Pakistan Agricultural Research Council · KOPIA Pakistan Center

seed potato post-harvest processing facility design and construction

Request for Proposal

24th May 2024

Pakistan Agricultural Research Council · KOPIA Pakistan Center

Contents

I. Project Overview 1

II. Bidding Instructions 2

III. Project Contents 6

IV. Evaluation and Contract 12

V. Proposal Writing Guide 15

[Attachment] Submit Form 17

I. Project Overview

1. Project Name: Pakistan Agricultural Research Council and KOPIA Pakistan Center seed potato post-harvest processing facility design and construction

2. Objectives of the Project

a. Secure excellent facilities to support the self-sufficiency of potato production in Pakistan.

b. Construction of post-harvest processing workshop and storage facility for KOPIA farm production in Pakistan.

c. Install efficient facilities that are easy to maintain.

3. Project Target: Pakistan National Agricultural Research Center

a. Location: Park Road, Islamabad – 45500 (Refer to the provided site plan)

b. Required facilities: Approximately 840㎡ in total

Approximately 620㎡ of rain-covered workshop

Approximately 220㎡ of cold storage

c. Utilization Plan

Category	Utilization Plan	Minimum Area
total		840㎡
work shop	Post-harvest processing such as drying, sorting, and packaging of produced seed potatoes	620㎡
storage room	Cold storage of seed potatoes, hardening of hydroponic products, etc.	220㎡

4. Main Business Details

a. Proposal of design, drawings, and standard specifications for

architecture/electricity/mechanics/firefighting, etc.

b. Facility installation work according to design drawings and standard specifications (including special specifications)

c. Waste disposal and completion cleaning after completion of construction

d. All overall work related to construction and other requirements of the ordering party

※ Detailed business details are discussed with the ordering party.

5. General Provisions

a. Orderer: Pakistan Agricultural Research Council and KOPIA Pakistan Center

b. Project period: 90 days from the date of contract conclusion (detailed schedule to be discussed separately)

c. Project budget: $330,000 (VAT included)

- The business budget is an amount that includes all costs such as material costs, labor costs, expenses (industrial accident insurance, occupational safety and health management costs, etc.), general management costs, and profits

d. Bidders are required to submit their price proposals, including price quotations, via email.

II. Bidding Instructions

1. Bidding Method: International Competitive Bidding, Limited competitive bidding, Total Price Bidding.

2. Contract Method: contract by negotiation

3. Eligibility to Participate in Bidding

※ Bidders must have the following items ready as of the date of the bid announcement.

a. The company must be licensed or registered as a business for manufacturing and installation required for the relevant construction.

4. On-site visit

a. Replaced with request for proposal materials

5. Documents to be submitted

a. 1 copy of company introduction

b. 1 copy each of business registration certificate and corporate register

c. Certificate of related construction performance for the past 5 years as of the date of announcement

d. 1 copy of credit rating report (Based on the corporate credit rating within the validity period as of the bid announcement date).

e. 1 copy of proposal (including all design documents)

f. 1 copy of price proposal (including statement)

※ The price proposal and statement include taxes and fees.

6. Submission of Proposal Documents

a. Deadline: **28 June 2024 (Friday), until 16:00** (Pakistan time)

b. Submission Method: Email (parcko2023@gmail.com)

※ In-person or postal submissions will not be accepted.

- Submitted documents will not be returned, and all costs related to this proposal are the responsibility of the bidder.

7. Others & Caution

a. Bidders must read and familiarize themselves with the information required for bidding before bidding, and the bidder is responsible for failing to familiarize himself with them.

III. Project Contents

1. Design and construction direction

a. Facilities suited to Pakistan’s climate environment

b. Facility suitable for drying, sorting and packaging seed potatoes

c. Facilities suitable for storing seed potatoes
d. An easy-to-manage facility equipped with modern technologies such as IT technology

2. Detailed process plan

1) Islamabad Environmental Conditions Analysis and Implementation

a. The purpose of securing this facility is to store and store seed potatoes.
b. The goal of installing this facility is to create an environment suitable for seed potato processing.
c. This facility must have a construction plan to overcome the climate and weather conditions of Islamabad, the installation site, to provide an optimal environment for seed potato storage.
d. Create facilities to increase the work efficiency of workers and safely handle seed potatoes.

2) Installation of structures

a. Securing a sturdy structure to safely protect rain sheltering facilities
b. Zones are set so that work space and cold storage space coexist within the facility, and the total area is secured at least 840㎡.
c. Columns are placed at the edges to ensure ease of work in the workspace.
d. Adoption of structures that are durable in Islamabad weather environment, such as trust structures
e. Flooring should be installed separately between the workshop area and the cold storage area. Pay attention to waterproofing and insulation in the cold storage area.
f. Ensuring the durability of the outer shell
g. Select a shell material that can withstand high summer temperatures and strong sunlight.
h. Seed potato pretreatment facility with easy ventilation

i. Ensure convenience of maintenance

j. Securing access facilities for the passage of vehicles and other equipment

3) Work shop

a. Securing an area for smooth work: around 620㎡

b. Purpose: Performing primary processing, sorting, and packaging of harvested seed potatoes specifications

c. Securing an environment independent of changes in external weather conditions such as rainfall

d. Hygienic floor finish that takes into account loads such as forklifts and vehicle operations and is suitable for handling seed potatoes.

e. Design to include sorter and forklift

f. Equipped with electrical supply devices such as panels for power use

4) Cold storage

a. Cold storage should be placed in the same space as the workshop to consider work and thermal efficiency, but first consider designating one part of the entire structure as a storage area and concentrating each room divided by purpose in the designated area..

b. Securing constant temperature and humidity storage functions suitable for use in a storage warehouse dedicated to seed potatoes

c. Facilities for seed potato storage and post-processing are also required, so they were designed and constructed to secure an overall area of around 220㎡.

d. Securing separate spaces such as a seed potato storage room, a hydroponic seed potato curing room, and a temperature management room for the arrival and departure of seed potatoes.

e. The seed potato hardening room is a facility operated for the purpose of hardening the skin of seed potatoes produced as a result of hydroponic cultivation before storage.

f. The alternating temperature management room is a pre-processing space for

seed potatoes before storage and shipping, and is operated for the purpose of storing seed potatoes before exposure to storage room temperature or room temperature.

g. The division of each room is planned based on the premise of installing a shelf with a width of about 0.7m, but refer to the basic design diagram below.
h. Refer to the diagram for environmental control goals for each room, but also consider appropriate CO2 concentration management.
i. The target environment management control of each room is designed to be performed from one panel (comprehensive control device).
j. Securing a cooling system with appropriate capacity by calculating the cooling load of the cold storage
k. Room division is based on the area on the concept map, but reasonable division is required based on the arrangement of shelves with a width of 70 cm.
l. By rationally arranging room divisions and doors, passages are minimized and passages are designed to avoid inconvenience in forklift operation.
m. Cold storage room division concept diagram (width 12M, length 18M, height more than 5.1M)

<table>
<tr><td>G0 hardening
temperature range : 17~18℃
humidity range : 80 ~ 85%
air circulation
co2 control</td><td>passage
forklift operation</td><td rowspan="2">G0,G1 pre-cooling room
temperature range : 2~25℃
humidity range : 95%
air circulation
co2 control</td></tr>
<tr><td>G0 storage
temperature range : 2~4℃
humidity range : 95%
air circulation
co2 control</td><td></td></tr>
</table>

G1 storage
temperature range : 2~4℃
humidity range : 95%
air circulation
co2 control

n. G0 hardening: Approximately 4M width and 4.8M length

o. G0, G1 pre-cooling room: Approximately 4M width and 9.6M length

p. G0, G1 storage can be integrated and operated as one panel

3. Scope of construction

a. The scope of construction is in accordance with the including all design documents and includes preparation of materials, arrival at site, and completion of construction.

4. Design Considerations

a. General details

- During construction, there shall be no design changes or increases in construction costs, and if changes occur, the expenses related to design and construction, etc. must be borne by the project executor.
- Must be designed to enable design, manufacture and installation within the project budget.

b. Writing specifications

- Specifications are part of the contract document and stipulate requirements for quality, function, materials, and maintenance. Based on the relevant standard specifications and specialized specifications, the design intent of the ordering agency and designer can be accurately reflected.
- Describe the scope of the project, project period, and other necessary construction conditions, etc.
- Description of characteristics, characteristics, methods, production standards, etc. of various equipment
- Special details such as names of contents that are difficult to indicate on the

drawing, types of major materials, equipment installation standards, manufacturing and installation methods and standards, and precautions must be entered in detail in the special specifications.

c. Defect repair related

- The warranty period for defects is 1 year (free). If a defect occurs after completion, the project executor must immediately repair it free of charge. If the fault lies with the building manager, repairs can be made for a fee.

5. Caution for Construction Plan

a. This construction is carried out according to the selected design drawings and proposals, and additional requirements are specified in the special specifications, and must be understood and constructed.

b. The contractor shall make every effort to prevent all safety accidents during the construction period, and shall bear all civil and criminal responsibilities in the event of an accident, and shall compensate for the loss or damage of the owner's facilities.

c. During this construction, damage to existing facilities or construction parts below the standard must be thoroughly restored and re-construction in accordance with the instructions of the client

d. During this construction, the contractor must thoroughly review the construction difficulties caused by obstacles to prevent problems from occurring during construction and interruption of construction

e. The contractor shall clean up the area around the site from time to time to maintain cleanliness and immediately take out the demolition material and remnants.

f. Visitors to the site must always take sufficient measures to monitor the visitor and prevent accidents, fires, and theft.

g. Contractor (construction company) is responsible for all accidents such as worker accidents.

h. Necessary measures shall be taken to prevent damage to all adjacent facilities, and in the event of damage or damage to existing facilities, immediate restoration or compensation at the expense of the contractor

i. All waste is disposed of after construction is completed and the completion cleaning is included in the project

j. Other matters not specified in this manual and drawings must be discussed with the client and followed by the instructions must be followed

6. Quality Control Standards for Major Materials

a. The materials required for construction should be proposed so that the best construction quality can be obtained by using materials equal to or higher than the standards proposed by the client.

b. Quality control standards for major materials

- All facilities, equipment, and materials must use materials that have excellent performance and are easy to maintain.
- Priority should be given to the use of low-maintenance price and durable materials for all construction materials.

c. Performance Standards

- Durability
  - ・Necessary measures should be taken against various mechanical loads, heat, rays, ultraviolet rays, water, moisture, fire, chemical substances, pests, etc., that act on or affect the structure, and ensure the prescribed durability.
  - ・In principle, corrosive materials should not be used, but if it is unavoidable, appropriate anti-rust treatment should be completed.
  - ・Materials should be used as the most durable grade as a general standard for each part and application.
  - ・Iron products should use materials that do not corrode, and related electrical

facilities should pay attention to grounding.

IV. Evaluation and Contract

1. Proposal Evaluation

a. Proposal Evaluation Principles

- The evaluation of the proposal is comprehensively evaluated by summing the technical capability (80 points) and price (20 points) evaluation scores (100 points)
- The evaluation committee shall examine the proposal according to the evaluation criteria and evaluation score table, but adjustment and change can be made with the review and consent of the evaluation committee
- Price assessment is confirmed after technical capability assessment is signed
- Evaluation results are private, and the proposer cannot object to the evaluation results

2. Evaluation Items and Score Criteria

a. Technical Capability Evaluation (80 Points)

Items	Field	Point	Evaluation Criteria
Qualitative Evaluation	Construction Planning Capability (30)	10	Appropriateness for greenhouse exterior structure and interior design
		10	Appropriateness of the design for air conditioning facilities for cooling and heating
		5	Appropriateness of aeroponic system facility design
		5	Appropriateness of the design for the nutrient solution management system design
	Construction Management	10	Expertise in construction skill
		5	Appropriateness of construction period

<table>
<tr><td rowspan="8"></td><td rowspan="3">Capability (30)</td><td>5</td><td>Appropriateness of the operation and management plan of construction personnel</td></tr>
<tr><td>5</td><td>Appropriateness of safety management plan and environmental management plan</td></tr>
<tr><td>5</td><td>Appropriateness of the follow-up management plan</td></tr>
<tr><td rowspan="4">Material Evaluation (20)</td><td>5</td><td>Use of standard materials (material quality)</td></tr>
<tr><td>5</td><td>Material quality inspection</td></tr>
<tr><td>5</td><td>Availability of user manual</td></tr>
<tr><td>5</td><td>Warranty period</td></tr>
<tr><td rowspan="2">Quantitative Evaluation</td><td>Credit Rate (5)</td><td>5</td><td>- Credit rate<table><tr><td>Rate</td><td>AAA~A</td><td>BBB</td><td>B~BB</td></tr><tr><td>Score</td><td>5</td><td>4</td><td>3</td></tr></table></td></tr>
<tr><td>Previous Performance (15)</td><td>15</td><td>- Related Construction Performance (Last 5 years, over 400,000$)<table><tr><td>Cases</td><td>Over 8</td><td>6~7</td><td>4~5</td><td>Less than 3</td></tr><tr><td>Score</td><td>15</td><td>13</td><td>11</td><td>9</td></tr></table></td></tr>
<tr><td colspan="2">Total</td><td>100</td><td>Converting 80 points in the overall evaluation</td></tr>
</table>

- Scoring Criteria

Scoring Cirteria	**Very Excellent**	**Excellent**	**Normal**	Inadequate	**Poor**
5	5	4	3	2	1
10	10	8	6	4	2

b. Price evaluation (20 Points)

- In order to secure quality through the prevention of participation in low-cost bidding, it shall be proposed at a price of at least 80% of the project budget.

Minimum bid price

Maximum bid price

Score = Bid price evaluation allocation limit ＊

* Minimum bid price: Minimum bid price among valid bidders
* Bidding price: Bidding price of the subject of the evaluation
  - If there is a number below the decimal point as a result of the calculation of the bid price rating formula, it is rounded to the third digit below the decimal point

3. Selection of negotiation partners

a. As a result of the proposal evaluation, those with a combined score of 80 or more for technical ability and price evaluation are selected as eligible for negotiation.

b. The order of negotiation is determined by adding up the technical ability evaluation score and the bid price evaluation score and determining the highest score of the combined score, and negotiations are conducted with the priority negotiation target and the content of the proposal.

c. If negotiations are not concluded, negotiations will be conducted with the next-highest-ranking company. If negotiations are reached with the preferred negotiating company, negotiations will not proceed with the second-highest-ranking company.

d. If the total scores are the same, the designation of the preferred bidder is determined in the order of the highest technical ability evaluation score. If the technical ability evaluation scores are the same, the designation of the preferred bidder is determined in the order of the highest evaluation score of the materials used.

e. Negotiations are based on the content of the proposal, and part of the content can be adjusted through consultation with the negotiation party, and the proposed price can be adjusted accordingly.

f. The person subject to negotiation must prepare and submit all documents necessary for a contract with our association regarding the proposed price, and must accept the contract results and enter into a contract.

4. Contract conclusion and implementation

a. After negotiations are established, a contract must be concluded within 5 days unless there are special reasons.

b. The contracting party is responsible for the materials and construction methods proposed in the proposal and cannot change them arbitrarily. If changes are unavoidable due to on-site circumstances, approval from the ordering party must be obtained.

c. The Ownership of outputs generated during the performance of a contract belongs to the ordering party, even if not specifically stated in the contract.

d. All costs incurred from the date of contract conclusion until completion of construction are included in the proposed price.

e. Completion design delivery document

division	Design document name	standard	quantity	unit	Construction type					note
					architectural structure	Cooling and heating	environmental control	Liquid control	electricity	
1	Completion report	A4	1	copy	○	○	○	○	○	
2	floor plan	A3	1	copy	○	○	○	○	○	
3	Statement	A4	1	copy	○	○	○	○	○	
4	specification	A4	1	copy	○	○	○	○	○	
5	milestone		1	copy	○	○	○	○	○	
6	Operations Manual					○	○	○	○	

IV. Proposal Writing Guide

1. Guidelines for Writing a Proposal

a. All statements in the submitted proposal must be objectively documentary and consistent with the actual facts, and if any of the submitted materials are false, the contract can be terminated even after selection.

b. Disadvantages arising from omissions and differences in the contents of the proposal must be borne by the proposing company.

c. The cost of preparing the proposal shall be borne by the proposer, and the submitted documents will not be returned at all.

d. The contents of the submitted and received proposal cannot be modified.

e. The proposal should be prepared in the order of the table of contents, but the items and materials required for evaluation must be included.

f. Additional contents that are not included in the request for proposal but are essential for business promotion are supplemented by adding them as separate other items at the company's own discretion.

2. Maintaining the Validity and Security of the Proposal

a. Additional proposals and additional materials have the same effect as proposals.

b. The contents of the proposal have the same effect as the contract even if it is not specified in the contract, and if the contents of the proposal and the contract are different, the contents of the contract shall prevail.

c. Bidding participants must treat all documents, including this request for proposal and proposal as confidential until the negotiating party is determined.

d. Various information acquired in the process of participating in the proposal and information acquired in the process of executing the contract shall not be disclosed without prior approval of the client.

3. Price Proposal

a. A person who intends to participate in a bid shall make a price proposal in accordance with the relevant laws and regulations after taking into account participation in bidding, restrictions on qualifications, contents of the proposal request, on-site conditions, etc

b. When submitting a price proposal, fill out and attach details for each process and sector in a separate sheet

c. Costs should be based on the proposer's performance of all the work.

d. Price proposals must be submitted by e-mail along with the statement

e. The proposed price includes all taxes to be borne by the contracting party, and the client does not bear any additional costs

f. All proposed prices are presented including taxes and fees.

4. Proposal Table of Contents and Contents

a. The contents of the proposal should be written in a simple and clear manner focusing on essential contents, and no ciphers or symbols should be indicated, and if this is violated, it will not be evaluated.

b. Proof of major construction performance, etc. must be accompanied by a certificate issued by the relevant agency.

<Proposal Writing Method>

Contents	Main Contents
1. General status of the company	- Company Introduction - Manpower retention status - major construction performance - Financial statements, credit rating, etc
2. Construction plan	- Design Concept - Design drawing - Detailed drawings for temperature management of architectural structures, automation, etc
3. Construction management plan	- Business execution method and promotion plan (design drawings) - Manpower input plan (construction manager, etc.) - Planned construction process - Construction site safety management and accident prevention plan - Construction environment management and defect repair plan, etc.
4. Material Use Plan	- Proposal for major material use plan (type, characteristics, etc.)
5. Note	- Other content not presented in the above section

Attachment: Form related to bidding participation

[Form 1] Major Performance Related to This Construction

Construction Performance over the Past 5 Years (Over 400,000$)					
Company Name		(Representative :)			
Number	Construction Name	Period	Contract Amount	Ordered	Note

※ ① List in order of performance year (descending order from most recent performance)

② Attach documents proving performance (performance certificate, copy of contract, etc.)

[Form 2] Construction Performance Certificate

Construction Performance Certificate

Applicant	Company Name		Representative	
	Business Location			
	Business Number		Telephone Number	
	Certificate Purpose		Submit to	
Performance Details	Construction Name			
	Construction Detail			
	Term	. . . 20 ~ . . . 20	Contract Number	
	Construction Amount			
	Performance	Ratio ( )% Performance ( )$		
	Note			
Certificate Issuing Authority	Prove the above facts. Date. Month. 2023			
	Company(organization) Name : (Signature)			
	Address : (FAX Number :)			
	Issuing Department :		Issuing Manager :	

※ ① Certification of performance must be submitted in accordance with the form above, one copy from each certificate issuing institution.

② If implemented through a joint contract, the participation ratio and implemented

performance must be stated

[Form 3] Price Proposal

Price Proposal

Tender Details	Bidding Number		Bidding Date	
	Bidding Title			
	Price	(VAT Included)		
Bidder	Company Name		Business Number	
	Address		Telephone Number	
	Representative		Date of Birth	

I bid in accordance with the bidding instructions and submit my bid, confirming that if this bid is accepted by your organization, I will complete the construction within the completion deadline at the above bid amount.

Date. Month. 2023

Bidder : (Signature)

To PARC/KOPIA Pakistan Center