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# Developments in Precision Agriculture Use in Asia

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# Developments in Precision Agriculture Use in Asia

## Laser Land Leveling

25-30% reduction in water

20% reduction in manual labor

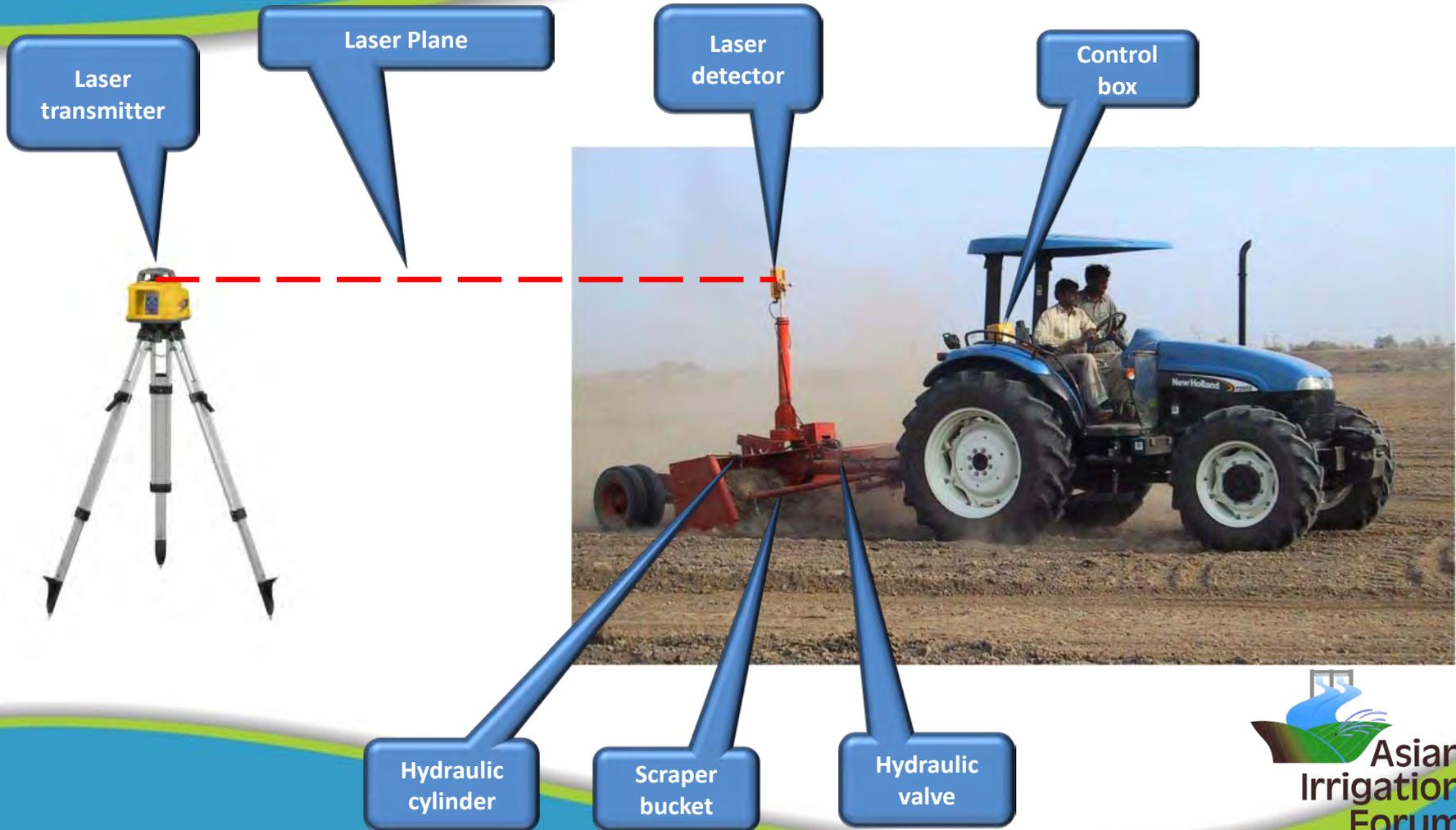
+ 20% reduction in fertilizer/seed

= 20% Higher Yield & 20% Higher Income

Over 5000 systems in operation in Asia today....



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## Old Investment Model

Subsidize procurement of tractors and leveling equipment in bulk

## New Investment Model

Subsidize Operators & introduce top performing equipment

- supply-side competition (market mechanism) based on quality & price
- subsidy aligned with equipment purchase
- supports sustainability, and facilitates relationships between suppliers, operators and farming communities

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## Nitrogen Management with Trimble GreenSeeker™

An optical sensor that utilizes NDVI

$$NDVI = \frac{\rho_{NIR} - \rho_{red}}{\rho_{NIR} + \rho_{red}}$$

Measures Crop Health

“LOCALIZES” Fertilizer Application

Develops a fertilizer response index according to NDVI value

Improves Nitrogen Use Efficiency and Yield



# Developments in Precision Agriculture Use in Asia

## Nitrogen Management with Trimble GreenSeeker™

Scientists from Directorate of Wheat Research, GoI & leading agriculture research institutions found:



$$NDVI = \frac{\rho_{NIR} - \rho_{red}}{\rho_{NIR} + \rho_{red}}$$

### **20+% Savings in Wheat crop**

- Study in Northwest India suggests savings of over 50% in nitrogen with similar yield

### **25% Savings in Rice crop**

- Study in Karnataka State estimate savings of Rs. 45 crore (US \$9 million/year for rice alone)

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## Additional Topic for Discussion

### Financing Models

- Current subsidy programs are improving but cannot yet reach the poorest of the poor
- Microloans remain unobtainable in many regions where precision agriculture could be effective
- Does lease-financing make sense from the perspective of development institutions?

Thank You.

