

## TERMS OF REFERENCE FOR CONSULTANTS

### A. Background

1. The implementation of the technical assistance (TA) will require a total of 78 person-months (pm) of national consulting services through firm, and 24 pm of international and 16 pm of national consulting services through individual. The Asian Development Bank (ADB) will recruit a consulting firm, and international and national individual consultants following the ADB Procurement Policy (2017, as amended from time to time) and its associated project administration instructions and/or staff instructions, to implement activities for the TA output. The TA will be implemented by a team of consultant and seven individual consultants.

### B. Overall Scope of Work

2. The TA consultant team will be responsible for the following tasks:

- (i) review the description of planned pilot testing and demonstration activities in Pilot Testing of Project Approach (accessible from the list of linked documents in Appendix 3), and apply its details to execute the following (ii) – (ix) as appropriate;
- (ii) assist the executing agency and ADB TA Team in assessing the current state of districts dominated by three major grain crops—rice (basmati and non-basmati/long grain), wheat and maize—and in selecting areas for pilot and demonstration activities;
- (iii) review available information and data, and conduct the assessment of current state of harvest and postharvest (moisture control/drying and storage) activities for rice paddy, wheat and maize respectively, in the countries and elsewhere; and identify and recommend technologies which can be promoted through local service providers and/or local manufactures with respective advantages and disadvantages of each technology in terms of performance and cost-effectivity;
- (iv) review available information and data, and assess the current state of relevant rural service industries for value chain such as machineries, transport, communications, and logistics all of which are critically important to optimize the benefits of technology-based agriculture and marketing activities for major grain value chain;
- (v) develop methodologies to involve the abovementioned private sector stakeholders and work with them in the pilot testing and demonstration of activities in the selected pilot target areas;
- (vi) review available information and data, and assess the current state of small farmers' marketing practices to sell their grain produce, identify major players in marketing, and confirm existing challenges or bottlenecks to small farmers in the selected pilot target areas;
- (vii) install a web-based platform and application system for farmers' direct marketing handling designed and developed by a TA consultant of individual consultant selection (ICS) package,<sup>1</sup> and assist farmers in using the system to sell their produce at better prices;
- (viii) conduct a consultation meeting with all concerned stakeholders including focus group discussions, identify gaps and challenges in their knowledge and practices in the areas of harvest, postharvest and farmers' direct marketing; prepare a plan of workshops, seminars and training to increase the stakeholders' awareness and knowledge of good practices and advanced technologies to improve grain value chain in Punjab, Pakistan;

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<sup>1</sup> The new Punjab Agriculture Markets Regulatory Authority Act 2018 allows farmers' direct marketing which was not allowed under the previous agriculture produce act.

- (ix) assess and confirm that the proposed pilot testing of project approach will have no potential adverse environmental and/or social impact resulted from activities;
- (x) recommend technologies to be piloted and demonstrated in consultation with the executing agency and ADB TA Team, obtain their approval, and prepare the implementation plan and detailed schedule of proposed pilot project;
- (xi) undertake pilot testing and demonstration activities, monitor results, and incorporate lessons learned in the next season's activities for doing better to achieve envisaged output targets and outcome;
- (xii) collect all relevant data and information of inputs and outputs in/from pilot testing and demonstration activities on selected technologies, analyze them, identify lessons from the activities, document these in consultants' reports of the implementation and results of pilot project that will be prepared every crop season, and use them to prepare the Punjab Agriculture Department's investment priority for short-, medium-, and long-term investment plan;
- (xiii) conduct workshops, seminars and training for farmers, private service providers and other stakeholders to learn used technologies and their benefits;
- (xiv) design and conduct a household survey among farmers who will participate in the pilot project to collect baseline and end-line information for assessing and analyzing the results of activities (Stata statistical software should be used for analyzing survey data and the consultant should be familiar with the use of Stata), and prepare economic and cost-benefit analysis of the pilot project with selected technologies;
- (xv) review and analyze the current state of livelihood of the most vulnerable in rural communities such as tenant farmers and landless people, conduct an initial assessment of the impact of technology-based agriculture on such people, and identify possible measures to empower them during transition in the agriculture sector;
- (xvi) review, assess and recommend investment needs to scale up the adoption and diffusion of the technologies that have been piloted and demonstrated in the proposed TA and also in other TAs or projects financed by the government of Punjab and development partners including ADB;
- (xvii) based on the outcomes of the above tasks, prepare the government's short-, medium, and long-term investment plan to enhance technology-based agriculture and marketing for improved value chain, which includes the concept notes of at least 2–3 selected priority programs/projects for future investment including ADB financing following ADB's operational requirements and procedures if and when required;
- (xviii) guided by the executing agency and ADB TA Team, work closely with the public and private research and development (R&D) centers in Punjab, Pakistan whose support to pilot testing and demonstration under the TA is essential; and
- (xix) undertake any other tasks jointly agreed by ADB TA Officer and the consultants during the assignment.

3. The individual consultants will be responsible for the following tasks:

- (i) assist the TA consultant of QCBS package in delivering the items of (ii) – (xvii) in para.2 above, providing specifically required technical inputs with quality and timeliness;
- (ii) design and develop a web-based platform and application system for farmers' direct marketing handling in an integrated form (footnote 1), by using innovative information and communication technology (ICT) to directly connect farmers with the buyers of their produce through the designed platform;
- (iii) assist the executing agency and ADB TA Team in preparing international and national short training programs for the researchers and experts who will exclusively work for

- R&D on the rapid adoption of technologies for the improvement of Punjab's agriculture value chain, and assist in implementing national short training courses;
- (iv) assist the executing agency and ADB TA Team in preparing knowledge products in the forms of report and/or video sharing the results of pilot testing and demonstration of selected technologies, which will be disseminated to various internal and external stakeholders;
  - (v) guided by the executing agency and ADB TA Team, work closely with the public and private R&D centers in Punjab, Pakistan whose support to pilot testing and demonstration under the TA is essential; and
  - (vi) undertake any other tasks jointly agreed by ADB TA Officer and the consultants during the assignment.

4. The consultant team and one of the individual consultants<sup>2</sup> will also be responsible for the procurement of goods and works for pilot testing and demonstration activities, office equipment, organization of workshops, seminars and training, and engagement of survey and communications firms including the preparation of their terms of reference for studies and knowledge products delivered under the proposed TA.

### C. Deliverables

5. The TA consultant team will prepare and submit the following:

- (i) **Inception report** including (a) the background analysis of challenges in harvest, postharvest and farmers' marketing of their produce; (b) the rapid analysis of stakeholders including farmers and other value chain actors such as private service providers of advanced machineries and innovative ICT technologies for agriculture value chain, machine manufacturers, grain processors, stakeholders of agriculture commodities trading including agriculture produce markets; (c) proposed technologies to be piloted and demonstrated to address the challenges, and the methods for selecting and engaging relevant stakeholders to implement testing and demonstration and cost estimates; (d) environmental safeguards due diligence including a rapid environmental assessment, social safeguards due diligence and others as required; (e) the needs assessment and planning of workshops, seminars and training programs for farmers and other rural-based stakeholders' capacity development; and (f) work plan and schedule of pilot testing demonstration activities;
- (ii) **Description report(s) of selected technologies and applications for pilot testing and demonstration** covering detailed information including the specifications of selected technologies and the methodologies to apply and implement pilot testing and demonstration (including farmers' training activities) to farmers and private sector stakeholders; service providers, machine manufacturers, and grain commodity industries;
- (iii) **Inception report of farm household study** containing the proposed scope of studies, methods of data acquisition and data analysis, survey questionnaires, the terms of reference of the survey firm which will be subcontracted, cost estimates, and survey implementation plan and schedules;
- (iv) **Reports of farm household studies** containing a farm household survey report with data analysis<sup>3</sup> including a survey implementation report, which at least covers the baseline and end-line information of farm household in the pilot areas, and economic analysis and cost-benefit analysis on the piloted interventions;

<sup>2</sup> Agriculture Commodity Market and Finance Specialist.

<sup>3</sup> Stata statistical software will be used.

- (v) **Periodic reports of the implementation and results of pilot project** including reviews on implementation and achievements, technical assessment on tested technologies, input/output data, cost-benefit analysis, issues and challenges in pilot project, and actions to be taken to address the issues in the subsequent batches of pilot activities;
  - (vi) **Report of the study on technology-based agriculture and its impacts on the livelihood of the most vulnerable in rural communities of Punjab** covering any impact on the livelihood of tenant farmers and landless people in the province's rural communities by promoting technology-based agriculture, and identify issues and possible measures to address them, and to empower them during transition in the agriculture sector;
  - (vii) **Interim report** summarizing the results and achievements of the activities implemented for all four outputs to the interim time, issues identified, analysis made, and recommendations to address the issues in order to improve the subsequent batches of pilot testing and demonstration activities;
  - (viii) **Investment plans for short-, medium-, and long-term** containing review on the existing government's investment priorities and plans with estimated investment amount required; and assessment on the needs and impacts of adopting technologies for value chain including technologies used in the TA at the basis of the results of the deliverables (i)–(vii) above and (ii)–(v) in para. 6 below, benefitting value chain enhancement that will support small farmers' higher farm income and increased rural business opportunities for the private sector entrepreneurs;
  - (ix) **Concept notes of potential investment programs/projects** including the rationale of investments, preliminary program/project design, initial economic and financial analysis, indicative budget required and financing plan, implementation arrangements, the assessment of classification and risk categorization, due diligence, technical assistance and other requirements for ADB financing for at least two to three potential investment cases; and
  - (x) **Final report** covering the final results and achievements in all four outputs including knowledge products prepared and published, analysis on them, findings, lessons learnt, and conclusion and recommendations to the ADB's future investment.
6. The individual consultants will prepare and submit the following:
- (i) **Technical inputs** with quality and timeliness to the (i)–(x) of para. 5 above;
  - (ii) **Web-based platform and application systems supported by ICT for farmers' direct marketing** designed and installed directly to connect farmers with the buyers of the farmers' produce through the designed web-based platform, and help farmers sell their produce at better prices;
  - (iii) **Reports with video clips on the achievements of TA pilot project for harvest, postharvest and farmers' direct marketing technologies** covering the scenes of demonstration activities and the benefits and impacts of used technologies to participating farmers and their productivity, and to the private sector stakeholders. The reports with videos will be developed and issued as ADB knowledge products by ADB TA Team;
  - (iv) **Report of study on investment in agricultural value chain R&D in Punjab, Pakistan** covering econometric analysis on Pakistan's and Punjab's long-term investments made in agriculture R&D, issues and action needed at policy and institutional levels in terms of strengthening technology-based agriculture and value chain activities, and recommendations to contribute to efficiency in agriculture R&D investment and greater benefits to the sector's growth. The report will be developed and issued as ADB knowledge products by ADB TA Team; and
  - (v) **Report of study on investment in service industries for agriculture value chain** containing review on available information and data, and the assessment of current state

of service industries supporting rural agriculture value chain such as mechanized agriculture, transport, communications and logistics, which is critically important to optimize the benefits of technology-based agriculture and marketing activities; issues and action needed at policy and institutional levels; and recommendations to strengthen the industries in terms of contributing to higher value given to farmers and rural entrepreneurs, and the sector's growth. The report will be developed and issued as ADB knowledge products by ADB TA Team.

**D. Summary of Experts Required** is described below.

TA consultant team						
	Position	Experts required		Indicative Inputs (Person-months)		Qualification and specific experience requirement
		International (I) National (N)		International (I) National (N)		
		I	N	I	N	
1	Agricultural Economist / Team Leader (Key)		1		17	Master's degree in economics and 15 years' experience in agriculture sector development and economic studies financed by international donors
2	Agriculture Value Chain Development Specialist (Key)		1		8	Bachelor's degree in social sciences and 10 years' experience in agriculture value chain business mainly in the private sector
3	Agriculture Specialist / Pilot Project Coordinator (Key)		1		27	Bachelor's degree, and preferably a master's degree in agronomy or agriculture engineering and 7 years' experience in agriculture value chain development.
4	Environmental Safeguard Specialist (Key)		1		6	Bachelor's degree, and preferably a master's degree in environmental science and natural resources management and 10 years' experience in environmental management.
5	Social Development and Safeguard Specialist (Key)		1		7	Bachelor's degree, and preferably a master's degree in social sciences and 10 years' experience in social development and safeguards management including involuntary resettlement and indigenous people's safeguards.
6	Gender Specialist (Key)		1		7	Bachelor's degree, and a preferably a master's degree in social sciences and 10 years' experience in social and gender development.
7	Procurement Specialist (Key)		1		6	Bachelor's degree in relevant discipline and 7 years' experience in procurement of goods and works.
Subtotal			7		78	

Individual consultants						
	Position	Experts required		Inputs (Person-months)		Qualification and specific experience requirement
		International (I)	National (N)	International (I)	National (N)	
		I	N	I	N	
8	Agriculture Value Chain Technology Development Specialist	1		6		Bachelor's degree, and preferably a master's degree in agriculture engineering or agronomy and 10 years' experience in the field of R&D for agriculture sector development and value chain technology.
9	Agriculture Commodity Market and Finance Specialist	1		6		Bachelor's degree, and preferably a master's degree in finance or business administration and 10 years' experience in financing and commodity market development.
10	Economist	1		6		Master's degree in economics and 7 years of experience in economic research and analysis in agriculture sector.
11	Agriculture Value Chain Business Development Specialist	1		2		Bachelor's degree, and preferably a master's degree in finance or business development and 7 years' experience in small and medium sized business development in agriculture value chain.
12	Communications Specialist	1		4		Bachelor's degree, and preferably a master's degree in social sciences or science and 10 years' experience in communications and editing manuscripts for academic documents.
13	Agriculture Sector Development Specialist / TA Coordinator		1		12	Bachelor's degree, preferably a master's degree in agriculture, economics, finance or commerce and 10 years' experience in sector development including agriculture and project implementation coordination in the public and private sectors.
14	Agriculture Policy and Institution Specialist		1		4	Bachelor's degree in social sciences and 15 years' experience in agriculture policy and institutional development with updated knowledge on the government policy.
Subtotal		5	2	24	16	
<b>TOTAL</b>		<b>5</b>	<b>9</b>	<b>24</b>	<b>94</b>	

**E. Tasks of each of the individual consultants are as given below;**

**7. Agriculture Value Chain Technology Development Specialist (International, 6 person-months/intermittent).** The specialist should have a bachelor's degree, and preferably a master's degree in agriculture engineering, agronomy, or related discipline, with at least 10 years of specific work experience in the agriculture sector development and technology development for improved agriculture production and value chain development including extensive experience in agriculture-related research associated with field research. Experience in preparing knowledge

products on agriculture sector development would be an advantage, and experience in Pakistan, especially in rural Punjab, would also be an advantage. The specialist will:

- (i) Provide the executing agency, ADB TA Team, and a TA firm consultant with in-depth technical advice and intellectual guidance on decisive matters to implement the activities of the proposed pilot project;
- (ii) Provide a TA firm consultant with technical inputs and substantial support in preparing all key deliverables, especially the inception report and the description report(s) of selected technologies and applications for pilot-testing and demonstration;
- (iii) Review methodologies and results of the pilot-testing and demonstration of the proposed technologies and interventions, and prepare two knowledge products, (a) the achievements of TA-piloted and demonstrated harvest, postharvest and farmers' direct marketing technologies; and (b) a study on investment in agricultural value chain R&D in Punjab Pakistan;
- (iv) Provide technical inputs to the study on investment in service industries for agriculture value chain which will be prepared by Agriculture Commodity Market and Finance Specialist (an international individual consultant recruited by the TA);
- (v) Assist the executing agency and ADB TA Team in planning international and national short training program for the researchers who will exclusively contribute to adopting technology-based agriculture and market in Punjab, and also support in planning and implementing technical workshops, seminars and training program for researchers and industrial experts;
- (vi) Assist the firm consultant in reviewing the existing investment plan or priority documents of the Punjab Agriculture Department, identifying gaps and challenges, and providing technical recommendations to a government's short-, medium-, and long-term investment plan;
- (vii) Participate in TA review missions most likely for TA Inception and Interim; and
- (viii) Any other assignment jointly agreed between the TA Project Officer and the specialist.

**8. Agriculture Commodity Market and Finance Specialist (International, 6 person-months/intermittent).** The specialist should have at least bachelor's degree, and preferably a master's degree in finance, or related discipline, with at least 10 years of work experience in the field of financing, commodity markets, fin-tech, trading, and agriculture value chain development. Experience in preparing knowledge products (publications) would be an advantage, and experience in Pakistan would also be an advantage. The specialist will:

- (i) Provide the executing agency, ADB TA Team, and a TA firm consultant with technical advice and intellectual guidance on decisive matters to implement the activities of the proposed pilot project;
- (ii) Provide a TA firm consultant with technical inputs and substantial support in preparing all key deliverables, especially the inception report and the description report(s) of selected technologies and applications for pilot-testing and demonstration;
- (iii) Conduct quick study on a web-based platform and application system supported by ICT for farmers' direct marketing and identify feasible technology available in the local industries in Pakistan;
- (iv) Prepare the TORs of the local IT firm that will develop the system, procure a firm manage its subcontract and budget given for eligible expenses;
- (vi) Supervise the procured IT firm in designing and installing a web-based platform for farmers' direct marketing; and provide technical monitoring on its pilot-testing and demonstration with the support of the IT firm, and other consultants such as Agriculture Value Chain Development Specialist and Pilot Project Coordinator;

- (vii) Conduct a study on the state of service industries for agriculture value chain and prepare a knowledge product on the results of the study;
- (viii) Provide technical inputs to (a) the study on the achievements of TA-piloted and demonstrated harvest, postharvest and farmers' direct marketing technologies and (b) the study on investment in agricultural value chain R&D in Punjab Pakistan which will be prepared by Agriculture Value Chain Technology Development Specialist (an international individual consultant recruited by the TA);
- (viii) Assist the executing agency and ADB TA Team in planning international and national short training programs for the researchers who will exclusively contribute to adopting technology-based agriculture and market in Punjab, and also support in planning and implementing technical workshops, seminars and training program for researchers and industrial experts;
- (ix) Assist the firm consultant in reviewing the existing investment plan or priority documents of the Punjab Agriculture Department, identifying gaps and challenges, and providing technical recommendations to a government's short-, medium-, and long-term investment plan;
- (x) Participate in TA review missions most likely for TA Inception and Interim; and
- (xi) Any other assignment jointly agreed between the TA Project Officer and the specialist.

9. **Economist. (International, 6 person-months/intermittent).** The specialist should have at least a master's degree in economics, with at least 7 years of work experience with updated knowledge on economic research methodologies and extensive experience in designing and implementing socio-economic survey, data analysis by Stata statistical software, and project impact evaluation and economic analysis. Experience in the agriculture sector will be an advantage. Experience in Pakistan would also be an advantage. The specialist will:

- (i) Review and comment on all reports prepared by a TA firm consultant, and provide technical inputs;
- (ii) Provide Agricultural Economist of the TA firm consultant with overall guidance in preparing (a) the inception report of farm household study, (b) survey questionnaires, (c) TORs of survey firm (Stata statistical software should be used for data analysis), and (d) the report of a farm household study, and provide review and comments on the reports to ensure that methodology used and analysis made are adequate and appropriate;
- (iii) Review and provide technical inputs to and comments on (a) the study on the achievements of TA-piloted and demonstrated harvest, postharvest and farmers' direct marketing technologies; (b) the study on investment in agricultural value chain R&D in Punjab Pakistan; and (c) the study on investment in service industries for agriculture value chain for support which will be prepared by Agriculture Value Chain Technology Development Specialist and Apiculture Commodity Market and Finance Specialist (international individual consultants recruited by the TA);
- (iv) Assist the executing agency and ADB TA Team in planning international and national short training programs for the researchers who will exclusively contribute to adopting technology-based agriculture and market in Punjab, and also support in planning and implementing technical workshops, seminars and training program for researchers and industrial experts;
- (v) Assist the firm consultant in reviewing the existing investment plan or priority documents of the Punjab Agriculture Department, identifying gaps and challenges, and providing technical recommendations to a government's short-, medium-, and long-term investment plan;
- (vi) Participate in TA review missions most likely for TA Inception and Interim; and
- (vii) Any other assignment jointly agreed between the TA Project Officer and the specialist.

10. **Agriculture Value Chain Business Development Specialist. (International, 2 person-months/intermittent).** The specialist should have at least a master's degree in social sciences or related discipline, with at least 7 years of work experience in agriculture value chain business development with extensive experience in working with private sectors / industrial associations, the government and various international development partners through an integrated / inclusive approach. Experience with innovations in agriculture value chain and agriculture management would be an advantage. Experience in Pakistan would also be an advantage. The specialist will:

- (i) Review and analyze the state of the current agriculture value chain business and industries in Punjab Pakistan;
- (ii) Conduct stakeholder consultation including focus group discussion with the relevant government agencies, farmers and private sector entrepreneurs in the agriculture value chain business with the assistance of Agriculture Sector Development Specialist/TA Coordinator (national individual consultant) and analyze the findings of consultations;
- (iii) Based on the above (i) – (ii), prepare technical note describing insights of agriculture value chain business development in Punjab Pakistan and recommendations on enhancement of the value chain business that will be provided to be incorporated in the study report on investment in service industries for agriculture value chain (prepared by Agriculture Commodity Market and Finance Specialist - international individual specialist);
- (iv) Provide the executing agency, ADB TA Team and the TA firm consultant with updated knowledge on international best practices to strengthen roles of the private sector business/industries in agriculture value chain;
- (v) Participate in TA review missions most likely for TA Inception or relevant; and
- (vi) Any other assignment jointly agreed between the TA Project Officer and the specialist.

11. **Communications Specialist (International, 4 person-months/intermittent).** The specialist should have at least a bachelor's degree, and preferably a master's degree in social sciences, science or related discipline, with at least 10 years of work experience in editing manuscripts, including agriculture-related academic study and R&D documents. The specialist should have the extensive knowledge of ADB editorial and publication style. Experience with projects for the country would be an advantage. The specialist will;

- (i) Review knowledge products draft reports prepared by TA consultants– (a) the report of farm household study, (b) the report of study on technology-based agriculture and its impacts on the livelihood of the most vulnerable in rural communities in Punjab, (c) the report with video clips on the achievements of TA-piloted and demonstrated harvest, postharvest and farmers' direct marketing technologies; (d) the report of study on investment in agricultural value chain R&D in Punjab Pakistan; and (e) the report of study on investment in service industries for agriculture value chain;
- (ii) Compile, adapt, and edit the above reports following ADB style guide; query discrepancies and repetition – both technical and presentational; ensure coherence in style within the draft in accordance with ADB editorial style; ensure accuracy of illustrations and their placement; and edit captions for consistency;
- (ii) Review the current state of writing capacity in the researchers of public and private research centers in Punjab Pakistan and provide them with hands-on short training on the writing styles that meet international standards and requirements, identify issues and challenges in preparing good R&D proposals and research papers in terms of fulfilling logical and academic writing styles and strengthening competitiveness in R&D;
- (iii) Participate in TA review mission at least once when appropriate to assess the capacity of researchers and prepare recommendations; and

(ix) Any other assignment jointly agreed between the TA Project Officer and the specialist.

**12. Agriculture Sector Specialist/TA Coordinator. (National, 12 person-months/intermittent).** The Specialist should have at least a bachelor's degree, and preferably a master's degree in finance, commerce or related discipline, with at least 10 years of work experience in project implementation coordination, and investment/business development coordination in public and private sectors. Experience to work with governments, especially with its management groups for agriculture sector and value chain development is an advantage. Home office should be in Lahore as the place of duty will be Lahore where the executing agency is located. The specialist will:

- (i) provide overall TA coordination for TA implementation and expected achievements among the executing agency, a firm consultant and individual consultants recruited by the TA, and ADB TA Team;
- (ii) Coordinate dialogue and or communications required between the executing agency, the other government agencies and ADB TA Team for delivering all four output targets;
- (iv) Assist the executing agency and ADB TA Team in planning international and national short training program for the researchers who will exclusively contribute to adopting technology-based agriculture and market in Punjab, and also support in planning and implementing technical workshops, seminars and training program for researchers and industrial experts;
- (iv) Assist the Punjab Agriculture Department in reviewing the existing investment plan or priority investment documents of the department, identifying gaps and challenges, and providing technical recommendations to a government's short-, medium-, and long-term investment plan;
- (v) Participate in all TA review missions and assist ADB TA Team in organizing and conducting various workshops and seminars as required;
- (vi) Procure a media firm through subcontracting, lead communications activities under the TA to promote the knowledge-sharing of piloted and demonstrated technologies, and provide with technical inputs and support for preparing reports with video clips on the achievements of TA-piloted and demonstrated harvest, postharvest and farmers' direct marketing technologies;
- (vii) Closely work with TA firm consultant and all other individual consultants to ensure a smooth TA implementation in quality; and
- (viii) Any other assignment jointly agreed between the TA Project Officer and the specialist.

**13. Agriculture Policy and Institution Specialist. (International, 4 person-months/intermittent).** The specialist should have at least a bachelor's degree in social sciences or related discipline, with at least 15 years of extensive work experience in agriculture policy and institutional framework with up-to-date knowledge and in-depth understandings of the issues and challenges on national and provincial agriculture policy and institution issues and challenges covering all provinces. Extensive experience in working with governments and private sectors / industrial associations especially in Punjab Pakistan supported by well-established communications channels with the key stakeholders, would be an advantage. The specialist will:

- (i) Review the current state of agriculture sector policy and institutional set-up in Punjab Pakistan, identify gaps and major constraints to be addressed, assess and analyze them;
- (ii) Conduct in-depth stakeholder consultations, including high-level governments' official/management, including federal and other provincial agencies for learning from them, highlight major findings, analyze them in depth and recommend innovative measures to address challenges and issues in policy, regulations and institution;

- (iii) Provide the executing agency, ADB TA Team and a TA firm consultant with in-depth technical advice/inputs related to policy and institutional development for improved agriculture value chain;
- (iv) Based on the above (i) – (iii), assist the executing agency, ADB TA Team and a TA firm consultant in reviewing the existing investment plan of the Punjab Agriculture Department in line with priorities of the Punjab Agriculture Policy, identifying gaps and challenges, and providing in-depth and comprehensive technical recommendations to a government's short-, medium-, and long-term investment plan for strengthened agriculture sector/value chain development;
- (v) Participate in TA review missions and provide intellectual guidance and in-depth analytical advice on high-level policy and institutional framework as required; and
- (vi) Any other assignment jointly agreed between the TA Project Officer and the specialist.