



Tender Document (FY2025-26)

For

Whole Genome Sequencing Services of Two Coniferous Species

Under the ADP Project

“Studies on DNA Fingerprinting of Important Pakistani Timbers for their Identification and Illegal Trafficking Control”

Pakistan Forest Institute, Peshawar.

**Climate Change, Forestry, Environment & Wildlife Department
Government of Khyber Pakhtunkhwa**

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SECTION-I**TENDER NOTICE**

(For Whole Genome Sequencing Services of Two Conifer Species)

Pakistan Forest Institute, Peshawar invites e-Bids in accordance with the Khyber Pakhtunkhwa Procurement Authority (KPPRA) Rules 2014, Amendment Act, 2022 for Whole Genome Sequencing (WGS) Services of two conifer species — under the Single Stage – two Envelope Procedure 6(2) (b). Bids are invited from firms duly registered with the Federal Board of Revenue (FBR) for Income Tax and Sales Tax, for the WGS services at PFI during the Financial Year 2025–26.

Terms & Conditions:

Activity	Date & Time
Bid submission on EPADS	16-06-2026 up to 11:00 a.m.
Opening of Technical Bids	16-06-2026 at 11:30 a.m.

1. The bidders registered on EPADS platform shall submit their e-Bids through EPADS.
2. Bidding document containing detailed terms and conditions are available free of cost on: EPADS Portal KP; KPPRA, KP, website and <https://www.pfi.gov.pk/>
3. Total Estimated Cost: PKR 3,500,000/- (Pakistani Rupees Three Million and Five Hundred Thousand only). The original CDR of the Bid Security (2%) must be submitted, in favor of The Forest Geneticist, Pakistan Forest Institute, Peshawar, before the e-Bid submission deadline. Failure to do so shall result in rejection of the bid.
4. Only technically qualified bidders will be communicated for financial bids openings.
5. The successful bidder shall deposit a Performance Guarantee equivalent to 8% of the contract value and execute a formal contract agreement prior to the award of contract.
6. All quoted rates shall be in Pakistani Rupees (PKR), inclusive of all applicable duties and taxes. Statutory deductions (if any) shall be made in accordance with Govt. rules.
7. The Competent Authority reserves the right to reject any or all bids at any stage prior to acceptance in accordance with Rule 47 and shall communicate to the bidder(s) the reason for rejection as per Rule 47(1), without being obligated to justify those grounds.

Project Incharge

**“Studies on DNA Fingerprinting of Important Pakistani Timbers for Their Identification & Illegal Trafficking Control” Pakistan Forest Institute, Peshawar.
091-9221374/0321-7207353**

SECTION-II

INTRODUCTION AND BACKGROUND

1. This Tender Document invites sealed bids from qualified and experienced service providers for the provision of whole genome sequencing (WGS) services for two conifer species i.e., *Cedrus deodara* (genome size, 15 Gb) and *Pinus wallichiana* (genome size, 25 Gb). The project aims to generate high-quality genomic data to develop genomic resources to control illegal logging in designated conifer species.
2. The sequencing will strictly utilize the “**PacBio Revio Hi-Fi Platform**” to achieve long-read contigs. The genome sequencing will utilize the third-generation platform to achieve long-read sequencing, which is essential for assembling complex genomes with repetitive regions typical in conifers. The services are required for a total of 2 samples, generating 100 – 120 Gb data per sample.
3. Bidders must demonstrate prior experience in sequencing plant genomes, and compliance with international standards for genomic data quality and security.

SECTION-III

SCOPE OF WORK

The selected service provider shall perform the following services until unless mentioned otherwise:

1. Sample Preparation and Quality Control:

Cleaned and high-quality DNA extracted from inner bark cambium tissues of *Cedrus deodara* and *Pinus wallichiana* ensuring the stringent sterile conditions will be provided by the clients from 02 conifer species (01 sample per species with 08 technical replications) for sequencing.

2. Sequencing:

The bidder/bidding agency/firm will perform library preparation and whole genome sequencing using the PacBio-Revio platform to produce 100 – 120 Gb data per species. Estimated genome sizes for conifer species are typically large (e.g., 15-25 Gb), so bidders should account for this in their proposals.

3. Data Generation and Processing:

- i. Data will be generated and processed on following parameters;
- ii. Generate raw sequencing data in standard formats e.g., fastq
- iii. Perform initial quality control and base-calling using PacBio's recommended software (e.g., SMRT Link).

- iv. Validate designated species sequences using GenBank Blastn searches.
- v. Extract mitochondrial and chloroplast sequences.
- vi. Identification of SSR regions and provide a table with type and number of SSR sequences.
- vii. Design primers based on identified perfect di, trinucleotide and tetranucleotide SSR repeats.
- viii. Validate primers through in silico PCR.
- ix. Provide list of primers with sequences, standard conditions and amplicon sizes.

4. Data Delivery:

Deliver all raw and processed data via secure file transfer (e.g., FTP or cloud storage) within 10 weeks from sample receipt. Include detailed reports on sequencing metrics (e.g., read length, coverage depth, error rates etc.) a list of forward and reverse primer sequences. The data will also be accompanied by a partial or a complete assembly of mitochondrial and chloroplast genomes of the stated species.

5. Additional Services:

Bioinformatics analysis for SSR mining, primer designing for tri & tetra nucleotide based SSR markers and in silico PCR (e-PCR) to ensure the primer specificity by scanning the nuclear genomes.

SECTION-IV

SUBMISSION OF BIDS

1. Bidding Procedure:

Bids shall be submitted under the Single Stage–Two Envelopes procedure as per KPPRA Rules.

2. Bid Format:

All pages to be submitted in either PDF/ Word documents must be duly signed and stamped. Bidders shall submit their bids in two separate soft (PDF/MS Word) Files as following;

- A. Technical Proposal/e-Bid:** Clearly marked “Technical Proposal/e-Bid” as file/folder name, containing all technical documents, eligibility proofs, and related information.
- B. Financial Proposal/e-Bid** – clearly marked “Financial Proposal/e-Bid” as file/folder name, containing the quoted price and soft copy of CDR of 2% bid security.

Both PDF files shall then be placed in one single folder, clearly marked: QUOTATIONS for Whole Genome Sequencing Services of Two Conifer Species.

3. Bid Submission Deadline and Opening

- i. Original CDR of 02% of bid value sealed in an envelope must be reached to the Project Incharge “Studies on DNA Fingerprinting of Important Pakistani Timbers for Their Identification and Illegal Trafficking Control, Pakistan Forest Institute, Peshawar” before the closing of deadline, otherwise bids shall not be entertained.
- ii. Soft Files must be uploaded with the e-Bid on EPADS as prescribed in the Tender Notice positively by **16 June 2026 at 11:00 am**. Technical Proposals will be opened on the same date (**16 June 2026**) at **11:30 am** in the on-line at presence of bidders or their authorized representatives.
- iii. Bid submitted through channel other than EPADS shall not be considered.

SECTION-V

ELIGIBILITY AND MANDATORY DOCUMENTS

Bidders/ firms/companies must submit the following with the;

A. Technical Bid:

1. Tender Form Duly filled, completed, signed & stamped by the bidder must be attached with each bid and all sections/pages must be signed by the bidder.
2. Complete profile, including registrations and certificates of NTN & Sales Tax Registration, Valid Professional Tax and KPPRA registration and experience references from government/semi-government departments or clients for similar genomic sequencing/DNA services provided during the last five (05) years.
3. Team qualifications (e.g., PhD-level bioinformaticians).
4. Timeline and risk management plan.
5. Evidence of prior experience of Tree/plant genome sequencing (e.g., case studies or references) in compliance with international standards for genomic data quality and security.
6. Comply with data privacy regulations (e.g., GDPR or equivalent) and ensure no data sharing partial or fully as it is the sole property of PFI, under any circumstances.
7. If services involve any foreign or third-party agency/laboratory, attach a valid from the principal provider.
8. Detailed methodology for the scope of work in compliance with technical specifications (Section-VII).
9. Company/firm letter head affidavit confirming that 2% bid security in the form of CDR

has been submitted on the prescribed manner.

10. Proof of financial stability.
11. Affidavit on Rs. 100/- stamp paper declaring that the firm is not blacklisted by any government/semi-government department.
12. The Certificate of Bid validity for 90 days from the date of opening of tender should be submitted on company letterhead duly signed and stamped by the bidder.
13. Duly stamped and signed by the bidder “Undertaking” on stamp paper (Annex-A).

B. Financial Bid:

1. Total bid amount with itemized breakdown in PKR, inclusive of taxes.
2. Validity of bid: 90 days from submission.
3. Must include 2% of the quoted bid value as Earnest Money/Bid Security (refundable) in the form of CDR in favor of Forest Geneticist, Pakistan Forest Institute, Peshawar.
4. Bids without bid security will not be entertained.
5. Quoted price must be the best and final (no negotiations permitted) and shall remain valid until completion of the task.

SECTION-VI

GENERAL TERMS & CONDITIONS

The following General Terms and Conditions shall govern the submission, evaluation, award, and execution of the contract:

1. Bids shall be submitted through EPADS on or before the closing date and time mentioned in the Tender Notice.
2. The original Bid Security in the form of Call Deposit Receipt (CDR) amounting to 2% of the estimated cost, in favor of the Forest Geneticist, Pakistan Forest Institute, Peshawar, must be submitted before the closing date and time of bid submission.
3. Late submissions shall not be entertained.
4. Incomplete, conditional, doubtful, overwritten, cut, or bids containing alternate rates shall not be accepted.
5. The bid validity period must be in accordance with the period specified in the Tender Documents.
6. The bid must strictly conform to the technical specifications provided in Section-VII of the Tender Document.
7. The bidder shall accept and abide by all terms, conditions, and specifications contained in the Tender Documents.

8. The Competent Authority reserves the right to accept or reject any or all bids at any time prior to acceptance, in accordance with Rule 47 of KPPRA Rules.
9. The grounds for rejection upon request shall be communicated to the concerned e-Bidder; however, the authority shall not be bound to justify those grounds in detail.
10. The issuing authority reserves the right to cancel the tender process at any stage without assigning any reason and without incurring any liability.
11. The Bid Security shall be liable to forfeiture if the bidder,
 - i. withdraws, amends, or revises the bid during the validity period,
 - ii. the contractor fails to execute the contract in accordance with the agreed terms and conditions, or
 - iii. at any stage, it is discovered that false, forged, fabricated, or misleading documents were submitted.
12. The successful bidder shall submit a Performance Guarantee in the form of CDR amounting to 8% of the contract value, in favor of the Forest Geneticist, Pakistan Forest Institute, Peshawar, prior to the award of contract.
13. Failure to submit the performance guarantee within the stipulated time may result in cancellation of the award and forfeiture of the bid security.
14. The contract shall remain valid for a period of 180 days from the date of award.
15. Payments shall be made upon verification, satisfaction and acceptance of deliverables inclusive of tendered data and services by the competent authority.
16. Bidders are advised to quote their best and final price. No post-bid price negotiations shall be allowed.
17. A penalty of 1% of the contract value per week shall be imposed for delays beyond the agreed timeline, subject to applicable rules and prescribed maximum limits.
18. All data, reports, and outputs generated under the contract shall remain the property of the PFI. The successful bidder shall execute condition of Non-Disclosure of data in the contract.
19. Standard Force Majeure provisions shall apply.
20. Any dispute arising out of or in connection with the contract shall be resolved through arbitration under the laws of Pakistan.
21. Any modification or clarification to the Tender Documents shall be issued through formal corrigendum.

SECTION-VII

TECHNICAL STANDARDS FOR SEQUENCING SERVICES

- 1) **Starting material** – gDNA (>5 ug of HMW DNA)
- 2) **Samples number:** 2 (1 sample/SMRT cell)
- 3) **Platform:** Exclusively PacBio Revio Hi – Fi for long-read sequencing.
- 4) **Output #** - 1 sample/SMRT cell
- 5) **Deliverable** – fastq raw data, primers specific to targeted SSR loci and mitochondria and chloroplast sequences.
- 6) **Coverage:** A data generation of 100 – 120 Gb per sample.
- 7) **Read Length:** Aim for N50 > 15 kb to handle conifer genome complexity.
- 8) **Quality Standards:**
 - i. Sequencing error rate < 1%.
 - ii. Data integrity ensured through checksums and backups.
- 9) **Timeline:** Project completion within 10 weeks from contract award.
- 10) **Quantity:** 2 samples total (1 per conifer species).

SECTION-VIII

EVALUATION CRITERIA

The following procedure will be adapted for impartial award of the tender to the most suitable applicant fulfilling both technical and financial criteria.

1. Bids will be evaluated based on an 80:20 technical-to-financial ratio.
2. For technical bid evaluation the bidder's score out of total with the highest ranking will be the base line.
3. For financial evaluation the lowest bid shall be based line.
4. First percentages (%) with respect to the base line will be calculated.
5. Respective percentages will be converted to 80:20 technical-to-financial ratio
6. Final score of evaluation shall be determined by sum technical and financial scores.

(A) Technical Evaluation (80 points):

S. No.	Parameter	Score
1.	Company profile and registrations	05
2.	Tax registration and active tax payer, KPPRA and Professional certificates	05
3.	Affidavit confirming of 2% bid security	05
4.	Affidavit stamp paper declaring that the firm is not blacklisted	05

5.	References of 03 projects	05
6.	Evidence of genome sequencing Forestry Crops	10(max) 06
7.	05 years latest experience with proof	05
8.	Team and qualifications Ph.D.-level (at least 02)	05
9.	Possess own Lab for a processing of the samples e.g., quality screening.	10
10.	Certificate to comply with tenders' terms and conditions	05
11.	Certificate to comply with data privacy regulations	05
12.	Authorization letter from the service/principal provider	05
13.	Methodology	10
	Total	80

(B) Financial Evaluation (20 points):

1. Lowest compliant bid gets full points; others prorated.
2. Only bids scoring > 70% in technical evaluation will proceed to financial opening.
3. The issuing authority reserves the right to reject any bid.

SECTION-IX

CONTRACT AWARD PERFORMANCE REQUIREMENTS

1. The contract will be awarded to the bidder with highest score as per evaluation criteria.
2. The successful bidder shall;
 - i. Sign the contract within three (03) days of intimation; failure will result in assigning of contract to the next bidder in the list and forfeiture of earnest money.
 - ii. Submit 08% security deposit of the contract value (in the form of bank draft/call deposit), refundable after successful completion of contract.
 - iii. Provide an undertaking on stamp paper agreeing to all terms and conditions.
 - iv. The firm is responsible for completing tasks as per specifications and within 10 (Ten) weeks from the date of issuance of the contract award.
 - v. Failure to complete within time or meet specifications will result in forfeiture of security money.

SECTION-X

PAYMENT TERMS

1. Payment will be made after successful completion of services, delivery of all required outputs (raw data, processed sequences, reports, etc.), quality/quantity verification and satisfaction by the concerned committee/relevant officer, and issuance of completion certificate.
2. All applicable taxes at the time of payment will be deducted as per government rules.

SECTION-XI

REDRESSAL OF GRIEVANCES

Bidder can approach the redressal of grievances committee in case the bidder wants to raise any objection or has grievances against the decision of the Procurement Committee with in ten days of publication of e-Bid evaluation report.

ANNEX-A



Government of Khyber Pakhtunkhwa
Climate Change, Forestry, Environment & Wildlife Department
 “Studies on DNA Fingerprinting of Important Pakistani Timbers for their
 Identification and Illegal Trafficking Control Project”
Pakistan Forest Institute, Peshawar.
 Ph: 091-9221374, 9221224; email: bilal.zia@pfi.edu.pk



Tender Reference Number:

WGS-CONFIFERS(01)/2026

TENDER FORM

for Whole Genome Sequencing Services of Two Coniferous Species

Firm Name:

.....

Address:.....

.....Contact Nos:

Office..... Cell.....

Phone:.....

email.....NTN:.....

.....GSTNo.:.....CDRNo.....Dated...

.....Amount.....Bank.....

.....

Quoted Price

S. No.	Services	Total Price in PKR
1.		
2.		
3.		
4.		
5.		

Certificate:

It is certified that we have read and understood attached specifications, terms & conditions and shall abide by all specification, terms and conditions.

Signature and Stamp of the Bidder/Firm/Company

ANNEX-B

CERTIFICATE/ UNDERTAKING
TO BE SUBMITTED ON THE STAMP PAPER OF Rs.100/-

1. I/We hereby confirm that we have carefully read and understood the description of the whole genome sequencing services alongwith the terms, conditions, and special instructions contained in the Tender Document. We unconditionally agree to abide by all such instructions and conditions.
2. I/We further confirm that the quality of the services and data to be provided shall be equal to or better than the standard specifications provided in Section-VII of the Tender Document.
3. I/We accept that if the required bid security is not furnished or if our offer is found deficient in any respect as per the requirements of the tender enquiry, our bid may be rejected and not considered for evaluation.
4. I/We further undertake to fully comply with the services delivery procedure, delivery schedule, and all other requirements and conditions mentioned in the Tender Enquiry, which shall form the essence of the contract. In the event of any delay or non-compliance, I/We unconditionally agree to the imposition and recovery of late delivery penalties at the rate prescribed in the Tender Document.
5. I/We certify that the rates quoted in our Financial Bid shall remain valid for a period of 06 months (180 days) from the date of opening of the tender.
6. I/We also confirm that the prices quoted in the Financial Proposal are inclusive of all applicable taxes, and we shall abide by all statutory tax deductions at source in accordance with prevailing tax laws at the time of payment.
7. I/We hereby undertake that, in the event of any ambiguity, dispute, or confusion regarding interpretation of rules, procedures, terms, or conditions, the decision of the Competent authority, Pakistan Forest Institute Peshawar shall be final and binding upon us, and we shall fully accept and comply with such decision.

Name of Firm: Stamp of Firm: _____

Name of Owner CNIC# of Owner:

Signature of Owner:

Witness Name & CNIC#:

Signature: