

Supplementary Information

Table 1. Crop calendar of crops grown in Punjab, India

Month	Rice (Basmati)	Rice (Non-Basmati)	Maize	Cotton	Groundnut	Green gram	Cluster bean	Red gram	Black gram	Kharif fodder	Chick pea	Lentil	Rapeseed & mustard	Sunflower	Pea	Potato	Sugarcane	Wheat	Rabi fodder	Barley
January	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	1	1	1	1
February	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1
March	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	1	1	1	1
April	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	1	1	1	1
May	0	0	0	1	1	0	0	1	0	1	0	0	0	1	0	0	1	0	0	0
June	1	1	1	1	1	0	0	1	0	1	0	0	0	1	0	0	1	0	0	0
July	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	0	0	0
August	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	0	0	0
September	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	0	0	0
October	1	1	0	1	0	0	1	1	0	1	0	0	0	0	1	0	1	0	0	0
November	0	0	0	1	0	0	0	0	0	0	1	1	1	0	1	1	1	1	1	1
December	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	1	1	1	1

Note: '1' in the cell indicate presence of the crop in the field while '0' indicates otherwise.

Table 2. Ratios of relative economic margins before and after the introduction of the payment system: *Kharif* season crops

Crops	Rice	Rice (Basmati)	Maize	Cotton-BT	Red gram	Green gram	Black gram	Groundnut
Existing water pricing policy								
Rice	1.00	0.83	1.90	1.90	15.27	1.17	3.86	1.36
Rice (Basmati)	1.21	1.00	2.30	2.29	18.41	1.42	4.65	1.64
Maize	0.53	0.44	1.00	1.00	8.02	0.62	2.03	0.72
Cotton-BT	0.53	0.44	1.00	1.00	8.04	0.62	2.03	0.72
Red gram	0.07	0.05	0.12	0.12	1.00	0.08	0.25	0.09
Green gram	0.85	0.71	1.62	1.62	13.00	1.00	3.29	1.16
Black gram	0.26	0.21	0.49	0.49	3.96	0.30	1.00	0.35
Groundnut	0.73	0.61	1.40	1.39	11.21	0.86	2.83	1.00
Water pricing at INR2/m³								
Rice	1.00	0.80	1.62	1.78	9.32	0.97	2.38	1.12
Rice (Basmati)	1.25	1.00	2.03	2.23	11.65	1.21	2.98	1.41
Maize	0.62	0.49	1.00	1.10	5.74	0.60	1.47	0.69
Cotton-BT	0.56	0.45	0.91	1.00	5.22	0.54	1.33	0.63
Red gram	0.11	0.09	0.17	0.19	1.00	0.10	0.26	0.12
Green gram	1.04	0.83	1.68	1.85	9.64	1.00	2.46	1.16
Black gram	0.42	0.34	0.68	0.75	3.92	0.41	1.00	0.47
Groundnut	0.89	0.71	1.45	1.59	8.29	0.86	2.12	1.00
Water pricing at INR5/m³								
Rice	1.00	0.75	1.31	1.62	5.67	0.75	1.46	0.87
Rice (Basmati)	1.32	1.00	1.73	2.15	7.52	0.99	1.93	1.15
Maize	0.77	0.58	1.00	1.24	4.34	0.57	1.12	0.67
Cotton-BT	0.62	0.46	0.80	1.00	3.49	0.46	0.90	0.54
Red gram	0.18	0.13	0.23	0.29	1.00	0.13	0.26	0.15
Green gram	1.34	1.01	1.75	2.17	7.59	1.00	1.95	1.17
Black gram	0.69	0.52	0.90	1.11	3.89	0.51	1.00	0.60
Groundnut	1.15	0.87	1.50	1.86	6.51	0.86	1.67	1.00

Table 3. Ratios of relative economic margins before and after the introduction of the payment system: *Kharif* season crops

Crops	Wheat	Barley	Chickpea	Pea	Lentil	Sunflower	Mustard	Potato
Existing water pricing policy								
Wheat	1.00	1.30	2.73	1.00	4.27	1.02	2.77	0.48
Barley	0.77	1.00	2.11	0.77	3.29	0.78	2.14	0.37
Chickpea	0.37	0.47	1.00	0.37	1.56	0.37	1.02	0.18
Pea	1.00	1.29	2.72	1.00	4.25	1.01	2.77	0.48
Lentil	0.23	0.30	0.64	0.24	1.00	0.24	0.65	0.11
Sunflower	0.98	1.27	2.68	0.99	4.19	1.00	2.73	0.48
Mustard	0.36	0.47	0.98	0.36	1.54	0.37	1.00	0.17
Potato	2.06	2.68	5.64	2.07	8.81	2.10	5.73	1.00
Water pricing at INR2/m³								
Wheat	1.00	1.21	2.56	0.99	2.95	1.05	2.41	0.48
Barley	0.83	1.00	2.11	0.82	2.43	0.87	1.99	0.40
Chickpea	0.39	0.47	1.00	0.39	1.15	0.41	0.94	0.19
Pea	1.01	1.23	2.59	1.00	2.98	1.06	2.44	0.48
Lentil	0.34	0.41	0.87	0.34	1.00	0.36	0.82	0.16
Sunflower	0.95	1.16	2.44	0.94	2.81	1.00	2.30	0.46
Mustard	0.41	0.50	1.06	0.41	1.22	0.43	1.00	0.20
Potato	2.09	2.53	5.34	2.06	6.16	2.19	5.03	1.00
Water pricing at INR5/m³								
Wheat	1.00	1.12	2.37	0.97	2.11	1.09	2.06	0.47
Barley	0.89	1.00	2.12	0.87	1.89	0.98	1.85	0.42
Chickpea	0.42	0.47	1.00	0.41	0.89	0.46	0.87	0.20
Lentil	0.47	0.53	1.12	0.46	1.00	0.52	0.98	0.22
Mustard	0.48	0.54	1.15	0.47	1.02	0.53	1.00	0.23
Sunflower	0.92	1.02	2.17	0.89	1.93	1.00	1.89	0.43
Pea	1.03	1.15	2.44	1.00	2.17	1.12	2.12	0.49
Potato	2.12	2.36	5.01	2.06	4.47	2.31	4.37	1.00