

APPENDIX I

A. Dictionary of Variables and Their Arithmetic Means Per Farm for Wheat in Different Zones, Punjab, 1977-78 to 1979-80

Variables	Zones			All Zones
	I	II	III	
Output (qtl.)	138	207	178	173
Human labour (hrs.)	1916	2732	2726	2416
Bullock labour (pair hrs.)	209	238	195	215
Fertilizer* (kg.)	733	1118	1045	950
Output price (Rs./qtl.)	114	115	116	115
Wages (Rs./hr.)	1.06	1.08	1.14	1.09
Fertilizer Price (Rs./kg.)	3.46	3.28	3.26	3.35
Bullock Labour Price (Rs./pair hr.)	3.02	2.73	2.65	2.82
Irrigation expenditure (Rs.)	289	544	610	464
Capital expenditure (Rs.)	3919	6010	4927	4914
Land under crop (ha.)	4.56	6.23	6.08	5.55
Number of observations	227	204	158	589

* Total plant nutrients ($N+P_2O_5+K_2O$)

APPENDIX I

B. Dictionary of Variables and Their Arithmetic Means Per Farm for Paddy in Different Zones, Punjab, 1977-78 to 1979-80

Variables	Zones			All Zones
	I	II	III	
Output (qtl.)	198	146	119	166
Human labour (hrs.)	3106	2360	2755	2757
Bullock labour (pair hrs.)	170	67	69	114
Fertilizer* (kg.)	712	623	622	663
Output price (Rs./qtl.)	91	96	104	94
Wages (Rs./hr.)	1.06	1.13	1.11	1.03
Fertilizer Price (Rs./kg.)	3.22	3.26	3.58	3.29
Bullock Labour Price (Rs./pair hr.)	3.06	2.98	3.03	2.86
Irrigation expenditure (Rs.)	851	758	815	809
Capital expenditure (Rs.)	3253	2330	213	2723
Land under crop (h.)	3.90	2.41	2.71	3.13
Number of observations	172	151	54	377

* Total plant nutrients ($N+P_2O_5+K_2O$)

APPENDIX I

C. Dictionary of Variables and Their Arithmetic Means Per Farm for Cotton and Gram, Punjab, 1977-78 to 1979-80

Variables	Cotton	Gram
Output (qtl.)	28	8
Human labour (hrs.)	2019	293
Bullock labour (pair hrs.)	106	68
Fertilizer* (kg)	197	1
Output price (Rs./qtl.)	303	196
Wages (Rs./hr.)	1.27	1.00
Fertilizer Price (Rs./kg.)	3.42	3.61
Bullock labour price (Rs./pair hr.)	3.78	2.93
Irrigation expenditure (Rs.)	185	27
Capital expenditure (Rs.)	1885	517
Land under crop (ha.)	2.50	0.90
Number of observations	368	122

* Total plant nutrients ($N+P_2O_5+K_2O$)

Functions	Intercept	Wage rate	Fertilizer price	Bullock price	Irrigation expenditure	Capital expenditure	Land
		q_1	q_2	q_3	z_1	z_2	z_3
Human Labour Demand	1035.72* (192.77)	-65848.90 [•] (15821.74)	1582.20 (2598.67)	-2469.77 (2731.65)	1.13* (0.19)	0.014 (0.02)	246.9 (28.0)
Fertilizer Demand	17.80 (101.41)	6655.51 (8323.31)	-5252.6* (1367.07)	26.35 (1437.03)	0.21** (0.10)	0.037* (0.01)	132.2 (14.7)
Bullock Labour Demand	305.17* (40.70)	-4476.51 (3340.77)	167.77 (548.71)	-1811.75 [•] (576.88)	0.021 (0.041)	-0.045* (0.005)	35.6 (5.91)
NQ Profit Function	37.75 (56.19)	-3461.61 (5314.82)	-1667.85 (2029.80)	-2325.74 (1520.96)	0.232** (0.127)	0.008 (0.014)	15.2 (16.2)
		$\frac{1}{2}q_1^2$	$\frac{1}{2}q_2^2$	$\frac{1}{2}q_3^2$	q_1q_2	q_1q_3	q_2q_3
		-101618.0 (126777.2)	2298.85 (3913.40)	-1290.85 (5288.88)	128902.20 (186070.20)	166415.8 (106408.7)	37051 (34904)
		q_1z_1	q_1z_2	q_1z_3	q_2z_1	q_2z_2	q_2z_3
		0.8679 (6.629)	0.284 (0.9290)	-1168.65 (1032.21)	-4.889 (3.005)	-.122 (0.327)	294. (362.5)
		q_3q_1	q_3z_2	q_3z_3	z_1^2	z_2^2	z_3^2
		-1.989 (1.0553)	-.022 (0.09)	59.709 (102.95)	0.00007* (0.00002)	-.0000002 (.0000004)	1.2 (0.5)
		z_1z_2	z_1z_3	z_2z_3			
		0.00002* (0.000006)	-.035* (0.007)	-.0006 (0.0007)			

Note: Asymptotic standard errors in parentheses

* Significant at 1 per cent level; ** Significant at 5 per cent level

Functions	Intercept	Wage rate	Fertilizer price	Bullock price	Irrigation expenditure	Capital expenditure	Land
		q_1	q_2	q_3	z_1	z_2	z_3
Human Labour Demand	1978.749* (451.058)	-143124.00** (23639.37)	5837.49 (11897.62)	5384.25 (6719.73)	0.4876 (0.174)	-.1580 (0.032)	402.2 (36.6)
Fertilizer Demand	1296.21* (217.82)	-16666.70 (11415.97)	-29815.00* (3244.94)	-3756.92 (3244.94)	0.0014 (0.0842)	0.047* (0.015)	149.0 (17.6)
Bullock Labour Demand	598.99* (124.42)	22854.10* (6520.66)	1754.07 (3281.83)	-7110.65* (1853.46)	0.0350 (0.053)	-.0410* (0.008)	32.9 (10.1)
NO Profit Function	-172.21 (116.56)	1451.21 (10415.8)	2924.20 (4420.00)	5652.09 (2859.95)	0.017 (0.078)	0.016 (0.014)	3.9 (17.4)
		$\frac{1}{2}q_1^2$	$\frac{1}{2}q_2^2$	$\frac{1}{2}q_3^2$	q_1q_2	q_1q_3	q_2q_3
		-259241.00 (218763.40)	-42793.30 (40506.14)	-62325.00* (21900.91)	-90652.70 (267959.20)	43360.42 (129006.40)	149833. (85117.)
		q_1z_1	q_1z_2	q_1z_3	q_2z_1	q_2z_2	q_2z_3
		7.667. (4.376)	-0.4140 (0.723)	364.03 (833.93)	-2.84 (2.28)	-.070 (0.382)	50.9 (496.1)
		q_3z_1	q_3z_2	q_3z_3	z_1^2	z_2^2	z_3^2
		1.253 (0.884)	-.160 (0.220)	416.496 (250.842)	-.00002** (.00001)	0.0000005 (0.0000005)	1.2 (0.6)
		z_1z_2	z_1z_3	z_2z_3			
		-.0000007 (.000005)	0.0008 (0.006)	-0.002** (0.001)			

Note: Asymptotic standard errors in parentheses

* Significant at 1 per cent level

** Significant at 5 per cent level

Function	Intercept	Wage rate	Fertilizer	Bullock price	Irrigation expenditure	Capital expenditure	Land
		q_1	q_2	q_3	z_1	z_2	z_3
Human Labour Demand	2082.32 ⁺ (442.95)	-133529.0* (32369.1)	9528.19 (9809.46)	-8459.0 (7230.4)	0.3203** (0.1612)	.0099 (0.033)	249.56* (32.64)
Fertilizer Demand	947.287* (202.302)	-29194.5** (14783.1)	-24569.6* (4480.0)	1569.88 (7302.16)	0.0448 (0.073)	0.026 (0.015)	145.66* (14.91)
Bullock Labour Demand	330.089* (84.37)	-3240.6 (6165.6)	703.23 (1868.59)	-4330.82* (1377.23)	-.021 (0.030)	-.036* (0.006)	27.72* (6.22)
NO Profit Function	-81.06 (114.76)	7518.06 (11515.01)	-847.85 (4071.92)	3862.28 (3146.83)	-.051 (0.061)	0.0045 (0.0131)	24.48 (15.03)
		$\frac{1}{2}q_1^2$	$\frac{1}{2}q_2^2$	$\frac{1}{2}q_3^2$	q_1q_2	q_1q_3	q_2q_3
		-589266.00 (508889.20)	2247.02 (28919.32)	-24727.7 (29290.6)	213437.60 (268147.00)	-123332.00 (197479.20)	-26914.20 (86745.52)
		q_1z_1	q_2z_2	q_1z_3	q_2z_1	q_2z_2	q_2z_3
		-.5927 (0.3679)	-.403 (0.8450)	183.16 (1055.54)	0.4680 (1.66)	0.0920 (0.3190)	-242.763 (365.47)
		q_3z_1	q_3z_2	q_3z_3	z_1^2	z_2^2	z_3^2
		1.49 (0.9850)	-.0422 (0.2050)	-99.63 (183.27)	0.000025 (0.000014)	4.25 (5.31)	0.5280 (0.4600)
		z_1z_2	z_1z_3	z_2z_3			
		0.0000007 (0.000004)	-.0060 (0.0040)	-.0005 (.0010)			

Note: Asymptotic standard errors in parentheses

* Significant at 1 per cent level

** Significant at 5 per cent level

Function	Intercept	Wage rate	Fertilizer price	Bullock price	Irrigation expenditure	Capital expenditure	Land
		q_1	q_2	q_3	z_1	z_2	z_3
Human Labour Demand	767.41 (393.70)	-45903.80 (30541.70)	9748.87 (8798.04)	-429.05 (3334.62 ²)	0.3030* (0.1250)	-0.0604 (0.0358)	636.29* (43.16)
Fertilizer Demand	151.82 (125.58)	16515.56 (9741.93)	-12852.8* (2806.31)	1334.30 (1063.64)	0.1215* (0.0400)	-.0060 (0.0110)	177.99* (13.76)
Bullock Labour Demand	257.68* (57.42)	-6375.61 (4455.26)	294.74 (1283.47)	-1398.14* (486.42)	0.0170 (0.0180)	-.0263* (0.0052)	24.09* (6.29)
NO Profit Function	-162.07** (76.18)	10764.03 (8761.26)	5681.46** (2568.32)	183.39 (1337.97)	0.0094 (0.0500)	0.0232 (0.0170)	13.12 (16.44)
		$\frac{1}{2}q_1^2$	$\frac{1}{2}q_2^2$	$\frac{1}{2}q_3^2$	q_1q_2	q_1q_3	q_2q_3
		119253.10 [†] (36758.60)	-42882.80 (35695.50)	-2344.07 (3842.77)	-251712.00 (182775.50)	-63462.50 (130929.10)	7003.20 (33452.30)
		q_1z_1	q_1z_2	q_1z_3	q_2z_1	q_2z_2	q_2z_3
		-6.97** (3.4512)	-.8280 (0.7700)	3267.34 (1160.42)	2.59* (1.00)	0.1860 (0.3509)	-830.25** (384.31)
		q_3z_1	q_3z_2	q_3z_3	z_1^2	z_2^2	z_3^2
		0.4010 (0.2930)	-.9016* (0.1340)	821.99* (170.16)	0.0000002 (0.0000008)	0.0000003 (0.0000004)	0.8040 (0.4710)
		z_1z_2	z_1z_3	z_2z_3			
		-.00001 (0.00002)	-.0020 (0.0040)	0.0010 (0.0010)			

Note: Asymptotic standard errors in parentheses

* Significant at 1 per cent level

** Significant at 5 per cent level

Function	Intercept	Wage rate	Fertilizer price	Bullock price	Irrigation expenditure	Capital expenditure	Land
		q_1	q_2	q_3	z_1	z_2	z_3
Human Labour Demand	666.68 (289.89)	-50674.60** (24203.45)	-283.88 (5147.89)	7187.03 (4651.63)	0.5040* (0.1100)	-.0890 (0.0700)	791.62* (83.80)
Fertilizer Demand	226.74 (144.39)	202691.00 (12055.74)	-15510.40* (2564.16)	3016.81 (2316.98)	0.2372* (0.0580)	-.0384 (0.0330)	208.72* (41.74)
Bullock Demand	109.70* (29.13)	-82.91 (2432.32)	198.10 (517.33)	-1125.63** (467.46)	0.0098 (0.0110)	-.0085 (0.0070)	-.481 (0.4220)
NQ Profit Function	-36.46 (33.85)	-2496.64 (6346.87)	1678.96 (1534.90)	1154.26 (1744.27)	0.0053 0.0480	-.0320 (0.0200)	46.96 (27.85)
		$\frac{1}{2}q_1^2$	$\frac{1}{2}q_2^2$	$\frac{1}{2}q_3^2$	q_1q_2	q_1q_3	q_2q_3
		132584.40 (425421.40)	-27511.1** (12226.46)	4607.25 (9369.86)	-16815.50 (131859.60)	-52749.20 (126765.70)	3294.8 (24969.0)
		q_1z_1	q_1z_2	q_1z_3	q_2z_1	q_2z_2	q_3z_3
		8.47** (3.56)	1.91 (1.77)	-3200.35 (2059.73)	-1.67** (0.74)	0.0940 (0.44)	1018.3 (549.3)
		q_3z_1	q_3z_2	q_3z_3	z_1^2	z_2^2	z_3^2
		-0.5731 (0.94)	0.1740 (0.448)	-246.66 (458.50)	-.00001* (0.000004)	-.000006** (0.0000025)	-11.41* (4.68)
		z_1z_2	z_1z_3	z_2z_3			
		-0.000009 (0.000008)	0.0190 (0.0094)	0.016* (0.0060)			

Note: Asymptotic standard errors in parentheses

* Significant at 1 per cent level

** Significant at 5 per cent level

Function	Intercept	Wage rate	Fertilizer price	Bullock price	Irrigation expenditure	Capital expenditure	Land
		q_1	q_2	q_3	z_1	z_2	z_3
Human Labour Demand	1094.47 (567.69)	-18617.20 (54819.37)	-2400.18 (8597.68)	-8659.18 (13555.82)	0.5274** (0.2266)	0.3410** (0.1331)	382.73* (133.28)
Fertilizer Demand	-253.65 (204.18)	55716.80* (20439.91)	-6276.84** (3092.88)	-4556.61 (4876.59)	0.2340* (0.0811)	0.0540 (0.0470)	118.37** (47.94)
Bullock Labour Demand	201.88 (36.59)	-1109.59 (3663.39)	-1136.42** (554.33)	-2602.62* (874.00)	-.0187 (0.0145)	-.0378* (0.0085)	33.51* (8.59)
NO Profit Function	-59.78 (54.13)	670.31 (14690.63)	2622.97 (2949.11)	206.86 (3949.23)	0.0860 (0.0870)	0.030 (0.0480)	-7.38 (40.78)
		q_1^2	q_2^2	q_3^2	q_1q_2	q_1q_3	q_2q_3
		461951.20 (627544.30)	-1699.42 (9891.02)	30449.81 (57064.72)	-1619.26 (2099.27)	-192502.00 (372348.50)	-8850.2 (56365.9)
		q_1z_1	q_1z_2	q_1z_3	q_2z_1	q_2z_2	q_2z_3
		2.32 (11.02)	7.37 (4.51)	-6299.25 (4379.14)	-2.43 (1.71)	0.1900 (1.24)	688.3 (1274.0)
		q_3z_1	q_3z_2	q_3z_3	z_1^2	z_2^2	z_3^2
		-0.081 (1.85)	-2.85 (1.28)	1808.04 (1095.70)	-.00001 (0.00001)	-.000002 (0.000006)	2.7 (8.1)
		z_1z_2	z_1z_3	z_2z_3			
		0.00001 (0.00001)	-.0078 (0.0190)	-0.0036 (0.0140)			

Note: Asymptotic standard errors in parentheses

* Significant at 1 per cent level

** Significant at 5 per cent level

Function	Intercept	Wage rate	Fertilizer price	Bullock price	Irrigation expenditure	Capital expenditure	Land
		q_1	q_2	q_3	z_1	z_2	z_3
Human Labour Demand	33.35 (97.34)	16792.56 (21737.54)	5733.17 (9085.51)	-7404.37 (8532.98)	0.3003 (0.1540)	-.0800** (0.030)	814.82* (29.88)
Fertilizer Demand	110.03* (29.02)	1402.38 (6482.86)	-12973.20* (2709.60)	2393.21 (2544.22)	0.1003** (0.0461)	0.0270* (0.0099)	50.50* (8.91)
Bullock Labour Demand	45.10* (12.99)	12592.65* (2902.63)	1545.49 (1213.19)	-4940.14* (1139.41)	0.0240 (0.0206)	0.0260* (0.0004)	39.09* (3.99)
NO Profit Function	-3.77 (3.84)	393.38 (1509.28)	-52.12 (351.27)	143.42 (349.51)	0.0482* (0.0103)	0.0050** (0.0022)	3.08 (2.14)
		q_1^2	q_2^2	q_3^2	q_1q_2	q_1q_3	q_2q_3
		-74453.90 (117423.40)	-17559.90 (24757.84)	-6796.69 (8618.96)	116375.30 (121213.70)	16795.34 (71372.51)	7260.86 (28423.20)
		q_1z_1	q_1z_2	q_1z_3	q_2z_1	q_2z_2	q_2z_3
		-1.48 (3.09)	0.5164 (0.4858)	-806.99 (576.37)	-.0430 (0.0887)	-.3312** (0.1299)	132.16 (149.91)
		q_3z_1	q_3z_2	q_3z_3	z_1^2	z_2^2	z_3^2
		-2.37* (0.7811)	0.00015 (0.1150)	28.72 (97.42)	-.000003 (0.000003)	-.0000004* (0.00000003)	-0.07 (0.08)
		z_1z_2	z_1z_3	z_2z_3			
		0.000004* (0.000001)	-.0044* (0.0015)	0.00072* (0.0001)			

Note: Asymptotic standard errors in parentheses

* Significant at 1 per cent level

** Significant at 5 per cent level

Function	Intercept	Wage rate	Fertilizer price	Bullock price	Irrigation expenditure	Capital expenditure	Total
		q_1	q_2	q_3	z_1	z_2	z_3
Human Labour Demand	-67.49 (77.50)	-20334.40 (15636.58)	6670.61 (5739.28)	2802.10 (2253.25)	0.2524 (0.2508)	0.0165 (0.0430)	317.33* (25.74)
Fertilizer Demand	5.07** (2.21)	-426.64 (446.38)	-78.47 (163.81)	19.50 (64.32)	0.0042 (0.0071)	-.0009 (0.0012)	-.070 (0.735)
Bullock Labour Demand	-22.92 (27.01)	-11396.80** (5449.90)	5242.39* (2000.34)	58.45 (785.31)	-.0760* (0.0870)	-.0510* (0.0152)	95.87* (8.97)
NO Profit Function	88.38** (34.69)	11565.43 (9388.17)	-11502.10** (4831.23)	-1421.50 (1288.81)	-.5332 (0.2891)	0.0062 (0.0300)	2.24 (17.76)
		$\frac{1}{2}q_1^2$	$\frac{1}{2}q_2^2$	$\frac{1}{2}q_3^2$	q_1q_2	q_1q_3	q_2q_3
		-15776.20 (963861.10)	348072.40 (182894.60)	11102.96 (20972.20)	-50478.40 (669774.10)	-38316.60 (260040.90)	42802.51 (93532.40)
		q_1z_1	q_1z_2	q_1z_3	q_2z_1	q_2z_2	q_2z_3
		-43.93 (54.66)	6.86 (6.98)	-3631.67 (4177.10)	25.76 (16.57)	-2.24 (2.31)	1020.44 (1123.38)
		q_3z_1	q_3z_2	q_3z_3	z_1^2	z_2^2	z_3^2
		14.38 (10.26)	0.4370 (0.5600)	62.47 (477.75)	0.00009 (0.0004)	-.00001 (0.000008)	-2.86 (2.98)
		z_1z_2	z_1z_3	z_2z_3			
		0.00008 (0.0002)	-.0205 (0.1370)	0.0125 (0.0091)			

Note: Asymptotic standard errors in parentheses

• Significant at 1 per cent level

** Significant at 5 per cent level

	Price of wheat	Price of human labour	Price of fertilizer	Price of bullock labour	Irrigation expenditure	Capital expendi- ture	Land	Weight of the zone in total supply and demand
<u>Zone I</u>								
Wheat supply	0.0670	-.0371	-.0180	-.0122	0.0280	0.1539	0.5870	0.30
Human labour	0.2867	-.2801	0.0395	-.0419	0.1699	0.3070	0.5887	0.30
Fertilizer	0.1180	0.0317	-.1550	0.0115	0.0900	0.1920	0.8151	0.30
Bullock labour	0.3056	-.1350	0.0462	-.2166	0.0296	-.8177	0.7824	0.37
<u>Zone II</u>								
Wheat supply	0.2624	-.0598	-.1642	-.0384	0.0219	0.0081	0.6276	0.42
Human labour	0.4774	-.3409	-.0589	-.0755	0.1167	-.2879	0.8432	0.39
Fertilizer	1.0610	-.0477	-.9764	-.0368	-.0060	0.2338	0.8353	0.41
Bullock labour	1.4001	-.3536	-.2078	-.8387	0.1021	-.9484	0.7145	0.38
<u>Zone III</u>								
Wheat supply	0.1307	-.0597	-.0999	-.0210	-.1039	0.0381	0.6614	0.28
Human labour	0.3953	-.3528	0.0249	-.0679	0.0622	0.0171	0.6113	0.31
Fertilizer	0.6031	0.0227	-.6300	-.0060	0.0061	0.1250	0.9538	0.29
Bullock labour	0.8397	0.4103	0.0399	-.4706	-.0585	-.9342	0.8795	0.25

Factor Demand for Paddy in Different Zones, Punjab,
1977-78 to 1979-80

	Price of paddy	Price of human labour	Price of fertilizer	Price of bullock labour	Irrigation expenditure	Capital expendi- ture	Land	Weight the zon in tota supply demand
<u>Zone I</u>								
Paddy supply	0.1245	-.0523	-.0612	-.0110	0.0933	0.0960	0.5997	0.54
Human Labour	0.2846	-.3671	0.1215	-.0358	0.0934	-.0512	0.7877	0.52
Fertilizer	0.4802	0.1751	-.6858	0.0304	0.1514	-.0256	0.9736	0.49
Bullock labour	0.3825	-.2285	0.1346	-.2886	0.0713	-.4682	0.5084	0.67
<u>Zone II</u>								
Paddy supply	0.1353	-.0438	-.0907	-.0008	0.2295	0.3860	1.3629	0.35
Human labour	0.2286	-.3275	0.0753	0.0235	0.0769	-.0390	0.2122	0.34
Fertilizer	0.6244	0.0994	-.7439	0.0202	0.2917	-.1478	0.8046	0.38
Bullock labour	0.0569	0.3189	0.2070	-.5829	0.1185	-.2976	-.0508	0.24
<u>Zone III</u>								
Paddy supply	0.1643	-.1092	-.0257	-.0294	0.3694	0.4599	0.0855	0.11
Human labour	0.4422	-.5442	0.1084	-.0063	0.2323	0.2306	0.3246	0.14
Fertilizer	0.1430	0.1489	-.2399	-.0519	0.4340	0.1363	0.4100	0.13
Bullock labour	1.7352	-.0924	-.5506	-1.0921	-.2187	-1.1643	1.3083	0.09

APPENDIX III

C. Weighted Elasticity Estimates for Output Supply
and Factor Demand for Wheat, Punjab, 1977-78 to
1979-80

	Price of wheat	Price of human labour	Price of fertilizer	Price of bullock labour	Irrigation expenditure	Capital expendi- ture	Land
Wheat supply	0.1809	-0.530	-.1023	-.0256	-.0115	0.0602	0.6248
Human labour	0.3949	-.3255	-.0063	-.0631	0.1157	-.0978	0.6950
Fertilizer	0.6453	-.0035	-.6319	-.0099	0.0285	0.1897	0.8346
Bullock labour	0.8550	-.2869	-.0519	-.5162	0.0351	-.9054	0.7809

D. Weighted Elasticity Estimates for Output Supply and Factor Demand for Paddy, Punjab, 1977-78 to 1979-80

	Price of paddy	Price of human labour	Price of fertilizer	Price of bullock labour	Irrigation expenditure	Capital expenditure	Land
Paddy supply	0.1326	-0.0556	-0.0676	-0.0094	0.1604	0.2375	0.8102
Human labour	0.2870	-0.3794	0.1039	-0.0115	0.1072	-0.0076	0.5272
Fertilizer	0.4912	0.1433	-0.6499	0.0158	0.2414	-0.0510	0.8361
Bullock labour	0.4261	-0.0749	0.0903	-0.4315	0.0565	-0.4899	0.4462

E. Elasticity Estimates for Output Supply and Factor Demands
for Cotton, Punjab, 1977-78 to 1979-80

	Price of cotton	Price of human labour	Price of fertilizer	Price of bullock labour	Irrigation expenditure	Capital expendi- ture	Land
Cotton supply	0.0081	0.0061	-.0132	-.0010	0.1309	0.2247	0.636
Human labour	-.0201	-.0033	0.0182	0.0051	0.0286	-.0806	1.01
Fertilizer	0.1668	0.0693	-.2204	0.0157	0.1070	0.2998	0.60
Bullock labour	0.0216	0.0332	0.0265	-.0283	0.0444	-.4961	0.96

F. Weighted Elasticity Estimates for Output Supply and Factor Demand for Gram, Punjab, 1977-78 to 1979-80

	Price of gram	Price of human labour	Price of fertilizer	Price of bullock labour	Irrigation expenditure	Capital expenditure	Land
Gram supply	-0.0148	0.0157	-0.0078	-0.0153	-0.2698	0.5421	0.5007
Human labour	-0.0401	-0.0220	-0.0026	0.0888	0.0292	0.0343	0.9491
Fertilizer	2.6101	-1.608	-1.292	0.2902	0.0856	-0.3780	-0.0004
Bullock labour	-0.1210	0.1298	0.0069	-0.0157	-0.0937	-0.4064	1.236