

PRE-QUALIFICATION DOCUMENT (PQD)

PROVISION OF LASER LAND LEVELERS TO THE FARMERS/ SERVICE PROVIDERS under “National Program for Improvement of Watercourses in Pakistan (Phase-II)-The Punjab Component”

Increasing water shortages have compelled the all concerned for developing strategies for efficient utilization of available water resources. Enhancement of water productivity at farm level is the most appropriate solution to redress water scarcity. LASER land leveling is the best option for improving water productivity through minimizing water application losses. It is, accordingly, planned to accelerate the adoption of this technology through strengthening of LASER land leveling services in the private sector.

Precision land leveling is being promoted in the Punjab since inception of OFWM program. Use of LASER technology for the purpose is the major development, which was introduced in the province during 1985. The LASER controlled land leveling system consists of a LASER transmitter, a signal receiver, an electrical control panel, and a solenoid hydraulic system operating valve. The LASER transmitter transmits a LASER beam, which is intercepted by the signal receiver mounted on a leveling blade attached to the tractor. The control panel mounted on the tractor interprets the signal from the receiver and opens or closes the hydraulic control valve that raises or lowers the leveling blade. The technology has proved to be highly beneficial because it minimizes the cost of operation, ensures better degree of accuracy in much lesser time, saves irrigation water, ascertains uniform seed germination, increases fertilizer use efficiency, and resultantly enhances crop yields.

LASER land leveling is the most effective and popular technology amongst farming community because of its highly quick returns/benefits. The LASER land leveling technology is now being used adequately by the farmers in all districts of the Punjab. An impact assessment study was carried out by Planning & Evaluation Cell of Agriculture Department during 2008 for evaluation of LASER land leveling technology, which revealed following impacts at the farm level.

- i) Saving in irrigation time from 25.1 to 32.1 percent
- ii) Increase in irrigated area by 34.5 to 42.0 percent
- iii) Improvement in crop yields from 10.7 to 12.9 percent
- iv) Reduction in farm cultureable waste land by 2.10 percent

The impact assessment carried out by the Monitoring and Evaluation Consultants under the PIPIP for LASER land levelers has shown following results.

- a. Saving in irrigation time: 20-30 percent
- b. Improvement in crop yield from 9-11 percent
- c. Enhancement in fertilizer use efficiency: 11 percent
- d. Saving in farm labour: 18 percent
- e. Facilitation in better crop stand, uniform moisture availability and enhanced fertilizer use efficiency
- f. ERR 29.6%
- g. C/B Ratio 1:1.5

Strengthening of LASER Land Leveling Services and Technology Need Gap:

The OFWM was providing subsidized rental services for LASER land leveling and nearly 168,000 acres were leveled with LASER technology in the Punjab till launching of “Strengthening of LASER Land Leveling Services in the Punjab” project during 2005-06. The same was achieved with a fleet of about 125 working LASER units owned by the District Governments. Their maximum capacity was about 35,000 acres in a year. The same was enhanced to about 750,000 acres per year with implementation of above said project completed during 2008. It was, however, considered that the LASER land leveling services were still extremely inadequate to fulfill the demand of farmers and large area of the province is still unlevelled having traditional farm layouts, which are main source of continuous irrigation water wastage. Accordingly, 3,000 LASER units have been provided to farmers/ service providers under on-going PIPIP to strengthen the rental services in the private sector. Moreover, the Punjab government launched ADP funded project titled “Provision of Laser Land levelers to Farmers/ Service Providers on Subsidized Cost” having total cost of Rs. 1,350 million and provided 6,000 LASER land levelers to the farmers/service providers during three years (2015-16 to 2017-18) which has further strengthened LASER land levelling services in the private sector.

The irrigated land of the Punjab is about 27 million acres (11 million hectares). It is indicated that one LASER unit can LASER level nearly 300 acres annually due to short window of time available for land leveling between Rabi and Kharif crops. Moreover, LASER land leveling operation is required to be repeated after 3-5 years to get continued benefits of the technology. Accordingly, it has been worked out that LASER leveling of entire cultivated area in four years will require about 22,500 LASER units. There are about 25,000 villages in the Punjab and it is considered that availability of one LASER unit in each village may fulfill the LASER land leveling demands.

The government has so far provided 11,500 LASER units to farmers/ service providers on subsidized costs under development schemes. As such, there is still a gap of about 11,000 units in the province.

i) Canal Irrigated Area Requiring Leveling (MA)	27
ii) Annual Leveling Capacity per LASER Unit (Acres)	300
iii) Required Units (No.)	22,500
iv) Available (No.)	11,500
v) Gap (No.)	11,000

It is indicated that the target for provision of LASER land levelers to the farmers/ service providers under the original PIPIP was achieved during four years of project implementation as technology is highly popular amongst farming community in the Punjab because of its quick returns. Moreover, 6,000 LASER units have been provided under ADP scheme but there is still huge requirement to fulfill the LASER land leveling services in the province. Keeping in view huge demand of the technology and massive economic returns, it has been planned to provide additional 9,500 LASER land levelers to the farmers/ service providers under the ADP/PSDP funded project titled “National Program for Improvement of Watercourses (NPIW) in Pakistan (Phase-II)-The Punjab Component”. The component will strengthen LASER land leveling services in the province through provision of LASER units to farmers/service providers on subsidized rates. It is planned that some LASER units may be

allocated, with approval of the Provincial Steering Committee, to some NGO working with the rural community at gross root level to establish LASER land leveling rental services for the farmers.

Criteria for Selection of Service Providers/Farmers

An applicant will be eligible for the grant of financial assistance provided that the person

- i) Possess/ owns a tractor capable of operating LASER unit;
- ii) is owner/tenant/lease and self-cultivator of land not more than 12.5 acres and is preferably agricultural machinery service provider or an agricultural graduate possessing requisite land ownership;
- iii) has not availed the facility under any other such scheme;
- iv) will agree to rent out the equipment for LASER land leveling in the area;
- v) undertakes to carry out/provide rental services for LASER land leveling of 300 acres per unit annually during project period; and
- vi) will be liable to pay full amount of financial assistance received for the purpose as arrears of land revenue in case of violation of any of the conditions of the scheme.

Role of Supply & Service Companies

Locally manufactured LASER land leveling units as well as imported systems are readily available in Pakistan. The farmers/service providers will, therefore, have the option to purchase the LASER equipment of their own choice. The Agriculture Department has already approved standards and specifications of LASER equipment for supply of LASER units to the farmers/ service providers under the PIPIP which may be adopted as such or same may be revised at any time by the competent forum. The department will prequalify Supply and Service Companies (SSCs) afresh for provision of LASER units under the ADP/PSDP funded project titled "National Program for Improvement of Watercourses (NPIW) in Pakistan (Phase-II)-The Punjab Component". These suppliers/manufacturers will be short-listed along with their units and ceiling prices by the Prequalification Committee in order to safeguard quality of the equipment. It is planned that the standards and specifications already approved by the Agriculture Department would be adopted under the NPIW (Phase-II). The prequalified SSCs would be eligible for provision of LASER units under the NPIW (Phase-II). The recipient will have the option of purchasing the equipment of his/her own choice from amongst pre-qualified firms. The PQC may amend/modify eligible criteria for prequalification of SSCs, if required, at any stage of project implementation.

Cost Sharing

It is planned to provide one time financial assistance of Rs. 250,000 per unit to the farmers/ service providers while the beneficiary farmer would contribute the entire remaining cost of the equipment. It is pointed out that eligible beneficiary is required to own a tractor capable of operating LASER unit and submit valid document/proof for the purpose.

Implementation Procedure for Provision of LASER units

It is indicated that well understood and accepted approach, introduced under previously completed schemes and replicated under the PIP/ADP scheme will be continued with little modification for provision of LASER units to the farmers/ service providers under NPIW (Phase-II). The implementation modalities to be followed for the NPIW (Phase-II) are described hereunder:

- i) The annual quota for each district, preferably based on balance requirement of LASER land levelers, will be approved by the Project Steering Committee (PSC) and the same will be conveyed to the districts by the DGA (WM);
- ii) Massive awareness and publicity campaign will be launched through print/ electronic media at the provincial level as well as in the districts;
- iii) Agriculture Department will advertise for invitation of applications from the farmers interested to work as service providers for LASER land levelling rental services;
- iv) All districts will be informed about the time bound action plan for provision of LASER land levelers to the farmers/service providers;
- v) The applications will be received/ collected in the office of DDA (OFWM) that will be scrutinized vis-à-vis approved criteria by the designated committee;
- vi) The ineligible applicants will be informed about rejection of their applications who may submit appeal against the ineligibility within specified period and concerned authority will decide the eligibility/ ineligibility after hearing appeals within stipulated timeframe;
- vii) The DDA (OFWM) will convey the complete list of eligible applicants to the DGA (WM) for confirmation of quota as the activity will be demand driven. In case of less number of eligible applicants than allocated quota, the extra LASER units will be allocated to other districts where demand is higher than the available quota for the district;
- viii) The allotment of LASER units to the eligible applicants will be made by the District Allotment Committee (DAC) through balloting;
- ix) The allotment letters will be issued to the successful applicants by the DDA (OFWM) with the advice to book LASER units with pre-qualified firm within 30 days of allotment by submitting original draft of his/her entire/full share, drawn in favor of prequalified firm of his/her choice to concerned DDA (OFWM);
- x) The DDA (OFWM) will forward the same alongwith his recommendation to the DGA (WM) for issuance of work order to concerned firm;
- xi) Director General Agriculture (Water Management) will issue advice to the concerned firm for supply of booked LASER unit within 90 days of the issuance of this advice (or period specified in the supply order) under intimation to the concerned DDA (OFWM);
- xii) The supplier firm will ensure delivery of booked unit within stipulated period and defaulting firms will be dealt as per government Rules;
- xiii) In case of failure of a firm to deliver the unit within specified time, the farmer will have the choice to book the LASER unit with one of the other pre-qualified supplier firms through concerned DDA (OFWM) and DGA (WM);
- xiv) A committee comprising of representative of concerned DDA (OFWM), representative of concerned Director Agriculture (OFWM), recipient farmer/service provider, and Field Engineer of consultants will inspect the equipment jointly, handover to the farmers/service providers, and record the make, model, serial number and other features of all components of LASER unit;
- xv) The DDA (OFWM) will handed over original bank draft of farmer's share to the concerned supplier firm under proper acknowledgement.

- xvi) The technical inspection report, duly signed by the inspection committee and receipt of draft release to the firm, will be sent by DDA (OFWM) to DGA (WM) alongwith his recommendation for releasing the government share; and
- xvii) DGA (WM) will make payment of project assistant to the concerned firm through cross cheque.

Training of Farmers/ LASER Operators and Technical Support

OFWM staff available at tehsil level will provide technical assistance and backup support for carrying out LASER land leveling in the field. Water Management Training Institute (WMTI), Lahore will arrange training for capacity building of the service providers/farmers or their Tractor / LASER Operators in following activities.

- i. Survey and designing for LASER land levelling
- ii. Planning and development of farm layouts considering soil type, farmer's tillage equipment, crops to be grown, source/quality of irrigation supplies etc.
- iii. Operation of LASER units
- iv. Maintenance and trouble-shooting of equipment
- v. Training courses will be conducted for LASER Operators in "LASER Land Leveling" to train one operator for each LASER unit.

Eligibility Criteria for Prequalification

The firm(s)/ joint venture(s) having the following strength/ background would be eligible for prequalification under the scheme for the project period which will be renewed every year based on specified performance criteria.

- (i) Must have /be willing to establish an office in Pakistan;
- (ii) Must be manufacturer or sole distributor or authorized dealer of specific make of LASER equipment meeting approved technical specifications of the Punjab Agriculture Department and must agree to supply compatible complete unit including scraper (Attach valid sole distributor certificate and complete specifications of LASER equipment and its scraper along-with brochure). The Firm(s) may enter into joint venture (JV) with manufacturer/sole distributor to strengthen its capability to provide the requisite services for the purpose. The firm(s) may offer more than one model of LASER equipment of same make/brand. The firm (manufacturer/sole distributor), if it enters into JV with other firm(s), cannot be applicant separately as well as may not be partner firm in any other JV for prequalification as SSC. The JVs are allowed to utilize the standing of partner firms independently or jointly in terms of technical expertise, relevant experience and financial capacity to fulfill the requisite eligibility criteria for prequalification. The relevant experience of business in Pakistan would only be considered;
- (iii) Must be registered with the Income Tax/ Sales Tax Departments in case of local firms (Attach copy of valid NTN Certificate and GST Certificate);
- (iv) Must be in business for last three years;
- (v) Must have experience of providing at least 30 LASER units in public/ private sector during last three years (Attach year-wise list of purchasers/ beneficiaries with name, complete address, phone/fax, and date of delivery). Any additional

- document may be furnished to support relevant experience of firm(s)/Joint Venture);
- (vi) Must have available stock of complete LASER equipment (without scraper) to provide 20 LASER units to farmers/ service providers;
 - (vii) Must have adequate technical staff including a minimum of three Technicians (each having 2 years relevant experience) for proper after-sale service (Provide list of staff and their C.Vs indicating qualifications & relevant experience. Also attach academic and experience testimonials of each Technician. The firm will also furnish undertaking to recruit additional staff as per project requirements, if necessary);
 - (viii) Must have minimum average annual turnover of Rs. 5 million, which in case of JV could be of the partner firms independently or jointly for the period of the last three years (Attach verified Income Tax Returns);
 - (ix) Must provide affidavit confirming that: (a) applicant firm(s)/joint venture(s) have never been blacklisted by any government department (If ever black listed, then provide the case history and current status of the firm regarding this decision). (b) all the information provided by the applicant firm/joint venture is correct; (c) the firm agrees to supply compatible complete unit including scraper; (d) the firm is willing to recruit the additional staff as per project requirements, if required; and
 - (x) Must attach pay order/ bank draft amounting to Rs. 10,000/- in the name of Director General Agriculture (Water Management) Punjab, Lahore as non-refundable processing fee for prequalification.

It is clarified that the SSCs previously prequalified by the Agriculture Department to deliver LASER units to the farmers/ service providers under any other project are also required to get prequalified afresh for this project.

The proposals/ applications will be received in the office of the undersigned at given address till 28th November 2019 during office hours. The pre-qualification committee constituted by the Agriculture Department will evaluate the proposals/ offers and decide about acceptance/ rejection of proposals. The interested firms/ JV may collect additional information and pre-qualification document (PQD) free of cost immediately from office of the undersigned or may download the same from OFWM website (www.ofwm.agripunjab.gov.pk).

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