

Resilience investments remain fragmented and insufficient.

Weak institutional capacity and limited integration with local planning and finance hinder effective response.

Adaptation planning and financing remain slow, with only 1/3 of 50 economies in the region submitting National Adaptation Plans.

Some countries like the PRC, Indonesia, and Thailand are making progress.

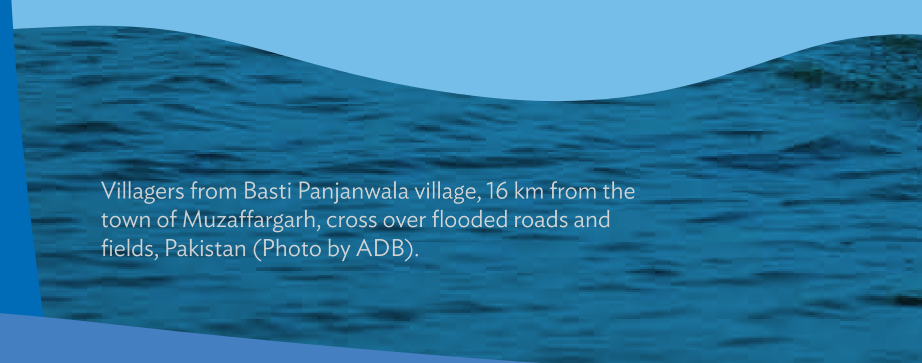
Water-related disaster risk is rising rapidly across Asia and the Pacific, yet resilience investments remain fragmented and insufficient. Between 2013 and 2023, the region experienced 244 major flood events, 104 droughts and 101 severe storms. These disasters reverse development gains, disrupt economies, degrade ecosystems, and erode community resilience.

The AWDO 2025 highlights growing exposure to floods, droughts, storms, and sea-level rise, especially in high-risk zones where infrastructure continues to expand without climate safeguards. Despite the presence of early-warning systems, weak institutional capacity and limited integration with local planning and finance hinder effective response.

Asia accounts for 41% of global flood events, with the events in the PRC and India alone impacting over 1.2 billion people. Meanwhile, small island nations in the Pacific and coastal megacities face mounting threats from rising seas, saltwater intrusion, and storm surges—putting infrastructure, fresh water supplies, and livelihoods at risk.

Climate change is accelerating these hazards and reversing water security gains. South Asia faces extreme heat and shifting rainfall, threatening agriculture and amplifying drought stress. Glacial retreat in the Hindu Kush Himalaya endangers water supplies for 2 billion people downstream, who rely on snow-fed rivers for irrigation, hydropower, and drinking water.

Countries in the Pacific could see storm surges rise by as much as 50% by 2050. Hazard exposure could increase when including geophysical hazards such as earthquakes and tsunamis. In parallel, weak environmental governance is reducing the natural protection offered by ecosystems.



Villagers from Basti Panjanwala village, 16 km from the town of Muzaffargarh, cross over flooded roads and fields, Pakistan (Photo by ADB).

Asia accounts for **41%** of global flood events, with the events in the PRC and India alone impacting over

1.2 billion people.

Despite the rising risks, disaster preparedness and climate adaptation remain inconsistent and often misaligned with the areas of greatest need. Many countries continue to build in high-risk zones, underfund resilience measures, or leave vulnerable communities without sufficient protection.

Yet adaptation planning and financing remain slow, with only a third of 50 economies in the Asia and Pacific region submitting national adaptation plans. Early-warning systems often exist but are not functioning properly and not linked to local planning. Adaptation gaps are often institutional. Climate risk data is available but not consistently used in land-use decisions or infrastructure design. Disaster response dominates budgets, leaving risk reduction and resilience underfunded. In parts of the Asia and Pacific region, repeated environmental shocks are eroding development gains faster than recovery can occur.

However, some countries are making progress. The PRC has improved its water-related disaster resilience through targeted investments in river basin planning and early-warning systems.

Southeast Asia has made steady progress in reducing water-related disaster risk. Between 2020 and 2025, capacity gains outpaced modest increases in hazard exposure, driven by investments in early-warning systems, river basin planning, and coastal protection. Thailand anchors the regional average, but countries like Cambodia and Viet Nam have shown targeted improvements. Thailand's risk decreased with increased resilience capacity.

Without targeted, inclusive, and well-funded resilience strategies, the poorest communities—least able to adapt or recover—will bear the brunt of repeated shocks. Building climate resilience demands more than infrastructure; it requires governance systems that connect data to action, prioritize prevention, and integrate equity into long-term planning.

KEY FINDING 4

Ecosystem health is declining.

In 2013, it was rural household water security that kept many countries stuck in the Nascent step. Today, it is environmental water security that threatens progress.

Ecosystems remain under pressure from unchecked development, pollution, and land conversion.

Environmental water security is the foundation that supports all other uses of water.

Protecting ecosystems is essential for sustaining long-term water security, climate resilience, and public health.

In 2013, rural household water security was the region's looming problem area. In 2025, it is environmental water security.

Ecosystems are under pressure from unchecked development, pollution, and land conversion.

Countries are expanding water infrastructure but often at the expense of rivers, wetlands, and aquatic ecosystems that sustain long-term water security. AWDO 2025 shows that environmental water security continues to lag, even as policies improve. Environmental water security consistently scores lower than other

Hunan South Dongting Lake Wetland Ecological Restoration and Sustainable Development Project 1 (Photo by ADB).

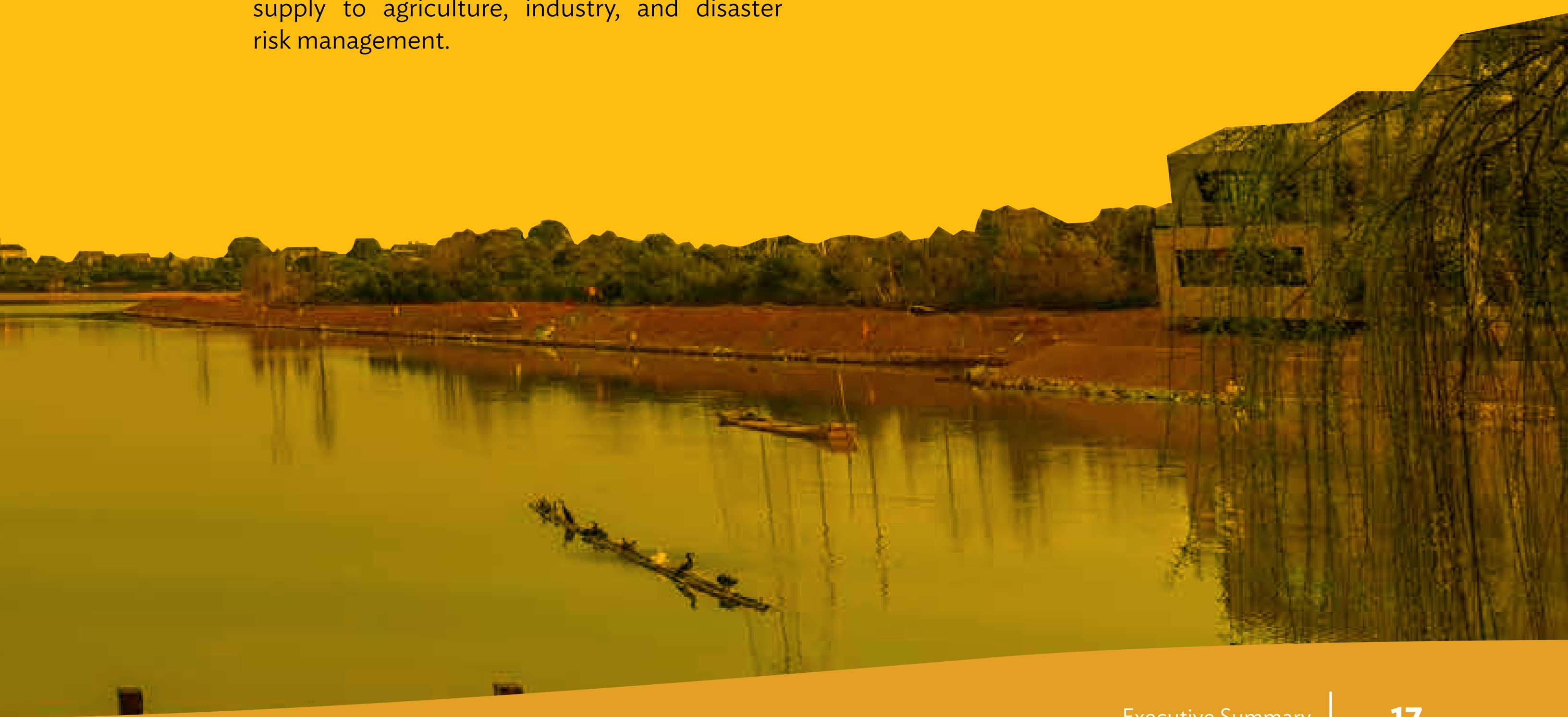
Dzud in Mongolia means where you have a drought in the summer and an extremely cold winter (Photo by ADB).

Key Dimensions, particularly in East Asia and Central and West Asia. These low scores reflect persistent degradation, limited enforcement of environmental laws, and underinvestment in nature-based solutions.

If rivers dry up, wetlands disappear, or aquifers become polluted, even the most advanced infrastructure cannot deliver reliable or safe water. Environmental water security is not a separate concern. It is the foundation that supports all other uses of water, from domestic supply to agriculture, industry, and disaster risk management.

In Cambodia, rapid infrastructure expansion and land conversion have contributed to declining catchment and aquatic system condition, as pollution and ecosystem loss intensify in key basins. Deforestation has worsened flood and drought exposure. In Uzbekistan, decades of irrigation development have disrupted natural flow regimes across the Amu Darya basin, reducing the capacity of ecosystems to regenerate and provide water during dry periods. Even countries with relatively healthy ecosystems, such as several Pacific island nations, face emerging risks due to weak environmental governance and growing development pressures.

Regulatory tools alone are not enough to protect these ecosystems. Policies are important, but enforcement is often limited, and traditional gray infrastructure projects continue to dominate water planning. Countries must do more to integrate nature-based solutions into mainstream development strategies. Protecting ecosystems is not just an environmental priority but is essential for sustaining long-term water security, climate resilience, and public health.



KEY FINDING 5

Infrastructure does not equal better health and increased economic outcomes without inclusivity, maintenance, and ecosystem support.

Many regions, despite improved access, suffer from non-functional systems and poor accountability, leading to stagnant or declining water security.

Better infrastructure does not guarantee better health. AWDO 2025 shows that long-term outcomes depend on whether water systems are inclusive, well-maintained, and supported by healthy ecosystems. Even where infrastructure has expanded access, the expected health and development benefits sometimes fail to materialize. Across Asia and the Pacific, many communities face gaps in basic maintenance. In rural Nepal, while 94% of rural households have access to basic water supply, only 55% of households have a piped connection and just 14% are free from contamination. Holistic service delivery, which includes piped water, safely managed sanitation, and hygiene, is strongly linked to health outcomes. Pakistan is a strong example, focusing on these three elements resulting in significantly improved health outcomes. Across Asia and the Pacific, many rural systems are designed and funded through one-off investments, with little attention

Urban water security is not just about expanding infrastructure. It depends on whether services are **inclusive, reliable,** and **resilient** for all.

paid to operations, repairs, or governance after construction. Without ongoing support, systems degrade over time, leading to unreliable supply, waterborne disease, and declining public trust. Pacific island countries face even greater challenges because of geographic isolation and climate pressures. Countries that succeed in rural water delivery are those that build institutional capacity, invest in long-term maintenance, and engage communities in planning and accountability.

Urban water security is not just about expanding infrastructure. It depends on whether services are inclusive, reliable, and resilient for all. Fiji has relatively low water tariffs, the utility has struggled to generate the revenue needed for sustained improvements, contributing to the country becoming the only AWDO case with declining urban sanitation and the largest fall in urban water security outside of the advanced economies.

By contrast, in Tajikistan, years of stagnant tariffs prompted recognition that tariffs were too low to cover costs. Tariffs in Dushanbe have recently increased while remaining affordable for most households, with early data showing gains in water security indicators. The Tajikistan example supports the principle that tariffs can unlock urban water security improvement when they sustainably cover costs while remaining affordable. Other countries that have made progress demonstrate a commitment to coordinated planning and social protection. In the Philippines, pro-poor tariff reforms and expanded drainage investments have improved overall performance.

The evidence from AWDO 2025 is clear: countries that manage water wisely across sectors grow their economies more sustainably, see better health outcomes, support households more effectively, and are better prepared for future risks.

Boy getting water from the community tap in Darbang, Nepal (Photo by ADB).

KEY FINDING 6

Governance deserves much greater attention.

Gaps in water governance and management across Asia and the Pacific.

If local governments lack clear mandates, reliable funding, or the capacity to act, national water goals cannot be met.

Social inclusion has a strong influence over every Key Dimension of water security.

Ensuring tools to act, and creating space for youth, women, and marginalized groups to lead.

AWDO 2025 identifies persistent gaps in water governance and management across Asia and the Pacific. Many countries develop water plans that are never implemented, policies that are not enforced, and data that are not shared. The region's continuing progress will require political will, a focus on service delivery, and the ability to manage trade-offs alongside continuing investment in gray infrastructure.

Economies with limited water resources can still enjoy strong economic water security when governance is effective, investments are targeted, and water is used efficiently. In contrast, some economies with adequate water supplies have low economic water security due to institutional gaps in planning, financing, and coordination across sectors. Countries such as Bangladesh and Viet Nam have improved their performance through targeted investments in water-efficient agriculture, better use of data, and stronger integration of water planning with national development goals. In Cambodia, economic water security declined despite improvements in the agricultural sector. Water productivity in energy and industry remains low, and hydropower production has suffered during recent droughts. Deforestation continues to worsen flood and drought exposure.

Good governance must go beyond national policy. AWDO 2025 shows that national water goals cannot be met if local governments lack clear mandates, reliable funding, or the capacity to act. However, in many economies in the region, IWRM implementation remains stalled. Of the 41 economies in AWDO 2025 to complete the SDG 6.5.1 survey, 14 have achieved less than 50% implementation, far short of the goal of 91%.

AWDO 2025 data shows that social cohesion explains more than half the variation in disaster resilience. Trust, participation, and local networks determine whether investments reach the last mile. In the PRC, community-based early-warning systems helped lift disaster resilience scores. In the Pacific, weak local governance and low social cohesion have led to only marginal resilience improvements despite high donor funding, since 2013.

West Bengal Drinking Water Sector Improvement Project in India (Photo by ADB)

Social inclusion has a strong influence over every Key Dimension of water security. When people are excluded from decision-making, when youth voices are ignored, or when gender disparities persist, systems fail to serve those who need them most. Across the region, young people and women are already improving water governance. In Bangladesh, a group of young people raised nearly half a million dollars in just four days to support flood relief efforts in 2024 and are now participating in community disaster simulations and system monitoring. In the Philippines, women-led water user groups are strengthening local supply and improving trust in public service. These examples are functional models of inclusive governance that work in real time.

To succeed, governance must shift from passive regulation to active delivery. That means building capable and accountable institutions, ensuring local governments have the tools to act, and creating space for youth, women, and marginalized groups to lead. Only then will governance and inclusion become true enablers of water security.

Correlation with ADB Projects

Table E2. Number of Projects and Economies Considered in the Correlation Analysis

	KD1	KD2	KD3	KD4	KD5
Number of Projects	14	21	79	14	17
Number of Economies	9	9	22	3	8

Source: ADB.

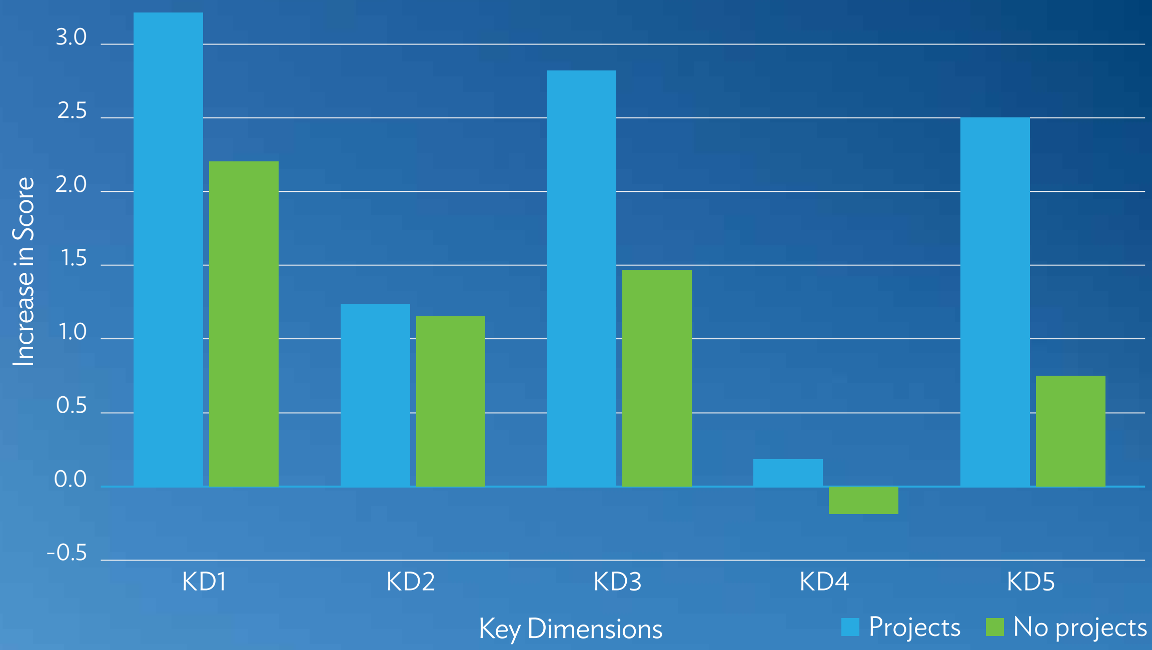
This analysis identifies broad correlations but cannot determine causation. While some increases in water security scores may align with Asian Development Bank (ADB) project timelines, many external factors affect outcomes. Therefore, results should be interpreted as indicative rather than definitive.

Around 75% of projects showed a positive correlation between their focus and improvements in the relevant KD. Most countries with ADB projects saw gains in the relevant KD scores, but the strength of this relationship varied. KD1 (Rural Household Water Security) and KD5 (Water-Related Disaster Security) showed the clearest improvements in countries with ADB projects. KD3 (Urban Water Security) and KD4 (Environmental Water Security) also recorded progress, though more modestly. By contrast, KD2 (Economic Water Security) showed little measurable change in both countries with ADB projects and those without. These results are shown in Figure E4 and the numbers of project assessed are shown in Table E2.

Another analysis examined the time lag between project implementation and the largest observed water security improvement. About 60% of projects reached their peak impact within 5 years of implementation, 30% between 5 and 10 years, and 10% after more than 10 years. On average, projects took 5 years before impacts were measurable.

KD3 and KD1 closely followed the average. KD2 had more delayed impacts, with a larger share of projects showing peak results over the longer term and an average of 7 years for measurable impacts. This may reflect that these dimensions involve more long-term "impact" indicators. By contrast, KD5 had a higher share of projects with immediate improvements and an average of 4 years before impacts could be measured, which supports the KD5 finding that capacity has the strongest correlation with water-related disaster security, as projects that improve capacity would typically deliver quick results. This analysis was unable to be completed for KD4.

Figure E4. Increase in KD Score for Economies With and Without ADB Interventions



KD = Key Dimension, KD1 = rural household water security, KD2 = economic water security,
KD3 = urban water security, KD4 = environmental water security,
KD5 = water-related disaster security.
Source: ADB.

An ADB funded sea wall in Barangay Katipunan, Pilar, Surigao Del Norte (Photo by ADB)

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Asian Water Development Outlook 2025

The Index of Water Security for Asia and the Pacific

The Asian Water Development Outlook (AWDO) assesses water security in Asia and the Pacific, evaluating 50 economies across five dimensions—rural, economic, urban, environmental, and water-related disaster security. This 2025 edition highlights significant progress: since 2013, 2.7 billion people have moved out of extreme water insecurity. Yet growing ecosystem stress and rising climate risks threaten these gains. With new analyses on investment needs, governance, and gender, the AWDO 2025 provides an evidence base for smarter, more inclusive policies and investments toward a water-secure, climate-resilient Asia and the Pacific.

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ADB is a leading multilateral development bank supporting inclusive, resilient, and sustainable growth across Asia and the Pacific. Working with its members and partners to solve complex challenges together, ADB harnesses innovative financial tools and strategic partnerships to transform lives, build quality infrastructure, and safeguard our planer. Founded in 1966, ADB is owned by 69 members—50 from the region.

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