Figure S1: Field view of experiment during dry (green gram) and wet season (rice)

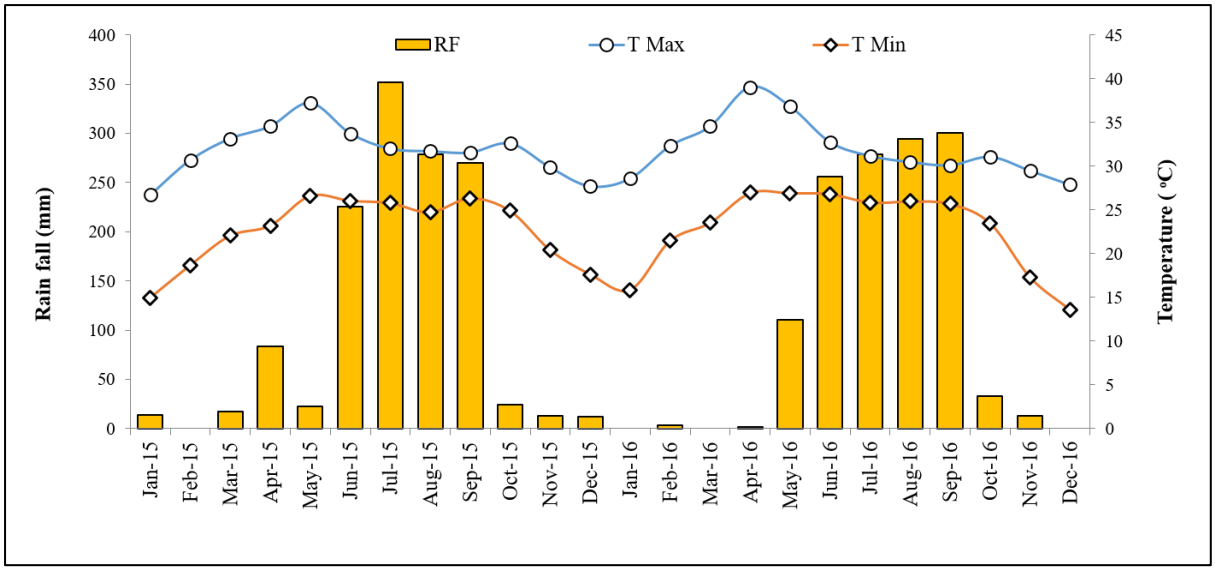

Figure S2: Average rainfall, maximum and minimum temperatures of the experimental site during the study.

Table S1: Estimated input and output energy for different agriculture activities under different treatments of the study.

Operations	Fuel Energy (MJ/ha)	Human Energy (MJ/ha)	Machine Energy (MJ/ha)	Total Energy requirement (MJ/ha)
Input energy components				
Preparatory tillage with Power tiller	1573.8	42.1	48.7	1664.7
Puddling with power tiller	1351.4	31.4	36.3	1419.1
Weeding with Cono-weeder	-	215.6	19.2	234.7
Weeding -manually	-	548.8	-	548.8
Sowing with three row manual seed drill	-	35.3	13.2	48.5
Weeding with Cono-weeder	-	215.6	19.2	234.7
Manual sowing	-	176.4	-	176.4
Manual weeding	-	705.6	-	705.6
Sowing with CRRI drum seeder	-	43.1	20.7	63.8
Irrigation	-	109.7	1112.5	1222.2
Fertilizer application manually in treatments	-	31.4	-	31.4
Energy for chemical fertilizer	-	-	-	5560.0
Energy for herbicide	-	-	-	59.5
Energy for pesticide	-	-	-	2661.6
Manual harvesting	-	-	-	432.3
Energy of reaper for harvesting	-	-	-	117.9
Bundling of rice straws with grain	-	-	-	115
Energy for thresher for grain processing	-	-	-	38.8
Output energy components				
Energy for grain yield	-	-	-	14.7
Energy for straw yield	-	-	-	12.5
Energy for husk	-	-	-	13.8