



Mr. Iftikhar Ahmad
Mouza 105-RB, Tehsil Jaranwala
District Faisalabad



CHANGING LANDSCAPE OF THE PUNJAB

(LASER LAND LEVELING TECHNOLOGY)

AN IMPACT STORY

Technology has emerged as the major drivers of national development globally, Pakistan is no exception. Over the years, technological interventions have significantly contributed in tackling the emerging challenges in agriculture sector, especially the water and food security and fast mounting climate change. LASER land leveling is one of the classical examples of such interventions, which have made huge impact in addressing these challenges and improving socio-economic conditions of the rural population. Numerous studies have proved significant loss of irrigation water (20-25%) during its application due to poor farm designing and unevenness of the fields. LASER land leveling has resulted in curtailing water losses besides conserving costly inputs (land, energy, fertilizer, pesticides etc.).



LASER land leveling was introduced in the Punjab way back in 1985 by the On-Farm Water Management (OFWM), however, real efforts to make this technology available to the farmers was made in 2006, when about 2,500 units were provided to the farmers/ service providers under the project titled "Strengthening of LASER Land Leveling Services in the Punjab" on subsidized rates. Later, 3,000 more LASER units have been provided under the World Bank funded "Punjab Irrigated-Agriculture Productivity Improvement Project (PIPIP)". Owing to the accrued benefits and popularity of LASER technology among the farming community, Government of the Punjab has decided to provide additional 6,000 LASER units to farmers/ service providers to minimize technology need gap in the province.

No doubt, LASER Land Leveling is one of the successful interventions of the OFWM for technology transfer at the grassroots level. Mr. Iftikhar Ahmad, resident of Mouza 105-RB, tehsil Jaranwala, district Faisalabad is one of those small growers amid many beneficiaries of this technology under the PIPIP. Mr. Iftikhar, is cultivating 8 acres (3.25 hectares) out of 12 acres (4.86 hectares) because 4 acres (1.60 hectares) are under saline and water logged condition.

When, Mr. Iftikhar, was contacted to explain the benefits of LASER land leveling technology, who narrated as:

"My net farm income was insufficient to meet most of expenses incurred during crop production. I was desperately looking for such technology which curtail budget for inputs especially irrigation and fertilizer costs. Those were my financially tough days when OFWM advertised LASER land leveling scheme. Meanwhile, I came to know that a friend of mine has adopted this technology. I rushed to Chak Jhumra to visit his lands



where LASER leveling unit was working. I was impressed with the perfection of leveled fields and on the same day booked a rental request with the tehsil office of OFWM, when this service had been provided on rental basis. It took several days before I succeeded in getting LASER unit at my farm because a number of farmers were already in queue for booking of LASER unit in the area."

Mr. Iftikhar excitedly informed that he was declared successful for getting his own LASER land leveling unit under the PIPIP through transparent balloting process on subsidized rates. He further shared the benefits accrued after adopting this technology as:

"I am happy to share that LASER technology helped me by redeeming a considerable



quantity of water and fertilizer, which were previously wasted due to poor irrigation application efficiency. Moreover, wheat crop yield increased upto 20% thus resulting in increased net farm returns."

Unleveled agricultural fields leads to inefficient use of irrigation water, fertilizer, poor germination, erratic crop stand, increased weed infestation and inconsistent maturity of crops thereby curtailing crop yields that slashes potential farm gate income.

Mr. Iftikhar, further explained that:

"After delivery of LASER unit, I have not only leveled my own fields but also leveled 110 acres (44.5 hectares) of fellow farmers during first year and earned handsome additional money as service provider. The farming



community that availed this service shared their experience with me that LASER leveling has enabled them to save about 40% of water besides enhancing crop yield substantially i.e. increase in yield by 9, 6, and 18 maunds' per acre for wheat, rice, and sugarcane, respectively."

The procurement and adoption of latest agricultural interventions by small farmers' depend on their socio-economic conditions, market prices, and most importantly the buying capacity of such equipment. LASER land leveling technology is helping the farmers/ service providers to earn additional income thereby improving their financial resources.

While concluding the feedback, Mr. Iftikhar shared his experience of using LASER leveling technology as:

"After acquiring training in LASER land leveling Operation and Maintenance (O&M) from the Water Management Training Institute, the quality and capacity of land leveling was significantly improved. Today, I am a popular service provider in this area as I have leveled about 700 acres (283 hectares) and 900 acres (365 hectares) during the year 2014 and 2015, respectively. Presently, I am earning additional income of about Rs. 250,000 to 300,000 per annum by providing LASER land leveling services in the area, which would have been just a dream without this technology. This additional income has greatly supported me to improve livelihood and education of my children in a better way"