ADB

Technical Assistance Report

Project Number: 49342-001
Regional—Capacity Development Technical Assistance (R-CDTA)
December 2015

Implementing Information and Communication Technology Tools to Improve Data Collection and Management of National Surveys in Support of the Sustainable Development Goals

Asian Development Bank

ABBREVIATIONS

ADB	–	Asian Development Bank
CAPI	–	computer-assisted personal interviewing
DMC	–	developing member country
IT	–	information technology
ICT	–	information and communication technology
NSO	–	National Statistics Office
OIST	–	Office of Information Systems and Technology
PAPI	–	paper-and-pencil interviewing
SDG	–	Sustainable Development Goal
TA	–	technical assistance

NOTE

In this report, "$" refers to US dollars.

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CAPACITY DEVELOPMENT TECHNICAL ASSISTANCE AT A GLANCE

1. Basic Data — **Project Number:** 49342-001

Project Name	Implementing Information and Communication Technology Tools to Improve Data Collection and Management of National Surveys in Support of the Sustainable Development Goals	**Department /Division**	ERCD/ERDI
Country	REG	**Executing Agency**	Asian Development Bank

2. Sector

	Sector	Subsector(s)	ADB Financing ($ million)
✓	Public sector management	Public administration	0.52
	Information and communication technology	ICT strategy and policy, and capacity development	0.18
		Total	**0.70**

3. Strategic Agenda

Strategic Agenda	Subcomponents
Inclusive economic growth (IEG)	Pillar 1: Economic opportunities, including jobs, created and expanded

Climate Change Information

Climate Change impact on the Project	Low

4. Drivers of Change

Drivers of Change	Components
Knowledge solutions (KNS)	Application and use of new knowledge solutions in key operational areas Knowledge sharing activities Pilot-testing innovation and learning
Partnerships (PAR)	Implementation Regional organizations

Gender Equity and Mainstreaming

No gender elements (NGE)	✓

5. Poverty Targeting

Project directly targets poverty	No

Location Impact

Regional	High

6. TA Category: B

7. Safeguard Categorization Not Applicable

8. Financing

Modality and Sources	Amount ($ million)
ADB	**0.70**
Capacity development technical assistance: Technical Assistance Special Fund	0.70
Cofinancing	**0.00**
None	0.00
Counterpart	**0.00**
None	0.00
Total	**0.70**

9. Effective Development Cooperation

Use of country procurement systems	Yes
Use of country public financial management systems	No

I. INTRODUCTION

1. The Asian Development Bank (ADB), together with the United Nations, governments, civil society, and other multilateral development banks and partners, has agreed to support the achievement by ADB developing member countries (DMCs) of the Sustainable Development Goals (SDGs).[1] As with the Millennium Development Goals, the SDGs will be incorporated into ADB plans and operations, and resources will be provided to DMCs.[2] In addition, ADB has acknowledged the post-2015 development agenda in the midterm review of Strategy 2020, and stated that the challenges facing the region are consistent with the post-2015 development agenda.[3]

2. Monitoring the SDGs requires timely, high-quality data. In many DMCs, data used for policy making are often outdated, because of the time it takes for results to be made available using traditional paper-and-pencil interviewing (PAPI). Decisions based on older data may not reflect current realities in DMCs. Recent advances in information and communication technology (ICT) tools, such as computer-assisted personal interviewing (CAPI), offer the potential to improve overall survey data management by reducing the time taken to collect data and improving data quality for nationally representative surveys in a cost-effective manner.

3. This technical assistance (TA) was conceptualized to promote the use of ICT tools, such as CAPI, during the implementation of nationally representative surveys in three selected DMCs that target data collection efforts for the SDGs. Extensive discussions have been conducted during the design of this TA with DMCs and other international organizations that are also exploring the use of such ICT tools. The design and monitoring framework is in Appendix 1.[4] The TA received concept clearance from the Office of the Vice-President (Knowledge Management and Sustainable Development) on 28 October 2015.

II. ISSUES

4. The monitoring of progress in achieving the outcomes of international development initiatives through the SDGs will be heavily dependent on the availability of timely, high-quality statistics from nationally representative surveys. These national data collection initiatives are often implemented using the PAPI method, whereby paper questionnaires are administered to respondents, with numerous manual data-cleaning phases before the necessary statistics can be produced. This results in significant data limitations—in terms of timeliness, accessibility, availability, and quality—and is a hindrance for policy makers, who rely on timely, accurate data to formulate policies that support the development agenda.[5]

5. The advent of ICT tools and their application to field surveys offers the potential to improve overall survey data management by revolutionizing the collection, storage, and use of survey data. CAPI is one such technique whereby the interviewer reads questions from the screen of a handheld device (tablet or mobile phone) on which a questionnaire is preloaded. The respondent's replies are immediately entered and stored onto the device and often on a

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[1] United Nations Economic and Social Council. Millennium Development Goals and post-2015 Development Agenda. http://www.un.org/en/ecosoc/about/mdg.shtml

[2] S. Groff. 2015. *ADB Statement at the UN Sustainable Development Summit*. ADB. 27 September. http://www.adb.org/news/speeches/adb-statement-un-sustainable-development-summit-stephen-p-groff

[3] ADB. 2014. *Midterm Review of Strategy 2020: Meeting the Challenges of a Transforming Asia and Pacific*. Manila.

[4] The TA first appeared in the business opportunities section of ADB's website on 29 October 2015.

[5] C. Leisher. 2014. A Comparison of Tablet-Based and Paper-Based Survey Data Collection in Conservation Projects. *Social Sciences.* 3(2), pp. *264–271* http://www.mdpi .com/2076-0760/3/2/264

backup server (either online or at the national statistical system headquarters), eliminating the need to manually re-enter the data at a later stage. Because the data entry application for CAPI incorporates the programming of various checks (e.g., range, logical, skip, and consistency), most errors are addressed immediately in the field. Other features include images, audio, video, global positioning system tracking, and advanced reporting functionalities, which enhance the scope and quality of data obtained from field surveys.

6. While several developed countries have embraced the advantages presented by CAPI, developing countries have been slow to adopt these technological advancements in data collection and management.[6] However, a number of DMCs have made efforts to integrate tablets and other handheld devices into their national census and other household surveys, and Fiji, India, Indonesia, Mongolia, and the Philippines are among DMCs considered to be early users of CAPI.

7. Introducing ICT tools such as CAPI involves significant learning costs and implementation challenges. Transitioning from PAPI to CAPI will require a one-time substantial investment in hardware, software, and associated equipment. Additionally, adopting CAPI may require some organizational changes for DMCs because the tasks required to implement them for surveys differ from those needed in the traditional PAPI method. Despite these challenges, DMCs should choose to maximize the scalability benefits of transitioning to CAPI and capitalize on the long-term advantages and sustainability of the newer methodology, with organizations such as ADB demonstrating the long-term benefits of adopting ICT tools (e.g., CAPI).

8. Several consultations have been held with DMCs and international organizations that are exploring the use of ICT tools in conducting surveys. Interactions with 27 DMCs through statistical capacity-building projects involving field surveys and regional events organized by international organizations (e.g., the United Nations Statistics Division, the World Bank and the Food and Agriculture Organization) have revealed the urgent need to transition to advanced data collection practices using ICT tools.[7]

9. This TA is aligned with ADB's Strategy 2020 and midterm review priorities that seek to use ICT more effectively for storage, retrieval, and dissemination of knowledge products and data. This TA will also contribute to bridging technological gaps between the national statistical systems of DMCs and developed countries, and support ADB's strategic priority of strengthening innovation, technology and education.

10. This TA will support actions supported collectively by development partners in the Busan Action Plan for Statistics.[8] Data collected in national surveys of participating DMCs and supported by this TA will be made available in the ADB network through the Portal for Statistics Resources.[9] This is in line with the Busan Action Plan for Statistics, which seeks to encourage the use of new methods and technologies to increase the reliability and accessibility of statistics.

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[6] W. Nicholls et al. 2000. Use of New Data Collection Methods Establishment Surveys. Paper for the Proceedings of the Second International Conference on Establishment Surveys. New York. 17–21 June. http://www.amstat.org/meetings/ices/2000/proceedings/s50.pdf

[7] United Nations Statistics Division meeting on SDGs in Phnom Penh on 2–6 October 2015; and the ASEAN Stakeholders Meeting on the Implementation of the Global Strategy to Improve Agricultural and Rural Statistics Global Strategy meeting in Bangkok on 15-17 June 2015.

[8] Partnership in Statistics for Development in the 21st Century. 2011. *Statistics for Transparency, Accountability, and Results: A Busan Action Plan for Statistics.* Paris. http://www.paris21.org/sites/default/files/Busanactionplan_nov2011.pdf

[9] ADB. Portal for Statistics Resources. http://statistics.asiandevbank.org:8030/statresource/index.jsp

11. This TA will also directly uphold SDG 17 by addressing data, monitoring, and accountability through support for statistical capacity building via improved data collection methods.[10] It is expected to spur innovation by enhancing the scope and quality of data, both related to the SDGs and for overall monitoring of development indicators in the three selected DMCs. It is also expected to catalyze similar ICT interventions by line ministries and agencies that collect survey data.

III. THE CAPACITY DEVELOPMENT TECHNICAL ASSISTANCE

A. Impact and Outcome

12. The impact will be the coverage, quality, and timeliness of statistical indicators produced by the national statistical systems of DMCs participating in the TA activities improved through technological improvements in field data collection methods for nationally representative surveys linked to the SDGs. The outcome will be survey practices using ICT tools, such as CAPI, adopted by participating DMCs.

B. Methodology and Key Activities

13. To achieve its expected outcome, this TA will undertake three major activities: (i) training sessions for information technology (IT) and field staff on the use of ICT tools, such as CAPI, in data collection for nationally representative surveys; (ii) creation and dissemination of customized survey tools with detailed reports, documentation, and manuals on the use of ICT tools to improve data collection and management; and (iii) development of an online training program through a massive online open course platform on the use of ICT tools for improved survey data collection and management.

14. The three DMCs participating in this TA will be selected in consultation with their governments and ADB regional departments. The following criteria will be considered in determining which DMCs to include: (i) response to a letter of interest to DMCs to ascertain existing ICT capabilities in their national statistics offices (NSOs), particularly in regards to CAPI; (ii) availability and capability of NSO staff to engage in adaptation and implementation of ICT tools developed by the project; (iii) the willingness of the NSO management committee to incorporate ICT tools in planned future surveys, or in their national strategy for the development of statistics; (iv) incorporation of CAPI in national surveys in 2017 or 2018; (v) subregional variations that allow ICT tools to be tested in different settings; (vi) the DMC's score on the World Bank Statistical Capacity Indicator[11] as a measure of the ability of the NSOs to meet the needs of data users by providing good quality statistics; and (vii) presence of IT infrastructure that is sufficient to enable the project to be conducted.

15. IT and field staff will be trained on the use of ICT tools, such as CAPI, in data collection for nationally representative surveys following consultant recruitment, ICT tool and DMC selection, and the receipt by ADB of a "no objection" from participating countries. Training sessions will include (i) an inception workshop to establish a clear, common project objective; present the CAPI method to participating DMCs; and share best practices from the region; (ii) in-country training sessions and regional workshops, spread over 2 years, to build the statistical

[10] United Nations 2015: Time for Global Action. Goal 17: Revitalize the global partnership for sustainable development. http://www.un.org/sustainabledevelopment/globalpartnerships

[11] World Bank. Data on Statistical Capacity. http://datatopics.worldbank.org/statisticalcapacity/

capacity of participating DMCs in technical (focused on IT staff) and nontechnical (focused on field staff) aspects of the selected ICT tools; and (iii) a dissemination workshop to communicate TA outputs and distribute the training materials, including to nonparticipating DMCs.

16. The data management and/or IT departments of the participating DMCs are expected to house and/or own the system. The in-country training sessions will target IT staff, and be conducted sequentially for each DMC to enable building on previous training work. Additionally, bimonthly training sessions will be conducted by in-country specialists to ensure knowledge transfer is sustainable. Midterm and final regional workshops for DMC IT staff will facilitate the transfer of knowledge between DMCs.

17. ICT tools will be selected by comparing how robust various software features are (e.g., security, programming, development environment, interface for actual users, questionnaire implementation, questionnaire navigation, case and field management, data transfer, data export, internet connectivity, support and documentation, subscription and upgrades, and hardware and software requirements). The recommendations of participating DMCs will be considered in finalizing the ICT tools. Freely available CAPI software will be explored while ensuring that it is easy to use, has free updates, and provides technical support past the life of the project, with sufficient useful features to support all types of surveys that DMCs require.

18. A handbook and technical papers will be produced at the completion of the TA that focus on the creation and dissemination of customized survey tools with detailed reports, documentation, and manuals on the use of ICT tools, such as CAPI, to improve data collection and management. The handbook will be translated into the languages of the participating DMCs and include procedures on transforming PAPI surveys into CAPI surveys. Additionally, knowledge sharing and in-house seminars with relevant ADB communities of practice will be conducted at venues such as ADB's knowledge hub or through Economic Research and Regional Cooperation Department seminars.

19. The ICT tools developed as part of this project will target household, agriculture, and enterprise surveys. The technical papers from this TA will use a randomized experimental design to explore the policy implications of using CAPI data. For example, if error counts in a household budget survey are found to be correlated with survey design characteristics, the mean and spread of household consumption may be different between CAPI and PAPI, with strong implications for poverty measurements. By comparing estimates for plot area based on farmer recall rather than global positioning system measurements in agricultural surveys, it is possible to determine the implications of measurement error in the inverse farm size–productivity relationship. By introducing consistency checks in enterprise surveys through CAPI, measurement errors in profits and sales can be compared with detailed revenue and expense modules, improving the precision of gross domestic product calculations.

20. For the development of an online training program through a massive online open course platform on the use of ICT tools for improved survey data collection and management, a link to the online course (with the option of subtitles) will be disseminated across the region, thereby ensuring that the know-how, skills, and experiences of participating DMCs are disseminated to other DMCs and relevant ADB departments interested in using ICT tools for surveys.

21. Collaboration with international organizations will be pursued wherever possible, and individual resource persons will be engaged for not more than 10 working days to provide need-based technical support.

C. Cost and Financing

22. The TA is estimated to cost $1,300,000, of which $700,000 will be financed on a grant basis by ADB's Technical Assistance Special Fund (TASF-V). The governments of the selected DMCs will provide counterpart support in the form of implementing agencies' staff salaries, office space, transport, planning, implementation, data cleaning and analysis, survey dissemination costs, and other survey-related and administrative support costs necessary for the administration of the TA. ADB will only fund the incorporation and field implementation of CAPI. Details of the cost estimates and financing plan are in Appendix 2.

D. Implementation Arrangements

23. ADB will be the executing agency for this TA. The Development Economics and Indicators Division will administer the TA by collaborating closely with relevant ADB units, such as the Department of External Relations, Office of Information Systems and Technology (OIST), Sustainable Development and Climate Change Department, Strategy and Policy Department, and regional departments working on related issues. OIST will provide recommendations and clearance for all equipment, software, and IT requirements of the TA. The Sustainable Development and Climate Change Department, through its k-learn team, will provide inputs on the development of the training course. The Strategy and Policy Department, as ADB's focal point on the SDGs, will also be consulted through the implementation of this TA. The Department of External Relations will assist in promoting the online training course. The NSOs in the selected DMCs will be the implementing agencies. The TA will be implemented over 38 months, from December 2015 to January 2019.

24. This project will contract 43 person-months of consulting services—with 23 person-months provided by a consulting firm, and 20 person-months by individual consultants—to implement the TA components in the participating DMCs. The consulting firm will provide international and national consultants who are (i) specialists in ICT and related tools for implementing national surveys, and (ii) professionals who can provide the necessary technical and/or administrative support. In selecting the firm, the quality- and cost-based selection method will be used. All consultants will be engaged by ADB in accordance with the ADB Guidelines on the Use of Consultants (2013, as amended from time to time). The terms of reference for the consultants are in Appendix 3.

25. ADB will procure equipment, and computer hardware and software in accordance with its Procurement Guidelines (2015, as amended from time to time). Procurement will be coordinated with ADB's OIST and Office of Administrative Services. Upon TA completion, procured equipment will be disposed of and/or transferred to the implementing agencies in accordance with the project administration instruction on administering grant-financed TA projects. Disbursement under the TA will be in accordance with ADB's *Technical Assistance Disbursement Handbook* (2010, as amended from time to time).

IV. THE PRESIDENT'S DECISION

26. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of $700,000 on a grant basis for Implementing Information and Communication Technology Tools to Improve Data Collection and Management of National Surveys in Support of the Sustainable Development Goals, and hereby reports this action to the Board.

DESIGN AND MONITORING FRAMEWORK

Impact of the Project:

The coverage, quality, and timeliness of statistical indicators produced by the national statistical systems of DMCs participating in the TA activities improved through technological improvements in field data collection methods for nationally representative surveys linked to the SDGs (project defined)[a]

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
Outcome: Survey practices using ICT tools, such as CAPI, adopted by the participating DMCs	a. NSDS incorporates the use of ICT tools (baseline: 0)	a. Updated NSDS of the NSOs of the participating DMCs	Government priorities might change over time
Outputs: 1. Training sessions for IT and field staff on the use of ICT tools such as CAPI in data collection for nationally representative surveys conducted	By 2019, 1a. Three or more workshops on the use of ICT tools, such as CAPI, conducted (baseline: NA)	1a. Workshop reports and consultant reports	Lack of qualified staff in the chosen NSOs
	1b. 10 staff per country trained on programming questionnaires and 50 field staff trained on implementing surveys using CAPI in the field (baseline: NA)	1b. List of training participants	
2. Customized survey tools with detailed reports, documentation, and manuals on the use of ICT tools, such as CAPI, to improve data collection and management created and disseminated	2a. One handbook on the use of the ICT tools developed and shared with the participating DMCs and relevant agencies, and customized by including country-specific examples and being translated into local languages (baseline: NA)	2a. ADB publication list	
	2b. One or more technical papers comparing CAPI and PAPI published (baseline: NA)	2b. ADB working paper series	
3. Online training program through an MOOC platform on the use of ICT tools for improved survey data collection and management developed	3a. Online training program created on MOOC accessed by at least 20 users (baseline: NA)	3a. MOOC access reports	

Key Activities with Milestones

Output 1: Training sessions for information technology and field staff on the use of information and communication technology tools such as computer-assisted personal interviewing in data collection for nationally representative surveys conducted

1.1 Recruit consultants, choose ICT tool for CAPI, select participating DMCs, secure "no objection" from the participating countries (January–June 2016)
1.2 Conduct inception workshop (July 2016)
1.3 Conduct software training workshops for participating DMCs (September 2016–July 2018)
1.4 Conduct dissemination workshop (December 2018)

Output 2: Customized survey tools with detailed reports, documentation and manuals on the use of information and communication technology tools such as computer-assisted personal interviewing to improve data collection and management created and disseminated

2.1 Design and develop survey questionnaire using the chosen CAPI platform (June 2016–July 2018)
2.2 Conduct field surveys using the chosen CAPI platform (January 2017–December 2018)
2.3 Create and publish documentation, manuals, handbook, and technical papers on the randomized experiment to compare CAPI and PAPI, and the overall customization of the ICT tools (January 2019)
2.4 Conduct knowledge-sharing and in-house seminar for relevant ADB staff (January 2019)

Output 3: Online training program through a massive online open course platform on the use of information and communication technology tools for improved survey data collection and management developed

3.1 Complete curriculum for online training program using CAPI for field surveys (June 2017)
3.2 Create online training program on MOOC on the use of ICT tools (December 2018)

Inputs

ADB: $700,000

Note: The governments of the selected DMCs will provide counterpart support in the form of implementing agencies' staff salaries, office space, transport, planning, implementation, data cleaning and analysis, survey dissemination costs, and other survey-related and administrative support costs necessary for the administration of the TA.

Assumptions for Partner Financing

Not applicable.

ADB = Asian Development Bank, CAPI = computer-assisted personal interviewing, DMC = developing member countries, ICT = information and communication technology, IT = information technology, MOOC = massive online open course, NA = not applicable, NSDS = National Strategy for Development of Statistics, NSO = National Statistics Office, PAPI = paper-and-pencil interviewing, SDG = Sustainable Development Goals, TA = technical assistance.

[a] United Nations 2015: Time for Global Action. Goal 17: Revitalize the global partnership for sustainable development. http://www.un.org/sustainabledevelopment/globalpartnerships

Source: Asian Development Bank.

COST ESTIMATES AND FINANCING PLAN

($'000)

Item	Amount
Asian Development Bank (ADB)[a]	
1. Consultants	
a. Remuneration and per diem	
i. International consultants	100.0
ii. National consultants	120.0
2. Equipment[b]	180.0
3. Training, seminars, and conferences[c]	115.0
4. Surveys[d]	120.0
5. Miscellaneous administration and support costs[e]	30.0
6. Contingencies	35.0
Total	**700.0**

Note: The technical assistance (TA) is estimated to cost $1,300,000, of which contributions from ADB are presented in the table above. The governments of the selected developing member countries will provide counterpart support in the form of implementing agencies' staff salaries, office space, transport, planning, implementation, data cleaning and analysis, survey dissemination costs, and other survey-related and administrative support costs necessary for the administration of the TA. The value of the governments' contribution is estimated to account for 46% of the total TA cost.

[a] Financed by ADB's Technical Assistance Special Fund (TASF-V).

[b] Equipment will be procured in accordance with ADB's Procurement Guidelines (2015, as amended from time to time), and will comply with the guidelines on accountability of TA purchased assets.

[c] Includes costs of inception training both at the national and local levels, in-country training, final workshop and dissemination activities; and travel and related expenses of experts engaged as resource persons, travel of staff as resource persons and to provide administrative and support services, participants' travel costs for participation in workshops, associated per diem, printing, and other related costs of workshops.

[d] Includes costs of surveys; methodological studies; and remuneration of supervisors, enumerators, and other field officers.

[e] Includes data support, communication, subscription, representation and printing costs.

Source: Asian Development Bank estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

A. International Consultants: Consulting Firm

1. A consulting firm will be engaged using the quality- and cost-based selection method (90:10) to provide the services of one system analyst or developer, and three senior architects and/or programmers. The following are the required general qualifications, specific tasks, and expected outputs of the consultants.

1. System Analyst or Developer (one position, 8 person-months, intermittent)

2. The consultant should have a degree in statistics, economics, computer science, software program development, or a comparable discipline with at least 5 years of experience in transforming national surveys from paper-and-pencil interviewing to computer-assisted personal interviewing (CAPI). The consultant is also expected to have advanced knowledge of the software that will be used in the design and development of the tool.

3. The consultant shall perform the following tasks:

(i) collaborate with the project team, selected developing member countries (DMCs), and relevant agencies to clearly identify the expected outcome of the project, implement the agreed design until the final production version, and ensure that all the requirements and user specifications are fully satisfied;
(ii) create a fully functional and complete data entry template using the software chosen for this project, and a user-friendly and interactive application and/or tool for handheld devices customized to the survey type and features of the selected DMCs;
(iii) ensure that the program and/or interface developed allows for easy transfer of data from the chosen software platform to Stata (or other formats with high system-integration ability), including the transfer of question texts and data labels;
(iv) produce a user manual for the final template created for the questionnaires;
(v) produce codebooks for databases;
(vi) participate in the testing and training phases of the data entry templates to ensure that the necessary changes have been applied based on user and/or reviewer feedback and specifications;
(vii) support the project coordinator or survey specialist in addressing all project issues, including updates, feedback, delays, follow-ups, and consultant and/or user requirements;
(viii) work with the project team on data generation, validation, visualization, and analysis;
(ix) coordinate with the training program specialist on the development of an online training program for the users of the information and communication technology tools developed;
(x) with the training program specialist, co-conduct training for the data management staff of the selected DMCs and relevant agencies on how to use the created data entry program; and
(xi) perform other related tasks as needed.

2. Senior Architect and/or Programmer (3 positions, 5 person-months, intermittent)

4. The consultants should have a degree in statistics, economics, computer science, software program development, or a comparable discipline with at least 3 years of experience in transforming paper-and-pencil interviewing national surveys to CAPI. The consultants are also expected to have advanced knowledge of the software chosen for this project, which will be used in the design and development of the tool, or a strong willingness and interest to learn the software chosen for this project. Knowledge and practical experience in using any other programming language would be an advantage.

5. The consultants shall perform the following tasks:

(i) collaborate with the project team, selected DMCs, and relevant agencies to clearly identify the expected outcome of the project, implement the agreed design until the final production version, and ensure that all the requirements and user specifications are fully satisfied;
(ii) work together with the international consultant (system analyst or developer) in creating a fully functional and complete data entry template using the software chosen for this project, and a user-friendly and interactive application and/or tool for handheld devices customized to the survey type and features of the selected DMCs;
(iii) assist the international consultant (system analyst or developer) in ensuring that the program and/or interface developed allows for easy transfer of data from the software chosen for this project to Stata (or other formats with high system-integration ability), including the transfer of question texts and data labels;
(iv) maintain and update the user manual (in English and in the local language) for the final template created for the questionnaires as necessary or as requested by the users of the tools in the selected DMCs or collaborating agencies;
(v) maintain and update the codebooks for databases;
(vi) provide troubleshooting assistance to the tool users;
(vii) participate in the testing phase of the data entry templates and ensure that the necessary changes have been applied based on user and/or reviewer feedback and specifications;
(viii) support the project coordinator or survey specialist in all project issues, including updates, feedback, delays, follow-ups, and consultant and/or user requirements;
(ix) work with the project team on data generation, validation, visualization, and analysis;
(x) coordinate with the training program specialist in developing a training program and an online course for the users of the tools;
(xi) with the training program specialist, co-conduct training of the data management staff of the selected DMCs and relevant agencies on how to use the created data entry program; and
(xii) perform other related tasks as needed.

B. National Consultants: Individual

6. Individual national consultants will be engaged by the Asian Development Bank for the following positions.

3. Training Program Specialist (one position, 4 person-months, intermittent)

7. The consultant should have a graduate degree in statistics, economics, development communication, or a comparable and/or related discipline. The consultant is also expected to possess at least 5 years of experience in developing interactive training materials or a web-based training course.

8. The consultant shall perform the following tasks:

(i) coordinate with the project officer and international and national consultants on training-related requirements—program, design, structure, materials, and frequency.
(ii) develop web-based training, a guidebook, and/or a handbook on the use of the handheld device for personal interviews;
(iii) develop a communication or marketing plan to promote the training course and ensure that the course reaches a wider audience over a long period of time;
(iv) develop an overall program on the use of handheld devices for national surveys based on the questionnaire and the methodology followed in the selected DMCs;
(v) prepare comprehensive training materials that can be used by trainees for reference after the training;
(vi) identify additional online learning resources for trainees;
(vii) emphasize the practical aspects of the training and its direct relevance to the capacity development of the selected DMCs and relevant agencies;
(viii) undertake a feedback-and-suggestions system from the trainees;
(ix) provide recommendations for improvements of training programs based on results of the feedback-and-suggestions system;
(x) provide training program evaluation reports to the project officer;
(xi) refine the online training program on the basis of users' comments and other feedback; and
(xii) perform other related tasks as needed.

4. Project Coordinator or Survey Specialist (one position, 16 person-months, intermittent)

9. The consultant will provide technical and administrative support for the coordination and implementation of the project. The consultant should have a background in conducting and supervising national surveys, and should have at least 3 years of experience in the administration and management of multilateral projects. The consultant should also be able to document procedures and other important information about the project, and possess excellent organizational skills. The candidate should be proficient in using Microsoft Office applications, and in verbal and written English. Knowledge and experience in CAPI or in the use of handheld devices for surveys would be an asset.

10. Under the guidance and supervision of the project officer and team members, the consultant shall perform the following tasks:

(i) provide technical and administrative support to the project officer, Development Economics and Indicators Division staff, and consultants;
(ii) be the focal person in the coordination of the project work and processes, monitoring progress, and project implementation (in terms of activities to be

implemented, outputs delivered, budget management, submission of reports, and following up on the outstanding obligations of the project team members and consultants, the selected DMCs, and the relevant agencies);

(iii) assist in the preparation of project briefs and presentation materials, including organization of workshops, seminars, and training;
(iv) assist in the preparation of the final report;
(v) provide regular progress and milestone reports;
(vi) help process, analyze and visualize survey data gathered from the selected DMCs; and
(vii) perform other related tasks as needed.