

## Laser Levelling - A Beneficial Agronomic Practice

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Small farmers in India can stand to lease laser levelers, for empowering productive utilization of water and boosting nourishment security of the crop. Life in some rural areas of India depicts a picture of a farmer leveling the land with a bull drawn leveler. It's one of the most fundamental practice before planting, as uneven land doesn't look good for water application and enough productivity.

A laser land leveler is a machine outfitted with a laser operated drag bucket is significantly more successful and quicker for getting even surface for sowing. A leveled surface means water system water arrives at every part of the field with negligible waste from run-off or water-logging. Automation is uplifting news for farmers, as environmental change and inconstancy present exceptional difficulties to agribusiness. The need of hour is climate smart agriculture and advancements that save money on essential assets like water and fuel consumption for increment in yields and earnings. An arrangement of climate smart practices can prepare farmer to adjust to changing climate behavior in the Era of depleting natural resources. For example, groundwater in north-western India is declining at alarming rates because of the overuse of electric pumps and submersibles.



There is very less recharge of ground water by uneven and erratic rainfall. Present surveys have anticipated that demand for irrigation water will increase 10 percent with a 1-degree Celsius rise in temperature in Asia's arid and semi-arid regions. Irrigation has the highest use of groundwater in north-western India, and if steps are not taken to turn around this pattern, farmers will face a water-scarcity in near future.



#### **Advantages:**

Laser land leveling helps farmers by improving productivity, saving money on water and energy, decreasing ozone depleting substance discharges and boosting salaries.

**Irrigation time:** Laser leveling in rice fields decreased water system time by 47-69 hours for each hectare per season and improved yield by around 7 percent as compared to conventionally leveled fields. For wheat, water system time was decreased by 10-12 hours for each hectare each season and yield expanded by 7-9 percent in laser leveled fields.

**Food security:** according to an investigation carried out on impact of laser land leveling in rice wheat system in North-India by CIMMYT, the Borlaug Institute of South Asia(BISA) and CGIAR research program on climate change agriculture and food safety figures that if 50 percent of the area under rice-wheat system in Haryana and Punjab states were laser leveled, it would bring about extra annual income of 699 million kg of rice and 987 million kg of wheat, adding up to \$385 million extra for each year. In addition to the fact that this translates to higher earnings for farmers and strengthen the food security in the Indo-Gangetic region given that are a bread container and rice bowl for South Asia.

**Energy:** Less time spent on water system implies less energy utilized for water application. The investigation shows that laser land leveling decreases the power consumption up to around 755 kWh per hectare for rice-wheat system.

**Costs:** The charges of Laser land leveling are additional to the cultivation practices, but these charges are compensated with the higher yield.

**Water:** Laser land leveling is a water-saving technology as it utilizes less groundwater ideally by guaranteeing even water application. A laser-leveled farm limits run-off and water-logging, guaranteeing that farmers utilize the same amount of water they need in the ideal way.

**Less greenhouse gas emission:** utilization of laser land levelers over conventional land levelers lessens emissions of ozone depleting substances through reducing water pumping by engines and better utilization of fertilizer.

**Income:** The more significant returns and money saved on water and energy mean farmer profited by an extra income.

Laser land levelling is one among various cultivating exercises that add to sustainable agriculture. At the point when it is joined with other resource saving practices and advances like solar water system, agroforestry and residue management, the additions can be multiplied for every farmer and the community in general.