



Technical Assistance Report

Project Number: 50160-001
Cluster—Research and Development Technical Assistance (C-RDTA)
September 2016

Key Indicators for Asia and the Pacific 2018–2020

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Asian Development Bank

ABBREVIATIONS

ADB	–	Asian Development Bank
DMC	–	developing member country
ERDI	–	Development Economics and Indicators Division
GVC	–	global value chain
IT	–	information technology
SDBS	–	statistical database system
SDG	–	Sustainable Development Goal
TA	–	technical assistance

NOTE

In this report, “\$” refers to US dollars.

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RESEARCH AND DEVELOPMENT TECHNICAL ASSISTANCE AT A GLANCE

1. Basic Data		Project Number: 50160-001	
Project Name	Key Indicators for Asia and the Pacific 2018-2020	Department /Division	ERCD/ERDI
Country	REG	Executing Agency	Asian Development Bank
2. Sector	Subsector(s)	ADB Financing (\$ million)	
✓ Industry and trade	Industry and trade sector development	0.69	
Education	Education sector development	0.39	
Finance	Finance sector development	0.39	
Health	Health system development	0.39	
Information and communication technology	ICT infrastructure	0.39	
Public sector management	Economic affairs management	0.39	
Transport	Transport policies and institutional development	0.39	
		Total	3.00
3. Strategic Agenda	Subcomponents	Climate Change Information	
Inclusive economic growth (IEG)	Pillar 1: Economic opportunities, including jobs, created and expanded	Climate Change impact on the Project	Low
Regional integration (RCI)	Pillar 4: Other regional public goods		
4. Drivers of Change	Components	Gender Equity and Mainstreaming	
Governance and capacity development (GCD)	Institutional development	Some gender elements (SGE)	✓
Knowledge solutions (KNS)	Knowledge sharing activities		
Private sector development (PSD)	Conducive policy and institutional environment		
5. Poverty and SDG Targeting		Location Impact	
Project directly targets poverty and SDGs	No	Regional	High
6. TA Category:	A		
7. Safeguard Categorization	Not Applicable		
8. Financing			
Modality and Sources		Amount (\$ million)	
ADB		3.00	
Research and development technical assistance: Technical Assistance Special Fund		3.00	
Cofinancing		0.00	
None		0.00	
Counterpart		0.00	
None		0.00	
Total		3.00	
9. Effective Development Cooperation			
Use of country procurement systems	No		
Use of country public financial management systems	No		

I. INTRODUCTION

1. The *Key Indicators for Asia and the Pacific*, an annual flagship publication of the Asian Development Bank (ADB), provides (i) the latest comprehensive compendium and analysis of trends in economic, social, financial, and environmental indicators—including those pertaining to the Sustainable Development Goals (SDGs)—for ADB’s regional members; (ii) a unique set of reliable and accurate statistics on global value chains (GVCs) that capture trade links across countries and industries while accounting for the complex input–output relationships involved in producing goods and services; and (iii) a special chapter that provides in-depth, data-intensive analysis of an important policy issue. In addition to disseminating its statistics through print and digital media, ADB’s statistical database system (SDBS)—the associated online database of the *Key Indicators*—enables users to access and analyze statistics on economic and social themes. The statistics portal, a related online resource accessible to ADB staff, disseminates information on data resources available in ADB and offers links to non-ADB data resources.

2. The *Key Indicators* provides a data and information support system that can be used for evidence-based policy making.¹ Its production has been supported regularly by technical assistance (TA) funding. The objectives, scope, and activities to be covered by the TA are in the design and monitoring framework (Appendix 1).²

II. ISSUES

3. The TA is designed to address development issues from two perspectives: (i) informing policy discussions on inclusive growth through rigorous empirical analyses of survey and administrative data; and (ii) disseminating official statistics of the developing member countries (DMCs), other economic and social indicators, and survey data sets in an integrated format and through both print and digital media as well as through online databases.

4. While the region has experienced rapid economic growth, there is widespread acknowledgment that growth could be made more inclusive. This indicates a need to rigorously assess and build evidence on the types of policy and institutional frameworks needed for more inclusive development. Given ADB’s strategic agenda of promoting inclusive growth and managing for development results, the TA will support high-quality microeconomic research along five pipelines: (i) poverty, inequality, and labor markets; (ii) human capital development, including education and health; (iii) firm competitiveness, including entrepreneurship and small and medium-sized enterprises; (iv) infrastructure and urbanization; and (v) GVCs and trade. Building up these five research pipelines will leverage existing skills of staff economists, develop critical research capacity, and enable the production of quality rigorous research over the longer term that can make greater contributions to the policy sphere. Deviations from these pipelines will only occur upon the hiring of new staff that can capably deliver quality research in new areas. These pipelines will feed directly into the *Key Indicators* theme chapter and additional reports. The topics for a given year will be decided in consultation with higher management and key sector groups, but are mandated to fall within these five areas of work.

5. Evidence-based decision-making relies on being able to easily access credible statistics and data sets for informing cross-country and within-country analyses on a wide variety of topics, including those pertaining to SDGs as well as trade links across countries.

¹ The *Key Indicators* is consistently among the top downloaded ADB publications during 2011–2015.

² The vice-president for knowledge management and sustainable development approved the concept clearance on 24 May 2016. The TA first appeared in the business opportunities section of ADB’s website on 9 June 2016.

6. The special chapters and statistics sections of the *Key Indicators* involve recurring data and research work that are often linked across editions. The work on the special chapters will be carried out on a multiyear cycle to allow for (i) wider stakeholder consultations at various stages of the production and dissemination cycle; (ii) more rigorous analysis, including scope for conducting primary surveys for data collection; and (iii) timely engagement of experts, consultants, and academic and research institutions. To support the multiyear cycle and undertake recurring data and research work efficiently, the TA will need a multiyear implementation period with a broadly defined scope and terms of reference to provide flexibility in refining each subproject. These factors suggest that a TA cluster approach is suitable.

7. Since both the research and statistics portions of the *Key Indicators* are critical for understanding inclusive growth and developing evidence-based policies in the region, the *Key Indicators* was identified as a corporate priority during the TA resource allocation meeting.

III. THE RESEARCH AND DEVELOPMENT TECHNICAL ASSISTANCE

A. Impact and Outcome

8. The impact will be enhanced evidence-based policy making, investment decisions, and project design in ADB's DMCs. The outcome will be the sustained use of *Key Indicators* data and analysis by DMC officials, economic researchers, civil society, and other users.

B. Methodology and Key Activities

1. Cluster Technical Assistance

9. The cluster TA will comprise three chronologically sequenced subprojects encompassing the annual production of the 2018–2020 reports. The TA will support the (i) preparation of background research papers; (ii) continued data collection from national, international, and ADB sources plus modernization of ADB database systems such as the SDBS; (iii) publication of the *Key Indicators* (print and online versions), including the production of statistical tables for SDGs, country and regional trends, GVCs, and special chapters; and (iv) workshops for knowledge sharing and dissemination of key results and policy recommendations. Background research papers will be published through appropriate vehicles to maximize the dissemination and impact of the analyses conducted, e.g., policy briefs, journal publications, edited volumes, and/or as special supplements to the *Key Indicators*.

10. Candidate topics for the special chapters will draw from one of the five research pipelines that leverage existing economist staff expertise or focus on data measurement issues relevant to public policy research that fit the expertise of the statisticians.

11. The TA will support additional survey work and reports related to the five research pipelines to build up strategic capabilities in sectors that generate considerable knowledge returns. These will be published as stand-alone reports or background papers. To ensure that the research pipelines address inclusive policy development in the region, feasibility assessments and consultations will be used to identify unanswered policy questions and lay out approaches to respond to these questions.

12. The TA will continue to support innovative statistics-related work on GVC indicators (initiated in the *Key Indicators 2015*) because of their importance in understanding the benefits of trade for the region's entrepreneurs and workers. The Development Economics and

Indicators Division (ERDI) pioneered the production of original indicators to quantify and analyze the phenomenon of international production sharing in a globalized economy. While measuring the scale and structure of GVCs is a highly complicated task, ERDI has implemented new methods that provide a powerful framework for measurement. Building on these developments, the TA will help selected DMCs produce data for more credible measurement and policy analysis on GVC issues.

13. The *Key Indicators* will be widely disseminated to its target audience in coordination with ADB's Department of External Relations. Dissemination will start with an international media launch followed by seminar presentations to key government officials, business people, academia, and other research groups. The *Key Indicators* will be uploaded to the ADB website and disseminated through social media. Background papers will be published separately in ADB's working paper series, the *Asian Development Review*, or other media at a later date.

2. Subproject 1

14. Subproject 1 will cover the 2018 report. In addition to the country, regional, SDG, and GVC tables, the 2018 report will feature a special chapter on urbanization. The *World Urbanization Prospects 2014* reports that 90% of the projected urban growth between now and 2050 will be concentrated in cities in the developing world (Asia and Africa).³ While conventional wisdom tells us that opportunity comes with urbanization and that cities are engines of aggregate economic growth, recent studies suggest that urbanization in developing countries does not necessarily lead to quality jobs or formalization of the labor market. In fact, the correlation between rates of urbanization and economic growth was shown to be weaker in developing countries. Thus, understanding what policy-amenable factors enable urban areas to create quality jobs is an urgent priority. Tentatively titled "Future of Asian Cities: Urbanization and Jobs," the 2018 report will focus on the city's role as the traditional engine of growth and as an important locus for policy making to create more and better jobs. A profile of Asian cities with respect to their size and geography, mode of formation, and governance and regulation will be presented to examine how structures of production and employment differ across cities. Subproject 1 will also investigate how employment opportunities and enterprise formation and growth are largely affected by policies on land use regulations and city governments' planning and financing of urban infrastructure. Case studies will be carried out in selected cities (e.g., understanding the role of economic and/or industrial zones in providing quality jobs). Results of the studies will inform policy makers in Asia and the Pacific on the most efficient and sound urban policies and institutions to be adopted to attain inclusive growth.

3. Subproject 2 and Subproject 3

15. Subprojects 2 and 3 will be structured along the lines of subproject 1 and cover the production of the 2019 and 2020 reports. The reports will continue to provide a compendium and analysis of trends in economic, social, financial, and environmental indicators of ADB's regional members.

16. Subsequent themes will likely focus on entrepreneurship, technological innovation, information and communication technology, jobs, and measurement-oriented topics relating to infrastructure development. Consultations and discussions with regional departments and sector

³ United Nations, Department of Economic and Social Affairs, Population Division. 2014. *World Urbanization Prospects: The 2014 Revision, Highlights*. New York.

and thematic groups will be carried out to refine the focus of the special chapters and ensure that these respond to priority issues identified by ADB Management.

C. Cost and Financing

17. The TA is estimated to cost \$3,000,000, which will be financed on a grant basis by ADB's Technical Assistance Special Fund (TASF-V for subproject 1; subsequent subprojects to be financed by the succeeding TASF replenishment). The cost estimates and financing plan is in Appendix 2.

D. Implementation Arrangements

18. ADB will be the executing agency, while ERDI will be the implementing division. ERDI will coordinate with other ADB units (regional and other departments, resident missions, and sector and thematic groups) and statistical partners in ADB regional members in undertaking the TA activities. The TA will be implemented over 64 months, beginning 1 September 2016 until its targeted completion on 31 December 2021.

19. Each TA subproject will be approved by the chief economist and director general of the Economic Research and Regional Cooperation Department in accordance with the *Operations Manual* section on TA.⁴ Approval will be sought through a memorandum outlining (i) the overall progress of the cluster TA to date, (ii) outcome and intended outputs of the TA subproject, (iii) cost estimates and budget, (iv) implementation arrangements, (v) implementation schedule, (vi) terms of reference for consultants, and (vii) other aspects as appropriate. Each TA subproject will require a draft design and monitoring framework and will be subject to consultations with departments and/or other offices concerned before submission to the chief economist and director general for approval.

20. The *Key Indicators* is produced by a team of ERDI international, national, and administrative staff with significant inputs from international and national consultants. An estimated 72 person-months of international consultancy services and 501 person-months of national consultancy services will be needed for the cluster TA, i.e., production processes for the special chapters, statistical tables (country, SDG,⁵ and regional tables; GVC indicators), special pilot indicators and data sets, the statistics portal and SDBS, and development activities related to improving data quality and promoting effective dissemination of results and findings.

21. For the special chapters, the international consultants (economists and manuscript editors) will (i) engage in economic analysis and write the theme chapter, (ii) prepare background reports and original research related to the theme, and (iii) conduct manuscript and economics editing. The national consultants (economists or statisticians or data specialists) will assist in (i) data gathering, data cleaning, and updating indicators; (ii) conducting further research on the indicators; (iii) laying out text and tables; and (iv) manuscript and/or copyediting. Surveys may be conducted in selected DMCs as deemed necessary to improve the relevance and originality of the analysis.

22. For the statistical portion, international consultants (writers) will be engaged to draft narratives on trends in the region as evidenced by statistical indicators. The national consultants (economics and statistics specialists and graphic designers) will assist in (i) preparing statistical tables and commentaries, (ii) laying out text and tables, and (iii) manuscript and/or copyediting.

⁴ ADB. 2013. Technical Assistance. *Operations Manual*. OM D12/BP. Manila.

⁵ Collaboration will be done with ADB's Strategy and Policy Department on work related to SDG data and indicators.

23. International (economists) and national (research associates and economists) consultants will also be engaged to prepare the GVC section and develop new indicators on future topic(s) of importance to economic policy making.

24. To improve ADB's statistics portal, SDBS, and other data systems, national consultants (data analysts) will (i) conduct a comprehensive cleaning, review, and assessment of the existing data, databases, data sources, and newly procured additional data sets; (ii) develop a system modernization plan; and (iii) produce additional functionalities and changes in the statistics portal as indicated in the plan. All data sets such as basic statistics, other external databases, household survey data sets, and tools that can be integrated into the statistics portal will also be brought in. The TA will engage a reputable information technology company through the consultants' qualification selection method to update and enhance AsiaData (*Key Indicators* mobile application), which will function for both Android and Apple handheld devices.

25. Resource persons will be engaged for workshops and training events, e.g., *Key Indicators* workshops for the special chapters, training on a theme of interest, and subregional workshops for the statistical tables. Travel of ADB staff participating as resource persons may be supported in accordance with the appropriate administrative guidelines.

26. An edited volume or book will be published during the 3-year cycle based on the research conducted for *Key Indicators* special chapters. A globally reputable economic research institution with strong in-house expertise and research capacity in development economics will be engaged through the fixed budget selection method to produce the book or volume using background papers prepared for the special chapters and original research studies to be conducted by the firm or institution.

27. The outline terms of reference for consultants is in Appendix 3. Consultants will be engaged in accordance with ADB's Guidelines on the Use of Consultants (2013, as amended from time to time). Disbursements will be made in accordance with ADB's *Technical Assistance Disbursement Handbook* (2010, as amended from time to time). Procurement of equipment will follow ADB's Procurement Guidelines (2015, as amended from time to time). Equipment purchased will comply with ADB guidelines on accountability of assets purchased under the TA, and disposal will follow the procedures in the relevant project administration instructions.

IV. THE PRESIDENT'S DECISION

28. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$3,000,000 on a grant basis for the Key Indicators for Asia and the Pacific 2018–2020, and hereby reports this action to the Board.

DESIGN AND MONITORING FRAMEWORK

Impact the TA is Aligned with			
Enhanced evidence-based policy making, investment decisions, and project design in ADB's DMCs.			
Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
Outcome Sustained use of <i>Key Indicators</i> data and analysis by DMC officials, economic researchers, civil society, and other users	By 2020: a. <i>Key Indicators</i> is referred to in 50 regional media citations per year Baseline (median of 2012–2014): 42 Subproject 1: 45 Subproject 2: 47 Subproject 3: 50 b. <i>Key Indicators</i> is cited in 30 major newspapers and publications per year Baseline (median of 2012–2014): 16 Subproject 1: 20 Subproject 2: 25 Subproject 3: 30 c. 11 citations to <i>Key Indicators</i> made by DMC officials and/or policy makers and non-ADB researchers within 3 years after dissemination activities Baseline: Not applicable Subproject 1: 7 Subproject 2: 9 Subproject 3: 11	a. DER media monitoring reports b. DER media monitoring reports c. Reports from resident missions and local newspapers	Unforeseen changes in the global or regional political, economic, and technological environment may render <i>Key Indicators'</i> messages inopportune. Other institutions produce a similar type of report.
Outputs 1. Research papers and statistics for <i>Key Indicators</i> prepared and published	By 2020: 1a. 15 or more background papers written 2015 baseline: 5 per year Subproject 1: 5 papers Subproject 2: 5 papers Subproject 3: 5 papers 1b. Nine or more blog posts released 2015 baseline: 1 per year Subproject 1: 3 Subproject 2: 3 Subproject 3: 3 1c. Two or more op-eds ^a released per year 2015 baseline: 1 per year Subproject 1: 2 Subproject 2: 2 Subproject 3: 2 1d. Three <i>Key Indicators</i> reports published 2015 baseline: 1 per year Subproject 1: 1 Subproject 2: 1 Subproject 3: 1 1e. At least 17,500 web downloads per year of various publications related to <i>Key Indicators</i> work 2015 baseline: 16,000 per year Subproject 1: 16,500 downloads Subproject 2: 17,000 downloads Subproject 3: 17,500 downloads 1f. At least nine background papers published either as a report, working paper series, and/or policy brief or journal paper	1a. TA progress reports 1b. DER monitoring reports 1c. DER monitoring reports 1d. Published <i>Key Indicators</i> reports 1e. ADB website download statistics 1f. Published ADB working papers; published policy briefs	Unforeseen circumstances and delays such as data access issues affect the production schedule.

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
	Baseline: 3 per year Subproject 1: 3 Subproject 2: 3 Subproject 3: 3 1g. At least one edited volume published every 3 years Baseline: Not applicable Subproject 1: 0 Subproject 2: 1 Subproject 3: 0	and/or journal papers 1g. Published book or volume	
2. Development of ADB statistics portal, SDBS, and related data systems implemented and upgraded	By 2020: 2a. 41,500 annual hits for statistics portal 2014–2015 baseline: 40,000 Subproject 1: 40,500 Subproject 2: 41,000 Subproject 3: 41,500 2b. 2,700 annual hits for SDBS 2014 baseline: 2,400 Subproject 1: 2,500 Subproject 2: 2,600 Subproject 3: 2,700 2c. New SDBS interface developed and implemented Baseline: Not applicable Subproject 1: Features validated Subproject 2: Phase 1 implemented Subproject 3: Fully implemented	2a. Data hits on statistics portal, and user feedback 2b. Data hits on SDBS, and user feedback 2c. TA progress reports	
3. Workshops for knowledge sharing and dissemination conducted	By 2020: 3a. Three or more <i>Key Indicators</i> preparation or consultation workshops conducted 2015 baseline: 1 per year Subproject 1: 1 workshop Subproject 2: 1 workshop Subproject 3: 1 workshop 3b. Five dissemination workshops per year 2015 baseline: 5 Subproject 1: 5 presentations Subproject 2: 5 presentations Subproject 3: 5 presentations	3a. TA progress reports 3b. Back-to-office reports	

Key Activities with Milestones

1. Subproject 1 (Target approval date: October 2016)

Output 1: Research papers and statistics for *Key Indicators* prepared and published

- 1.1. Engage consultants and commission research (October 2016–March 2018)
- 1.2. Draft, edit, and publish background papers (December 2017–December 2019)
- 1.3. Generate statistical tables (January–August 2018)
- 1.4. Draft, review, and edit *Key Indicators* contents (June–August 2018)
- 1.5. Finalize and disseminate publications (*Key Indicators* reports and working papers) (August 2018–March 2019)

Output 2: Development of ADB statistics portal, SDBS, and related data systems implemented and upgraded

- 2.1 Engage consultants (September–December 2017)
- 2.2 Identify priority areas for modernization (October 2017–June 2018)
- 2.3 Implement improvements or upgrades to SDBS and statistics portal (July–October 2018)
- 2.4 Update *Key Indicators* mobile application AsiaData (November 2017–October 2018)

Output 3: Workshops for knowledge sharing and dissemination conducted

- 3.1 Engage resource persons (January–December 2017)
- 3.2 Conduct preparation workshop (January 2018)
- 3.3 Conduct *Key Indicators* launch (October 2018)
- 3.4 Hold series of academic launches and other dissemination workshops (October 2018–March 2019)

2. Subproject 2 (Target approval date: September 2017)

Output 1: Research papers and statistics for *Key Indicators* prepared and published

- 1.1 Engage consultants and commission research (October 2017–March 2019)
- 1.2 Draft, edit, and publish background papers (December 2018–December 2020)
- 1.3 Generate statistical tables (January–August 2019)
- 1.4 Draft, review, and edit *Key Indicators* contents (June–August 2019)
- 1.5 Finalize and disseminate publications (*Key Indicators* reports, edited volume, working papers) (August 2019–March 2020)

Output 2: Development of ADB statistics portal, SDBS, and related data systems implemented and upgraded

- 2.1 Engage consultants (September–December 2018)
- 2.2 Identify priority areas for modernization (October 2018–June 2019)
- 2.3 Implement improvements or upgrades to SDBS and statistics portal (July–October 2019)

Output 3: Workshops for knowledge-sharing and dissemination conducted

- 3.1 Engage resource persons (January–December 2018)
- 3.2 Conduct preparation workshop (January 2019)
- 3.3 *Key Indicators* launch conducted (October 2019)
- 3.4 Hold series of academic launches and other dissemination workshops (October 2019–March 2020)

3. Subproject 3 (Target approval date: September 2018)

Output 1: Research papers and statistics for *Key Indicators* prepared and published

- 1.1 Engage consultants and commission research (October 2018–March 2020)
- 1.2 Draft, edit, and publish background papers (December 2019–December 2021)
- 1.3 Generate statistical tables (January–August 2020)
- 1.4 Draft, review, and edit *Key Indicators* contents (June–August 2020)
- 1.5 Finalize and disseminate publications (*Key Indicators* reports and working papers) (August 2020–March 2021)

Output 2: Development of ADB statistics portal, SDBS, and related data systems implemented and upgraded

- 2.1 Engage consultants (September–December 2019)
- 2.2 Identify priority areas for modernization (October 2019–June 2020)
- 2.3 Implement improvements or upgrades to SDBS and statistics portal (July–October 2020)
- 2.4 Update *Key Indicators* mobile application AsiaData (November 2019–October 2020)

Output 3: Workshops for knowledge-sharing and dissemination conducted

- 3.1 Engage resource persons (January–December 2019)
- 3.2 Conduct preparation workshop (January 2020)
- 3.3 Conduct *Key Indicators* launch (October 2020)
- 3.4 Hold series of academic launches and other dissemination workshops (October 2020–March 2021)

TA Management Activities

Hiring of consultants (October 2016– March 2020)

Procurement of IT equipment, information and knowledge services (schedule to be determined)

Inputs

ADB: \$3,000,000 (Technical Assistance Special Fund [TASF-V])

Subproject 1: \$1,000,000

Subproject 2: \$1,000,000

Subproject 3: \$1,000,000

Assumptions for Partner Financing

Not applicable

ADB = Asian Development Bank, DER = Department of External Relations, DMC = developing member country, IT = information technology, SDBS = statistical database system, TA = technical assistance.

^a An op-ed is a written piece of work typically published by a newspaper or magazine that expresses the opinion of a named author usually not affiliated with the publication editorial board.

Source: Asian Development Bank.

COST ESTIMATES AND FINANCING PLAN
(\$'000)

Item	Subproject 1 (2017–2019)	Subproject 2 (2018–2020)	Subproject 3 (2019–2021)	Total Amount
Asian Development Bank^a				
1. Consultants				
a. Remuneration and per diem				
i. National consultants	386.0	386.0	386.0	1,158.0
ii. International consultants	213.0	356.0	213.0	782.0
b. International travel	65.0	65.0	65.0	195.0
2. Workshops, seminars, and conferences ^b	80.0	70.0	80.0	230.0
3. Data, surveys, and studies ^c	141.0	40.0	141.0	322.0
4. Equipment ^d	10.0	10.0	10.0	30.0
5. Miscellaneous administration and support costs ^e	20.0	10.0	20.0	50.0
6. Contingencies	85.0	63.0	85.0	233.0
Total	1,000.0	1,000.0	1,000.0	3,000.0

^a Subproject 1 will be financed by the Technical Assistance Special Fund (TASF-V) of the Asian Development Bank (ADB), while subsequent subprojects will be financed by the next replenishment of TASF. External funding will not be pursued because the *Key Indicators* is an ADB corporate priority technical assistance.

^b Includes costs of dissemination activities and travel and related expenses, including ADB staff as resource persons, representation, preparatory works, implementation, and administrative support. Workshops, seminars, and conferences will occur only in ADB eligible member countries.

^c Includes cost of data purchase, field surveys, and other data collection.

^d Includes information-technology-related hardware. Procurement of equipment will follow ADB's Procurement Guidelines (2015, as amended from time to time). Equipment purchased will comply with ADB guidelines on accountability of assets purchased under the technical assistance, and disposal will follow the procedures of the relevant project administration instructions.

^e Includes costs of data support, subscription, software acquisition, representation, and printing.

Source: Asian Development Bank estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

1. An estimated 72 person-months of international consultancy services and 501 person-months of national consultancy services will be needed.¹ Consultants will be engaged in accordance with the Guidelines on the Use of Consultants (2013, as amended from time to time) of the Asian Development Bank (ADB).

Table A3: Breakdown of Consulting Expertise

International	Person-Months ^a	National	Person-Months ^a
Economists and subject matter specialists	20.0	Economists, statisticians, or data specialists	198.0
Manuscript and economics editor	6.0	Economics and statistics specialists	210.0
Writer	6.0	Data analysts	72.0
Resource persons	6.0	Graphic designer	3.0
Senior economist ^b	4.0	Research associate	18.0
Economists ^b	8.0		
Senior information technology expert ^b	6.0		
Systems analyst ^b	6.0		
User-interface designer ^b	10.0		
Total	72.0		501.0

^a Engagement on an intermittent basis.

^b Expert(s) from firm.

Source: Asian Development Bank estimates.

A. Economists and Subject Matter Specialists (international, 13 consultants, total of 20 person-months, intermittent)

2. The purpose of this assignment is to undertake research and analysis on the selected special chapter topics. The output will include background papers for the special chapters and/or other themes of interest.

3. The specialists will evaluate data, conduct research, and prepare background papers on selected special chapter topics. They will carry out the activities specified in the detailed terms of reference for consultants (supplementary appendix).

4. The specialists should have a strong background in development economics, economics, and/or other related subjects. They should have at least a master's degree in their field of expertise (with a doctorate degree preferred) and have more than 10 years of relevant work experience. The specialists should have expertise and/or an interest in the economies of Asia and the Pacific. A good publication record on urbanization, economic geography, technology and development, firm research and development, structural transformation, labor and employment, or global value chain will be an advantage. Extensive experience working with international databases, and the application and/or development of models and frameworks, input-output, computable general equilibrium, and other multidimensional frameworks will be highly desirable.

¹ Lump-sum payments or output-based contracts will be considered when necessary.

B. Manuscript and Economics Editor (international, 3 consultants, total of 6 person-months, intermittent)

5. The purpose of this assignment is to edit the special chapters, highlights, and presentation materials.

6. The editor will review and edit the special theme chapters, statistical commentaries, graphs, and tables of the *Key Indicators* in compliance with international editing standards and ADB's *Handbook of Style and Usage*. The work will include a number of editing rounds of the typeset version until the desired quality is achieved. The editor will make suggestions regarding the layout of the publication and assist in preparing the highlights and presentation materials for the *Key Indicators* launch. The editor will carry out the tasks specified in the detailed terms of reference for consultants (supplementary appendix).

7. The editor should have at least a master's degree in the related field and have more than 10 years of experience in writing and editing.

C. Writer (international, 6 consultants, total of 6 person-months, intermittent)

8. The writer will be responsible for writing a high-quality thematic commentary based on sound statistical analysis for the statistical component (parts II, III, and IV) of the publication, highlighting recent trends and providing an overview of developments in the region and across countries. He or she will prepare highlights for the statistical components; assist in the preparation of the key messages, press releases, and other related materials; and make suggestions on the layout. The writer will carry out the tasks specified in the detailed terms of reference for consultants (supplementary appendix).

9. The writer should have at least a master's degree in the related field and have more than 10 years of experience in writing and editing.

D. Economic Research Firm (team of at least 5 international consultants, total of 12 person-months, intermittent)

10. A globally reputable economic research institution with strong in-house expertise and research capacity will be engaged to organize, produce, and coordinate the preparation, publication, and dissemination of an edited volume or book on the theme topic for the current *Key Indicators*. An edited book or volume will be published once during the 3-year cycle. Initial target production is for the 2019 edition.

11. In consultation with ADB, the research firm will create a study team comprising internationally prominent economists with doctorate degrees in economics and expertise on issues related to the study.

12. **Senior or lead economist—team leader** (international, 1 consultant, 4 person-months, intermittent). The team leader, who will be appointed by the research firm, will lead the study's publication and organize the book launch. Tasks are described in detail in the supplementary appendix.

13. **Economists—team members** (international, 4 consultants, total of 8 person-months, intermittent). The study team will prepare the background research papers. Tasks are described in detail in the supplementary appendix.

E. Information Technology Firm (two teams of 3 international consultants each, total of 11 person-months for each team, intermittent)

14. The firm will update and enhance AsiaData (*Key Indicators* mobile application), which will work for both Android and Apple handheld devices.

15. **Senior information technology expert—team leader** (international, 2 consultants, total of 6 person-months, intermittent). The expert should have a degree in computer science or a related field, and at least 10 years of information technology (IT) experience (of which 5 years in a managerial role). The expert will (i) coordinate application development, (ii) monitor team progress, (iii) liaise with ADB's Economic Research and Regional Cooperation Department and Office of Information Systems and Technology on the enhancement of the mobile application, (iv) undertake the analysis of business requirements and work with the systems analyst and the user interface designer, and (v) spearhead the application tests.

16. **Systems analyst** (international, 2 consultants, total of 6 person-months, intermittent). The analyst should have a degree in computer science or a related field, and at least 7 years of IT experience (of which 5 years in designing application systems). The analyst will (i) design a workable system based on the business requirements and new mobile and computer operating systems; (ii) check security constraints of the current mobile application, including integration of solution and consideration for data privacy; (iii) monitor the application enhancement and propose refinements; and (iv) implement the turnover of the solution and application to ADB.

17. **User interface designer** (international, 2 consultants, total of 10 person-months, intermittent). The designer should have a degree in computer science or a related field, and at least 5 years of IT experience (of which 2 years in designing mobile applications). The designer will (i) design the enhancement of the mobile application, and (ii) ensure that the user interface is simple and efficient.

F. Resource Persons (international, 15 experts, total of 6 person-months, intermittent)

18. Resource persons will be engaged to participate as presenters or discussants in workshops, training events, and conferences. The resource persons should have (i) expert knowledge, and (ii) extensive experience and an excellent publication record on the theme topic.

G. Economists, Statisticians, or Data Specialists (national, 18 consultants, total of 198 person-months, intermittent)

19. The purpose of this assignment is to undertake research and analysis on selected special chapter topics. The output will include background papers for the special chapters and/or country-specific case studies for the special chapters.

20. The specialists will evaluate data, conduct research, and prepare background papers on selected special chapter topics. The specialists will carry out activities specified in the detailed terms of reference for consultants (supplementary appendix).

21. The specialists should have at least a master's degree in their field of expertise (with a doctorate degree preferred) and more than 10 years of relevant work experience.² The specialists should have well-rounded knowledge of urbanization, economic geography,

² The work will be carried out in countries where high-quality data is available, which will be assessed during project implementation. Country of assignment will be determined upon initiating their recruitment as national consultants.

technology and development, firm research and development, structural transformation, labor and employment, or global value chains in their country assignment. They should be knowledgeable about the sources of good data, have the ability to access or collect them through survey techniques, and perform the necessary data evaluation. They should also have the ability to analyze the data using statistical and econometric techniques. An ability to identify research topics and prepare background papers on themes of interests using new methodologies and rigorous empirical approaches will be desirable.

H. Economics and Statistics Specialists (national, 30 consultants, total of 210 person-months, full time)

22. The purpose of this assignment is to produce the *Key Indicators* questionnaires, country tables, Sustainable Development Goals tables, regional tables, and charts and figures in the write-ups, highlights, and presentation materials. The specialists will carry out the tasks specified in the detailed terms of reference for consultants (supplementary appendix).

23. The specialists should have (i) a background in economics or statistics; (ii) at least 3 years of relevant work experience in statistics or research analysis; (iii) the technical and analytical skills required for the project; (iv) a good understanding of official statistics and national statistical systems; (v) advanced knowledge and proficiency in using Microsoft Excel, Microsoft Word, and other relevant software; (vi) experience in performing automated business processes and due diligence in data compilation and validation; (vii) good writing skills; and (viii) creativity in generating statistical graphs.

I. Data Analysts (national, 6 consultants, total of 72 person-months, full time)

24. The analysts should have (i) experience in updating the statistical database system and in extensively using the statistics portal; (ii) a strong background in economics, statistics, computer science, or a related field; (iii) experience in data processing, analysis, and working with official statistics (statistics produced by governments); (iv) IT knowledge; and (v) advanced knowledge of Microsoft Excel and automated business processes. The analysts must exercise due diligence in compiling and validating data and work with the Development Economics and Indicators Division staff to improve and maintain the statistical database system and the statistics portal. Detailed tasks are in the supplementary appendix.

J. Graphics Designer (national, 3 consultants, total of 3 person-months, intermittent)

25. The purpose of this assignment is to produce the text layout and format the graphic elements of the *Key Indicators*, including the web version. The designer will carry out the tasks specified in the detailed terms of reference for consultants (supplementary appendix).

26. The designer will be responsible for text layout, encoding of corrections, and formatting of graphic elements of the publication, including refining its web version. The designer must be skilled in working with Creative Suite 4 (or 5), Microsoft Word, and Microsoft Excel, and will prepare InDesign, Illustrator, and PDF files of the interiors and covers using original manuscripts submitted in Microsoft Word and Microsoft Excel.

K. Research Associates (national, 3 consultants, total of 18 person-months, intermittent)

27. The purpose of this assignment is to support research on assigned topics and other development issues as well as provide administrative support for data procurement and the publication process.

28. The associates will work closely with Development Economics and Indicators Division staff and international and national consultants. The associates will perform the tasks specified in the detailed terms of reference for consultants (supplementary appendix).

29. The associates should have a degree in economics, statistics, or related fields (with a master's degree preferred), and at least 2 years of relevant experience. The associates should be knowledgeable in using Stata and have a good understanding of economic theory and econometric analysis (or statistical methods).

OUTLINE OF THE FINAL REPORT

- I. SPECIAL CHAPTER
- II. SUSTAINABLE DEVELOPMENT GOAL INDICATORS
- III. REGIONAL TABLES
 - A. People
 - B. Economy and Output
 - C. Money, Finance, and Prices
 - D. Globalization
 - E. Transport and Communication
 - F. Energy and Electricity
 - G. Environment
 - H. Government and Governance
- IV. GLOBAL VALUE CHAINS INDICATORS
- V. DEFINITIONS