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Category	: International Rice Research Conference
Select Theme	: Sustainable and equitable farming systems
Endorsement email	:
Keyword 1	: Sustainable management practices
Keyword 2	: Water management
Keyword 3	: Sustainable intensification
Title of Entry	: Interactive Effect of Various Water Efficient Techniques on Crop & Water Productivity, Profitability and Sustainability of Basmati Rice (<i>Oryza sativa</i> L.) in Punjab, Pakistan
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Select only one type of presentation	: 15 minute oral presentation
Abstract	: Rice, a staple food of more than half of the world population, is an important target crop to provide food security and livelihoods for millions. Rice accounts for 3% in the value addition in agriculture and 0.6 % of GDP. During 2017-2018, rice cultivated area increased by 6.4 percent to 2,899 thousand hectares compared to last year. The production of rice reached a historically high level of 7442 thousand tons with an increase of 8.7 percent over last year (Anonymous, 2017-18). Rice area increased due to higher domestic prices of rice, subsidized availability of inputs, and good advisory along with an increase in export which made rice

cultivation attractive to growers. The 21st century is a water century & situation of Pakistan is particularly worst due to looming water crisis, increased water demand in the agriculture and escalating labor costs ramble the scientists to find out alternative water saving techniques aimed at increasing water productivity, crop sustainability and farm profitability. A study was carried out at farmers field in the core basmati rice area of the Punjab, Pakistan during the years 2016 & 2017, to analyze an interactive effect of various water efficient techniques (Laser Land Leveling-LLL, Direct Seeded Rice-DSR, Alternate Wetting & Drying-AWD), on rice yield, cost of production, net farm income, and water productivity. Study revealed that adoption of PTR+LLL+AWD resulted in improved yield 4.15 (tons ha-1), cost of production reduced to 748.90 (\$ ha-1), net benefits improved (\$ ha-1) 1288.80 (\$ ha-1), high water productivity 0.272 (kg M-3) and a cost-benefit ratio of 1.72 as compared to Farmer Practice (FP) i.e. unleveled puddled transplanted rice without AWD, but did not differ significantly with PTR+LLL except water productivity 0.235 (kg M-3). Similar trend was also found in DSR+LLL+AWD, yield of 4.15 (tons ha-1), cost of production 683.15 (\$ ha-1), net benefits 1373.90 (\$ ha-1), water productivity 0.304 (kg M-3), 2.01 cost-benefit ratio as compared to FP, also differed significantly with DSR+LLL like yield of 4.02 (tons/ha-1), cost of production 609.23 (\$ ha-1), net benefit 1014.23 (\$ ha-1), water productivity 0.287 (kg M-3), 1.66 cost-benefit ratio.

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