Annex to Chapter 4

Table A-4.1: Determinants of Water availability

	Kharif Water Availability (range = no water available in canal to 5 = canal full most of the time)	Rabi Water Availability (range = no water available in canal to 5 = canal full most of the time))
Position of plot on watercourse		
Head & fully lined	-0.62484 (0.48916)	-0.73810 (0.53316)
Head & partly lined near head	-0.22708 (0.48850)	-0.82304 (0.56091)
Head & partly lined elsewhere	-0.70523 (0.54023)	-0.39755 (0.52692)
Head & unlined	0.12794 (0.41118)	-1.17306 (0.45422)*
Middle & fully lined	-0.54724 (0.41393)	-0.86614 (0.46510)
Middle & partly lined near head	0.05384 (0.41844)	-0.42574 (0.50158)
Middle & partly lined elsewhere	-0.31636 (0.43388)	-0.92822 (0.48874)
Middle & unlined	0.20322 (0.40650)	-1.25127 (0.45006)**
Tail & fully lined	-0.75462 (0.42385)	-1.06841 (0.47732)*
Tail & partly lined near head	-0.59491 (0.43397)	-1.09500 (0.50475)*
Tail & partly lined elsewhere	-0.38160 (0.42361)	-1.43751 (0.48551)**
Tail & unlined	-0.16142 (0.40546)	-1.39974 (0.44855)**
Position of watercourse on distributary		
Head (omitted category)		
Middle	-0.11997 (0.10968)	-0.70004 (0.13069)**
Tail	-0.20220 (0.12351)	-0.46245 (0.14705)**
Payment to irrigation officials (yes/no)	0.31290 (0.10707)**	0.34023 (0.14312)*
Village Land Inequality	-0.03312 (0.00477)**	-0.00306 (0.00559)
Average Holdings of the 3 largest landowners on the watercourse	0.00007 (0.00003)*	0.00011 (0.00003)**
Constant	3.80574 (0.40419)**	3.78361 (0.44573)**

Notes: Robust standard errors in parentheses. Single and double asterisk denote statistical significance at 0.05 and 0.01 levels respectively

Table A-4.2: Determinants Of Participation By Cultivators On A Watercourse

	Percentage of farmers who usually participate in the maintenance and improvement of the watercourse	Existence of a Water User's Group (Yes/No)
Kharif Water Availability (range = no water available in canal to 5 = canal full most of the time)	-0.05890 (0.80552)	
Rabi Water Availability (range = no water available in canal to 5 = canal full most of the time)	4.90078 (0.59323)***	
Average Holdings of 3 largest landowners on watercourse	0.00339 (0.00087)***	0.00000 (0.00002)
Proportion of cultivators in the watercourse who have arrived in the past two years	0.01608 (0.00698)**	-0.00003 (0.00004)
Politician (Dummy variable which equals 1 if there is any politician who has land on the watercourse)	5.09079 (2.26952)**	-0.11892 (0.02778)***
Village land inequality	-5.14502 (6.09588)	-0.13344 (0.06339)**
Proportion of cultivators in the watercourse who are landless tenants	-0.00232 (0.00187)	-0.00008 (0.00003)***
The number of zaat/biradaris (caste/tribe groups) among cultivators on the watercourse	-0.00772 (0.01143)	-0.00003 (0.00005)
Constant	69.94591 (7.57920)***	0.41414 (0.07924)***

Notes: Robust standard errors in parentheses. Single and double asterisk denote statistical significance at 0.05 and 0.01 levels respectively

Table A-4.3: Determinants of plot-level farm productivity

	Log net revenue per acre *kharif* 2000	**Log rice yield *kharif* 2000**	**Log net revenue per acre *rabi* 2000**	**Log wheat yield *rabi* 2000**
Household characteristics				
Log of total household operated area	-0.219 (0.044)**	-0.129 (0.054)*	-0.375 (0.057)**	-0.100 (0.034)**
Tractor Ownership (yes/no)	0.317 (0.136)*	0.183 (0.170)	0.177 (0.219)	-0.011 (0.111)
Tubewell Ownership (yes/no)	0.242 (0.126)	0.076 (0.130)	0.828 (0.218)**	0.303 (0.078)**
Number of adult males (age 14-59)	0.020 (0.032)	-0.026 (0.028)	0.038 (0.039)	-0.012 (0.027)
Number of adult males (age 14-59)	-0.021 (0.031)	0.042 (0.027)	0.063 (0.043)	0.037 (0.029)
Plot characteristics				
Canal water availability (range 0 = no canal to 5 = full canal most of season)	0.135 (0.034)**	0.104 (0.033)**	0.102 (0.044)*	0.154 (0.034)**
Tubewell w/good quality water (omitted category)				
Tubewell w/brackish water available	-0.329 (0.114)**	-0.040 (0.112)	-0.214 (0.212)	-0.197 (0.085)*
No tubewell available	-0.614 (0.133)**	-0.366 (0.142)*	-1.070 (0.172)**	-0.821 (0.109)**
Clay soil (omitted category)				
Sandy soil	-0.078 (0.172)	0.000 (0.113)	-0.799 (0.218)**	-0.235 (0.118)*
Maira soil	0.259 (0.168)	-0.068 (0.150)	-0.542 (0.170)**	-0.138 (0.110)
Chikni soil	0.000 (0.159)	-0.024 (0.107)	-0.679 (0.191)**	-0.097 (0.125)
Sloping topography (omitted category)				
Flat topography	0.412 (0.108)**	0.133 (0.096)	0.574 (0.173)**	0.465 (0.119)**
Waterlogging/salinity (% area affected)	-0.011 (0.003)**	-0.006 (0.002)**	-0.012 (0.004)**	-0.0025 (0.0014)

Notes: Robust standard errors adjusted for village-level clustering in parentheses. Single and double asterisk denote statistical significance at 0.05 and 0.01 levels, respectively.

Figure A-4.1: Type of Major Investment undertaken to combat waterlogging and salinity

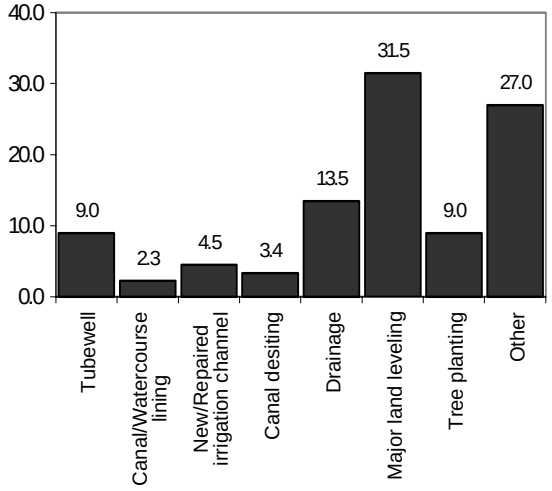

Figure A-4.2: Regular farm level measures to reduce salinity and sodicity

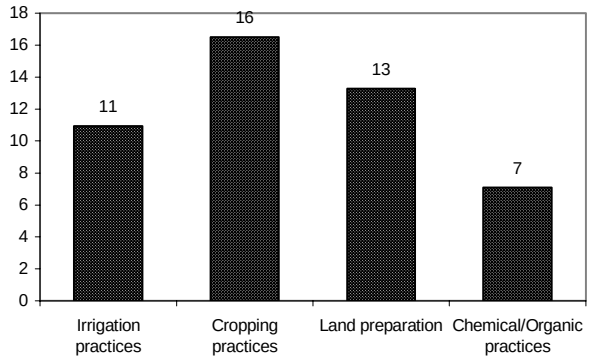

Figure A-4.3: Relationship between Owned and Cultivated Area