ACTION PLAN FOR SASEC INITIATIVES 2024–2026

DECEMBER 2024

SASEC
South Asia Subregional Economic Cooperation

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ABBREVIATIONS

ADB	Asian Development Bank
APSI	Action Plan for SASEC Initiatives
ASEAN	Association of Southeast Asian Nations
BBIN MVA	Bangladesh–Bhutan–India–Nepal Motor Vehicle Agreement
BCP	border crossing point
ECD	Economic Corridor Development
ECEC	East Coast Economic Corridor
EWG	Energy Working Group
HPP	hydropower project
ICP	integrated check post
JICA	Japan International Cooperation Agency
LCS	land customs station
NEEC	North East Economic Corridor
NER	North East Region
SASEC	South Asia Subregional Economic Cooperation
SCS	SASEC Customs Subgroup
SDP	Sector Development Program
SMILE	Strengthening Multimodal Integrated Logistics Ecosystem
SOM	Senior Officials' Meeting
SPS	sanitary and phytosanitary measures
TBT	technical barriers to trade
TFWG	Trade Facilitation Working Group

I. INTRODUCTION

1. Since 2001, the South Asia Subregional Economic Cooperation (SASEC) initiative has brought Bangladesh, Bhutan, India, Maldives, Myanmar, Nepal, and Sri Lanka into a collaborative partnership focused on projects and knowledge-sharing, with the goal of promoting regional prosperity, expanding economic opportunities, and improving the quality of life for the people of the subregion.[1] The SASEC program has entered a new phase of cooperation, marked by the strengthening of its institutional mechanism. This includes the Asian Development Bank (ADB) relocating the SASEC Secretariat to the region and making it operational from the ADB's India Resident Mission.

2. In 2016, the SASEC countries adopted the SASEC Operational Plan 2016–2025, marking the program's first comprehensive, long-term strategy to expand regionally-focused investments. The plan initially focused on (i) upgrading and expanding multimodal transport connectivity to address critical trade route bottlenecks, (ii) facilitating trade to complement multimodal transport networks, (iii) enhancing electricity trade to expand energy supply and secure power reliability, and (iv) promoting synergies between economic corridors in SASEC countries and beyond, and optimizing their development impacts through improved cross-border links.

3. In April 2017, the SASEC finance ministers in their meeting in New Delhi, India, launched the SASEC Vision document, *SASEC: Powering Asia in the 21st Century*, with the goal of positioning the subregion as Asia's key growth driver by 2025.[2] Inspired by the subregion's strong growth, abundant natural resources, and rapidly evolving infrastructure, SASEC countries identified key levers to maintain the pace and quality of growth in a way that is both sustainable and inclusive in the longer term. Transport, trade facilitation, energy, and economic corridor development were identified as operational priorities of the SASEC program. The SASEC Vision focuses on (i) leveraging natural-resource-based industries in SASEC countries by tapping into latent industrial demand within the subregion, (ii) promoting industry-to-industry links to develop and strengthen regional value chains, and (iii) expanding the region's trade and commerce by improving access to regional and global markets. Flagship initiatives, such as promoting power trade and joint tourism development, were proposed to realize the synergies outlined in the Vision.

4. Myanmar formalized its participation in the SASEC program in 2017, well after the Vision document was formulated. A separate study was conducted to identify opportunities for Myanmar's inclusion in the SASEC Vision, revealing potential in (i) trade in rice, pulses and beans, fisheries, and textiles and garments; (ii) energy trade; (iii) digital connectivity; (iv) tourism promotion; and (v) enhancing coastal shipping linkages.

5. The SASEC Operational Plan was updated in 2019 to better align with the SASEC Vision, providing a more comprehensive overview of the program's position in key sectors of cooperation. This update particularly focused on (i) the roles of existing and planned projects in relation to transport and energy networks, as well as remaining project gaps; (ii) the status of financing from governments, ADB, and other partners, and (iii) the level of project preparedness.

6. **Evolution of the Action Plan for SASEC Initiatives.** The Action Plan for SASEC Initiatives (APSI) 2021–2023 was developed to identify key initiatives and select projects from the SASEC Operational Plan (2016–2025) for priority implementation during the immediate 3-year period. The APSI also outlines knowledge initiatives under the SASEC program and includes initiatives from other agencies or

[1] Bangladesh, Bhutan, India, and Nepal are the founding countries of the SASEC program since 2001. Sri Lanka and Maldives joined SASEC in 2014 and Myanmar joined in 2017.

[2] ADB. 2017. *SASEC: Powering Asia in the 21st Century*. Manila. https://www.adb.org/sites/default/files/publication/233646/sasec-powering-asia.pdf.

countries with cross-border or regional implication. As a result, the APSI is evolving into a comprehensive document for cross-border and regional cooperation, consolidating information on ongoing and planned initiatives.

7. The APSI was subsequently updated for the period 2022–2024. In the meetings of the SASEC working groups on transport, trade facilitation, and energy, as well as the Senior Officials (formerly Nodal) Meeting (SOM) held in New Delhi, India, in November and December 2023, discussed the updates for the APSI (2024–2026). Based on feedback from these meetings and subsequent country consultations, as well as the SASEC meetings held in 2024 in Thimphu, Bhutan, the APSI (2024–2026) has been finalized. A new feature in APSI (2024–2026) is the inclusion of a Progress Update Framework, under which ADB plans to report on the progress of APSI projects and knowledge initiatives every 6 months.

8. **SASEC Meetings in 2023.** At the SASEC meeting held in India in December 2023, the SASEC senior officials endorsed the decisions made by the SASEC working groups in November 2023 on transport, trade facilitation, and energy, with the aim of strengthening the scope and areas of engagement of the SASEC program.

i. **Transport.** Discussions focused on revising corridors (including road and rail routes), linking them with existing economic corridors and proposed SASEC expressway corridors. Key topics also included decarbonization strategies such as studies on rail-based cargo movement in both regional and India–Bangladesh trade, while unlocking synergies between SASEC corridors and inland waterway routes, and the creation of new maritime corridors in the region. Additionally, based on ADB-supported Strengthening Multimodal Integrated Logistics Ecosystem (SMILE) program in India, SASEC countries (excluding India) requested ADB's assistance in adopting a multimodal approach by preparing a digitalized national multimodal master plan and an operational logistics data stack.

ii. **Trade facilitation.** New studies on customs and trade facilitation were discussed and endorsed. These included e-commerce, cross-border coordinated border management, electronic exchange of pre-arrival information, standardized business processes at border points, and the adoption of risk management systems. Drawing upon ADB studies on sanitary and phytosanitary measures and technical barriers to trade, food regulatory agencies met for the first time to discuss coordination in food regulation, aiming to ease food trade while ensuring safety. Several focused operational studies were also endorsed. In the context of tourism, based on ADB studies on regional tourism potential, tourism officials met to discuss a forward-looking program and focused operational knowledge work.

iii. **Energy.** SASEC countries concentrated on power market development, access to low-cost financing for clean energy, green fuel development, the creation of regional training and capacity building programs, and the development of a regional value chain for electrical goods and equipment necessary for electrical systems.

9. The list of projects and knowledge works to be undertaken in period 2024–2026 is based on discussions from the SASEC meetings in November and December 2023, as well as further consultations to confirm the data, which were finally reviewed and endorsed in SASEC meetings in Thimphu, Bhutan in November 2024. The list of projects and knowledge works completed during period 2022–2024 is also included in the APSI, primarily for reporting purposes, and highlights the linkages to the 2024–2026 period.

10. Based on stage of maturity, projects, programs, and knowledge works have been categorized as (1) Completed, (2) Under Implementation, (3) Planning and Preparation, and (4) Worthy of Consideration. The Progress Update Framework has been developed to capture more detailed information at each of these stages.

11. **ADB's cumulative commitment to regional cooperation.** As of 31 December 2024, the SASEC portfolio comprises 91 committed projects with a total investment of $22.53 billion, including $14.26 billion in ADB funding since 2001. The transport sector received the largest share of ADB investments, totaling $9.22 billion across 53 projects, followed by the energy sector with $1.91 billion (17 projects) and economic corridor development with $1.65 billion (7 projects). Additionally, ADB provided $234.86 million through 160 technical assistance (TA) grants to support project preparation, strategic planning, and capacity building. India received ADB assistance for 27 SASEC projects, with cumulative lending of $5.25 billion.

II. TRANSPORT AND LOGISTICS

12. **Transport connectivity** is one of the four operational priorities of the SASEC program. Since trade in the region primarily occurs along specific corridors, transport networks need to be analyzed in the context of these corridors. However, the feeder networks that connect to these corridors are also critical and have therefore been included in the list of projects and knowledge works. Additionally, a key focus is on border points, both in terms of infrastructure to handle trade volumes and trade facilitation to streamline trade processes.

13. In 2023 as well as 2024, SASEC meetings highlighted the importance of digitalized multimodal planning and the development of a digitalized operational dynamic data stack. Another important topic discussed at the SASEC 2023 meetings was the Highly Facilitated Trade Corridors (HFTCs), based on the route studies done by ADB. The HFTC Action Plan would need to address infrastructure bottlenecks and trade facilitation challenges along these corridors. A key area where ADB has been actively supporting discussions is the Bangladesh–Bhutan–India–Nepal Motor Vehicle Agreement (BBIN MVA) and its associated protocols, with significant potential to transform regional trade dynamics.[3]

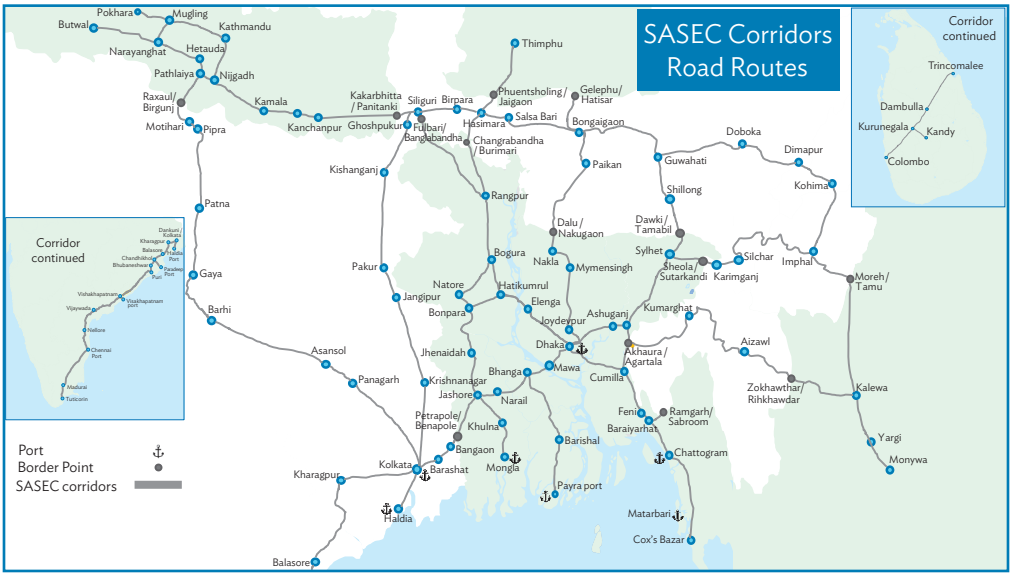
A. SASEC Corridors

14. The SASEC corridors have been revised to better support regional cooperation objectives, facilitating multi-country trade and improving access to gateways for landlocked countries. The updated corridors are: (i) Nepal/Bhutan–India Corridor; (ii) Sri Lanka–India–Bangladesh–India–Myanmar Corridor (aligned with economic corridors); (iii) Nepal–India–Bangladesh Corridor; (iv) Bhutan–India–Bangladesh Corridor; (v) Nepal–India–Myanmar Corridor; and (vi) Myanmar–Bangladesh–India–Sri Lanka–Maldives (Maritime) Corridor. These corridors are served by multiple transport modes, including road, rail, and waterways, and are complemented by trade facilitation and economic corridor initiatives. The associated road, rail waterways, and multimodal routes for these SASEC corridors are presented in Figure 1, Figure 2, and Figure 3.[4]

[3] The BBINMVA, signed at the BBIN Transport Ministers' Meeting in Thimphu, Bhutan, in June 2015, serves as a landmark framework to facilitate passenger, personal, and cargo vehicular traffic among the BBIN countries. Three of the four signatory countries have ratified the agreement, while the Government of Bhutan has consented to allow the other countries to proceed with implementation, pending Bhutan's ratification process. Pilot programs under the MVA are being explored among Bangladesh, India, and Nepal, involving selected transport operators and agreed routes.

[4] A new SASEC corridor linking Kathmandu with western Nepal and connecting to Lucknow–Delhi–Mumbai/ Mundra may be proposed once the opportunity matures.

Figure 1: Road Routes along SASEC Corridors



SASEC = South Asia Subregional Economic Cooperation.

Note: The maps are schematic representations only and may not show exact international boundaries. The boundaries, colors, labels, and other information displayed on the map do not imply, in any way, the Asian Development Bank's judgment on the legal status of any territory, nor do they constitute an endorsement or acceptance of the boundaries, colors, labels, or information shown.

Source: Asian Development Bank.

Figure 2: Rail Routes along SASEC Corridors

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Source: Asian Development Bank.

Figure 3: Waterway Routes along Revised SASEC Corridors

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Source: Asian Development Bank.

15. The aforementioned corridor routes have been identified as the key SASEC transport corridors, with their development expected to significantly reduce transport and trade costs between member countries. For each corridor, an assessment of recent progress was conducted, along with an analysis of gaps and challenges across various transport modes. The APSI then identified priority projects aimed at addressing these gaps and meeting emerging needs, thereby unlocking the full economic benefits of enhanced connectivity in each corridor.

1. Nepal/Bhutan–India Corridor

a) Nepal–India: Modes and Routes

16. **Rationale.** Facilitating Nepal–India trade and providing access to gateway ports in India for Nepal's trade with other countries.

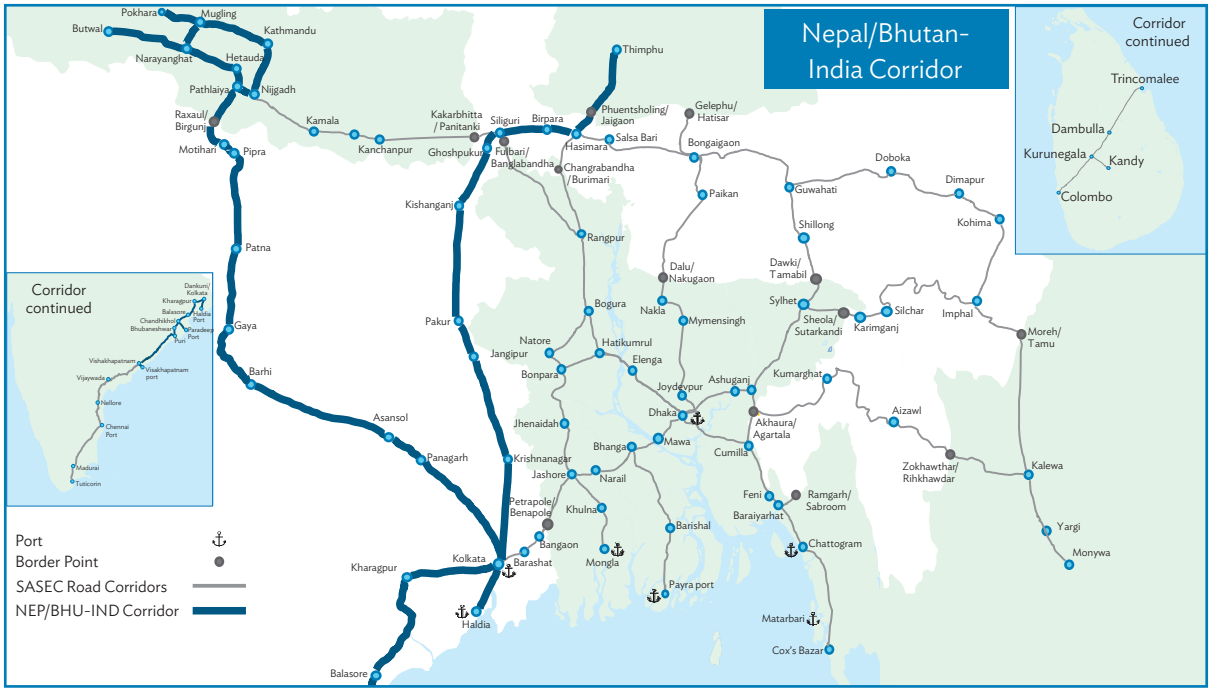
17. **Road route.** The Kathmandu–Kolkata via Birgunj/Raxaul route is a crucial trade route for landlocked Nepal, connecting it to India—its largest trading partner—and facilitating access to other countries through the ports of Kolkata/Haldia and Visakhapatnam (Figure 4). An alternative route is available through the Jogbani/Biratnagar border point between India and Nepal, which then connects to the Bhutan–India Corridor. Both the primary and alternative road routes are operational in a 4–6 lane configuration.

18. **Rail route.** The corridor is being served by two key rail routes: Birgunj/Raxaul–Muzaffarpur–Asansol–Kolkata–Haldia and Birgunj/Raxaul–Muzaffarpur–Asansol–Kharagpur–Cuttack–Visakhapatnam. These routes are particularly important for containerized import traffic. Recently, Visakhapatnam has been handling an increasing share of Nepal's container trade, with the majority of movement occurring by rail. Both rail routes are operational with broad gauge lines.

19. **Waterways or multimodal route.** The National Waterway 1 (NW 1) provides access to the Kolkata/Haldia port system through the inland waterway terminals at Patna (Kalughat) or Sahibganj. These terminals were developed as part of the World Bank-supported project for the development of NW1 in India.

20. **Border points.** The Birgunj/Raxaul road and rail border point is currently operational, functioning as an integrated check post (ICP) for road traffic and a rail-based land customs station (LCS) for rail cargo.[5]

Figure 4: Nepal/Bhutan–India Corridor



BHU = Bhutan, IND = India, NEP = Nepal.

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Source: Asian Development Bank.

b) Bhutan–India: Modes and Routes

21. **Road route.** The Thimphu–Kolkata route via the Jaigaon/Phuentsholing border point between India and Bhutan is the main route for landlocked Bhutan, connecting it to India and facilitating access to other countries through the Kolkata/Haldia port (and potentially others). Jaigaon serves as the major LCS and a key gateway to Bhutan. This route also provides primary access to the railhead at Siliguri. This road route is operational, with most sections in a 4-lane configuration.[6]

22. **Rail route.** Currently, there is no rail connection to Bhutan. However, a rail link has been proposed from Kokrajhar (Assam, India) to the Hatisar/Gelephu border point between India and Bhutan. The corridor is also served by the Kokrajhar–Siliguri–Kishanganj–Kolkata rail route, which offers additional

[5] Container train operators authorized by the Indian Railways are permitted to transport Nepal-bound cargo between Visakhapatnam and Kolkata ports and Raxaul/Birgunj for third-country trade.

[6] This is part of the East–West Corridor of the National Highway Authority of India.

potential to access other Indian ports such as Visakhapatnam. Although the rail route is currently not in use for Bhutan's trade, it presents a sustainable alternative for transporting Bhutanese cargo to Indian gateways. The rail route is operational between Bongaigaon and Kolkata/Haldia in broad gauge, while the Kokrajhar to Hatisar section is in the feasibility stage.

23. **Waterways or multimodal route.** The NW 2, followed by the Bangladesh waterways via the India–Bangladesh Protocol routes, can be utilized to access the Kolkata/Haldia port system. This is achievable through the inland waterway terminals at Dhubri or Jogighopa in India, which can then be reached by road from Bhutan.

24. **Border points.** The Jaigaon/Phuentsholing road border point is currently operational as an LCS, with a proposed ICP under consideration. While no rail border point is operational between India and Bhutan at present, the road border point at Hatisar/Gelephu is operational as an LCS.

c) Projects

25. **Status of projects under APSI 2022–2024.** The Tribhuvan International Airport modernization project and the Technical Assistance for Air Navigation Services, supported by the Japan International Cooperation Agency (JICA), have been completed. The Tribhuvan International Airport Capacity Expansion Project (International Terminal Building), supported by ADB, is currently under construction. In the roads sector, the World Bank-supported Kathmandu–Naubise–Mugling road (part of the Nepal Strategic Road Connectivity and Trade Improvement Project) and the JICA-supported Nagdhunga Tunnel are under construction. Meanwhile, the ADB-supported upgrading of the Pathlaiya–Hetauda–Narayanghat Road is at the detailed project report (DPR) stage.

26. **New projects added to APSI 2024–2026.**[7] The ADB-supported Pathlaiya–Birgunj section of Nepal's East–West Highway has been completed, while the ADB-supported upgrade of Narayanghat–Butwal and Mugling–Pokhara highway sections is currently under construction. In the rail sector, the Government of India-supported Jainagar–Janakpur–Bijalpur broad gauge line (BGL) has been completed, and the Joghbani–Biratnagar BGL is under construction. Also supported by the Government of India, Bijalpura–Bardibas BGL and the Raxaul–Kathmandu Broad Guage Electrified Railway Project are in the project preparation stage. Additionally, the World Bank-supported Jal Marg Vikas Project on India's NW 1, which provides waterway access to Nepal, is under construction.

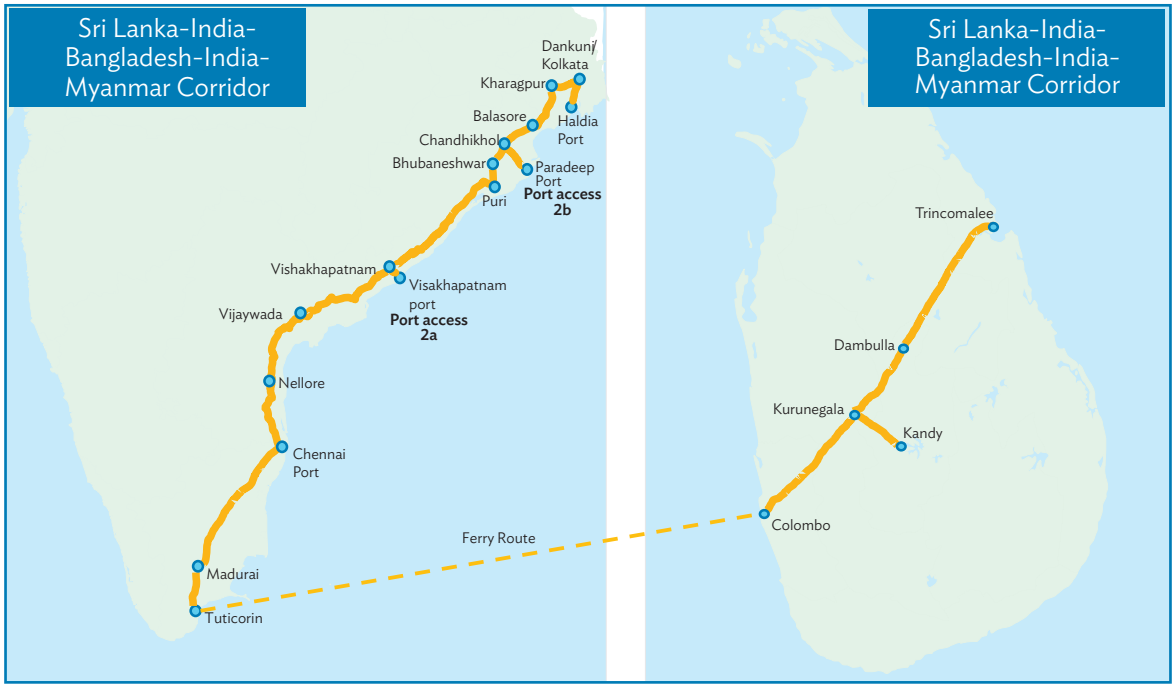
2. Sri Lanka–India–Bangladesh–India–Myanmar Corridor

a) Modes and Routes

27. This corridor integrates several key economic corridors in the region, including (i) Sri Lanka Economic Corridor (Colombo–Trincomalee), (ii) India East Coast Economic Corridor (Tuticorin–Chennai–Visakhapatnam–Bhubaneshwar–Kolkata–Petrapole), (iii) Bangladesh Economic Corridor (Benapole–Jashore/Khulna–Dhaka–Sylhet–Tamabil/Sheola), and (iv) India North East Economic Corridor (Dawki–Guwahati/Sutarkandi–Silchar), with spurs extending to Imphal–Moreh, Agartala, and Aizawl–Zokhawthar/Rikhawthar–Kalewa. The corridor also includes access to key gateway ports of Visakhapatnam, Paradeep, and Kolkata/Haldia in India; and Mongla, Payra, Chattogram, and Matarbari in Bangladesh. While the road and rail routes form the spine of these economic corridors, the Sri Lanka and India Economic Corridors are connected by Tuticorin–Colombo and Chennai–Trincomalee maritime routes (Figure 5). Additionally, a future land connection between the Sri Lanka and India Economic Corridors could be explored through a road or rail bridge over the sea between Dhanushkodi in India and Thalaimannar in Sri Lanka.

[7] A full list of projects along with their status is available in Appendix 1.

Figure 5: Sri Lanka–India–Bangladesh–India–Myanmar Corridor



BAN = Bangladesh, IND = India, MYA = Myanmar, SRI = Sri Lanka.

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Source: Asian Development Bank.

28. **Road route.** The economic corridor spines form the primary road route for this corridor: Colombo–Trincomalee–Tuticorin–Kolkata–Dhaka–Sylhet–Guwahati,[8] with spurs extending to Imphal–Moreh, Agartala, and Aizawl–Zokhawthar/Rikhawthar–Kalewa. Additionally, the corridor includes port access routes: Visakhapatnam–Visakhapatnam Port, Chandikhol–Paradeep Port, Kolkata–Haldia Port, Jashore–Khulna–Mongla Port, Bhanga–Barishal–Payra Port, Dhaka–Cumilla–Chattogram Port–Matarbari Port.

29. The road route is operational with 2–6 lane configurations, with upgrades planned or being implemented in several sections. Ongoing projects include the SASEC Dhaka–Sylhet Corridor Road Investment Project, SASEC South Corridor Improvement Project (Daulatdia to Kuakata), SASEC Chattogram Port Access Road Improvement Project, and the SASEC Dhaka–Chattogram Public–Private Partnership (PPP) Highway Project (tranche 1 under the multitranche financing facility) in Bangladesh. In India, upgrades are underway for the Dawki–Shillong section, various sections between Silchar and Imphal, and those between Agartala and Zokhawthar via Aizawl.

30. **Rail route.** This corridor is served by the Colombo–Trincomalee–Tuticorin–Kolkata–Gede–Darshana–Ishurdi–Dhaka–Akhaura–Agartala–Lumding–Dibrugarh rail route,[9] with spurs connecting Kolkata–Petrapole–Benapole–Dhaka, Agartala–Belonia–Sabroom, Silchar–Sairang, Silchar–Yurembam–Moreh, and Dimapur–Zuzba. It also includes port access routes: Visakhapatnam–Visakhapatnam Port, Chandikhol–Paradeep Port, Kolkata–Haldia Port, Jashore–Khulna–Mongla Port, Bhanga–Barishal–Payra Port, and Cumilla–Chattogram Port–Matarbari Port.

31. The rail route is largely operational but faces challenges due to gauge variation, with broad gauge tracks in India and western Bangladesh and meter gauge in eastern Bangladesh. Several projects are ongoing in Bangladesh, including the SASEC Chattogram–Cox's Bazar Railway Project (with the Dohazari–Cox's Bazar section completed), the development of a dual gauge double line for the Joydebpur–Ishurdi route, the Khulna–Mongla Port Rail Line development, and the rehabilitation of the Kulaura–Shahbazpur rail line. Projects under consideration by Bangladesh include the SASEC Tongi–Akhaura Dual Gauge Project, the SASEC Laksam–Chattogram Dual Gauge (double line) Project, the SASEC Railway Connectivity Dhaka–Cumilla Chord-line Project and the dual gauge line between Cox's Bazar and Gundum.

32. **Waterways or multimodal route.** This corridor is accessible via both inland waterway and maritime routes. The inland waterway route connects Kolkata, Dhaka, Dhubri, and Dibrugarh, with a spur extending to Ashuganj–Karimganj near Silchar. Additionally, the Tuticorin–Colombo and Chennai–Trincomalee maritime routes serve this corridor, as noted previously.

33. **Border points.** Several border points are located along this corridor between

i. India and Bangladesh including
    a. Petrapole (operational ICP)/Benapole (operational land port, with development under World Bank's ACCESS program);
    b. Dawki (operational ICP)/Tamabil (operational land port, with development under SASEC Sector Development Program [SDP]);
    c. Sheola (operational land port)–Sutarkandi (operational ICP);
    d. Akhaura (operational land port, with development under SASEC SDP)–Agartala (operational ICP);
    e. Sabroom (ICP under development)–Ramgarh (operational land port); and
    f. rail interchange points such as Petrapole–Benapole, Gede–Darshana, Agartala–Akhaura;

[8] Bangladesh has proposed an alternative connectivity route to India through the Hatikamrul–Bonpara–Rajshahi–Nawabganj–Sona Masjid Land Port Road.

[9] An additional cross-border point between Bangladesh and India is through Shahbazpur (Bangladesh) and Mahisashan (India).

ii. India and Myanmar including
   a. Moreh (operational ICP)–Tamu; and
   b. Zokhawthar (operational LCS)–Rikhawdar.

b) Projects

34. **Status of projects under APSI 2022–2024.**

i. **Projects under construction** across Bangladesh, India, and Sri Lanka include upgrading of the
   a. Dhaka–Sylhet road section (supported by ADB);
   b. Sylhet–Tamabil road section (supported by the Asian Infrastructure Investment Bank);
   c. Sylhet–Sheola road section (supported by the World Bank);
   d. Dawki–Shillong road (including the Dawki Bridge) (supported by JICA);
   e. Central Expressway Stage 1 (Kadawatha to Meerigama) in Sri Lanka;
   f. Cross–Border Road Improvement in Bangladesh;[10] and
   g. Joydebpur–Ishurdi Dual Gauge Double Line (supported by JICA).

ii. **Projects at various stages of planning and preparation** include upgrading of
   a. roads including Karimganj–Sutarkandi, Shillong–Badarpur, Chattogram–Cox's Bazar, Churaibari–Agartala, Daulatdia–Faridpur–Barishal–Kuakata;
   b. access roads to Chattogram Port; and
   c. Tongi–Akhaura dual gauge and Laksam–Chattogram–Dohazari dual gauge (supported by ADB).

iii. **Projects recently completed** include upgrading of
   a. Champai–Zokhawthar section of Aizawl–Zokhawthar highway in India;
   b. Mirigama–Kurunegala section of the Sri Lanka Central Expressway;
   c. rail line projects such as Akhaura–Laksam, Dohazari–Cox's Bazar, Khulna–Mongla Port, and Akhaura–Agartala.

35. **New projects added to APSI 2024–2026.**[11]

i. **Projects under construction** include
   a. the upgrade of the Silchar–Imphal,[12] Agartala–Aizawl, and Aizawl–Champai road sections in India (supported by the Government of India) and the JICA-supported Cross–Border Road Improvement Project, covering eight bridges between Bariyarhat and Ramgarh in Bangladesh; and
   b. the rehabilitation of the Kulaura–Shahbazpur rail line, the Padma Bridge Rail Link (Dhaka–Jashore), and the Jiribam–Imphal New BGL.

ii. **Projects at other stages** include
   a. the rehabilitation of the Bariyarhat–Heako–Ramgarh road project at the land acquisition stage; the ADB-supported SASEC Dhaka–Chattogram PPP Highway Project (tranche 1) in Bangladesh for which the DPR is being prepared; and the upgrade of the Zokhawthar–Kalewa road section, which has been deemed "worthy of consideration" for providing alternative connectivity with Myanmar, in addition to the existing route through the Moreh/Tamu border point; and

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[10] The project includes multiple stretches along Gopalganj, Narail, Jashore, Chattogram, Cox's Bazar, and Khagrachori.
[11] A full list of projects along with their status is available in Appendix 1.
[12] The Tamenglon–Imphal section is supported by ADB.

b. rail projects in Bangladesh in the planning and preparation stages, such as the dual or BGLs for the Chattogram–Dohazari, Akhaura–Sylhet, Jashore–Benapole, Chakaria–Moheskhali, Chattogram Port–Potenga, Bhanga–Payra Port, and Bhairab Bazar–Mymensingh rail sections.

36. Several **inland waterways projects** are also ongoing in the construction or preparation stages in Bangladesh and India, encompassing activities such as dredging, terminal development, navigability improvements, and procurement.

3. Nepal–India–Bangladesh Corridor

a) Modes and Routes

37. **Rationale.** Enhancing Nepal–Bangladesh trade and improving access to gateway ports in Bangladesh for facilitating Nepal's trade with other countries.

38. **Road route.** The Kathmandu–Dhaka/Jashore route via Mechinagar/Panitanki border point between Nepal and India, and Fulbari/Banglabandha border point between India and Bangladesh, connects further to Mongla, Payra, and Chattogram/Matarbari Ports. This route is operational with a 2–6 lane configuration. Ongoing projects along this route include the SASEC Highway Improvement Project (Kanchanpur to Kamala) and the upgrade of the Kakarvitta–Laukahi road in Nepal, as well as the SASEC Dhaka–Northwest Corridor Road Project in Bangladesh.

39. **Rail route.** The corridor is served by the rail routes[13] Biratnagar/Joghbani–Katihar–Singhabad/Rohanpur–Rajshahi–Ishurdi and Mechinagar/Panitanki–Haldibari–Chilahati–Parbatipur–Ishurdi, with further connectivity to Mongla, Payra, and Chattogram/Matarbari ports, as well as Dhaka. The rail link between Katihar in India and Rangpur in Bangladesh, via the Radhikapur/Barol border point, provides essential East–West connectivity. This route is operational, with broad gauge in part and dual gauge in the rest. Ongoing projects include the construction of the Bangabandhu Sheikh Mujib Railway Bridge and the Dual Gauge Line from Parbatipur to Kaunia.

40. **Waterways or multimodal route.** The NW 1 can be used to reach Bangladesh ports[14] via the India–Bangladesh Protocol route, accessed by the inland waterway terminals at Patna (Kalughat) or Sahibganj. These terminals were part of the World Bank-supported project on development of NW1 in India.

41. **Border points.** The road border points at Mechinagar (inland clearance depot)/Panitanki (proposed ICP) between Nepal and India, and Fulbari (proposed ICP)/Banglabandha (operational land port) between India and Bangladesh, are designated LCSs. There are three rail interchange points along this corridor, all between India and Bangladesh: Haldibari/Chilahati, Singhabad/Rohanpur, and Radhikapur/Barol.

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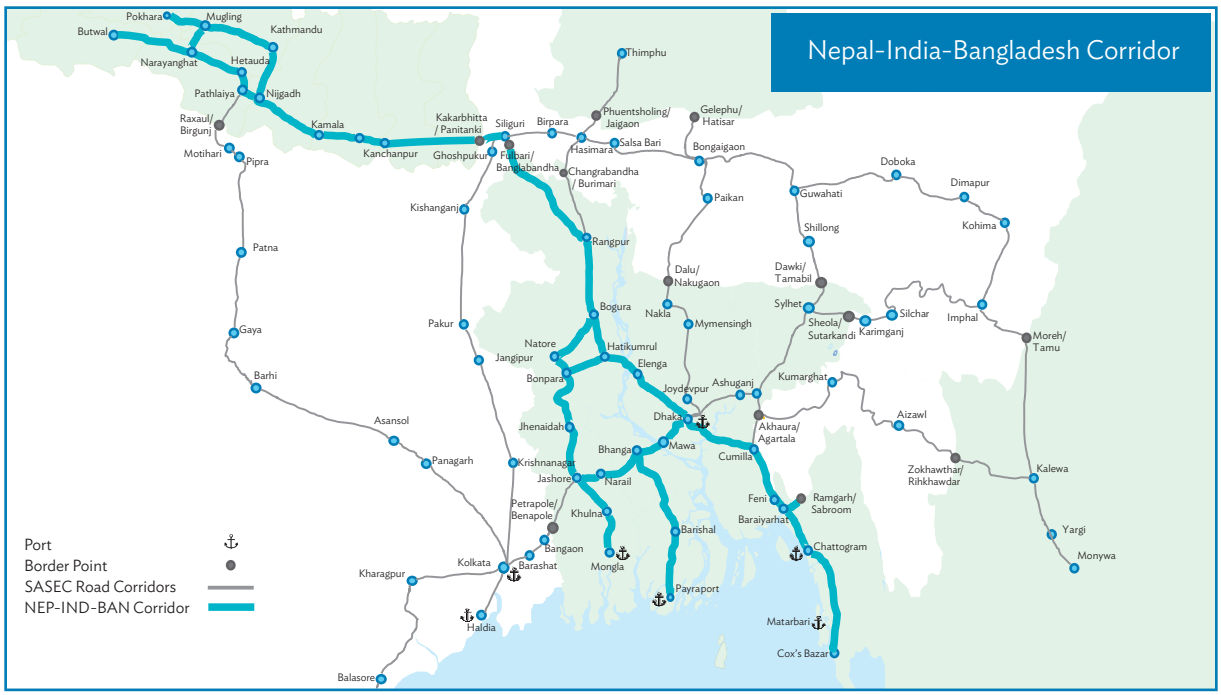
[13] This route is not currently a notified transit trade route between Nepal and Bangladesh through India, but it holds the potential to be developed as a future transit trade route.

[14] The primary potential of this route lies in facilitating Nepal–Bangladesh trade. The Kolkata Port System is already operational for transit trade. However, Chattogram Port is not accessible under the India–Bangladesh Protocol on Inland Water Transport.

Figure 6: Nepal–India–Bangladesh Corridor



BAN = Bangladesh, IND = India, NEP = Nepal.

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Source: Asian Development Bank.

b) Projects

42. **Status of projects under the APSI 2022–2024.** Projects under construction include the JICA-supported Western Bangladesh Bridge Improvement,[15] ADB-supported SASEC Dhaka–Northwest Corridor Road, World Bank-supported Jhenaidah–Jashore Road Upgrade, and the ADB-supported Rangpur–Banglabandha Road Improvement. Procurement has been completed for the ADB-supported upgrade of the Kakarvitta–Laukahi section of the East–West Highway in Nepal while the ADB-supported Improvement of the Hatikamrul–Bonpara–Kustia–Jhenaidah Road in Bangladesh is at the feasibility stage.

43. **New projects added to the APSI 2024–2026.**[16]

i. **Projects under construction** include

a. **Nepal.** Government of Nepal-funded 4-lane expressway between Kathmandu and Nijgadh and ADB-supported SASEC Highway Improvement Project (East–West Highway from Kanchanpur to Kamala).

b. **Bangladesh.** JICA-supported Bangabandhu Sheikh Mujib Railway Bridge over River Jamuna, BGL between Chilahati and Chilahati Border, and the dredging of the Mongla–Chandpur–Mawa–Goalanda–Paksey inland waterway route.

15 This includes multiple bridges in Rangpur, Rajshahi, Gopalganj, Barishal and Khulna zones in western Bangladesh.

16 A full list of projects along with their status is available in Appendix 1.

ii. **Projects at other stages** include
   a. World Bank-supported Kamala–Pathlaiya section of the East-West Highway in Nepal at procurement stage;
   b. Bangladesh rail projects along Parbatipur–Kaunia, Abdulpur–Rajshahi, Abdulpur–Santahar–Parbatipur, and Narayanganj–Dhaka–Chattogram routes at feasibility stage.

4. Bhutan–India–Bangladesh Corridor

a) Modes and Routes

44. **Rationale.** The corridor supports Bhutan–Bangladesh trade and provides access to gateway ports in Bangladesh for facilitating Bhutan's trade with other countries.

45. **Road route.** The two alternate routes connecting Thimphu and Dhaka on this corridor are
   i. the route via the Jaigaon/Phuentsholing border point between India and Bhutan, and the Changrabandha/Burimari border point between India and Bangladesh; and
   ii. the route via the Gelephu/Hatisar border point between India and Bhutan, and the Dalu/Nakugaon border point between India and Bangladesh, connecting further to Mongla, Payra, and Chattogram/Matarbari ports;[17] this route is operational with a 2–4 lane configuration, with the section between Tura and Dalu in India currently under implementation.

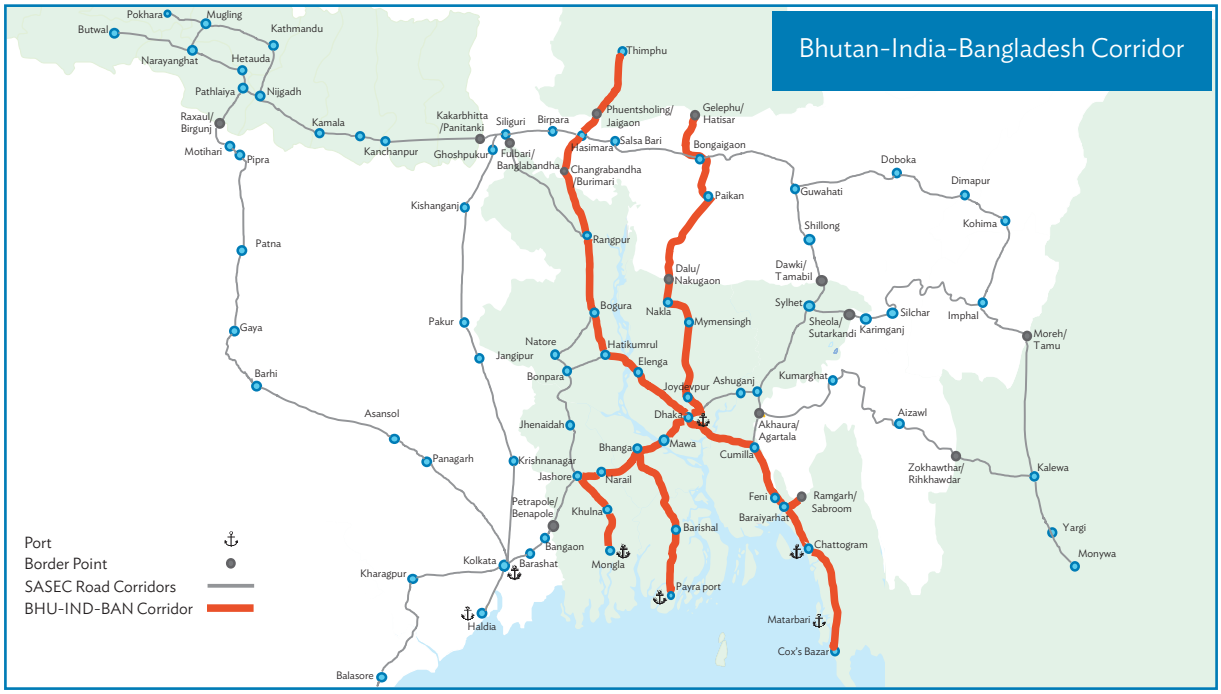
46. **Rail route.** There is currently no rail connection with Bhutan. However, rail connectivity is proposed from Kokrajhar to the Hatisar/Gelephu border point between India and Bhutan. The corridor is further served by the rail route Bongaigaon–Changrabanda/Burimari–Sairajganj, with further connectivity to Mongla, Payra, and Chattogram/Matarbari ports. This rail route is not operational due to a gap between Bongaigaon and Hatisar and Changrabandha and Burimari, as well as the presence of multiple gauges along the route. The section in Bangladesh is meter gauge, while the section in India is broad gauge. However, Bangladesh is in the process of converting the meter gauge section to dual gauge, with an ongoing project from Bogura to Sirajganj. Bangladesh has proposed two additional interchange points between (i) Mogalhat (Bangladesh) and Gitaldaha (India) and (ii) Chilahati (Bangladesh) and Haldibari (India), which will connect to New Coochbehar in West Bengal, India, and subsequently to Kokrajhar in Assam, India.

47. **Waterways and multimodal route.** The NW 2 and the Bangladesh waterways through the India–Bangladesh Protocol routes can be used to access Bangladesh ports via the inland waterway terminals at Dhubri or Jogighopa in India. This route may be accessed by road from Bhutan.

48. **Border points.** All road border points serving this corridor are LCSs on the India side and land ports on the Bangladesh side. There is no operational rail border point on this corridor.

[17] Bangladesh has proposed an alternative route through the Rangpur–Barabari–Kurigram–Bhurungamari–Sonahat land port road.

Figure 7: Bhutan–India–Bangladesh Corridor



BAN = Bangladesh, BHU = Bhutan, IND = India.

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Source: Asian Development Bank.

b) Projects

49. **Status of projects under the APSI 2022–2024.**

i. The ADB-supported improvement of the Gelephu Airport has been completed, and it is being developed into an international airport with support from the World Bank.

ii. The ADB-supported improvement of the Burimari–Rangpur Road in Bangladesh, along with the upgrade of the Paikan–Tura Road in India (supported by the Government of India), is currently at the feasibility stage.

50. **New projects added to APSI 2024–2026.**[18]

i. The JICA-supported upgrade of the Tura–Dalu and Srirampur–Tura sections in India is currently under construction.

[18] A full list of projects along with their status is available in Appendix 1.

ii. The dual gauge railway line from Bogura to Sirajganj in Bangladesh is also in the construction phase.
iii. The Republic of Korea-supported Joydebpur–Mymensingh Expressway PPP Project in Bangladesh is in the planning stage.
iv. In Bhutan, the Lhamoizingkha to Sarpang road project has been proposed for DPR to ADB.
v. The Gelephu to Taraythang road project has been proposed to the World Bank.
vi. The Taraythang to Panbang road project has been documented as a proposed initiative for Bhutan's 14th Five Year Plan (2029–2034).
vii. The proposed Kokrajhar to Gelephu rail line, aimed at providing rail connectivity between India and Bhutan, is currently in the feasibility stage.
viii. Additionally, a new railway line between Samtse (Bhutan) and Banarhat (India), to be developed by the Government of India, has been documented by the Government of Bhutan for consideration in its 13th Five Year Plan (2024–2029).
ix. Two key road sections serving this corridor, the Mymensingh–Nakla Road and the Nakla–Nakugaon Highway, have been identified by Bangladesh as "worthy of consideration."

5. Nepal/Bhutan–India–Myanmar Corridor

a) Modes and Routes

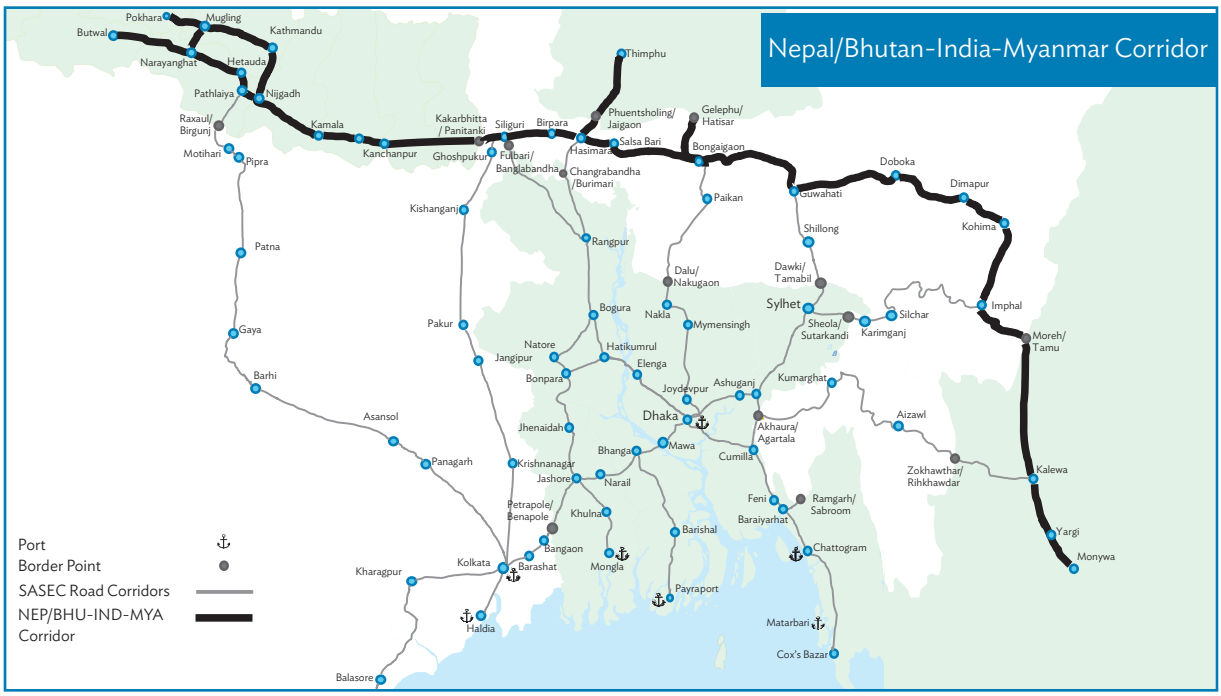
51. **Rationale.** Facilitating trade between the BBIN and the Association of Southeast Asian Nations (ASEAN) through the India–Myanmar border point of Moreh/Tamu, with access from Bhutan and Bangladesh via other SASEC corridors and their spurs.

52. **Road route.** The route connects Mechinagar, Nepal (from Kathmandu) to Myanmar via the Kakavitta/Panitanki border point between India and Nepal, and the Moreh/Tamu border point between India and Myanmar. Access from Bhutan is available through the Bhutan–India–Bangladesh Corridor, which intersects this corridor at Hasimara and Bongaigaon, while access from Bangladesh is provided through the Sri Lanka–India–Bangladesh–India–Myanmar Corridor. This route is operational with a 2–4 lane configuration, with ongoing projects to upgrade the Kohima–Mao–Imphal section and construct the Moreh Bypass.

53. **Rail route.** There is currently no rail connection to Myanmar. However, rail connectivity has been proposed from Imphal to the Moreh/Tamu border point between India and Myanmar. The corridor is served by the Kakarvitta/Panitanki–Bongaigaon–Imphal rail route. Even with the potential construction of the Imphal–Moreh rail connection, cargo would still need to be transferred to road transport, as there are no current rail development plans from the Tamu border point in Myanmar.

54. **Border points.** The Moreh/Tamu border point is an operational ICP on the India side, while the Kakarvitta/Panitanki border point is an LCS (proposed ICP) on the India side and an inland clearance depot on the Nepal side. There are no operational rail border points on this corridor.

Figure 8: Nepal/Bhutan–India–Myanmar Corridor



BHU = Bhutan, IND = India, MYA = Myanmar, NEP = Nepal.

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Source: Asian Development Bank.

b) Projects

55. **Status of projects under the APSI 2022–2024.**

i. The upgrade of the Kohima–Mao–Imphal Road and the Moreh–Tamu Cross Border Bridge in India are currently in the construction phase.

ii. The upgrade of the Krishnai–Guwahati–Jorabat Road in India is in the procurement stage.

56. **New projects added to the APSI 2024–2026.**[19] The upgrade of Bago Bypass, Bago–Thilawa, Thilawa–East Dagon, and Tamu–Kyigone–Kalewa–Yargi road sections in Myanmar is currently in the construction phase.

6. Myanmar–Bangladesh–India–Sri Lanka–Maldives (Maritime) Corridor

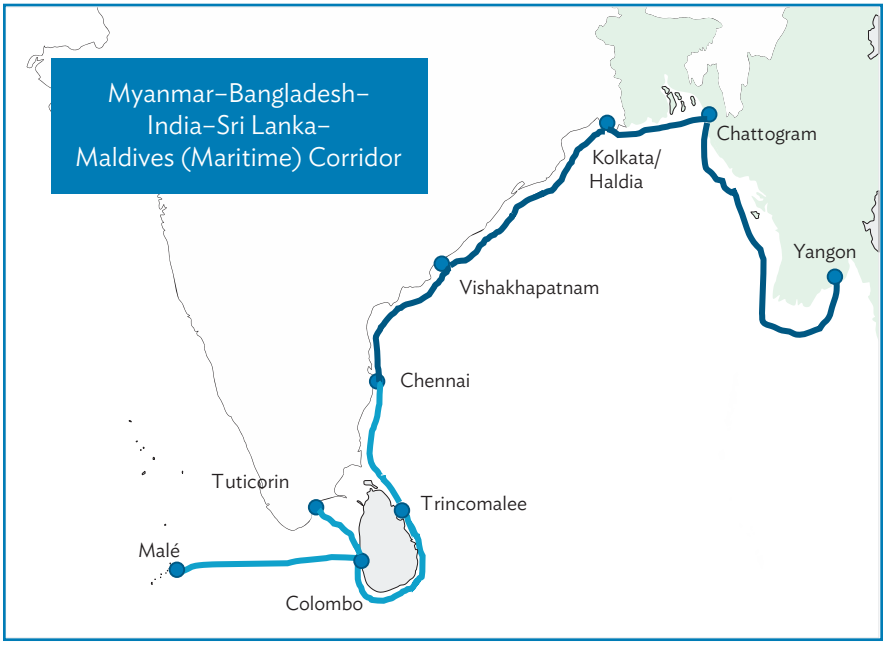
a) Modes and Routes

57. **Rationale.** The Myanmar–Bangladesh–India Maritime Corridor offers an alternative multimodal access route to the landlocked North East Region (NER) of India via the Sittwe Port, providing maritime gateway access for both bilateral and third-country trade through Chattogram (Bangladesh), and Kolkata, Haldia, and Visakhapatnam (India). This corridor also promotes economic growth through port-led development. The India–Sri Lanka–Maldives Maritime Corridor enhances regional and bilateral trade, facilitates passenger transit, stimulates economic development through a port-led ecosystem, and fosters broader growth opportunities.

[19] A full list of projects along with their status is available in Appendix 1.

58. **Route.** This corridor is served by the ports of Yangon and Sittwe in Myanmar, Chattogram in Bangladesh, Kolkata/Haldia, Visakhapatnam, Chennai, and Tuticorin in India, Trincomalee and Colombo in Sri Lanka, and Malé in the Maldives. This corridor interfaces with Nepal/Bhutan–India Corridor at Indian ports and the Sri Lanka–India–Bangladesh–India–Myanmar Corridor at Sri Lankan, Indian, and Bangladeshi ports. It also connects with the Nepal–India–Bangladesh Corridor and Bhutan–India–Bangladesh Corridor at Bangladeshi ports.

Figure 9: Myanmar–Bangladesh–India–Sri Lanka–Maldives (Maritime) Corridor



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Source: Asian Development Bank.

b) Projects

59. **Status of projects under the APSI 2022–2024.** The JICA-supported Matarbari Port Project in Bangladesh is currently in the construction phase.

60. **New projects added to the APSI 2024–2026.**[20]

i. **Projects under construction** include

a. Government of Bangladesh-supported Chattogram Port Truck Parking Yard Facility, bay terminal, Madaripur (Mostafapur)–Shariatpur–Chandpur–Lakshmipur–Begumganj Road, and Shariatpur–Padma Bridge Link Road, connecting Chattogram and Mongla ports;

b. Government of India-supported flyover bridge from the Sea-Horses Junction area to the dock area at Vishakhapatnam, flyover–underpass at the Vishakhapatnam airport junction to ensure the smooth flow of container trailers to and from the multimodal logistics port on National Highway 16, direct connectivity to Mindi Yard for Vishakhapatnam Port, and the elevated expressway to the Chennai Port;

c. Government of Maldives-supported Greater Malé Connectivity Project; and

d. Government of Myanmar-supported Yangon Elevated Expressway.

[20] A full list of projects along with their status is available in Appendix 1.

ii. **Projects at the planning stage** include

a. Government of Bangladesh-supported SASEC Dhirasram Inland Container Depot Project;

b. Government of India-supported development of the Jolarpet rail terminal and connectivity, road from Port Trust Circle to NH 45B junction, and common user facility for green hydrogen hubs at three locations;

c. Government of Maldives-supported new port development for the decongestion of Malé Port, the development of 85 navigational lighthouses throughout the Maldives, and the bunkering facility in Laamu Atoll; and

d. Government of Sri Lanka-supported development of the Trincomalee port as an industrial hub and the development of maritime tourism initiatives at five Sri Lankan ports.

B. Integrated and Multimodal Logistics

1. Project on Strengthening Integrated and Multimodal Logistics Ecosystem

61. Improvement of multimodal logistics infrastructure, alongside policy and regulatory reforms in the logistics sector, represents a new approach to addressing trade corridors under the SASEC program. ADB has been supporting India's Strengthening Multimodal and Integrated Logistics Ecosystem (SMILE) program, which focuses on transforming the logistics landscape. Key components of the program include (i) the Multimodal National Master Planning; (ii) the National Logistics Policy; (iii) strengthening institutional frameworks; (iv) implementing smart systems for safe, efficient, and low-emission logistics, including a dynamic logistics data stack; (v) standardizing logistics assets such as warehousing; and (vi) improving export–import logistics.

62. The SMILE program is supported by ADB through a policy-based loan, with two subprograms of $250 million each in FY2023 and FY2025. The first subprogram has been successfully completed, with $250 million disbursed by ADB and an additional $100 million from the Export–Import Bank of Korea as a co-financier.[21] ADB is now focused on advancing the processes associated with Subprogram 2, which is scheduled for completion in the last quarter of 2024.

2. Border Infrastructure Development

63. The Land Port Authority of India has developed ten ICPs along the Indian borders at Attari, Agartala, Dawki, Petrapole, Raxaul, Rupaidiha, Jogbani, Moreh, Sutarkandi, and Srimantapur to facilitate the efficient handling of overland trade with neighboring countries. Additionally, there are plans to develop another 12 locations as ICPs to further enhance border infrastructure.

3. Transport-Logistics and Trade Facilitation Nexus

64. Further policy reforms are required to address existing gaps in facilitating regional trade. With the development of connectivity infrastructure, there is a unique opportunity to effectively address the transport–logistics–trade facilitation nexus. This involves efforts to build a modern trade logistics industry, improve supply chain management, and strengthen logistics governance.

C. Knowledge Initiatives

65. While SASEC corridors and sector/thematic areas achieved progress toward better connectivity in the SASEC subregion, ongoing knowledge efforts are essential to further strengthen regional cooperation and generate synergies among member countries. These efforts will help unlock their untapped trade potential. A brief overview of some key knowledge initiatives follows.[22]

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[21] "Korea" here is part of the bank's name and refers to the Republic of Korea.

[22] A full list of knowledge work related to the transport sector is listed in Appendix 2.

1. Ongoing Initiatives

a) Data Analytics for Assessing SASEC Logistics Movement

66. This study was launched to analyze the origin, destination, and specific movement patterns of cross-border trade logistics in SASEC countries. By leveraging big data and geo-spatial analysis, the study identified key bottlenecks, border inefficiencies, and other challenges affecting logistics and trade flows across the SASEC region. An analytical model was developed to enhance the understanding of logistics movement across SASEC borders and evaluate the economic benefits of transport projects, including cost savings and broader impacts.

67. A data lake was established for SASEC corridors to support various applications. One such application is the "Beyond Transport" model, an interactive decision tool that requires no prior transport modeling expertise from users. This tool also offers conceptual visualizations of environmental risks. Additionally, a cost–benefit assessment tool based on MS Excel was created to evaluate the financial and economic viability of transport projects.

68. The key findings of the study are as follows:

i. The rail modal share is more sensitive to cost variations than to time.
ii. A 20% reduction in rail transport costs could increase rail traffic volume by over 45%, contributing significantly to decarbonization goals.
iii. Variations in time and cost are expected to impact the modal shares of road and rail transport, with minimal effect on sea transport.
iv. Modal share increases significantly when time reductions exceed 10%, with road transport being most affected in terms of modal shift.
v. Sea transport is highly responsive to cost reductions, with a 20% decrease in cost potentially tripling the projected traffic volume.
vi. Reducing transport time is expected to shift traffic from road and rail to faster coastal shipping, which offers a strong alternative for both modes of transport.

b) India–Bangladesh Rail-Based Cargo Movement Study

69. This ADB study is aimed at promoting greater trade and commerce within the BBIN region by improving regional connectivity through a strategic shift toward rail-based logistics, reducing both costs and transit times, thus improving logistics efficiency.

70. In pursuit of the twin objectives of promoting rail-based trade and improving logistics efficiency, the study examines four channels in which a modal shift to rail-based transportation could play a beneficial role:

i. India–Bangladesh bilateral trade;
ii. Bangladesh's export–import trade via India and vice versa;
iii. Transit trade from rest of India to the NER via Bangladesh; and
iv. Bangladesh's trade with Bhutan and Nepal via India.

71. The study report will present

i. key learnings from transit case studies;
ii. infrastructural, policy and regulatory, and ecosystem and services gap assessment;
iii. high-level financial feasibility analysis for identified list of new projects;
iv. recommendations on infrastructure, policy, regulatory frameworks, financing structures, operating models of inland container depots, and procurement models of wagons;

v. roadmap to enhance rail-based movement and introduction of electronic cargo tracking system; and

vi. findings and feedback from dissemination workshops.

c) Bangladesh–Bhutan–India Nepal Motor Vehicle Agreement Studies

72. To support BBIN in implementing the MVA, ADB has conducted studies on (i) route harmonization, (ii) cross-border vehicle insurance, and (iii) fees and charges. The draft reports for these studies were circulated in July 2023.

73. The route harmonization study aimed to ensure that agreed-upon routes would facilitate seamless transport and transit, aligning them across borders through "harmonized routes." These routes were designed to assist participating countries in negotiating MVA protocols, based on factors such as the presence of gateways, efficiency in cargo delivery, existing logistics infrastructure, proximity to growth centers, and minimization of empty returns.

74. The study on cross-border motor insurance examined the insurance regulations and legal frameworks of India, Bangladesh, and Nepal, offering recommendations to ensure compliance with the BBIN MVA provisions. A roadmap was proposed, covering legal, process, ICT,[23] and governance aspects to facilitate the implementation of insurance provisions under the BBIN MVA.

75. The fees and charges study focused on developing a framework, rationale, and structure for determining the fees for allowing foreign cargo vehicles entry into host countries, as outlined in the BBIN MVA. A hybrid model based on territory and distance was identified as the most suitable for determining road-user charges for foreign cargo vehicles in the BBIN region. The study emphasized that flexibility from participating countries in reducing charges per entry would expand the benefits of the MVA. Expected indirect benefits include increased trade, higher seaport cargo volumes, and revenue growth.

76. The countries have agreed to the proposal for trial runs to demonstrate the impact of seamless vehicle movement. These trials will help gather stakeholder feedback, refine operating procedures, and finalize the cargo protocol under the BBIN MVA, along with the necessary implementation steps.

2. Proposed Initiatives

77. Several knowledge initiatives were proposed during the SASEC Transport Working Group Meeting in November 2023 and the SASEC Senior Officials Meeting (SOM) in December 2023. These initiatives are primarily aimed at supporting SASEC countries in developing strategies and plans to enhance trade by reducing travel time and improving the efficiency of the region's dominant transport modes, while also addressing climate change. The proposed initiatives focus on two key areas: (i) mitigating climate change through the decarbonization of transport, and (ii) building a climate- and disaster-resilient transport network.

78. Decarbonization of transport will be pursued through a two-pronged approach: (i) developing road infrastructure that supports sustained, constant-speed operations with fewer periods of acceleration or deceleration, thus boosting trade and economic activity, and (ii) increasing the modal share of rail and waterways in the region.

a) SASEC Expressway Network

79. Expressways are access-controlled highways that can only be accessed through designated interchanges, allowing for longer stretches of uninterrupted traffic flow. Defined as "Primary" class by UNESCAP[24] in relation to Asian Highways, these expressways are typically reserved for automobiles, with restrictions placed on two-wheelers, nonmotorized vehicles, and pedestrians to ensure safety and

[23] ICT stands for Information and Communication Technology.
[24] UNESCAP stands for United Nations Economic and Social Commission for Asia and the Pacific.

smooth vehicle movement. Expressways contribute to trade efficiency by reducing average travel times and facilitating the use of larger, more efficient freight vehicles. Additionally, they improve safety by maintaining continuous traffic flow, and enhance disaster and climate resilience by providing network redundancy and adhering to high design and technical standards.

80. The proposed knowledge initiative will (i) identify the SASEC Expressway Network through consultations with SASEC countries on their expressway development plans, including assessments of regional trade, emission reduction potential along corridors, and alignment with existing SASEC corridors; (ii) present and discuss the SASEC Expressway Network to the SASEC Transport Working Group, the SASEC senior (nodal) officers, and related forums for endorsement by SASEC countries; (iii) prepare a phased implementation plan in consultation with the SASEC countries, as applicable; and (iv) conduct consultations and workshops to engage relevant stakeholders.

b) Decarbonization of Transport Through Mode Shift from Road to Other Modes in SASEC Region

81. The proposed knowledge work will

i. develop an implementation plan to improve access to waterways, enabling the shift from road-only routes to multimodal routes;
ii. conduct studies to provide knowledge support for enhanced waterway transport, including standardization of vessels, navigation systems, vessel financing, modern techniques, and the integration of coastal shipping with inland waterway transport;
iii. prepare an implementation plan for institutional capacity building to facilitate the shift from road to alternative transport modes;
iv. undertake studies to support the shift from road to rail or other modes, including pre-feasibility studies for new routes, network expansion, and identification of high-speed rail routes and networks;
v. develop a border-point-pair infrastructure compatibility plan aimed at reducing carbon emissions through efficient movement and shorter transit times;
vi. identify and designate a SASEC corridor to be implemented as a "decarbonized" corridor; and
vii. conduct consultations and workshops to engage stakeholders and refine the plans.

82. Based on the successful progress of the India–Bangladesh rail-based cargo transport study, SASEC countries have requested ADB to immediately expand the study into its next phase, which will include a regional rail network study to incorporate Nepal and Bhutan.

c) Disaster and Climate Resilient Transport Network

83. The proposed knowledge work will

i. benchmark global best practices and review recent experiences in the development of disaster- and climate-resilient transport networks, particularly within the region;
ii. develop strategies for implementing disaster- and climate-resilient infrastructure in the SASEC region, focusing on road and rail sections identified for resilience enhancement; and
iii. conduct consultations and workshops to engage stakeholders and refine the implementation strategies.

d) Multimodal National Master Planning and Dynamic Data Stack

84. The framework of the ADB-assisted SMILE Program in India was presented at the Transport Working Group meeting in November 2023. Since 2018, ADB has been collaborating with the Logistics Division of the Ministry of Commerce and Industry, Government of India, on various aspects of logistics sector development, as detailed earlier in this document. SASEC countries expressed interest in learning

from India's experience with the SMILE Program, as well as the National Master Plan (PM Gati Shakti) and Unified Logistics Interface Platform (ULIP) initiatives of the Government of India. Delegates from SASEC countries have requested ADB to undertake knowledge initiatives in their respective countries to address logistics sector challenges and provide tailored recommendations. In response, ADB will support SASEC countries in developing national multimodal master plans to strengthen their integrated multimodal logistics ecosystems and build logistics operational data stack tailored to the specific context of each country.

III. TRADE FACILITATION

85. The SASEC Trade Facilitation Strategic Framework 2014–2018 was adopted by the SASEC countries in March 2014. The framework outlined five priority areas to guide the SASEC trade facilitation program: (i) modernization and harmonization of customs procedures, (ii) standards and conformity assessment, (iii) enhancement of cross-border facilities, (iv) facilitation of seamless transport, and (v) institutional strengthening and capacity building.

86. The SASEC Operational Plan for 2016–2025 established six key trade facilitation priorities as focus areas for ADB's assistance in this area. These priorities are to (i) simplify trade documentation, (ii) promote automation in border agencies and develop national single windows, (iii) strengthen national conformity bodies to address sanitary and phytosanitary (SPS) measures and technical barriers to trade (TBT), (iv) develop and implement through-transport (motor vehicle) agreements,[25] (v) develop trade-related infrastructure in ports, dry ports, and land border crossings, and (vi) build capacity and improve coordination in trade facilitation.

87. The SASEC Customs Subgroup (SCS)[26] has been a key institutional mechanism for advancing trade facilitation within the SASEC framework. The SCS oversees and monitors subregional projects (SRPs) aimed at facilitating cross-border trade and transit. ADB's current assistance focuses on supporting the SCS and its SRPs that aim to strengthen cooperation among SASEC customs administrations for better compliance monitoring, promote coordinated border management, and facilitate the exchange of information and data. Key initiatives include

i. exchange of documents at major border crossing points (BCPs);
ii. border meetings among customs authorities;
iii. electronic exchange of pre-arrival data;
iv. use of the Electronic Cargo Tracking System;
v. cross-border route studies; and
vi. coordinated border management.

88. The work program on SPS–TBT included national diagnostic studies that identified export products with untapped trade potential in each SASEC country. These products faced trade barriers due to SPS and TBT measures imposed by importing SASEC countries. Additionally, inventorization studies were conducted in the Maldives, Bhutan, and Nepal to assess quarantine, laboratory, testing, certification, inspection, and metrology facilities, as well as the standard operating procedures, human resource availability, and the legislative and institutional frameworks in place.

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[25] Besides the BBINMVA discussed earlier, ADB has been supporting the drafting of the India–Myanmar–Thailand MVA, although it has yet to be signed due to pending resolution of various issues. ADB will facilitate discussions on these matters if requested by the concerned countries.

[26] The SCS seeks to advance subregional trade facilitation by promoting customs reforms and modernization, strengthening interagency cooperation, and enhancing partnerships with the private sector, all aimed at eliminating trade barriers and fostering trade development.

89. The work on improvement of cross-border facilities,[27] has largely been integrated in the SASEC road connectivity projects in member countries and included in discussions related to transport and logistics in SASEC corridors (earlier in the paper).

90. Transport facilitation to enhance the efficient transnational movement of people, goods, and vehicles is not just being supported through the BBIN MVA but also being addressed in the SASEC cross-border route studies.

A. Projects and Knowledge Initiatives

1. Some Historical Perspectives

91. Since 2012, ADB has extended policy-based loans and grants amounting to $69 million for trade facilitation programs at both the regional (Bangladesh, Bhutan, Nepal) and national (Nepal) levels. These initiatives have supported governments in meeting their commitments under the Trade Facilitation Agreement (TFA) of the World Trade Organization (WTO) and aligning with related international customs standards. The programs have also strengthened key customs operations, including risk management, post-clearance audit, advance ruling, trade facilitation measures for authorized operators, pre-arrival processing, and expedited shipment procedures.

92. **Action plan in the wake of the Corona Virus Disease-19 (COVID-19) pandemic**. While trade facilitation has traditionally focused on expediting cargo clearance, reducing transaction costs, and ensuring efficient compliance management, the COVID-19 pandemic underscored the critical need for swift cargo clearance with minimal physical interaction to maintain efficient supply chains. Prioritizing trade facilitation reforms and developing new initiatives to sustain trade—particularly for essential goods—while ensuring public health and safety became paramount.[28] In response, countries adopted an action plan to address disruptions through trade facilitation. This plan included measures to enable cargo processing with minimal human interaction, ensure business continuity, enhance inter-agency and cross-border coordination, and implement special regimes for sensitive or critical goods. The action plan aims to build resilience and strengthen the preparedness of customs authorities to better manage future emergencies.

2. Ongoing Projects and Programs in Trade Facilitation

93. **Maldives.** In May 2019, $10 million were raised through the Asian Development Fund (comprising a loan of $5 million plus and a grant of $3.8 million) and the Government of Maldives (through "in-kind" contribution worth $1.2 million) to develop the Maldives' National Single Window, a unified electronic platform designed to enhance the speed and efficiency of cross-border control procedures through the use of advanced technology systems.

94. **Bangladesh.** In March 2022, ADB approved the SASEC Integrated Trade Facilitation Sector Development Program (SDP) for Bangladesh, comprising a $90 million policy-based loan (Loan 4177), a $53 million project loan (Loan 4178), both from ADB's concessional ordinary capital resources, and a $1.5 million technical assistance grant (TA6911) to support program implementation. The National Board of Revenue and Ministry of Commerce of the Government of Bangladesh are the executing agencies for the

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[27] An ADB study on coordinating the development of border infrastructure, focusing on nine LCS pairings, assessed infrastructural, institutional, procedural, ICT, and other challenges. The study emphasized the need for improved coordination to align investments and software.

[28] In March 2020, as the Secretariat and convener of the SASEC Customs Subgroup, ADB provided SASEC countries with information on the critical roles that customs administrations could play in addressing the COVID-19 outbreak. These roles included facilitating the movement of relief goods (such as medicines and equipment) and qualified personnel across borders, as well as supporting domestic traders in overcoming the challenges posed by disrupted supply chains. Customs administrations were encouraged to develop plans tailored to their national needs while aligning with global best practices.

policy-based loan. The policy actions focus on three reform areas aligned with international standards under the WTO's TFA and other instruments: (i) ensuring compliance of the customs legal framework with international standards, (ii) improving cargo clearance processes, and (iii) strengthening the capacity of customs agencies. The program part of the SDP was successfully completed in March 2024 and the amount of $40 million was disbursed in June 2024. The project component targets the development of border infrastructure at Akhaura, Sonamasjid, and Tamabil on the India–Bangladesh border in Phase I.

95. **Nepal.** As both hard and soft connectivity infrastructure has been developed within the country, there is now an opportunity to broaden the scope of trade facilitation across the entire logistics sector. The SASEC Customs and Logistics Reforms Program seeks to enhance logistics in Nepal by formulating and implementing a new Trade Logistics Development Policy, while continuing to support customs reforms. This will contribute to a modern, efficient, integrated, and sustainable trade logistics industry. The program is designed to drive targeted and integrated logistics infrastructure development, improve supply chain management, and strengthen logistics governance.

96. In June 2023, ADB approved a programmatic approach for the SASEC Customs and Logistics Reforms Program, along with Subprogram 1 (Loan 4323), with a loan of $50 million. An associated technical assistance grant of $1 million (TA 6847) was also approved. The program's actions are focused on expanding the government's trade facilitation efforts within the logistics sector, aiming to promote more efficient movement of goods, integrate logistics infrastructure to support multimodal transport, enhance last-mile connectivity, and establish a one-stop logistics information portal.

97. The full list of ADB-supported trade facilitation projects in SASEC countries is available in Appendix 3.

3. Trade Facilitation Measures for e-Commerce

98. The Sri Lanka e-commerce review and study assessed the country's e-commerce landscape by analyzing its key drivers and challenges. The study included a comprehensive examination of the policy and regulatory environment, trade processes, stakeholder mapping, and technology adoption levels. Drawing insights from Sri Lanka's strengths and challenges, the report highlighted international best practices, summarizing successful e-commerce initiatives from South Asia and around the world. It also offered recommendations and proposed initiatives to create a seamless environment for cross-border e-commerce growth in Sri Lanka.

99. Moving forward, a regional study on cross-border e-commerce will be conducted to explore the challenges and opportunities posed by e-commerce, as well as the unique regulatory frameworks required for its success in the subregion. The study will address the specific and legitimate needs of e-commerce to enable its growth.

100. To improve trade facilitation across cross-border regulatory agencies, ADB will conduct a rapid assessment of the digitalization status and the use of risk management systems for cargo clearances. As part of its knowledge work to assist the SASEC countries in emerging areas, ADB will undertake a regional study on trade facilitation for e-commerce.

101. The full list of ADB-supported trade facilitation knowledge work in SASEC countries is available in Appendix 4.

B. Sanitary and Phytosanitary Measures and Technical Barriers to Trade: Coordination of Food Regulation for Food Trade

102. Under the Standards and Conformity Assessment pillar of the SASEC Trade Facilitation Strategic Framework, subregional trade will be enhanced through strengthened interagency cooperation and enhanced partnerships with the private sector to reduce trade barriers.

103. During 2017–2018, national diagnostic studies on SPS–TBT were conducted in SASEC countries, with national validation meetings held in Bangladesh, Bhutan, India, Maldives, Nepal, and Sri Lanka. These studies identified commodities where a SASEC country has export capacity but another SASEC country imports them from outside the subregion. They also highlighted SPS- and TBT-related nontariff measures that may be trade-restrictive, as well as gaps in legislative, institutional, infrastructural, and human capacity. The findings were disseminated to the countries, followed by a regional study completed in 2022. The studies provided recommendations tailored to each country's needs, including modernizing legal frameworks, upgrading testing infrastructure and facilities, improving the deployment of ICT, enhancing the use of risk management, and strengthening institutional arrangements.

104. The studies on SPS–TBT facilities for the Maldives, Nepal, and Bhutan have been completed and are ready for publication, pending endorsement by their respective governments. These studies focus on inventorying the SPS–TBT institutions, relevant legislation, human resources, infrastructure, and laboratories available for sample testing, certification, and metrology facilities related to imports and exports. The studies recommend measures to strengthen the capacity of SPS–TBT facilities and institutions to promote trade.

105. In 2022, the senior officials of SASEC indicated that from among the various goods covered under the SPS–TBT study, ADB prioritize facilitating the coordination of food regulations for regional food trade. Based on this guidance, SASEC addressed food regulation coordination for the first time in its meeting in 2023 as a parallel session within the Trade Facilitation Working Group (TFWG) meeting.

106. The SPS–TBT study reports also served as foundational information for coordinating food regulations in regional food trade, which was endorsed by the SOM held in December 2023. Periodic consultations on food regulation in the region are slated to be organized along with related knowledge work. At the SOM, it was agreed that

i. a SASEC regional arrangement would be arrived at for enhancing the capacity of technical personnel at training centers in India, with facilitation and logistics support from ADB;
ii. a mutually acceptable framework would be established for conformity assessment, including certification and testing;
iii. a study on the status of testing laboratory infrastructure in SASEC countries would be conducted, identifying the need for upgrades; and
iv. the feasibility of setting up regional testing facilities at strategic locations to support efficient food trade in the region would be assessed.

107. A comprehensive list of projects related to SPS–TBT is provided in Appendix 5. A full list of knowledge initiatives related to SPS–TBT can be found in Appendix 6.

IV. HIGHLY FACILITATED TRADE CORRIDORS

108. ADB has supported the SASEC cross-border routes studies to identify issues affecting trade along specific border points and routes and to design solutions to address them. The initial phase of the study focused on the Kolkata–Dhaka route, covering the Petrapole/Benapole, Ghojadanga/Bhomra, and Gede/Darsana border points. The final report for this phase was submitted to the Governments of Bangladesh and India in July 2020. Phase 2 of the study expanded to cover the Kakarvitta–Panitanki–Fulbari–Banglabandha–Chattogram/Mongla route. The final report for this phase was submitted to the Governments of Bangladesh, India, and Nepal in mid-2021.

109. The studies noted that

i. physical transport infrastructure, including roads, railways, and bridges, was inadequate, as were facilities behind the border points to support current and projected trade volumes;
ii. infrastructure at BCPs had shortfall in parking facilities, gate management systems, testing facilities, and warehouse space for processing cargo; and
iii. weak trade facilitation frameworks, including outdated regulations, inefficient practices, and suboptimal use of technology, hindered the efficient processing and clearance of goods.

110. The recommendations from the studies included both hard and soft interventions. Hard interventions focused on physical infrastructure improvements, such as upgrading select road stretches, enhancing rail infrastructure, developing dry ports or intermodal transshipment facilities, and improving border point infrastructure. Soft interventions consisted of common measures across countries, as well as specific actions tailored to each border point, aimed at improving services for traders and boosting trade through the respective gateways.

111. Following the approval of the SASEC TFWG and SOM, the recommendations from the SASEC cross-border route studies will be updated. ADB will prepare a Highly Facilitated Trade Corridor (HFTC) Action Plan, which will include recommendations, responsible agencies, and timelines. The foundational work for this action plan will be based on the two route studies that identified issues and provided recommendations on regulatory, connectivity, infrastructure, and institutional gaps along (i) the Kolkata–Dhaka route, passing through Petrapole–Benapole, Ghojadanga–Bhomra, and Gede–Darsana, and (ii) the Nepal–India–Bangladesh route, from Kathmandu, passing through Kakarvitta–Panitanki, Fulbari–Banglabandha, to Chattogram or Mongla.

112. The HFTC Action Plan will categorize measures into route-specific, national, and regional actions. The plan will be implemented in phases, beginning with short-term recommendations, to transform the trade routes into HFTCs as quickly as possible.

113. Additional studies will be conducted on other trade routes within the SASEC subregion, including the Phuentsholing–Jaigaon–Changrabandha–Burimari to Chattogram route and routes connecting Nepal and Bhutan to Kolkata.

114. Analytical work under trade facilitation that will be relevant to the HFTC work program also include studies on

i. standardization of business processes at the border points;
ii. electronic exchange of pre-arrival information;
iii. design and application of a regional electronic cargo tracking system; and
iv. cross-border (route-specific) coordinated border management.

115. The full list of knowledge initiatives related to the HFTC can be found in Appendix 7.

V. ENERGY

116. The SASEC Vision (2017) underscores the critical role of energy in advancing regional integration within South Asia. It emphasizes the need to enhance energy access and security through the development of energy infrastructure, promotion of intraregional power transmission projects to reduce costs and dependency on imports, and the expansion of clean energy resources. The SASEC Operational Plan (2016), revised in 2019, recognizes energy as one of three core operational priorities within the initiative.

117. In 2022, the SASEC Energy Working Group (EWG) convened and issued six key observations, which include

i. analyzing the feasibility of energy interconnections to improve access, particularly focusing on nearest-point interconnections, as well as grid stability;
ii. securing availability of low-cost, long-term financing;
iii. developing a regional power market based on interconnections;
iv. leveraging ADB's technical assistance resources to compile best practices and identify opportunities for countries to benefit from these approaches;
v. exploring the development of a regional supply and value chain for electrical equipment, supporting both new projects and the maintenance of assets, with adherence to the necessary technical standards for energy security; and
vi. promoting frequent technical-level interactions and coordination.

118. In November 2023, the SASEC EWG, which met in Delhi, unanimously endorsed a series of initiatives, encompassing knowledge studies and projects, in response to these observations. These initiatives are detailed further below.

119. Discussions on progress and high-priority initiatives in the energy sector will focus on advancing SASEC-wide network integration efforts, particularly in regional power trade and optimizing nearest-point interconnectivity.[29] A key operational priority for energy is the promotion of clean, low-carbon energy sources, such as wind, solar, and biofuels. The SASEC initiative will also prioritize enhancing the supply chain resilience of electrical equipment in the region, alongside supporting digital initiatives for utility modernization. The APSI includes proposals for fostering knowledge exchanges, incorporating industry best practices, and facilitating technology transfer for the development of clean energy solutions.

120. The SASEC countries aim to leverage power trade to provide affordable renewable energy, primarily hydropower, from nations such as Bhutan and Nepal to countries like Bangladesh, India, and Sri Lanka. Power trade can also support power swap arrangements to address seasonal fluctuations in supply and demand. The SASEC Power Trade Flagship Initiative involves the development of nearest-point interconnections, which will facilitate the cross-border transmission of hydropower. This will enable countries to share the costs and benefits of large-scale hydropower and transmission infrastructure, while helping to balance the needs of national markets, considering the variations in demand and supply patterns.

A. Projects and Power Trade

121. Power trade in the SASEC region is predominantly operational through bilateral agreements between India and Bangladesh, Bhutan, Nepal, and Myanmar. Given India's central geographic location, substantial generation capacity, and large energy demand, it naturally serves as the hub for SASEC power trade. India's Revised Guidelines for Import/Export (Cross-Border) of Electricity – 2018, issued in

[29] The SASEC Vision proposed flagship initiatives in two areas, namely, power trade development and cooperation in oil and gas. However, the APSI 2022–2024 does not include projects in the latter.

December 2018, facilitate (i) tripartite electricity trading under bilateral agreements, (ii) trading through power exchanges with clearance from the designated authority, and (iii) the relaxation of ownership restrictions for cross-border electricity trade. The interconnections between India and Bangladesh, Nepal, and Myanmar have historically been fully utilized but face capacity constraints, limiting further power trading opportunities. Expanding the power market in the SASEC region will necessitate infrastructure upgrades, particularly for nearest-point interconnections. Several cross-border transmission projects are under consideration among SASEC countries. A significant milestone was achieved with the signing of the region's first tripartite agreement between Nepal, India, and Bangladesh, under which Nepal will export 40 megawatts (MW) of electricity to Bangladesh via India's power grid. This agreement sets the foundation for an integrated power trading market in SASEC, fostering regional cooperation and advancing the energy sector. Nepal and Bhutan have also begun power trading through India's power exchange platform, marking a shift from traditional negotiated agreements. The key features and progress of each bilateral power trade in the subregion are outlined below.

122. **India-Bhutan power trade.** Since 1986, Bhutan has been a net power exporter to India through various hydropower plants (HPPs) and associated transmission lines. Each new HPP in Bhutan includes the necessary transmission infrastructure to deliver power to the desired load centers in India. Currently, four HPPs are under construction for export to India: (i) 1,200 MW Punatsangchhu I, (ii) 1,020 MW Punatsangchhu II, (iii) 600 MW Kholongchhu, and (iv) 118 MW Nikachhu. While the commissioning of Punatsangchhu I and II is delayed and they are now expected in 2025, Mangdechhu began power generation (from the first of its four plants) in June 2019. The tariff protocol for this export was signed in April 2019. During the scheduled maintenance period for the 1,020 MW Tala HPP in the first half of 2023, Bhutan also purchased significant amounts of power from India's power exchanges. ADB and other development partners continue to support the development of key export-oriented projects, including the Nyera Amari HPP (404 MW), Bunakha HPP (180 MW), and Dorjilung HPP (1,125 MW), which will contribute to meeting the region's clean energy targets.

123. **India–Nepal power trade.** Power trade between India and Nepal has evolved from addressing the energy needs of isolated border areas to a broader exchange for domestic consumption. Initially, the Nepal Electricity Authority procured electricity from Indian utilities in Bihar, Uttar Pradesh, and Uttarakhand. Over time, Nepal's power imports from India have increased, supported by various domestic transmission strengthening projects, many of which have been assisted by ADB. Recognizing the need for coordinated efforts, a Joint Working Group (JWG) and Joint Study Committee (JSC) were formed to manage power trade and transmission connectivity between the two countries. This collaboration resulted in a long-term integrated transmission plan, designed to evacuate surplus hydropower from Nepal's projects. The plan also includes an action plan for HPPs expected to be completed by 2025, with a long-term perspective through 2035. In December 2018, Nepal's Ministry of Energy, Water Resources, and Irrigation launched the Transmission System Development Plan, aligned with updated generation and load forecasts through 2040. This plan outlines a 400 kV East–West line interlinked with radial lines along river corridors and incorporates six Nepal–India connections. Nepal's participation in India's power exchanges has grown, with the country purchasing electricity during periods of deficit and selling surplus hydropower during the monsoon season. A historic agreement in 2024 between India and Nepal will significantly increase power exports from Nepal, with a target of reaching 10,000 MW of exports within the next decade, positioning Nepal as a key exporter of clean hydropower in the region.

124. **India–Bangladesh power trade.** Power trade between India and Bangladesh has seen significant advancements. Currently, Bangladesh imports 2,650 MW of electricity from India under six contracts. A 400 kV transmission line between Baharampur (India) and Bheramara (Bangladesh), along with

high voltage direct current back-to-back substations at Bheramara, was commissioned in October 2013 and expanded in 2018, increasing the transmission capacity from 500 MW to 1,000 MW. These improvements, undertaken by Power Grid Corporation of India Ltd. and Power Grid Bangladesh PLC, have been critical in enhancing cross-border trade. Currently, Bangladesh imports 1,000 MW from India under four agreements through the Baharampur–Bheramara transmission link, with one agreement conducted on a government-to-government basis and the others via a competitive tendering process. A decision made during the 8th JSC/JWG meeting also allows Bangladesh to import up to 160 MW at Cumilla from the Palatana Power Plant in Tripura, India, via radial interconnection. Additionally, a power purchase agreement with Adani Power allows Bangladesh to import up to 1,496 MW from Adani's Godda Power Project in Jharkhand. Ongoing strategic discussions focus on establishing the Katihar (Bihar, India)–Parbotipur (Bangladesh)–Barnagar (Assam, India) 765 kV transmission line, which will serve as a backbone for intraregional electricity trade.

125. **India–Myanmar power trade.** India currently supplies 3 MW of power to Myanmar from Moreh (India) to Tamu (Myanmar). Myanmar's Ministry of Energy and Electricity has received proposals to increase power imports from India and the Lao People's Democratic Republic (Lao PDR) through cross-border transmission lines, which will support Myanmar's electrification efforts in border communities.

126. **Progress.** Since 2020, ADB's commitment of approximately $477 million toward domestic power transmission and generation projects in Nepal has supported the development of future capacity to allow the export of surplus power. Among these, the SASEC Power Transmission and Distribution System Strengthening Project (2020, $200 million) will modernize the power supply system in Kathmandu and distribution in surrounding regions, enabling the evacuation of hydropower and facilitating regional trade. Nepal is also engaged in the development of major HPPs: Dudh Koshi (635 MW), led by ADB and the World Bank, and Upper Arun (1,061 MW), spearheaded by the World Bank with ADB support. Other development partners are also exploring involvement in these large-scale projects, toward meeting both domestic energy demands and facilitating regional exports.

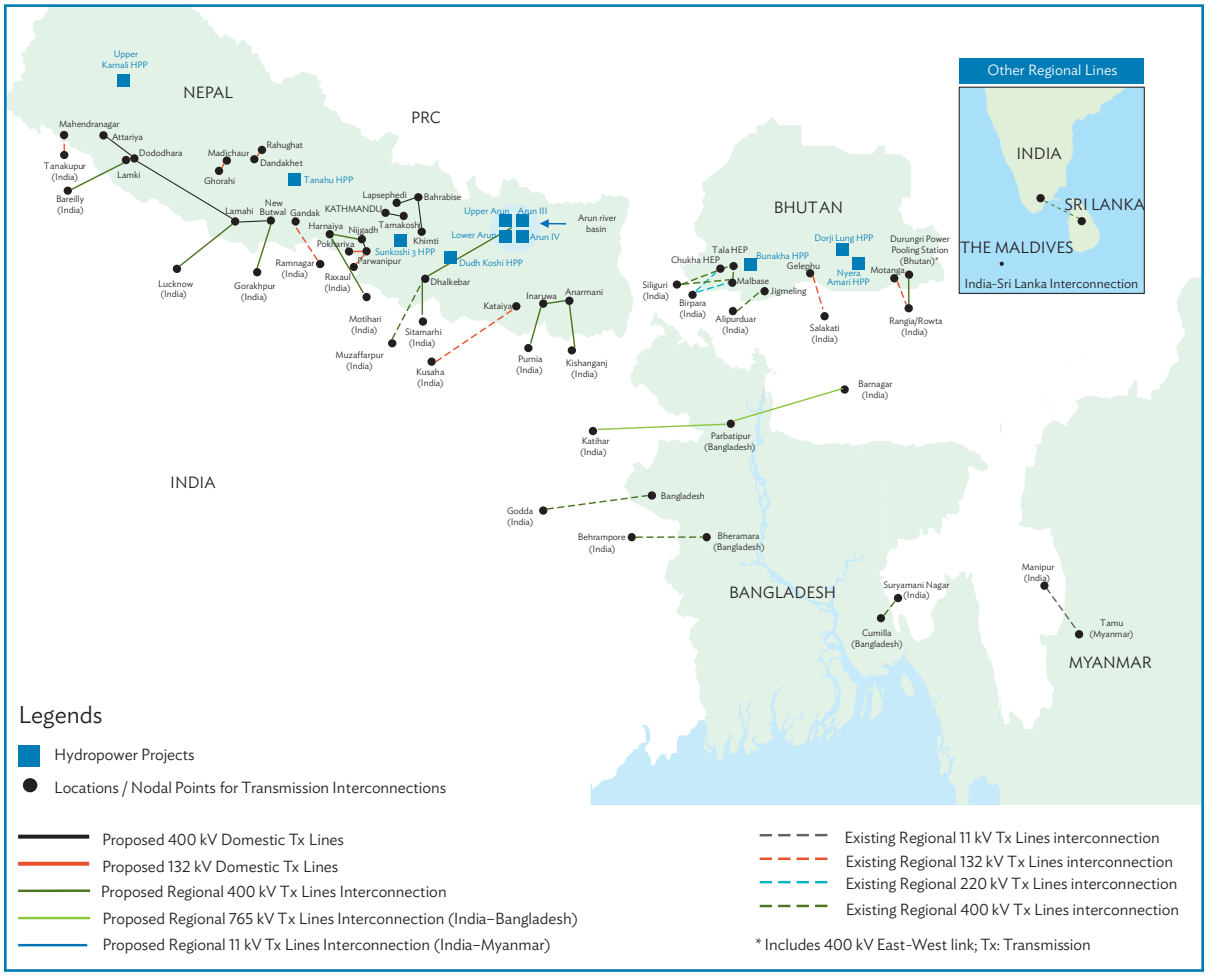
127. In Bangladesh, the Dhaka–Western Zone Grid Expansion Project (2019, $300 million) will address transmission deficiencies and strengthen power transfer capacity within the country, while also supporting increased regional trade with India. Additionally, ADB's Regional Technical Assistance (approved in 2023, $3 million) for the energy sector is supporting SASEC countries to identify and prepare power projects of regional significance, foster capacity building for regional cooperation, and enhance collaboration among agencies within the SASEC subregion.

128. Enhanced SASEC trading of clean hydropower from Nepal and Bhutan to Bangladesh and India is poised to be a significant driver of post-COVID-19 green recovery. As regional power markets continue to evolve, there is a growing need to develop more robust electricity infrastructure, improve grid reliability, and enhance cross-border power transmission. Strengthening the subregion's transmission capacity and power generation pipeline will ensure reliable, high-quality electricity supply to consumers while solidifying Bhutan and Nepal's roles as net energy exporters within SASEC. These efforts will also contribute to achieving universal access to reliable power, advancing sustainable energy for all, and reducing dependence on fossil fuels.

129. The existing cross-border grid interconnections and the projects included in the APSI 2024–2026 are presented in Figure 10.

130. The full list of ADB-supported power projects in the SASEC region can be found in Appendix 8.

Figure 10: Existing Cross-Border Transmission Lines and APSI 2024–2026 Energy Projects



APSI = Action Plan for SASEC Initiatives, HPP = hydropower project, kV = kilo volt, PRC = People's Republic of China, SASEC = South Asia Subregional Economic Cooperation, Tx = transmission.

Note: The maps are schematic representations only and may not show exact international boundaries. The boundaries, colors, denominations, and any other information shown on the map do not imply, on the part of the Asian Development Bank, any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries, colors, denominations, or information.

B. Knowledge Initiatives

131. In the energy sector, significant progress has been made in enhancing regional connectivity within the SASEC subregion through the development of interconnections and advancements in bilateral power trade. However, continued efforts are essential to strengthen regional energy cooperation, creating synergies among member countries to fully realize their untapped power trade potential. During the EWG meeting in November 2023, a consensus was reached on several key knowledge initiatives aimed at accelerating interconnections. These initiatives include conducting thorough technical and commercial feasibility analyses, developing resilient regional supply and value chains for energy systems, providing low-cost financing for green energy initiatives and interconnections, enhancing capacity and skill development for stakeholders in the power sector, disseminating best practices, and fostering more frequent interactions to drive regional cooperation. These recommendations were further endorsed by the senior officials of SASEC member countries during their meeting in December 2023.

1. Updating of Regional Transmission Master Plan

132. In 2016, ADB conducted a cross-border transmission master plan study covering the SASEC region. The primary objective of the study was to identify beneficial cross-border transmission developments for the 2020–2030 period, taking into account the generation development plans of individual countries. The SASEC member countries recognized the need to update the findings of the 2016 report to reflect changes and developments in their national plans, policies, and forecasts. Consequently, an updated techno-economic analysis was performed for the 2024–2030 period. A comprehensive study model was developed, incorporating demand, generation, and transmission data for the study period, based on the power development plans of individual countries, independent study reports, and publicly available data. The results of the study clearly demonstrated that significant benefits could be realized through power trade among SASEC countries, across various future scenarios considering demand and generation availability. The master plan will be updated regularly to align with national master plans. The updated master plan's findings are being integrated into the grid-interconnection master plan for the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation member countries.

133. Following a request from the EWG and endorsement by the SOM, ADB plans to undertake additional studies to strengthen nearest-point interconnectivity within the SASEC region. The main objectives of these proposed studies are as follows:

i. ADB has been supporting the Government of Sri Lanka in conducting a commercial feasibility study for the proposed transmission line connecting India and Sri Lanka. This assistance includes evaluating viable business models for the proposed interconnection. ADB remains committed to continuing its support for the Government of Sri Lanka, including conducting a comprehensive assessment of environmental and social safeguards at the interconnection points on the Sri Lankan side.

ii. ADB will also undertake other regional transmission corridor studies, as needed, to facilitate the evacuation of clean energy and promote regional cooperation. Potential studies may include a pre-feasibility assessment of the India–Maldives transmission interconnection and the pooled evacuation of power from solar and hydropower projects in Eastern Bhutan, to serve both domestic and export markets.

2. Green Fuel Development Initiative

134. ADB commissioned a study to develop a scenario analysis-based roadmap to promote renewable energy in SASEC countries and reduce their reliance on natural gas (under TA: 52070-001). The study's objective was to assess the economic, environmental, and climate change benefits of replacing natural gas with renewable electricity, either sourced domestically or imported from the region, and to prepare a roadmap to achieve these targets. In addition, ADB plans to undertake studies and assessments on green hydrogen, advanced biofuels, and other clean energy initiatives in the SASEC region. This initiative aims to enhance regional energy security and address climate change by promoting alternative fuels that can be produced from domestic and regional resources.

135. The key objectives of the proposed study are as follows:

i. The green hydrogen ecosystem development plan will assess the current power sector landscape in the SASEC region, focusing on renewable energy generation profiles, along with existing green hydrogen generation capacity and market demand.

ii. The development plan will also review electricity generation and consumption trends, along with projected green hydrogen demand in the coming years, and evaluate the potential benefits of green hydrogen production in contributing to regional decarbonization goals.

3. Resource Complementarity and Resilience Planning

136. ADB, through SASEC, is actively engaged in knowledge initiatives focused on resource complementarity and resilience planning within the region. During the EWG meeting in November 2023, the importance of ADB's involvement in this area was underscored, with a recommendation to conduct a comprehensive exploration of the region's resource complementarity and resilience planning. One of the key objectives of this proposed knowledge work is to assess the benefits of solar–hydro power trade, recognizing the potential synergies between these renewable energy sources. Solar energy can be harnessed during the day when demand peaks, while hydropower offers a stable and reliable source of electricity. By integrating these complementary resources through sharing or swap arrangements and necessary infrastructure development, the subregion can enhance energy security, reduce dependence on fossil fuels, and mitigate the impacts of climate change.

137. This initiative seeks to identify strategies for enhancing regional energy security and addressing climate change by promoting the use of alternative fuels produced from domestic and regional resources.

4. Power Market Development in the SASEC Region

138. ADB-supported knowledge products in this context include

i. **Review of and an Update on Power Market Development in the SASEC Region.** This exercise involved evaluating the current status of cross-border transmission projects, identifying new initiatives, analyzing changes in load forecasts, assessing modifications to generation development plans, and estimating the associated generation costs.

ii. **Economic Analysis of Benefits Derived from Interconnected Grids in the SASEC Region.** This analysis aimed to estimate the economic benefits of power trade within the SASEC region by assessing future electricity demand, as well as the programs and policies of each member country.

iii. **Assessment of Technical and Economic Benefits of Interconnection between South Asia and Southeast Asia.** This study examined existing energy resources, addressed socio-economic development needs, forecasted energy demand for the next 2 decades, developed power system scenarios, and estimated the impact of these developments on CO_2 emissions from the power sector.

5. Strengthening the Supply and Value Chain of Electrical Equipment in the SASEC Region

139. The SASEC initiative has played a key role in driving economic growth and fostering cooperation among its member countries. To further enhance regional trade and collaboration, it is essential to streamline and strengthen the supply and value chain for electrical equipment and related components in the region. As highlighted during the EWG meeting in November 2023 and endorsed by the SOM, ADB will support the assessment of an improved supply chain for electrical equipment, focusing on new projects and the maintenance of assets in line with required technical standards. The study will prioritize enhancing the availability of equipment, optimizing supply chains to improve affordability, and ensuring adequate maintenance services for high-value equipment. Additionally, the study will evaluate the battery manufacturing ecosystem in the region, considering the increasing demand for battery energy storage systems to support grid stability.

6. Digital Utility Initiative

140. Digitalization has the potential to transform regional power trade in the SASEC subregion by enhancing the efficiency, transparency, and reliability of energy transactions. Through real-time monitoring of power supply and demand, digital technologies can help mitigate the risk of blackouts

and improve grid stability. Moreover, digital platforms can facilitate cross-border power trading and enhance coordination between utilities, fostering greater regional integration and access to affordable, sustainable energy. Digitalization can, thus, play a pivotal role in unlocking the full potential of power trade, driving economic growth, and supporting development in the region. However, many utilities and a significant portion of the power infrastructure in the region lack robust cybersecurity systems, leaving them vulnerable to potential attacks that could cause widespread disruption. In response to the EWG's request, ADB will assist utilities in the region by developing a digitalization roadmap and evaluating models for establishing a country- or region-wide digital platform. This platform will enable relevant agencies to share real-time data on power demand, supply, and transmission availability, as well as power trade transactions. Additionally, the initiative will include training for utility staff on advanced digital technologies, including cybersecurity.

7. Capacity Building Plan for the Power Sector

141. Empowering each member nation with the necessary skills, technological expertise, and institutional frameworks is essential for effectively harnessing and distributing the collective energy potential within the SASEC region. In response to the EWG's recommendation, ADB will undertake a comprehensive needs assessment for capacity-building programs, addressing both technical and soft skill requirements across member countries. This assessment will provide a clear understanding of regional training needs and inform the development of tailored training programs. ADB will also collaborate with relevant training institutions to identify suitable providers for the various skill development requirements within the region.

8. Creating a Regional Green Finance Facility

142. Securing low-cost funding to support partner countries in achieving their climate goals sustainably is a critical prerequisite. ADB has established the ASEAN Catalytic Green Finance Facility, a regional fund designed to finance clean energy projects within the ASEAN region. During the EWG meeting in November 2023, members requested ADB to take immediate steps to establish a regional fund tailored to the unique needs and priorities of the SASEC region. This fund would provide low-cost financing for the development of green energy projects and interconnections across the region.

143. The full list of ADB-supported knowledge initiatives in the energy sector in the SASEC region can be found in Appendix 9.

VI. ECONOMIC CORRIDOR DEVELOPMENT

144. While SASEC countries have experienced rapid economic transformation and robust growth since the 1990s, a key challenge remains: the creation of more productive and well-paying jobs in manufacturing and services, sectors that have underperformed in terms of their contribution to the gross domestic product. In response, India has adopted the corridor approach to stimulate manufacturing, aligning it with the Act East Policy to better integrate India's economy with Asia's dynamic production networks.

145. The industrial corridor approach focuses on assessing the capacity to meet the growing demand for efficient industrial infrastructure and conducting a comprehensive skills inventory to support various industrial activities. Government authorities responsible for the corridor must also streamline business procedures, enhance labor laws, improve land management, and reform taxation to increase competitiveness.

A. Economic Corridor Development Framework

146. **Strategy for economic corridor development (ECD)**. The ECD strategy developed by ADB aims to enhance multimodal cross-border connectivity in identified corridor regions by advancing high-quality infrastructure and implementing policy and institutional reforms that boost industry competitiveness (Figure 11).

147. **Transport corridor as starting point.** An exercise in ECD typically begins with a transport corridor, owing to its simple physical and functional characteristics. A transport corridor links two or more nodes, which may be economic clusters (functional economic areas [FEAs]) of varying sizes, including endpoints that serve as gateways to external regions. Given their conceptual simplicity, transport corridors are ubiquitous due to their significant development impact.

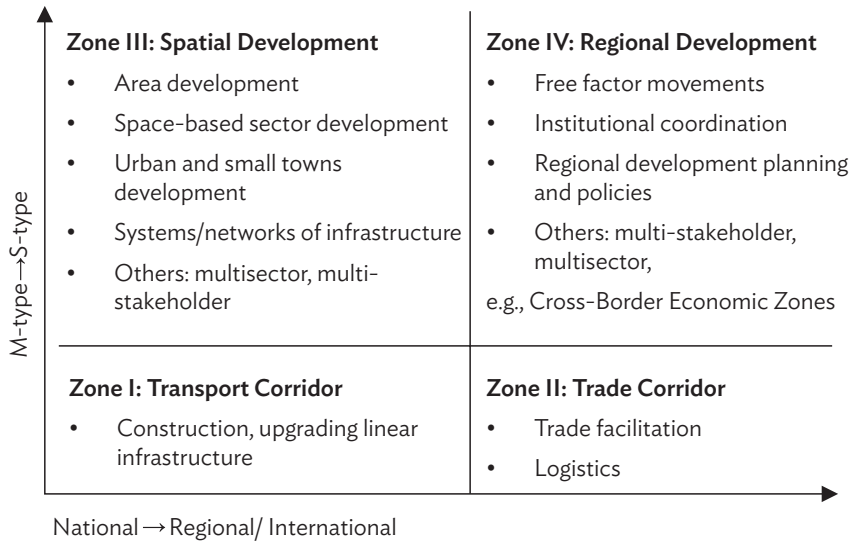
148. **Transition from transport to trade corridors.** A broader version of ECD, encompassing both transport and trade corridors, focuses on the role of transport networks (not just arterial road or rail) in connecting regions to facilitate the movement of goods and people for both domestic and international trade. For instance, the early conceptualization of economic corridors in the European Union and the Greater Mekong Subregion (GMS) in the 1990s emphasized strengthening transport infrastructure to integrate regions. This model incorporated cross-border trade and domestic economic integration, as the operational regions spanned multiple economies.

149. **Regional development through area-based ECD.** This variant of ECD differs from the transport-to-trade corridor model by adopting an area-based approach. It focuses on identifying specific geographical regions and promoting the development of FEAs and their trade linkages. Such development often necessitates transport infrastructure (roads, railways, ports, etc.), as well as interventions like urban development; setting up of special economic zones, industrial parks, and cross-border economic zones; and formulating targeted industrial policies. Starting in the 1990s, Malaysia employed ECD to address regional disparities (such as interstate or rural–urban) and improve the quality of economic growth. In addition to corridors in Sabah and Sarawak, three key corridors were established in Peninsular Malaysia: the East Coast Economic Corridor, the Northern Corridor Economic Region, and Iskandar Malaysia in South Johor. Each corridor was tailored to specific economic activities such as agriculture, industry, renewable energy, and tourism. A similar regional development approach was applied in the GMS, with investments in towns along the GMS corridors.

150. **Spatial transformation approach.** The spatial transformation approach seeks to harness agglomeration benefits and economies of scale by integrating or merging independent FEAs, thereby increasing the density, range, and scope of economic activities. A key example is the Central Asia Regional Economic Cooperation (CAREC) initiative, which includes the Almaty–Bishkek Economic Corridor (ABEC), launched in 2014 to integrate Almaty, Kazakhstan's economic hub, with Bishkek, the capital of the Kyrgyz Republic. Spanning 200 kilometers (km), ABEC focuses on connecting transport infrastructure with sectors such as tourism, while also striving to create a unified economic zone for health, education, urban development, and disaster risk management. A similar approach is employed in the ADB-supported East Coast Economic Corridor in India.

151. **Refined ECD framework.** The refined ECD framework emphasizes the broadening and deepening of economic activities within a defined area through a coordinated mix of hard and soft infrastructure, attractive economic incentives for private investment, market development, and strengthened institutions and regulations. The framework distinguishes between S-type corridors, which begin with a spatial focus (regional development and spatial transformation), and M-type corridors, which are primarily concerned with movement (transport and trade).

Figure 11: Conceptual Framework for Economic Corridor Development



Note: This is an ADB-wide framework that may require variation and customization based on the ground situation of the South Asia Subregional Economic Cooperation countries.

Source: ADB. 2023. Economic Corridor Development: From Conceptual Framework to Practical Implementation-Guidance Note. September 2023. Manila.

B. Economic Corridor Development Studies

152. To date, five economic corridor studies have been completed, covering the (i) East Coast Economic Corridor (ECEC) in India, (ii) Colombo–Trincomalee Economic Corridor in Sri Lanka, (iii) Bangladesh Southwest Economic Corridor, (iv) Bangladesh Northeast Economic Corridor, and (v) North East Economic Corridor (NEEC) in India. In Nepal, ADB has submitted an urban corridor study, which can be further evaluated in the context of the ECD framework developed by ADB.

153. The ECEC stretches about 2,500 km along India's east coast from Kolkata–Petrapole in the east to Kanyakumari in the south. Running along the Sri Lanka–India–Bangladesh–India–Myanmar SASEC Corridor, the ECEC is the focus of India's current ECD efforts, initially through the Visakhapatnam–Chennai Industrial Corridor (VCIC) and the Chennai–Kanyakumari Industrial Corridor (CKIC).[30] ADB has supported the master planning of key nodes in Tamil Nadu (CKIC) and Andhra Pradesh (VCIC) in India. Additionally, ADB has undertaken a study in West Bengal, concentrating on port-led industrial corridor development and fostering cross-border synergies with Bangladesh, Bhutan, and Nepal.

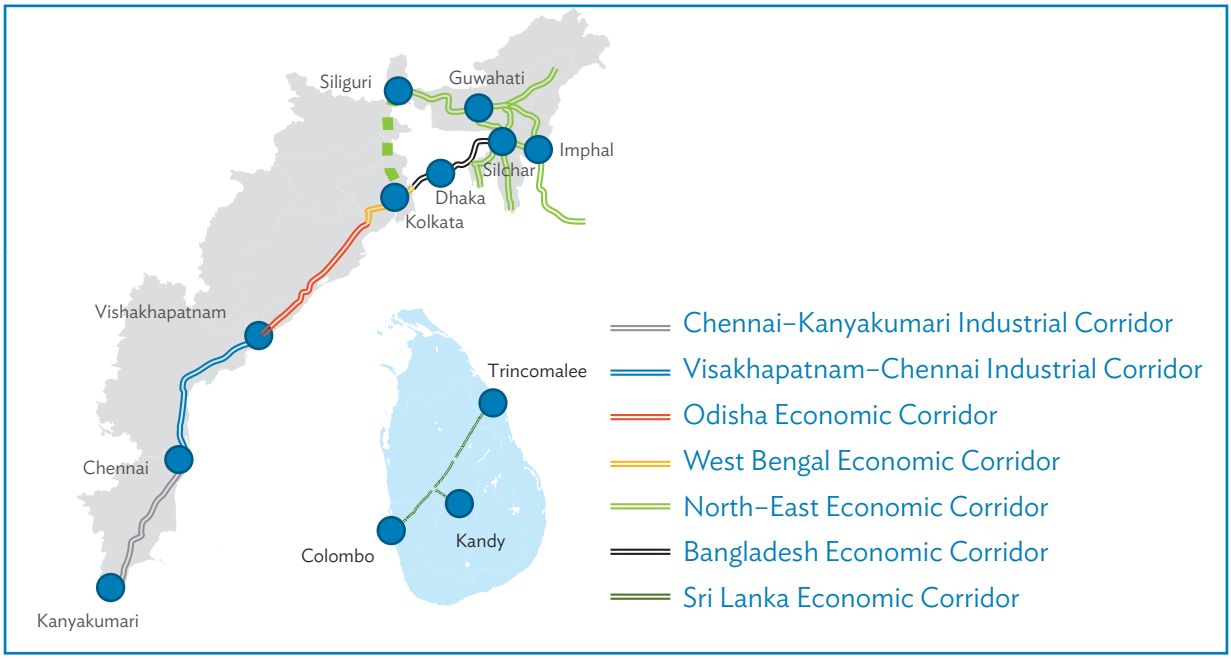
154. The NEEC study, which expands upon ADB's Vision Study aimed at developing Assam as India's expressway to ASEAN, outlines a comprehensive strategy to advance India's Act East Policy and promote greater economic integration with Southeast Asia. This study is pivotal for shaping India's future ECD initiatives within the Sri Lanka–India–Bangladesh–India–Myanmar SASEC Corridor, which plays a critical role in linking the NER of India with Bangladesh. In Nepal, ADB has supported the development of urban corridors that have the potential to be upgraded into full-fledged economic corridors.

[30] ADB approved funding for the VCIC in February 2017, which includes (i) a $125 million policy-based loan to support policy reforms and institutional development in the state of Andhra Pradesh; and (ii) $245 million for the development of high-quality infrastructure in designated industrial areas. Based on the comprehensive development plan for CKIC, completed in June 2017, ADB has since committed approximately $1.48 billion for projects in the road, power, housing, and urban sectors.

155. The NEEC study also focuses on enhancing connectivity with Bangladesh's economic corridors, specifically the Southwest Bangladesh Economic Corridor and the Northeast Bangladesh Economic Corridor. Comprehensive development plans for these corridors are being prepared with ADB's support, emphasizing the creation of a multimodal transport spine that links key urban and economic centers to strategic gateways.

156. India's NEEC and ECEC corridor initiatives will be closely aligned with ECD efforts in Bangladesh, aiming to leverage the economic strengths of various regions in both countries (e.g., Southwest and Northeast economic corridors). The goal is to strengthen connectivity and access to markets in the NER, Bangladesh, Bhutan, and Nepal through improved multimodal transport infrastructure.

Figure 12: ADB's Engagement in Corridor Development in SASEC Countries



Source: ADB study team.

157. Comprehensive development plans have been formulated for all four segments of the ECEC, detailing how the corridor's production networks will be integrated with ports along the ECEC. These plans emphasize the development of an efficient multimodal transport network, high-quality infrastructure, and a business-friendly policy framework with streamlined procedures.

158. In October 2021, ADB approved a $250 million loan for India's Industrial Corridor Development Subprogram 1, aimed at expanding multimodal transport networks, strengthening institutions for corridor management, and addressing skills gaps to support industrialization. A second subprogram, with an additional $250 million, was approved in December 2023.

C. Supply Chain Development Studies

159. The Supply Chain Mapping Studies (Phases 1 and 2) have been completed. A summary of the findings is provided below.

160. **Supply Chain Mapping Study (Phase 1)** focused on critical medical products related to COVID-19, aiming to help national governments mitigate disruptions caused by mobility restrictions during the pandemic and enhance the resilience of supply chains. The medical products covered included coveralls, gloves, hospital disinfectants, surgical masks, respirators, and their associated production components. The study mapped the trade flows of these products within and outside SASEC countries, identified opportunities for regional supply chains, and addressed key constraints. Key recommendations included:

i. harmonizing personal protective equipment (PPE) standards and establishing agreements for mutual recognition of certifications;
ii. identifying specific tariff lines and excluding them from the sensitive list under the South Asian Free Trade Area;
iii. promoting business competitiveness by reducing or eliminating value-added tax and other indirect taxes;
iv. supporting capacity-building initiatives, reducing compliance requirements, and implementing SASEC-friendly procurement policies;
v. establishing a regional platform or business forum to facilitate dialogue between PPE producers and buyers; and
vi. exploring the feasibility of starting direct air-freight services to enhance product delivery.

161. **Supply Chain Mapping Study (Phase 2)** explored ways to strengthen regional supply chains among SASEC countries, focusing on industry-to-industry linkages based on national economic corridors. The study identified sectors and products with the highest growth potential, based on trade shares and foreign direct investment (FDI) flows, including textiles and apparel, food processing (for traditional sectors), and electronics, electrical equipment, and automobiles (for emerging sectors). Key recommendations for these sectors included

i. extending institutional support, incentive schemes, and preferential tariffs to textiles;
ii. enhancing cold chain infrastructure and harmonizing trade documentation in food (especially shrimp) trade;
iii. strengthening regional cooperation initiatives by
    a. reviewing tariffs and quotas and establishing cross-border trade testing facilities;
    b. coordinating logistics development, especially for cold chains (food products), direct ocean freight (textiles), and direct cargo flights (electronics);
    c. facilitating Indian original equipment manufacturers for automotive products through joint investment policies; and
    d. promoting sectoral growth through incentives for investment, including FDI, technology upgrades, zone development, and capacity building; and
iv. ensuring stable and quality power supply, especially for electronics manufacturing.

162. The full list of ADB-supported projects and knowledge initiatives in ECD in the SASEC region can be found in Appendixes 10 and 11, respectively.

VII. TOURISM

163. Countries within SASEC, in addition to their geographical proximity, share a rich natural and cultural heritage, much of which contributes significantly to the region's tourism experience. Multicountry tourism, beyond offering a diverse range of products, also addresses several key objectives, including (i) optimizing tourism visitation, (ii) mitigating demographic and territorial imbalances in tourism, (iii) sharing critical resources, (iv) ensuring equitable distribution of benefits, and (v) enhancing resilience against adverse events.

164. The SASEC Vision document, launched in 2017, identified two flagship tourism initiatives, which related to (i) promoting SASEC as a unified tourist destination, and (ii) supporting the tourism sector in the Maldives. The latter included three projects aimed at improving internal tourism connectivity. In 2019, regional consultations on tourism development were held in India and Nepal, involving stakeholders from government, tourism associations, and the private sector. These consultations explored the potential for cooperation in tourism, identified mutually beneficial strategic initiatives such as the development of products and circuits for collaboration, discussed joint marketing opportunities, and recommended mechanisms for coordination and sustainability of efforts. Following these consultations, a study on promoting SASEC as a tourist destination was completed in 2019.

165. In 2020 and 2021, the tourism industry faced severe challenges due to the COVID-19 pandemic, with significant declines in international arrivals, employment, and tourism receipts.

166. ADB undertook several knowledge-based initiatives in 2021 and completed them in 2022. These included (i) a scoping study on "Strengthening Institutional Mechanisms for SASEC Tourism"; and (ii) "Achieving Sustainable Cruise Tourism for the Maritime SASEC Region Post-COVID-19." These studies identified key areas for regional cooperation, outlined specific actions to establish institutional mechanisms for tourism, and focused on reducing physical and procedural border constraints. They also prioritized multicountry thematic tourism products, which include (i) Buddhist Tourism, (ii) Sea Cruise Tourism, and (iii) Medical Tourism.

167. In 2022, tourism was recognized as a priority theme during the SASEC Nodal Officers' Meeting. During the Tourism session of the SASEC TFWG and SOMs held in November–December 2023, the completed knowledge works, sectoral challenges, and opportunities for institutional-level cooperation were discussed in detail. The participating countries agreed to compile a list of completed, ongoing, and proposed regional and cross-border projects, as well as knowledge works, for inclusion in the APSI 2024–2026.

A. Projects

1. Completed Projects

168. The Government of Maldives has made significant efforts to enhance internal connectivity to boost tourism and trade. These efforts include substantial investments in bridge-and-causeway links, airport runway expansions, and maritime infrastructure to address high transport costs between the islands. Similarly, the Government of Nepal has identified key air connectivity improvement projects aimed at facilitating regional tourism.

169. Two major completed projects included in the APSI 2022–2024 are

i. **Velena International Airport Expansion Project**. This project included the construction of the Noovilu seaplane terminal, which became operational in October 2022. The expansion is being financed by a consolidated loan of approximately $350 million from the Saudi Development Fund, OPEC Fund for International Development (OFID),[31] Abu Dhabi Fund for Development, and Kuwait Fund.

ii. **Upgrade of Gautam Buddha International Airport (GBIA).** Located in Bhairahawa, Siddharthanagar, Nepal, near the UNESCO World Heritage site of Lumbini (the birthplace of Lord Buddha), this upgrade is expected to accommodate increased regional tourism. The new facility includes a terminal building (15,169 square meters in area) and a runway (3,000 meters in length) equipped with an advanced Instrument Landing System. The project was completed and inaugurated in May 2022, at a total cost of $76.1 million, jointly funded by the Government of Nepal, ADB, and OFID under the South Asia Tourism Infrastructure Development Project.

2. Ongoing Projects

170. Five ongoing projects of regional and cross-border significance, with the potential to promote prioritized multicountry thematic tourism (namely Buddhist, Medical, and Cruise tourism), have been identified for inclusion in the APSI 2024–2026. These projects include

i. **Tripura Urban and Tourism Development Project (India).** ADB has supported a $100 million multisector project that includes components such as improvements in urban infrastructure and amenities, integrated tourism infrastructure, marketing and promotion, capacity development for local communities, and sectoral reforms. SASEC has recognized the importance of promoting the NER as a distinctive tourism destination. In recognition of this potential, the state of Tripura adopted the Tripura Tourism Policy 2025 in 2020, designating tourism as a key "thrust sector." The tourism component of this project focuses on developing border tourism infrastructure, enhancing basic services at Buddhist sites, and promoting eco-tourism development. The project was approved in December 2023 and is scheduled for completion by December 2029.

ii. **Uttar Pradesh Pro-Poor Tourism Development Project at Sarnath and Kushinagar Buddhist Circuit (India).** This $8.7 million subproject, supported by the World Bank, aims to improve access to monuments and sites, diversify and tailor tourist activities, provide better basic and tourism-related services, improve destination management, and raise the operating standards of tourism personnel. The Sarnath and Kushinagar subprojects are two of the four key Buddhist pilgrimage destinations and focus on pedestrianizing areas and enhancing site services and improving visitor experience. The subproject began in 2022 and was completed in 2024.

iii. **SASEC South Asia Tourism Infrastructure Development Project (Nepal).** ADB funded a regional program with a $105.5 million project, of which the India and Bangladesh components were completed by 2019. The Nepal component focuses on enhancing connectivity to and from Lumbini, which was completed in 2022. Additionally, the visitor information center and procurement of e-vehicles were also completed by 2022. Management and master plans for Lumbini have been finalized, and training for tourism staff on planning, coordination, monitoring, and marketing has been completed. The business plan for Lumbini is still pending. The project was closed in 2024.

[31] OPEC stands for the Organization of the Petroleum Exporting Countries.

iv. **Buddhist Circuit Tourism Development (India).** The Buddhist Circuit Tourism offers significant opportunities for boosting regional tourism development, creating additional jobs, stimulating entrepreneurship along the tourism value chain, and making cities within the circuit more livable and prosperous. An initial investment by ADB for the Buddhist Circuit Tourism Development is currently under consideration in collaboration with the Ministry of Tourism, Government of India.

v. **Mahabodhi Heritage Corridor, Bodh Gaya (India).** The corridor includes one of the most significant Buddhist pilgrimage destinations in India, which is also recognized as a UNESCO World Heritage Site. To protect the cultural landscape around the Mahabodhi Mahavihara and enhance the visitor experience and movement, the Department of Tourism, Government of Bihar, has been planning corridor development around the holy site, covering an area of 72.9 acres. However, the funding for this project has not yet been determined.

3. Worthy of Consideration Projects

171. During the Tourism session of the SASEC TFWG and SOMs held in November–December 2023, the participating countries agreed to list potential projects for future development and implementation. These proposed projects mainly focus on strengthening connectivity between core Buddhist pilgrimage destinations in India and Nepal, as well as developing world-class first/last mile connectivity infrastructure and improving pedestrian environments at key Buddhist sites in Lumbini, Sarnath, Bodh Gaya, and Kushinagar. The list of projects, which will be reviewed and updated by the relevant line ministries, includes the following:

i. **Improving rail connectivity between Sarnath (India) and Lumbini (Nepal).** A direct rail route is envisaged, connecting Sarnath to Barhni (near the Nepal border) via Aunrihar Junction, Mau Junction, Indara Junction, Dohrighat, Sahjanwa, Jagatbela, and Maniram. The section between Dohrighat and Sahjanwa, with a track length of 82 km and 12 intermittent stations, has already been sanctioned in 2019 with an initial project budget of approximately $160 million. A feasibility study should be conducted for the section connecting Jagatbela to Maniram (approximately 15 km), bypassing Gorakhpur Junction. Upgrades to railway stations, including tourist amenities and facilities, should also be considered for Sarnath and Barhni.

ii. **Improving rail connectivity between Bodh Gaya (India) and Kushinagar (India).** Gaya Junction is planned to be connected to the proposed Kushinagar railway station via Jatdumri Halt, Danapur, Bharpura Ghat Junction, Chhapra Junction, Siwan Junction, Hathua Junction, Panchdeori Halt, and Kushinagar (proposed railway station). A feasibility study should be conducted for the construction of the railway line from Panchdeori Halt to Kushinagar (approximately 40 km). Upgrades to railway stations, including tourist amenities and facilities, should be considered for Gaya Junction, Panchdeori Halt, and the proposed Kushinagar station (the exact siting of which is still pending).

iii. **Improving rail connectivity between Kushinagar (India) and Lumbini (Nepal).** The proposed Kushinagar railway station is expected to be connected to Nautanwa near the Nepal border via Hetimpur, Hata, Sardarnagar, Gorakhpur Junction, and Anand Nagar Junction. The revival of the old sugarcane transportation track from Hetimpur to Sardarnagar (64 km) is also envisaged as part of this project. Approved in 2019 and included in the 2023 budget, the project has an estimated value of $176.5 million. The feasibility report and detailed project report, including surveys, have been completed.

iv. **Improving road connectivity between Lumbini (Nepal) and Sarnath (India).** The shortest route (approximately 300 km) via Kakarhawa–Lumbini Road, NH 28, NH 135A, and NH 31 connects remote economies of Naugarh, Bansi, Rudhauli, Basti, Tanda, Shahganj, Jaunpur, and Babatpur (airport for Varanasi). Three stretches (215 km) have been identified for strengthening, upgrading, and providing wayside amenities/signage.

v. **Improving road connectivity between Sarnath (India) and Bodh Gaya (India).** The shortest route (approximately 250 km) via Asian Highway 1 and NH 22 connects remote economies of Chandauli, Mohania, Kudra, Sasaram, Dehri on Sone, Aurangabad, and Dobhi. Two stretches (30 km) have been identified for strengthening, upgrading, and providing wayside amenities/signage.

vi. **Improving road connectivity between Bodh Gaya (India) and Kushinagar (India).** The shortest route (approximately 325 km) via NH 120, NH 922, State Highway (SH) 1 (Uttar Pradesh), NH 727A, Deoria–Kushinagar Road, and SH 79 connects remote economies of Panchananpur, Goh, Daudnagar, Bikramganj, Dumraon, Buxar, Nagra, and Deoria. Seven stretches (270 km) have been identified for strengthening, upgrading, and providing wayside amenities/signage.

vii. **Improving road connectivity between Kushinagar (India) and Lumbini (Nepal).** The shortest route (approximately 155 km) via NH 727, Nebua Raiganj–Nichlaul Road, Nichlaul–Thuthibari Road, Thuthibari BCP, Ramagram–Harpur Road, Parasi Road, and Taulihawa Road, connects remote economies of Padrauna, Nebua Naurangia, Khadda, Nichlaul, Thuthibari, Ramagram, and Siddharthanagar (Nepal). Two stretches (90 km) have been identified for strengthening, upgrading, and providing wayside amenities/signage.

viii. **Improving last mile connectivity and pedestrian environment improvement in core Buddhist pilgrimage destinations**. Upgrades include (i) the road from the south gate of Lumbini's planning area at Vishnupura Road to Maya Devi Temple (700 meters); (ii) road from the Ring Road junction to Sarnath railway station, including Dharmapala Road (3 km); (iii) road from Domuhan Bazar to Bodh Gaya (3 km); and (iv) upgrade of Buddha Marg and 2 km on SH 79 (6 km) at Kushinagar.

ix. **Improving air connectivity ecosystem between GBIA for Lumbini, Lalbahadur Shastri International Airport for Sarnath, Bodh Gaya International Airport, and Kushinagar International Airport.** This includes (i) promotion of heli-services; (ii) promotion of an intercity "Buddhist Air Route;" (iii) increasing flight density between metro cities in India or Nepal and other SASEC Buddhist pilgrimage destinations; (iv) increasing flight density across 16 countries; and (v) enhancing the development of accommodation, lodging, tourist, and pilgrim facilities near airports.

172. The full list of ADB-supported projects related to tourism development in the SASEC region is available in Appendix 12.

B. Knowledge Initiatives

1. Completed Knowledge Works

a) Scoping Study on Strengthening Institutional Mechanism for Tourism in SASEC[32]

173. This scoping study identified key actions for regional tourism development and highlighted three priority tourism circuits: Buddhist tourism, medical tourism, and sea cruise tourism.

[32] Details of the study are available at https://www.adb.org/projects/54392-001/main.

174. A Sustainable Regional Tourism Program Framework (SRTPF), which includes sustainability goals for regional tourism development, was adopted by SASEC countries. This framework will serve as a critical sectoral performance assessment tool. The SRTPF aims to leverage regional growth as a source market and address shared (cross-border) infrastructure challenges. The program will focus on priority areas such as climate change, service digitalization, skill development, enterprise development, and destination management, thereby improving regional infrastructure, optimizing revenue, and enhancing accessibility.

175. A range of multicountry tourism cooperation initiatives was explored, with a selection prioritized based on their potential for government-to-government (G2G), government-to-industry (G2Id), and government-to-institution (G2Is) linkages. These initiatives, which focus on policy, regulatory, and institutional frameworks, include the following:

i. Cross-border travel ecosystem (G2G)
ii. Harmonized standards and benchmarked practices (G2Id)
iii. Tourism data portal for strategic intelligence (G2Is)

176. To strengthen intercountry and regional institutional mechanisms, SASEC countries agreed to establish a Regional Tourism Association and a Centre for Sustainable Tourism Development. These institutions will focus on promoting regional tourism, harmonizing standards in tourism services and operations, and advancing the proposed SRTPF.

177. The areas of action identified by the scoping study are as follows

i. **Buddhist tourism.** SASEC countries are home to nearly 500 Buddhist sites, which include 7 operator-defined Buddhist pilgrimage circuits and 23 non-circuit Buddhist pilgrimage destinations. The most notable of these are the eight pilgrimage sites associated with the Buddha, located across Bihar, Uttar Pradesh (India), and Lumbini Province (Nepal). The four most significant pilgrimage sites—Lumbini, Sarnath, Bodh Gaya, and Kushinagar—form the core of the "Life of Buddha Circuit." Additionally, four other key pilgrimage destinations—Rajgir, Vaishali, Sravasti, and Sankisa—constitute the outer core circuit, known as the "Footsteps of Buddha Circuit." In the context of Buddhist tourism, the study recommended
    a. identifying potential multicountry Buddhist circuits connecting additional SASEC countries, expanding beyond the existing India–Nepal circuit;
    b. introducing regional tourist permits for travel and operations within the region;
    c. rationalizing tariffs, travel fees, and royalties to streamline costs;
    d. collecting data to profile inbound Buddhist tourists and pilgrims for more targeted planning;
    e. enhancing the quality of existing transportation infrastructure and services between SASEC countries, particularly at border crossing points;
    f. improving interpretation services and wayside infrastructure along cross-border circuits and routes, with a focus on storytelling;
    g. integrating tourist and pilgrim facilities at BCPs, including the digitalization of seasonal immigration services; and
    h. fostering regional partnerships between government tourism authorities, pan-regional Buddhist institutions, tourism industry organizations, and other stakeholders.

ii. **Medical tourism.**[33] Medical tourism in the SASEC region is primarily driven by India, which serves as the host country, with neighboring countries acting as key source markets. India is one of the fastest-growing medical tourism destinations globally, ranking among the top 10, offering highly competitive healthcare treatment costs along with wellness and therapeutic services. Major metropolitan cities such as Delhi (National Capital Region), Kochi, Chennai, Bangalore, Mumbai, and Kolkata are key destinations for medical tourists, drawing visitors from across the SASEC region, the Middle East, Africa, and Central Asia. In the context of medical tourism, the study recommended

   a. facilitating multicountry medical tourism value chains that operate from source markets;
   b. securing funding for the development of a "Regional Digi-Healthcare Portal" to comprehensively support patient facilitation;
   c. enabling the establishment of medical cities or healthcare hubs in urban centers, ensuring efficient accessibility from neighboring countries;
   d. developing integrated emergency medical facilities, including intensive and critical care, as well as life support services at border crossing points; and
   e. establishing green corridors and trauma centers in border towns and cities to enhance emergency medical response.

iii. **Sea cruise tourism.**[34] Sea cruising is a relatively new experience for tourists from SASEC and holds significant potential for regional cooperation among SASEC countries. With numerous ports, islands, and seaside tourism destinations, a variety of itinerary options can be developed to cater to different budgets, destination preferences, and activity choices. In the context of sea cruise tourism, the study recommended

   a. developing a regional standard operating procedure;
   b. introducing a multicountry, multicity travel and transit visa;
   c. reviewing national and intercountry tax and tariff regimes;
   d. upgrading and integrating immigration facilities at international cruise passenger terminals; and
   e. facilitating cruise value chain collaborations and compiling a comprehensive inventory of regional service providers and operators.

b) Achieving Sustainable Cruise Tourism for the Maritime SASEC Region Post-COVID-19 Pandemic[35]

178. The report on achieving sustainable cruise tourism in maritime SASEC was completed and accepted in 2022. It assessed the maritime and cruise infrastructure in SASEC countries, including government initiatives and incentives, port and host city tourism infrastructure, marketing and product development, skilled workforce and human resources, the policy environment, as well as the private sector investment and participation ecosystem.

179. **Policy and regulatory recommendations** include

i. convening a SASEC regional cruise tourism conference;
ii. assisting member countries in developing cruise tourism policies that reflect market realities, operational conditions, and future opportunities;

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[33] SASEC countries have agreed to broaden the scope of medical tourism to include wellness tourism, recognizing that post-medical processes often require rehabilitation, recovery, and therapeutic rejuvenation for patients.

[34] SASEC countries have agreed to incorporate river cruise tourism into the existing tourism offerings, given the current success of river cruise tourism between India and Bangladesh. This initiative aims to fully leverage the potential of inland waterways and enhance connectivity with both existing and proposed cruise routes.

[35] ADB. 2022. Advancing Cooperation in the Maritime Sector in South Asia Subregional Economic Cooperation Program. Project Completion Report. Manila. https://www.adb.org/sites/default/files/project-documents/53175/53175-001-tcr-en.pdf.

iii. developing Standard Operating Procedures (SOPs) and protocols to harmonize standards across member countries; and

iv. promoting the adoption of green practices in cruise tourism ports of call.

180. **Infrastructure-related recommendations** focus on developing underutilized ports in the region as cruise ports of call, including the relocation and rehabilitation of existing infrastructure.

181. **Market development and product-related recommendations** include

i. prioritizing domestic and intraregional cruise sectors for the development of cruise tourism in the SASEC region;

ii. focusing on the growth of domestic and intraregional cruise tourism through private investment models;

iii. establishing reporting standards and standard classifications for cruise passenger arrivals and other cruise-related activities across the SASEC subregion; and

iv. sharing best practices for shore excursions.

182. **Human resource-related recommendations** include expanding infrastructure and curriculum for cruise and port education at SASEC port destinations.

c) Maldives Fifth Tourism Master Plan, 2023–2027, Goals and Strategies[36]

183. ADB supported Government of Maldives for preparing Maldives Fifth Tourism Master Plan which was completed in 2023. The master plan provided a strategic framework and action plan aimed at positioning the Maldives as a leading emerging tourist destination in Asia.

184. The recommendations outlined in the master plan include maximizing the benefits of tourism for all atoll communities; effectively communicating the full potential of the Maldives to both existing and new audiences; introducing new products and experiences; building climate resilience and safeguarding natural assets; enhancing energy security and achieving net-zero emissions; attracting and retaining a world-class tourism workforce; accelerating investment and innovative financing; implementing regulatory reforms to facilitate business growth; advancing comprehensive digitization across the sector; prioritizing tourism as a central economic driver; leveraging advanced data analytics and insights; strengthening health, safety, and security systems; establishing transformational industry standards; and ensuring accessible tourism for all.

2. Ongoing Knowledge Initiatives

a) Sudurpashchim Province Tourism Master Plan 2022–2032

185. The United Nations Development Programme supported the development of a tourism master plan for the far western region of Nepal, bordering the state of Uttarakhand in India. The key strategic areas of this master plan included tourism product and activity development; tourism infrastructure development and standardization; tourism information management; skill and human resource development; marketing and promotion; intergovernmental and intrasectoral coordination; the mainstreaming and participation of disadvantaged groups in tourism activities; natural and cultural heritage conservation; and policy direction. This knowledge product aimed to establish standards for enhancing immigration and cross-border tourism facilities, including tourism information and interpretation services at border areas.

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[36] Government of Maldives, Department of Tourism. 2023. *Maldives Fifth Tourism Master Plan: 2023–2027: Goals and Strategies*, Malé. https://www.tourism.gov.mv/dms/document/4969b4831928f1bdf3506340fb6974fc.pdf.

b) Supporting Tourism Resilience in Sri Lanka

186. During the TFWG meeting held in November 2023, at the request of the Government of Sri Lanka, the ongoing Knowledge Support Technical Assistance (KSTA) funded by ADB was included for progress monitoring under the APSI 2024–2026. The objective of this KSTA is to support the government's efforts in building a resilient and competitive tourism sector. This assistance is intended to work closely with various stakeholders to train homestay operators, raise awareness, and update the curricula of tourism institutes.

3. Proposed Knowledge Initiatives

187. Several knowledge initiatives were proposed during the Tourism session of the SASEC TFWG Meeting in November 2023 and the SASEC SOM in December 2023. The proposed initiatives are primarily aimed at supporting SASEC countries in strategizing, planning, and implementing the Regional Tourism Program, as well as in the joint promotion and development of multicountry thematic products in the areas of Buddhist tourism; sea and river cruise tourism; and medical and wellness tourism. These knowledge initiatives include

i. Feasibility study on SASEC Regional Tourist Visa or Ticket;
ii. Development of Regional Sustainable Tourism Program Framework;
iii. Study on aviation ecosystem and air-route development across SASEC tourism destinations;
iv. Modernizing tourism data collection, accounting, and analysis methods for SASEC countries;
v. Compendium of benchmarked standards and practices for South Asia tourism industry including sustainable tourism development in the region;
vi. Gap analysis for upgrading Buddhist circuit's connectivity, preparation of destinations development and management plans, and other tourism-related infrastructure and capacities in relation to global standards;
vii. Gap analysis and passenger survey for SASEC sea and river cruise development—physical infrastructure, tourism infrastructure at port destinations, product viability, capacity development, etc.; and
viii. Investment needs assessment for sustainable tourism growth and climate impact adaptation and the formulation of a road map for private sector investment enhancement.

188. The full list of ADB-supported knowledge initiatives in tourism development in the SASEC region can be found in Appendix 13.

VIII. DIGITALIZATION

189. Digital infrastructure, alongside traditional infrastructure, is integral to driving socioeconomic development. While some SASEC countries have implemented significant digital infrastructure projects and led the way in establishing large-scale digital public systems, the extent of digital transformation varies widely across and within these countries. Unlocking the full transformative potential of digital technologies is a complex endeavor. It requires foundational infrastructure (e.g., reliable power supply), robust communication networks, effective data management and governance, interoperability standards, and essential skills for both providers and users. Consequently, tailored solutions are needed to address the unique challenges of each context.

190. Developing country-specific strategies is critical. These strategies should draw on lessons learned, international best practices, and the expertise of the private sector. They must incorporate

user-centered design, global standards, and regulatory frameworks that foster universal, meaningful connectivity; entrepreneurship; and digital inclusion. Furthermore, an integrated approach should be adopted wherever practical, enabling the development of scalable and interoperable solutions.

191. The proliferation of digital applications is transforming various activities and industries, generating significant economic value, enhancing access to information, and empowering citizens. In the face of rapid technological advancements, SASEC countries must accelerate and scale digital transformation through strategic investments, targeted programs, and regulatory reforms that foster innovation and prepare their economies, societies, and governments for the future.

192. With its substantial influence in international policy dialogue, a young and educated workforce, and a strong foundation in innovation, SASEC is well-positioned to take a leading role in advancing key aspects of the global digital agenda.

193. ADB has supported digital interventions in several SASEC countries and is observing growing demand among its partner states for assistance in advancing digital transformation. This expertise can be leveraged to support other SASEC countries, drawing on lessons from within the region and from other parts of Asia and the Pacific.

194. Policymakers and private sector stakeholders increasingly recognize the transformative potential of digitalization across key domains. For instance, integrated and dynamic logistics master planning enables the seamless movement of cargo. By consolidating logistics-related data from various ministries and departments, digital platforms can make it accessible to all stakeholders, thus enabling cargo tracking and tracing and route optimization. Such innovations create a multiplier effect, driving efficiencies and enhancing productivity across sectors.

195. Digitalization has the potential to transform regional power trade by enhancing the efficiency, transparency, and reliability of energy transactions. It can unlock the full potential of power trade through real-time monitoring of power supply and demand, seamless integration of renewable energy into the grid, and the development of digital platforms for cross-border power market transactions. These advancements can significantly contribute to economic growth and development across the region.

196. However, as digitalization accelerates, the cybersecurity vulnerabilities of critical infrastructure are likely to grow. It is essential to stay informed about emerging trends, innovations, challenges, risks, and threats, and to develop robust systems and capabilities for preventing, mitigating, and resolving cybersecurity threats.

197. ADB can support digital transformation by addressing gaps in existing digital architecture and infrastructure while fostering an enabling environment for digital innovation and progress. Digitalization is pivotal in improving governance, enhancing livability, and empowering citizens. These advancements can have a catalytic impact, driving socioeconomic development not only in SASEC but also in other regions.

198. During the SASEC SOM held in Delhi in December 2023, country delegates expressed strong interest in advancing collaboration on digital transformation and emphasized its importance for regional integration. The National Payments Corporation of India (NPCI), a global leader in providing digital public infrastructure, highlighted its ongoing partnerships with Bhutan, Nepal, and Sri Lanka, as well as opportunities to extend its initiatives to other countries.

199. Delegates expressed enthusiasm for developing advanced digital ecosystems supported by reliable high-speed broadband connectivity to facilitate cross-border digital payments. They welcomed ADB's support for a rapid assessment of internet connectivity and the development of digital public infrastructure in their countries, particularly in digital payment systems. The NPCI representative

clarified that the payment system is adaptable to various transaction types, including cross-border trade payments, subject to regulatory approvals.

200. The full list of ADB-supported knowledge and other initiatives in digitalization in the SASEC region can be found in Appendix 14.

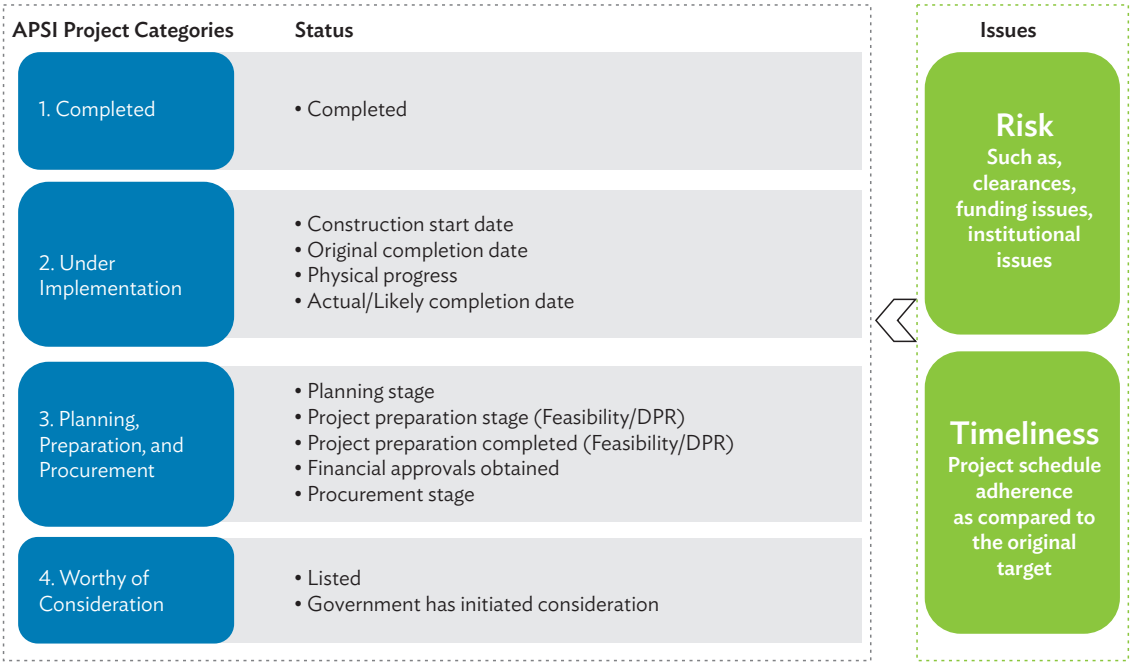
IX. ACTION PLAN FOR SASEC INITIATIVES: PROGRESS UPDATE FRAMEWORK

201. A key decision from the SASEC SOM in December 2023 was the establishment of a progress update framework for all APSI projects. This framework will enable SASEC senior officials to receive regular updates on project implementation, which is particularly critical for cross-border projects or those with cross-border implications.

202. Access to such information will support SASEC countries in making well-informed decisions and engaging in productive discussions during SASEC meetings. Moreover, it will assist Finance and Planning Ministries in making sound financing decisions, ensuring more effective and coordinated project management.

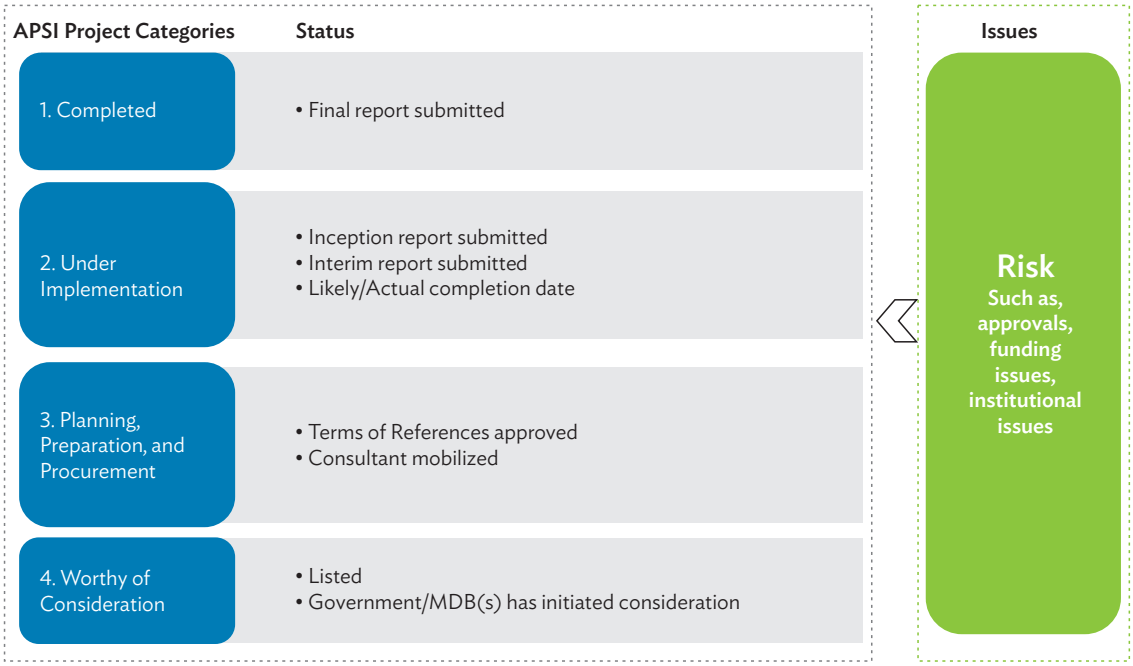
203. A key consideration was to ensure the framework's simplicity, enabling its implementation across SASEC countries and applicability across sectors. As previously mentioned, APSI projects and knowledge initiatives have been categorized into four groups, which serve as the foundation for this framework. Specific stages within these categories have also been identified for both projects and knowledge work (Figures 13 and 14).

Figure 13: Framework for Project Categorization and Progress Tracking



APSI = Action Plan for SASEC Initiatives, DPR = detailed project report, SASEC = South Asia Subregional Economic Cooperation.

Figure 14: Framework for Knowledge Initiative Categorization and Progress Tracking



APSI = Action Plan for SASEC Initiatives, MDB = multilateral development bank, SASEC = South Asia Subregional Economic Cooperation.

204. An initial spreadsheet has been developed to operationalize this framework, with plans to transition it to a web portal accessible to all SASEC countries. It is proposed that the status of projects and knowledge initiatives be updated biannually, on 1 January and 1 July each year.

APPENDIXES: ACTION PLAN OF SASEC INITIATIVES 2024–2026, PROJECT STATUS AS OF JULY 2024

These appendixes were compiled by ADB country consultants based on discussions with the respective governments of India, Bangladesh, Sri Lanka, the Maldives, and Nepal. Discussions held with donor agencies such as Japan International Cooperation Agency also informed the appendixes.

In all the appendix tables

- project status is "as of July 2024";
- shaded rows indicate projects included in Action Plan for SASEC Initiatives (APSI) 2022–2024;
- where the cost is presented in $ million, $ stands for the United States Dollar;
- where the cost is in italics, it is indicated that the cost has been converted from the local currency to $ @ $1= ₹83 = Tk117.5;
- category is defined as (1) completed, (2) under implementation, (3) planning and preparation, and (4) worthy of consideration; and
- the terminology used may be understood in the following way: Complete = Actual or estimated date of completion, Target = Original date of completion.

Appendix 1: Transport Projects

A1.1 Bangladesh

S. No.	Project Name/Particulars	Mode	Agency	Cost ($ million)	Category	Stage	Start	End	Physical progress (%)
1	Cross-border road improvement project (5 bridges on Bhanga–Jashore–Narail Highway, 4 bridges on Chattogram–Cox`s Bazar Highway and 8 bridges and 7 culverts on Ramgarh–Baraiyahat Regional Highway)	Road	JICA	*318.77*	1	Completed		June 2024	100.0
2	Western Bangladesh Bridge Improvement Project	Road	JICA	*247.81*	1	Completed		October 2024	100.00
3	SASEC Dhaka–Sylhet Corridor Road Investment Project (Dhaka [Katchpur]–Sylhet)	Road	ADB	*1,439.88*	2	Construction		December 2026	12.78
4	4-lane+6-lane upgrading Sylhet–Tamabil section	Road	AIIB	*304.96*	2	Construction		June 2025	2.60
5	Upgrading Sylhet–Sheola/Sutarkandi Road (Sylhet–Charkhai–Sheola)	Road	WB	*362.30*	2	Construction		December 2027	0.03
6	SASEC Dhaka–Northwest Corridor Road Project (SASEC Road Connectivity Project–2: Upgrading of Elenga–Hatikamrul–Rangpur Highway into 4-lane)	Road	ADB	*1,618.40*	2	Construction		December 2024	69.45
7	Upgrading of Jhenaidah–Jashore Road	Road	WB	*356.40*	2	Construction		June 2026	15.50
8	Rehabilitation of Baraiyahat–Heako–Ramgarh roads (widening of Baraiyahat–Heako–Ramgarh Road)	Road	GOI	94.22	2	Construction		1 December 2024	38.00
9	Chattogram–Cox's Bazar Highway improvement (23.52 km road, 13 bridges and 1 flyover)	Road	JICA	728.18	3	Procurement		August 2029	
10	Improvement of Rangpur–Banglabandha road (component of SASEC Dhaka Northwest Corridor Project Phase–3)	Road	ADB	355.14	3	FS and DD completed			
11	Improvement of Hatikamrul–Bonpara–Kustia–Jhenaidah Road	Road	AIIB	907.15	3	FS and DD completed			
12	Improvement of Burimari–Rangpur Road (component of SASEC Dhaka Northwest Corridor Project Phase–3)	Road	ADB	925.40	3	FS and DD completed			
13	SASEC South Corridor Improvement Project (Daulatdia–Faridpur–Barishal–Kuakata)	Road	ADB	556.99	3	FS and DD completed			
14	SASEC Chattogram Port Access Road Improvement Project	Road	ADB	280.93	3	FS and DD completed		1 June 2028	
15	SASEC Dhaka–Chattogram PPP Highway Project (tranche 1) (MFF) (widening of Dhaka–Chattogram highway into 6 lane highway) (288 km)	Road		2,309.45	3	FS and DD Ongoing			

Continued on next page

(A1.1 Bangladesh: continued)

S. No.	Project Name/Particulars	Mode	Agency	Cost ($ million)	Category	Stage	Start	End	Physical progress (%)
16	Joydebpur–Mymensingh Expressway PPP	Road		817.44	3	Planned			
17	Upgrading Mymensingh–Nakla Road (R371) (development of Mymensingh (Raghurampur)–Phulpur–Nakla–Sherpur Regional Highway) (65.14 km)	Road		72.81	3	Planned			
18	Upgrading Nakla–Nakugaon Highway (NH 402)	Road		N/A	3	Planned			
19	Madaripur (Mostafapur)–Shariatpur Chandpur–Lakshmipur–Begumganj Road and Shariatpur to Padma Bridge Link Road connecting Chattogram Port and Mongla ort	Road	GOB	N/A	3	Planned			
20	BG rail line between Chilahati and Chilahati border	Rail	GOB	15.46	1	Completed			100.00
21	DG double rail line between Akhaura and Laksam	Rail	ADB	714.79	1	Completed			100.00
22	SASEC Chattogram–Cox's Bazar Railway Project (Dohazari–Cox's Bazar section)	Rail	ADB	950.00	1	Completed			100.00
23	Khulna–Mongla Port rail line	Rail	LOC		1	Completed			100.00
24	Akhaura–Agartala DG railway link (Bangladesh portion)	Rail	GOI		1	Completed			100.00
25	Rehabilitation of Kulaura–Shahbazpur rail line	Rail	LoC	74.56	2	Construction	1 July 2011	21 December 2024	45.00
26	Padma Bridge Rail Link Project (Dhaka–Jashore)	Rail	PRC	4,312.84	2	Construction	1 January 2016	30 June 2025	96.00
27	Bangabandhu Sheikh Mujib Railway Bridge	Rail	JICA	1,352.00	2	Construction	1 January 2016	31 December 2025	94.00
28	DG railway line from Bogura to Sirajganj	Rail	LoC	613.15	2	Construction	1 July 2018	30 June 2026	16.80
29	DG double line between Joydebpur–Ishurdi	Rail	JICA	1,874.00	3	Planning and preparation	2027	2030	
30	SASEC Railway Connectivity Dhaka–Cumilla Chord-line Project	Rail	ADB	N/A	3	FS and DD ongoing			
31	SASEC Tongi–Akhaura Dual Gauge Project	Rail	ADB	1,700.00	3	Planning			
32	SASEC Laksam–Chattogram–Dohazari Dual Gauge Project	Rail	ADB	2,900.00	3	Planning			
33	DG line from Parbatipur to Kaunia	Rail	LoC	*184.97*	3	Clearances	1 January 2018	31 December 2025	0.80
34	DG from Akhaura to Sylhet (MG to DG and parallel DG line)	Rail		1,769.72	3	Feasibility completed			

Continued on next page

(A1.1 Bangladesh: continued)

S. No.	Project Name/Particulars	Mode	Agency	Cost ($ million)	Category	Stage	Start	End	Physical progress (%)
35	Jashore–Benapole new BG line parallel to the existing line	Rail	ADB	N/A	3	Feasibility			32.50
36	Chakaria to Moheskhali new single line DG link including Matarbari power plants	Rail	ADB	N/A	3	Feasibility completed			
37	Railway link to the bay terminal of Chattogram Port at Potenga	Rail	GOB	N/A	3	Feasibility completed			
38	BG rail line from Bhanga Junction to Payra Port and Kuakata via Barishal	Rail	GOB	N/A	3	Feasibility completed			
39	Abdulpur–Rajshahi new BG line parallel to existing one	Rail	ADB	N/A	3	Feasibility			32.50
40	Abdulpur–Santahar–Parbatipur new BG line parallel to existing DG line including Abdulpur bypass	Rail	ADB	N/A	3	Feasibility			32.50
41	Electric traction (including overhead catenary and substation) along Narayanganj–Dhaka–Chattogram	Rail	GOB	N/A	3	Feasibility			
42	Joydebpur–Jamalpur new DG line and conversion of existing MG to DG line	Rail	GOB	N/A	3	Feasibility			32.50
43	Bhairab Bazar–Mymensingh new DG/BG line and conversion of existing MG to DG line (link between SC4 and SC2)	Rail	GOB	N/A	3	Feasibility			32.50
44	Santahar to Amnura new BG line (E–W link between two rail routes of SC3)	Rail	GOB	N/A	3	Feasibility			32.50
45	MG to BG Bangabandhu Bridge East–Jamalpur–Dewanganj Bazar	Rail		N/A	3	FS and DD ongoing			
46	Matarbari Port Project (RHD Part: Matarbari Port Connecting Road) (27.2 km)	MT	JICA		2	Construction		December 2026	
47	Chattogram port–truck parking yard facility outside the port	MT	GOB		3	Planning			
48	Construction of bay terminal	MT	WB	650.00	3	Planning			
49	SASEC Dhirasram Inland Container Depot Project	MT	ADB	794.60	3	Planning			
50	BRWTP–1: Dredging in the Dhaka–Chattogram Channel and adjoining routes including terminal facilities and allied components.	IWT	IDA	2,918.38	2	Construction	2016	2025	50.00
51	Development of Chilmari River Port	IWT	GOB	20.05	2	Construction, DPP to be recast	2021	2025	12.00
52	Dredging of the inland waterway route of Mongla–Chandpur–Mawa–Goalanda–Paksey	IWT	GOB	109.79	2	Construction	2017	2025	77.00
53	Procurement of 35 dredgers, ancillary crafts and allied equipment	IWT	GOB	384.30	2	Construction, DPP to be recast	2018	2025	30.00

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(A1.1 Bangladesh: continued)

S. No.	Project Name/Particulars	Mode	Agency	Cost ($ million)	Category	Stage	Start	End	Physical progress (%)
54	Establishment of an ICT at Ashuganj, Bangladesh	IWT	LoC	149.02	2	Construction	2019	2025	40.00
55	Dredging program along river Kushiara in the 295 km long IBP route of Ashuganj–Zkiganj	IWT	GOI:GOB	8.13	2	Construction	2019	2026	43.00
56	Dredging program along the river Brahmaputra–Jamuna in the 192 km long IBP route of Sirajganj–Daikhawa	IWT	GOI:GOB	19.36	2	Construction	2019	2026	49.00
57	Development of an ICT and bulk terminal at Khanpur, Narayanganj	IWT	GOB	33.36	2	Construction	2024	2027	8.00
58	Jamuna River Sustainable Management Project (Channel Development) Phase–1	IWT	IDA	52.80	2	Construction	2024	2026	1.50
59	Feasibility study for preparation of the Mongla–Ghasiakhali Canal Upgrading Project.	IWT	USAID	1.00	3	Detailed feasibility to commence	2024	2024	
60	Development of navigability along the Gumti River	IWT	GOI:GOB	*3.88*	3	Planning			
61	Improvement of navigability of a stretch of 122 km from Raimangal to Chalna along the IBP Routes #1,2,3, and 4 and intensify aids to night navigation.	IWT	GOB	N/A	3	Planning			
62	Operationalization of IBP Routes #5 and 6 through development of navigability along the Padma River in the route of Paksey–Rajshahi–Sultanganj–Maia–Dhulian.	IWT		N/A	3	Included in long term dredging plan			
63	Improvement of navigability along the river Brahmaputra–Jamuna from Aricha to Sirajganj in the IBP routes # 1 and 2.	IWT		N/A	3	Included in long term dredging plan			
64	Development of navigability along the 116 km long route: Barak, (Valley in Assam), Karimganj (India) to Sylhet–Chhatak (Bangladesh)	IWT		N/A	3	Included in long term dredging plan			
65	Development and maintenance of 140 km long IWT route between Chandpur and Payra Port.	IWT		N/A	3	Included in long term dredging plan			
66	Development of a multimodal terminal at Noapara (Bangladesh) and improvement of fairway	IWT		N/A	3	Included in long term dredging plan			
67	Improvement of 119 km fairway between Thegamukh (Mizoram, India) and Rangamati–Kaptai (Bangladesh) fairway	IWT	GOI/GOB	N/A	3	Included in long term dredging plan			

AIIB = Asian Infrastructure Investment Bank, BG = broad gauge, BRWTP = Bangladesh Regional Inland Water Transport Project, DD = detailed design, DG = dual gauge, DPP = development project proposal, FS = feasibility study, GOB = Government of Bangladesh, GOI = Government of India, IBP = India–Bangladesh Protocol, ICT = inland container terminal, IWT = inland water transport, JICA = Japan International Cooperation Agency, MFF = multitranche financing facility, km = kilometer, LoC = Line of Credit, MG = meter gauge, MT = motor transport, N/A = not available, PPP = public-private partnership, PRC = People's Republic of China, RHD = Roads and Highways Department, SASEC = South Asia Subregional Economic Cooperation, SC = SASEC Corridor, USAID = United States Agency for International Development, WB = World Bank.

A1.2 Bhutan

S. No.	Project Name/Particulars	Mode	Agency	Cost ($ million)	Category	Stage	Start	End	Physical progress (%)
68	Lhamoizingkha to Sarpang new road construction (~95 km)	Road	ADB	80.00	3	Feasibility	2025	2026	
69	Gelephu to Taraythang (19 km)	Road	WB	76.00	3	Project preparation stage			
70	Taraythang to Panbang (71 km)	Road			3	Documented			
71	SASEC Transport, Trade Facilitation, and Logistics Project	Road	ADB	23.07	2	Under implementation	2016	30 June 2026	90
72	SASEC Air Connectivity Project (Gelephu)	Airport	ADB	7.60	1	Completed		2023	100
73	Upgrade of Gelephu airport to international airport	Airport	RGOB	2.00	3	Feasibility		2024	

km = kilometer, RGOB = Royal Government of Bhutan, SASEC = South Asian Subregional Economic Cooperation, WB = World Bank.

A1.3 India

S. No.	Project Name/Particulars	Mode	Agency	Cost ($ million)	Category	Stage	Start	End	Physical progress (%)
74	Upgrading of Churaibari–Agartala Road	Road	GOI	*31.08*	1	Completed	24 July 2020	31 December 2021	100.00
75	Upgrading of Aizawl–Zokhawthar section (Champai–Zokhawthar)	Road	WB		1	Completed			
76	Upgrading of Karimganj–Sutarkandi Road	Road	GOI	95.05	3	Feasibility completed			
77	Bihar National Highway improvement (Patna–Gaya)	Road	JICA	476.00	2	Construction	2013	December 2024	98.51
78	Upgrading of NH 40 Dawki to Shillong Road in Easter Meghalaya (incl. rehabilitation of Dawki bridge at the border)	Road	JICA	299.00	2	Construction			7.42
79	Upgrade of Kohima–Mao section	Road	GOI	37.90	2	Construction	20 October 2020	28 February 2025	74.23
80	Upgrade of Mao–Imphal section	Road	GOI	342.75	2	Construction			8.96
81	Upgrading of Paikan–Guwahati Road	Road	GOI	446.93	2	Construction	2023	2026	16.42
82	Moreh–Tamu Cross-Border Bridge/other bridges along the trilateral highway	Road	GOI		3	To be awarded			
83	Assam road network improvement (state roads)	Road	ADB	500.00	2	Construction	27 March 2023	30 June 2029	8.00
84	Upgrading of Tousem–Tamenglong section of Silchar–Tousem–Tamenglong–Imphal Road	Road	GOI	227.08	2	Construction	26 March 2021	30 April 2025	83.33

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(A1.3 India: continued)

S. No.	Project Name/Particulars	Mode	Agency	Cost ($ million)	Category	Stage	Start	End	Physical progress (%)
85	Upgrading of Tousem–Mahur section of Silchar–Tousem–Tamenglong–Imphal Road	Road	GOI	421.87	2	Construction	31 March 2023	28 August 2026	29.10
86	Upgrading of Tamenglong–Imphal section of Silchar–Tousem–Tamenglong–Imphal Road	Road	ADB	206.50	2	Construction			90.00
87	Upgrading of Agartala–Aizawl section (Manu–Simlung)	Road	GOI	168.90	2	Construction			68.37
88	Upgrading of Aizawl–Zokhawthar section (Aizawl–Champai)	Road	GOI	406.00	2	Construction			98.44
89	Tura–Dalu section of NH 217	Road	JICA	*73.50*	2	Construction	15 September 2018	4 March 2025	67.06
90	Aizawal to Tuipang (NH 54) going north to south in Mizoram state	Road	JICA	913.18	2	Construction		31 March 2025	90.60
91	Kailashahar–Sabroom (NH 208) going north to south in Tripura state	Road	JICA	431.72	2	Construction			36.76
92	Srirampur in Assam to Tura in western Meghalaya state (NH 127B)	Road	JICA	935.05	2	Construction			44.85
93	Flyover bridge from Seahorse Junction area to dock area at Visakhapatnam	Road	GOI	5.42	3	DPR development			
94	Construction of flyover-underpass at Visakhapatnam airport junction to ensure flow of container trailers to–from MMLP setup at NH 16	Road	GOI	7.11	2	Construction			41.51
95	Direct connectivity to Mindi Yard from E.Co. Railways–SC Railway for Visakhapatnam Port	Road	GOI	33.00	3	DPR completed			
96	Elevated expressway to Chennai Port, along a new alignment	Road	GOI	703.00	2	Construction	November 2023	May 2026	
97	Upgrading of Hapachara–Joghigopa–Paikan Road	Road	GOI	*260.08*	3	Construction			81.33
98	Upgrading of Shillong–Badarpur Road	Road	GOI	317.00	3	Feasibility completed			
99	Upgrading of Paikan–Tura Road (section of NH 217)	Road	GOI			Sufficient for traffic			
100	Upgrading of Agartala–Aizawl section (Simlung–Aizawl)	Road	GOI	N/A	3	Feasibility			
101	8-lane to be developed for V.O. Chidambaranar Road from Port Trust Circle to NH 45B Junction for V.O. Chidambaranar Port Authority	Road	GOI	24.10	2	Construction			
102	Bihar New Ganga Bridge Project	Road	ADB	715.00	3	Active	2016	31 December 2023	

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(A1.3 India: continued)

S. No.	Project Name/Particulars	Mode	Agency	Cost ($ million)	Category	Stage	Start	End	Physical progress (%)
103	SASEC Road Connectivity Investment Program: tranche 1	Road	ADB	424.80	3	Active	2014	27 March 2024	
104	Jiribam–Imphal BG line	Rail	GOI	1,725.54	2	Construction	2003–04	31 December 2026	66.53
105	Dimapur–Kohima BG line	Rail	GOI	802.77	2	Construction	2007–08	1 Mar 2026	19.68
106	Kokrajhar–Gelephu BG line	Rail	GOI	N/A	3	Final location survey			
107	Samtse to Banarhat new railway construction (16 km)	Rail	GOI	N/A	3	Documented			
108	Development of Jolarpet rail terminal and connectivity—extended gate facility through rail for Chennai port	Rail	GOI	14.06	3	DPR development		March 2023	93.62
109	JMVP on NW 1 from Haldia to Varanasi (1390 km)	IWT	WB	800.00	2	Construction	January 2018	December 2025	60.00
110	Multimodal terminal at Haldia, Sahibganj and Kalughat as part of JMVP	IWT	WB		2	Construction	January 2018	2024	99.63
111	Assam Inland Water Transport Project	IWT	WB	88.00	2	Construction	23 March 2020	31 December 2024	
112	Regional Waterway Grid—for improvement of inland waterway connectivity with Bangladesh, Nepal and Bhutan	IWT	WB		3	Planning			

BG = broad gauge, DPR = detailed project report, E. Co. = east coast, GOI = Government of India, IWT = inland water transport, JICA = Japan International Cooperation Agency, JMVP = Jal Marg Vikas Project, km = kilometer, MMLP = multimodal logistics park, NH = National Highway, NW = National Waterway, SC = south central, WB = World Bank.

A1.4 Maldives

S. No.	Project Name/Particulars	Mode	Agency	Cost ($ million)	Category	Stage	Start	End	Physical progress (%)
113	Greater Malé Connectivity Project to connect Malé with Villingli, port of Gulhaifahu and Thilafushi Industrial Zone	Road	LoC,GOI	500.00	2	Construction	2020	2026	
114	85 navigational lighthouses throughout the Maldives	MT		2.50	3	Planning			
115	Bunkering facility in Laamu Atoll	MT			3	Planning			
116	Relocation of commercial harbor/Malé Port to Thilafushi	MT			3	Planning			

LoC = line of credit, MT = motor transport, GOI = Government of India.

A1.5 Myanmar

S. No.	Project Name/Particulars	Mode	Agency	Cost ($ million)	Category	Stage	Start	End	Physical progress (%)
117	2L Upgrade of Tamu–Kyigone–Kalewa road section	Road	GOI		1	Completed			
118	Bago Bypass Project, upgrade of Bago–Thilawa and Thilawa–East Dagon Road	Road	GOM		2	Construction			
119	Upgrade of Kalewa–Yargi road section	Road	GOI		2	Construction		1 March 2025	46.28
120	Yangon elevated expressway	Road	GOM	900.00	2	Construction			
121	Upgrading of Zokhawthar–Kalewa section	Road			4	Listed			
122	Development of an inland container depot at Mingalardon with rail siding	Road	GOM		4	Listed			
123	Rehabilitation of Vessel Traffic Navigation Aid in Yangon River to allow night navigation	MT	GOM		4	Listed			

GOM = Government of Myanmar, GOI = Government of India, MT = motor transport.

A1.6 Nepal

S. No.	Project Name/Particulars	Mode	Agency	Cost ($ million)	Category	Stage	Start	End	Physical progress (%)
124	Upgrading of E–W Highway (Pathlaiya Birgunj section)	Road	ADB	23.28	1	Completed		2020	
125	Accelerating transport and trade connectivity in Eastern South Asia–Nepal Phase, Upgrading of E–W Highway (Butwal–Gorusinghe–Chanauta section) (69Km)	Road	WB	275.00	2	Construction	January 2024	January 2030	0
126	Upgrading of Kathmandu–Naubise–Mugling Road (part of Nepal Strategic Road Connectivity and Trade Improvement Project)	Road	WB	120.00	2	Construction	April 2022	December 2025	19
127	Nagdhunga tunnel construction	Road	JICA	194.00	2	Construction	November 2019	April 2025	77
128	Upgrading of E–W Highway (Kakarvitta–Laukahi section)	Road	ADB	362.47	2	Construction	August 2023	December 2029	4
129	SASEC Road Improvement Project (Narayanghat to Butwal)	Road	ADB	179.36	2	Construction	February 2019	July 2026	50
130	Upgrading of national highway between Mugling and Pokhara	Road	ADB	254.00	2	Construction	January 2020	June 2026	21
131	Four–lane expressway between Kathmandu and Nijgadh	Road	GON	1,580.00	2	Construction	Apr–17	Apr–27	34
132	SASEC Highway Improvement Project (E–W Highway Kanchanpur to Kamala)	Road	ADB	256.40	2	Construction	Oct–20	Jun–26	50

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(A1.6 Nepal: continued)

S. No.	Project Name/Particulars	Mode	Agency	Cost ($ million)	Category	Stage	Start	End	Physical progress (%)
133	Upgrading of E–W Highway (Dhalkebar–Pathlaiya section)	Road	WB	248.00	3	DPR	1 January 2025	1 January 2033	
134	Upgrading of E–W Highway (Kamala–Dhalkebar section)	Road	WB	N/A	3	Procurement	1 September 2024	1 September 2032	
135	Upgrading of Pathlaiya–Hetauda–Narayanghat Road	Road	ADB	270.00	3	DPR completed			
136	Nepal–India cross-border railways—Jainagar–Janakpur–Bijalpur BG line (52 km)	Rail	GOI	70.14	1	Completed			100
137	E–W electrified railway project (Mechi–Mahakali)	Rail	GON	3,000.00	2	Construction			
138	E–W electrified railway project (Bardibas–Chocha; 70 km)	Rail	GON	530.97	2	Construction	6 July 2005	17 July 2005	45.4
139	Nepal–India Cross–Border Railways–Bijalpura–Bardibas BG line (17 km)	Rail	GOI/ GON	52.63	3	Joint survey			
140	Raxaul–Kathmandu BG Electrified Railway Project	Rail		1,800.00	3	Project preparation			
141	TIA modernization project and TA for air navigation services	Air	JICA	42.00	1	Completed	January 2018	September 2023	100
142	Upgrade of Gautam Buddha International Airport	Air	ADB, OFID	76.1	1	Completed	2015	2022	100
143	SASEC South Asia Tourism Infrastructure Development Project (Nepal)	Air	ADB	105.5	1	Completed	2015	2024	100
144	Tribhuvan International Airport Capacity Expansion Project (International Terminal Building)	Air	ADB	198.00	2	Construction	10 May 2021	June 2027	24

E–W = east to west, GOI = Government of India, GON = Government of Nepal, JICA = Japan International Cooperation Agency, km = kilometer, OFID = OPEC Fund for International Development, SASEC = South Asia Subregional Economic Cooperation, TA = technical assistance, TIA = Type Inspection Authorization, WB = World Bank.

A1.7 Sri Lanka

S. No.	Project Name/Particulars	Mode	Agency	Cost ($ million)	Category	Stage	Start	End	Physical progress (%)
145	Central Expressway (Mirigama–Kurunegala Section)	Road			1	Completed			
146	Construction of Central Expressway Stage 1 (Kadawatha to Mirigama)	Road	PRC	186.57	2	Implementation	15 September 2015	14 September 2024	36
147	SASEC Port Access Elevated Highway Project	Road	ADB, JICA	702.93	3	Active	2018	31 December 2025	

JICA = Japan International Cooperation Agency, PRC = People's Republic of China, SASEC = South Asia Subregional Economic Cooperation.

Appendix 2: Transport Knowledge Works

S. No.	Project Name/Particulars	Country	Category	Stage
1	Advancing Cooperation in the Maritime Sector Studies		1	Final report submitted
2	Safe mobility and regional connectivity	REG	1	Final report submitted
3	Data analytics for assessing SASEC logistics movement	REG	1	Final report submitted
4	BBIN MVA Studies: 1) foreign vehicles fees and charges, 2) route harmonization, 3) vehicle insurance requirements	BBIN	1	Final report submitted
5	India-Bangladesh Rail-based Cargo Movement Study	BAN-IND	1	Completed
6	Regional Rail-based Cargo Movement Study	BBIN	2	Scoping missions
7	Demand study to estimate the flows on the SASEC transport network and its impact on economic activity	REG	3	Planning and preparation
8	Identification of corridors for an expressway network for roads and high-speed network for rail	REG	3	Planning and preparation
9	Strategies and implementation plan for the development of disaster- and climate-resilient transport network	REG	3	Planning and preparation
10	Establishment of baseline and institutional mechanism for SASEC APSI result monitoring	REG	4	Listed
11	Country consultation for the development of SASEC Vision 2035	REG	1	Completed
12	Feasibility of freight rail between Thimphu and Phuentsholing	BHU	3	Planning and preparation
13	Study for reform and improvement of regulatory framework and management of cross-border IWT	BBIN	4	Listed
14	Study for standardization of vessel, navigational standard, aids to navigation across the border and introducing RIS	BAN-IND	3	Planning and preparation
15	Inland Waterway Based Subregional Cargo Movement Study	BBIN	3	Planning and preparation
17	Study for subregional container traffic by inland waterway	BBIN	3	Planning and preparation
18	Institutional capacity building including setting up a SASEC IWT Center for R&D	BBIN	4	Listed
19	Study on integration of coastal shipping and IWT	BBIN	4	Listed
20	Study on vessel finance and vessel designing in the region to create a regional benchmark/standard	BAN-IND	3	Planning and preparation
21	Decarbonization roadmap for IWT: Identification of decarbonization initiatives and development of roadmap for regional waterway	BAN-IND	3	Planning and preparation
22	Study on process improvement and digitization of cross border procedures for ease of inland water and coastal movement	BBIN	4	Listed
23	Knowledge work on modern techniques to maintain navigability—river training, dredging, bandalling, etc.	BAN-IND	4	Listed
24	Study on Integrated VTMS	BAN-IND	4	Listed
25	Study on salvage and rescue system of the vessels in distress	BAN-IND	4	Listed
26	Feasibility study for multimodal connectivity from Bhutan to IBP routes	BAN-BHU-IND	3	Planning and preparation

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(Appendix 2: continued)

S. No.	Project Name/Particulars	Country	Category	Stage
27	Showing sustainability initiatives in the SASEC region ports—roadmap for moving towards carbon neutrality in ports	REG	3	Planning and preparation
28	Study on the development of an inland dry port (land port) near Padma Bridge and Bangabandhu (Jamuna) Bridge to facilitate multimodal connectivity and transportation system	BAN	4	Listed
29	Feasibility study for Tamu–Kalaywa–Yargyi–Monywa–Mandalay Rail Link	MYA	4	Listed

APSI = Action Plan for SASEC Initiatives; BAN = Bangladesh; BBIN = Bangladesh, Bhutan, India, Nepal; BHU = Bhutan; IBP = Indo Bangladesh Protocol; IND = India; IWT = inland water transport; MVA = Motor Vehicles Agreement; MYA = Myanmar; R&D = research and development; REG = regional; RIS = river information services; SASEC = South Asia Subregional Economic Cooperation; VTMS = vehicle traffic management system.

Appendix 3: Trade Facilitation Projects

S. No.	Project Name/Particulars	Country	Agency	Cost ($ million)	Category	Stage	Start	Target	End	Physical progress (%)
1	SASEC Integrated Trade Facilitation Sector Development Program for Bangladesh BLPA Part	BAN	ADB	22.00	2	Ongoing	2 July 2022	31 December 2026		1
2	National Single Window Project for Maldives	MDV	ADB	11.90	2					
3	Customs Administration Reform and Modernization Project	MDV	ADB							
4	SASEC Customs and Logistics Reform Program for Nepal tranche 1	NEP	ADB	5.40	1	Completed			2023	
5	Diagnosing and capacity building projects in authorized economic operator, risk management and expedited shipment (trade component) - under funding by European Union	NEP	EU		2	Implementation	February 2020	November 2024		
6	SASEC Customs and Logistics Reform Program for Nepal tranche 2	NEP	ADB	50.00	2		2024	2025		
7	SASEC Customs and Logistics Reform Program for Nepal tranche 3	NEP	ADB	50.00	3		2025	2027		
8	Strategic Road Connectivity and Trade Improvement Project—trade facilitation component	NEP	IDA	42.00	2	Implementation	2020	2027		
9	Accelerating transport and trade connectivity in Eastern South Asia – Nepal phase 1 Project—trade component	NEP	IDA	6.50	2	Implementation	2022	2028		
10	Construction of ICP—Nepalgunj (land ports)	NEP	GOI	23.20	1	Completed	2022		2024	100

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(Appendix 3: continued)

S. No.	Project Name/Particulars	Country	Agency	Cost ($ million)	Category	Stage	Start	Target	End	Physical progress (%)
11	Construction of ICP—Bhairahawa (land ports)	NEP	GOI	28.60	2	Construction	2023	2025		45
12	Construction of ICP—Dodhara–Chadani (land ports)	NEP	GOI	43.20	3	MoU signed, DPR approved	2024	2026		
13	Implementation of single window for Sri Lanka	SRI	ADB		3	PIU established				

BAN = Bangladesh, BLPA = Bangladesh Land Port Authority, DPR = detailed project report, GOI = Government of India, ICP = integrated check post, IDA = International Development Association, MDV = Maldives, MoU = memorandum of understanding, NEP = Nepal, PIU = project implementation unit.

Appendix 4: Trade Facilitation Knowledge Works

S. No.	Project Name/Particulars	Country	Category	Stage
1	Assessment of the status of automation and use of risk management among the other government agencies in SASEC countries, for the clearance of EXIM cargo	REG	4	Listed
2	Introduction of automated risk engine for customs and integrated risk management covering other government agencies in Sri Lanka, including institutional capacity enhancement	SRI	4	Listed
3	Study to explore and identify the best modalities for efficient and sustainable management and operation of dry ports in Bhutan	BHU	4	Listed
4	Study on the development of an inland dry port (land port) near Padma Bridge and Bangabandhu (Jamuna) Bridge to facilitate multimodal connectivity and transportation system	BAN	4	Listed
5	Implement customs processes and standard operating procedures across ports to enable regional integration and promote digitization	REG	4	Listed

BAN = Bangladesh, BHU = Bhutan, EXIM = export–import, REG = regional, SASEC = South Asia Subregional Economic Cooperation, SRI = Sri Lanka.

Appendix 5: Projects Related to Sanitary and Phytosanitary Measures and Technical Barriers to Trade

S. No.	Project Name/Particulars	Country	Agency	Cost ($ million)	Category	Stage	Start	Target	End	Physical progress (%)
1	Nuts and Fruits in Hilly Areas Project in Nepal	NEP	ADB	74.45	2	Implementation	December 2022	February 2030		
2	Assistance in developing testing facilities, including regional testing facilities, based on needs assessment	TBD	TBD		4					

NEP = Nepal, SASEC = South Asia Subregional Economic Cooperation, TBD = to be decided.

Appendix 6: Knowledge Works Related to Sanitary and Phytosanitary Measures and Technical Barriers to Trade

S. No.	Project Name/Particulars	Country	Category	Stage
1	Feasibility study on setting up a regional trade portal with updated SPS–TBT information for enhanced transparency and information sharing mechanism between SASEC countries.	REG	4	Listed
2	Developing a SASEC regional arrangement for enhancing the capacity of technical personnel at training centers in India (inspired by the model adopted by customs).	REG	4	Listed
3	Developing a mutually accepted arrangement of conformity assessment of certification and testing.	REG	4	Listed
4	Study on the status of testing laboratory infrastructure in SASEC countries, their need for upgradation, and assess the possibility of setting up regional testing facilities at strategic locations to support efficient food trade in the region.	REG	4	Listed
5	Assistance in developing testing facilities, including regional testing facilities at convenient locations (for e.g., Siliguri, West Bengal).	REG	4	Listed
6	Harmonization of SASEC standards for select food products of high trade potential, based on Codex Standards	REG	4	Listed

APSI = Action Plan for SASEC Initiatives, REG = regional, SASEC = South Asia Subregional Economic Cooperation, SPS–TBT = Sanitary and Phytosanitary Measures–Technical Barriers to Trade.

Appendix 7: Knowledge Works Related to Highly Facilitated Trade Corridors

S. No.	Project Name/Particulars	Country	Category	Stage
1	Preparation of HFTC action plan, identifying relevant recommendations from routes studies, the agencies responsible, and possible timelines for initiating and completing their implementation	BAN–IND–NEP	2	Ongoing
2	Study on enabling cross-border electronic exchange of pre-arrival information	REG	4	Listed
3	Study on the design and application of a regional electronic cargo tracking system	REG	2	Ongoing
4	Study on CBCBM appropriate to the routes and border points covered in the routes studies	BAN–IND–NEP	2	Ongoing
5	Conduct of route studies on the following routes: (a) Nepal–Kolkata route passing through Birganj–Raxaul and Biratnagar–Jogbani, (b) Phuentsholing/ Pasakha–Jaigaon–Chagrabanda–Burimari and Fulbari–Banglabandha to Chattogram, (c) Phuentsholing/Pasakha–Jaigaon to Kolkata, and (d) Akhaura to Moreh route passing through Agartala	BBIN	2	Ongoing
6	Study to standardize business processes at the border points	REG	4	Listed

BAN = Bangladesh; BBIN = Bangladesh, Bhutan, India and Nepal; CBCBM = cross-border coordinated border management; HFTC = highly facilitated trade corridors; IND = India; NEP = Nepal; REG = regional.

Appendix 8: Energy Projects

S. No.	Project Name/Particulars	Country	Agency	Cost ($ million)	Category	Stage	Start	Target	End	Physical progress (%)
1	Bangladesh Dhaka-Western Zone Grid expansion	BAN	ADB	750	2	Construction	2019	2024	2024	
2	Nyera Amari 404 MW HPP	BHU	ADB, others	795	3	Project preparation				
3	Bunakha 180 MW HPP	BHU	ADB, others	500	3	Project preparation				
4	Dorji Lung HPP (1,125 MW)	BHU	TBD		3	Project preparation				
5	Utility-scale solar PV project and rooftop solar PV project	BHU	TBD		3	Project preparation				
6	Second Green Power Development Project	BHU	ADB	198	2	Construction	2014	2024	2024	
7	Katihar (India)–Parbotipur (Bangladesh)–Barnagar (India-NER), 765 kV D/C line	IND–BAN	TBD		3	Project preparation				
8	400 kV East–West link and Durungri power pooling station, Bhutan to Rangia/Rowta, India	IND–BHU	TBD		3	Project preparation				
9	India (North-East region)–Tamu (Myanmar)	IND–MYA	TBD		3	Project preparation				
10	Arun 3 (900 MW)–Dhalkebar (Nepal)–Sitamarhi (India), 400 kV D/C line	IND–NEP	Private		2	Construction				
11	Lamki (Dododhara)–Bareilly (India) 400kV Transmission Line Project	IND–NEP	GOI, GON	105	3	Project preparation	2025	2029	2029	
12	Inaruwa–Anarmani–Kishangunj (India) 400kV Transmission Line Project	IND–NEP	LoC, EXIM Bank of India	148	3	Project preparation	2025	2029	2029	
13	Nijgadh–Harnaiya (Nepal)–Motihari (India) 400kV Transmission Line Project	IND–NEP	ADB, others TBD	75	4	Considered				
14	Inaruwa–Purnea (India) 400kV Transmission Line Project	IND–NEP	TBD	30	3	Project preparation	2024	2030	2030	
15	Lamahi (Nepal)–Lucknow (India) 400kV Transmission Line Project	IND–NEP	GOI, GON	20	4	Considered	2025	2029	2029	
16	New Butwal (Nepal)–Gorakhpur New (India) 400 kV D/C line and associated lines in Nepal	IND–NEP	GON, GOI, MCC	18	2	Construction	2024	2027	2027	
17	India–Sri Lanka Interconnection	IND–SRI	TBD		3	Technical feasibility				
18	Dudh Koshi 635 MW HPP	NEP	ADB, WB, others	2300	3	Project preparation	2025	2032	2032	

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(Appendix 8: continued)

S. No.	Project Name/Particulars	Country	Agency	Cost ($ million)	Category	Stage	Start	Target	End	Physical progress (%)
19	Lamahi–Dododhara–Attariya 400 kV Transmission Line Project	NEP	ADB, others TBD	439	3	Project preparation	2026	2029	2029	
20	Electricity Grid Modernization Project (including additional financing)	NEP	ADB	270	2	Construction	2020	2026	2026	
21	SASEC Power System Expansion Project (including additional financing)	NEP	ADB	480	2	Construction	2014	2024	2024	
22	Upper Arun 1061 MW HPP	NEP	WB, ADB, others	2,000	3	Project preparation	2017	2031	2031	
23	Arun 3 HPP	NEP	Private		2	Construction	2020	2025	2025	
24	Upper Karnali HPP	NEP	Private		3	Project preparation				
25	Arun 4 HPP	NEP	Private	607	3	Project preparation	2027	2032	2032	
26	Lower Arun HPP	NEP	Private		3	Project preparation				
27	Sunkoshi 3 HPP	NEP	Private	1531	3	Project preparation	2027	2032	2032	
28	Tanahu HPP	NEP	ADB, JICA, EIB	505	2	Construction	2021	2027	2027	58
29	SASEC Power Transmission and Distribution System Strengthening Project	NEP	ADB	322	2	Construction	2020	2026	2026	60
30	Lapsephedi and Hetauda Transmission Line Project	NEP	GON, MCC	398	3	Project preparation				
31	New Butwal–Lamahi 400 kV Transmission Line Project	NEP	ADB, OFID, SDF	200	3	Project preparation	2025	2028	2028	
32	Nijagdh–Parwanipur 400 kV Transmission Line Project	NEP	ADB, SDF	105	3	Project preparation	2025	2028	2028	
33	Tamakoshi–Kathmandu 400 kV Transmission Line Project	NEP	ADB	57	2	Construction	2012	2025	2025	80
34	Khimti–Barhabise–Lapsephedi 400 kV Substation Construction Project	NEP	ADB	30	2	Construction	2021	2025	2025	55
35	Dandakhet–Rahughat 132 kV Transmission Line and Substation Project	NEP	ADB	26	2	Construction	2022	2025	2025	35
36	Ghorahi–Madichaur 132 kV Transmission Line and Substation Project	NEP	ADB	21	2	Construction	2023	2026	2026	25
37	Parwanipur–Pokhariya 132 kV Transmission Project	NEP	ADB	31	2	Construction	2023	2026	2026	15

BAN = Bangladesh; BHU = Bhutan; D/C = direct current; EIB = European Investment Bank; EXIM = export–import; GOI = Government of India; GON = Government of Nepal; HPP = hydro power project; IND = India; JICA = Japan International Cooperation Agency; kV = kilovolts; LoC = line of credit; MCC = Millennium Challenge Cooperation; MW = megawatts; NEP = Nepal; OFID = OPEC Fund for International Development; PV = photovoltaic; SDF = Sustainable Development Fund; SRI = Sri Lanka; TBD = to be decided; WB = World Bank.

Appendix 9: Energy Knowledge Works

S. No.	Project Name/Particulars	Agency	Category	Stage
1	Updating of the Regional Transmission Master Plan	ADB	1	Final report submitted
2	Preparation of the Cross-Border Power Trade Framework Agreement	ADB	1	Final report submitted
3	SASEC Cross-Border Power Trade Development—master plan review and update	ADB	1	Final report submitted
4	Economic analysis for benefits derived for interconnected grids in SASEC region	ADB	1	Final report submitted
5	Impacts and roadmap of replacing natural gas with renewable energy in SASEC region	ADB	1	Final report submitted
6	Technical and economic benefits of interconnection between SASEC and Southeast Asia	ADB	1	Final report submitted
7	Commercial feasibility of the India–Sri Lanka interconnection for GOSL	ADB	2	Interim report submitted
8	Green Fuel Development Initiative	ADB	3	Terms of reference approved
9	Assessment of the supply and value chain of electrical equipment in the SASEC region including battery manufacturing in the countries	ADB	4	Listed
10	Digital Utility Initiative: Digital roadmap and training on cybersecurity	ADB	3	Planning stage
11	Resource Complementarity Study (Technical/Commercial)	ADB	4	Listed
12	Update of the Regional Transmission Master Plan	ADB	4	Listed
13	Pre-feasibility of India-Maldives interconnection	ADB	4	Listed
14	Regional transmission corridor study beginning with Bhutan (in Eastern Bhutan)	ADB	4	Listed
15	Safeguard studies for India–Sri Lanka interconnection	ADB	4	Listed
16	Creating Regional Green Finance Facility (Task)	ADB	3	Planning stage
17	Training needs assessment and capacity building plan for the SASEC region	ADB	2	Ongoing
18	Green hydrogen ecosystem development plan for the countries/SASEC region	ADB	4	Listed
19	Update of feasibility study of Karnali Chisapani Hydropower Project	ADB	4	Listed

GOSL = Government of Sri Lanka, SASEC = South Asia Subregional Economic Cooperation.

Appendix 10: Economic Corridor Development Projects

S. No.	Project Name/ Particulars	Country	Agency	Cost ($ million)	Category	Stage	Start	Target	End	Physical progress (%)
1	Visakhapatnam–Chennai Industrial Corridor Development Program, tranche 2	IND	ADB	358.00	2	Implementation	2016	December 2024		62
2	Tamil Nadu Urban Flagship Investment Program	IND	ADB		2	Tranche 3 ongoing	2019	December 2026		14

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(Appendix 8: continued)

S. No.	Project Name/ Particulars	Country	Agency	Cost ($ million)	Category	Stage	Start	Target	End	Physical progress (%)
3	Tamil Nadu Industrial Connectivity Project	IND	ADB		2	Ongoing	2021	June 2027		75
4	Chennai–Kanyakumari Industrial Corridor: Power Sector Investment Project	IND	ADB		2	Ongoing	2020	June 2025		63
5	Industrial Corridor Development Program Subprogram 1 and 2	IND	ADB	500.00	1	Completed			February 2024	
6	West Bengal Economic Corridor	IND	ADB		3	Ensuing SDP prepared				
7	Tripura Industrial Infrastructure Sector Development Program	IND	ADB	120.00	3	Board approval scheduled November 2024				
8	Regional Urban Development Project	NEP	ADB	214.00	2	Implementation	December 2017	June 2025		90
9	Urban Resilience and Livability Improvement Project	NEP	ADB	201.50	2	Implementation	March 2024	30 April 2029		15

IND = India, NEP = Nepal, SDP = sector development program.

Appendix 11: Economic Corridor Development Knowledge Works

S. No.	Project Name/Particulars	Country	Category	Stage
1	West Bengal Economic Corridor Additional Study	IND	2	Interim report submitted
2	Border Post Ecosystem Study, with a focus on infrastructure and logistics planning for selected border posts such as Panitanki, Fulbari, Jaigaon, Changrabandha and Hilli (all in West Bengal, India)	BBIN	2	Route study
3	Border town planning for city logistics and urban development	BBIN	2	Concept
4	Port process and digital reform assessment for select SASEC ports	REG	2	Ongoing

BBIN = Bangladesh, Bhutan, India, Nepal; India = India; REG = regional, SASEC = South Asia Subregional Economic Cooperation.

Appendix 12: Tourism Projects

S. No.	Project Name/Particulars	Country	Mode	Agency	Cost ($ million)	Category	Stage	Start	Target	End	Physical progress (%)
1	VIA expansion project including Noovilu seaplane terminal	MDV	Civil Aviation	SFD, OFID, ADFD, KF	350	1	Construction	2019	2022	2025	
2	Upgrade of GBIA	NEP	Civil Aviation	ADB, OFID	76.1	1	Completed	2015	2018	2022	100
3	Tripura Urban and Tourism Development Project	IND	Destination	ADB	100	2	Ongoing	2023	2029		

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(Appendix 12: continued)

S. No.	Project Name/Particulars	Country	Mode	Agency	Cost ($ million)	Category	Stage	Start	Target	End	Physical progress (%)
4	Uttar Pradesh Pro-poor Tourism Development Project at Sarnath and Kushinagar Buddhist Circuit	IND	Destination	WB	8.7	2	Construction	2022	2024		
5	SASEC South Asia Tourism Infrastructure Development Project (Nepal)	NEP	Destination	ADB	105.5	2	Construction	2015	2019	2024	80
6	Buddhist Circuit Tourism Development (India)	IND	Circuit/ Destination	ADB		3	Listed				
7	Mahabodhi Heritage Corridor, Bodh Gaya	IND	Destination			4	Listed				
8	Improving rail connectivity between Sarnath (India) and Lumbini (Nepal)—the section between Dohrighat and Sahjanwa with track length of 82 km and 12 intermittent stations	IND/NEP	Rail	MoR, GOI	160	3	Sanctioned				
9	Improving rail connectivity between Bodh Gaya (India) and proposed Kushinagar station (India) —construction of railway track of approx. 20 km from Jatdumri Halt to Neora/Danapur with 4 intermittent stations. Proposed feasibility for construction of railway line from Panchdeori Halt to Kushinagar (proposed railway station) of approx. 40 km length.	IND	Rail	MoR, GOI		4	Listed (Part Construction)			2024	
10	Improving rail connectivity between Kushinagar (India) and Lumbini (Nepal); connecting proposed Kushinagar railway station to Nautanwa near Nepal border Revival of the old railway track used for sugarcane transportation from Hetimpur to Sardarnagar for a length of 64 km	IND/NEP	Rail	MoR, GOI	176.5	3	Sanctioned				
11	Improving road connectivity between Lumbini (Nepal) and Sarnath (India)—3 stretches have been identified for 215 km of strengthening, upgrade, and provision for wayside amenities/signage	IND/NEP	Road			4	Listed				

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(Appendix 12: continued)

S. No.	Project Name/Particulars	Country	Mode	Agency	Cost ($ million)	Category	Stage	Start	Target	End	Physical progress (%)
12	Improving road connectivity between Sarnath (India) and Bodh Gaya (India)—2 stretches have been identified for 30 km of strengthening, upgrade, and provision for wayside amenities/signage	IND	Road			4	Listed				
13	Improving road connectivity between Bodh Gaya (India) and Kushinagar (India)—7 stretches have been identified for 270 km of strengthening, upgrade, and provision for wayside amenities/signage	IND	Road			4	Listed				
14	Improving road connectivity between Kushinagar (India) and Lumbini (Nepal)—2 stretches have been identified for 90 km of strengthening, upgrade, and provision for wayside amenities/signage	IND/NEP	Road			4	Listed				
15	Improving last mile connectivity and pedestrian environment improvement in core Buddhist pilgrimage destinations (Lumbini, Sarnath, Bodh Gaya, and Kushinagar)	IND/NEP	Last Mile Connectivity			4	Listed				
16	Improving air connectivity ecosystem between GBIA for Lumbini, LSIA for Sarnath, BGIA, and KIA	IND/NEP	Civil Aviation			4	Listed				

ADFD = Abu Dhabi Fund for Development; BGIA = Bodh Gaya International Airport; GBIA = Gautam Buddha International Airport; IND = India; KEXIM = Export Import Bank of Korea; KF = Kuwait Fund; KIA = Kushinagar International Airport; LoC, GOI = Line of Credit, Government of India; LSIA = Lal Bahadur Shastri International Airport; MDV = Maldives; MoR = Ministry of Railways; NEP = Nepal; OFID = OPEC Fund for International Development; SFD = Saudi Fund for Development; WB = World Bank.

Appendix 13: Tourism Knowledge Works

S. No.	Project Name/Particulars	Agency	Category	Stage
1	Scoping study on strengthening institutional mechanism for tourism in SASEC	ADB	1	Final Report Submitted
2	Achieving sustainable cruise tourism for the maritime SASEC region post-COVID-19.	ADB	1	Final Report Submitted
3	Maldives TMP 5, 2023–2027, Goals and Strategies	ADB	1	Final Report Submitted

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(Appendix 13: continued)

S. No.	Project Name/Particulars	Agency	Category	Stage
4	Sudurpashchim Province Tourism Master Plan 2022–2032	UNEP and UNDP	1	Final Report Submitted
5	Supporting tourism resilience in Sri Lanka	ADB	2	Ongoing
6	Feasibility study on SASEC regional tourist visa/ticket		4	Listed
7	Development of Regional Sustainable Tourism Program Framework		3	Listed
8	Study on aviation ecosystem across SASEC tourism destinations		4	Listed
9	Modernizing tourism data collection, accounting and analysis methods for SASEC countries		3	Listed
10	Compendium of benchmarked standards and practices for South Asia tourism industry, including sustainable tourism development in the region		3	Listed
11	Gap analysis for upgrading Buddhist Circuit's connectivity, preparation of destinations development and management plans, and other tourism related infrastructure and capacities in relation to global standards		4	Listed
12	Gap analysis and passenger survey for SASEC sea and river cruise development—physical infrastructure, tourism infrastructure at port destinations, product viability, capacity development etc.		4	Listed
13	Investment needs assessment for sustainable tourism growth and climate impact adaptation and the formulation of a road map for private sector investment enhancement		4	Listed

SASEC = South Asia Subregional Economic Cooperation, TMP 5 = Fifth Tourism Master Plan, UNDP = United Nations Development Programme, UNEP = United Nations Environment Programme.

Appendix 14: Digitalization Knowledge Works

S. No.	Project Name/Particulars	Agency	APSI Category	Stage
1	**Transport:** Data analytics for assessing SASEC logistics movement	ADB	1	Completed
2	**Transport:** Platform for transport data collection and performance monitoring	ADB	4	Listed
3	**Transport:** Port process and digital reform assessment for select SASEC ports	ADB	4	Listed
4	**Transport:** Gateway process mapping and development of standard operating procedures to standardize processes across ports for enabling regional integrations and promote digitization	ADB	4	Listed
5	**Transport/Logistics:** Study of the status of Digi-Multimodal National Master Plan	ADB	4	Listed
6	**Transport:** Study on status of digital dynamic data stack in line with ULIP	ADB	4	Listed
7	**Trade Facilitation:** National Single Window (Digital Component)	ADB	4	Listed
8	**Economic Corridor Development:** Master Planning of Growth Centers	ADB	4	Listed
9	**Energy:** Digital Utility Initiative: Digital roadmap and training on cybersecurity	ADB	4	Listed
10	**Digital Infrastructure and Digital Public Goods:** Status of digital infrastructure and development of digital public goods in SASEC countries	ADB	4	Listed
11	**Digital Payment Systems:** Study on digital infrastructure and payment systems study for SASEC countries	ADB	4	Listed
12	**Digitalization of APSI Progress Update:** Web enabled tool for progress update	ADB	3	Planning

APSI = Action Plan for SASEC Initiatives, SASEC = South Asia Subregional Economic Corridor, ULIP = Unified Logistics Interface Platform.


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