
APPENDIX

STUDY ON CHARACTERISTICS OF IMPROVED FARM PRACTICES AS RELATED
RATE AND EXTENT OF ADOPTION.

APPENDIX A.

VillageName of the respondent.....
 Age.....Education.....Total cultivated area
source of irrigation.....Total
 area under irrigation.....area under wheat.....
 (i) irrigated.....(ii) baraniTotal.....

Schedule I

Items	Dwarf wheat	Potato	Nitrogenous fertiliser	Diam-Compo phos	Compo -st or FYM	Seed treat ment	Thre- sher
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Whether respondent
has potentiality
to adopt

Whether respondent
added

Schedule II

Years	Dwarf wheat	Potato	Nitro- genous ferti- liser	Diam- phos	Compost OF F.Y.M.	Seed treatment	Thresher
	e P	e P	e P	e P	e P	e P	e P

1969-70
 1968-69
 1967-68
 1966-67
 1965-66

e = extent of adoption; P= potentiality to adopt

APPENDIX BSocio-Economic Status Schedule.

<u>1. LAND</u>	<u>SCORE</u>
No land	0
Below 1 hectare	1
Upto 2 hectares	2
unpto 4 hectares	3
Upto 6 hectares	4
6 hectares and above	5
<u>2. HOUSE</u>	
One house	1
Godown	2
Cattle shed	3
Others	4
<u>3. TYPE OF HOUSE</u>	
Kachcha	1
Mixed	2
Pucca	3
<u>5. MATERIAL POSSESSION</u>	
Bullock cart	1
Cycle	1
Radio	1
Furnitures	1
Improved agricultural implements	2
<u>4. FARM POWER</u>	
Bullock nil	0
One to 2 bullocks	2
3 to 4 bullocke	4
Tractor	6

5. <u>MILCH ANIMALS</u>	<u>SCORE</u>
Nil	0
One	1
Two	2
Three	4
More than 3	6
6. <u>OCCUPATION</u>	
Labourer	1
Caste and occupation	2
Business	3
Independent profession	4
Cultivation	5
Service	6
7. <u>FAMILY</u>	
(A) <u>Type</u>	
Joint	1
Single	2
(B) <u>Size</u>	
Upto 5 members	1
Above 5 members	2
(C) <u>Type (Distinguishing features)</u>	
Family members in Service	2
Income from other sources than agriculture	2
Any other matter	2
8. <u>EDUCATION</u>	
Illiterate	0
Can read only	1
Can read and write	2
Primary	3
Middle	4

	<u>SCORE</u>
High School	5
Above High School	6
9. <u>SOCIAL PARTICIPATION</u>	
Non-membership of any organisation	0
Membership of one organisation	1
Membership of more than 1 organisation	2
Office holder	3
Distinctive feature	6
10. <u>CASTE</u>	
Chamar, Bhangi, Dom etc.	1
Lehar, Tailor, Nai, Dhobi, Sonar, Ahir Kumhar	3
Brahmin, Thakur, Bania	5

APPENDIX C

Paired comparison technique schedule

1. Suppose you want some information about improved farm practices please indicate from which one of these two characteristics you will prefer to adopt the improved agricultural practices? (Repeat the question before reading out each of the pairs).

- | | |
|-------------------------------|-------------------------------|
| 1. (a) Cost of the innovation | 6. (a) Simplicity-complexity |
| (b) Simplicity-complexity | (b) Profitability |
| 2. (a) Physical compatibility | 7. (a) Communicability |
| (b) Profitability | (b) Divisibility |
| 3. (a) Communicability | 8. (a) Cultural compatibility |
| (b) Cultural compatibility | (b) durability |
| 4. (a) Divisibility | 9. (a) Cost of the innovation |
| (b) Durability | (b) Profitability |
| 5. (a) Cost of the innovation | 10. (a) Simplicity-complexity |
| (b) Physical compatibility | (b) Durability |

- | | |
|--------------------------------|-------------------------------|
| 11. (a) Communicability | 20.(a) Simplicity-complexity |
| (b) Durability | (b) Physical compatibility |
| 12. (a) Physical compatibility | 21 (a) Cost of the innovation |
| (b) Cultural compatibility | (b) Durability |
| 13. (a) Cost of the innovation | 22 (a) Communicability |
| (b) Divisibility | (b) Simplicity-complexity |
| 14. (a) Profitability | 23 (a) Divisibility |
| (b) Communicability | (b) Physical compatibility |
| 15. (a) Simplicity-complexity | 24 (a) Cultural compatibility |
| (b) Cultural compatibility | (b) Profitability |
| 16. (a) Durability | 25.(a) Cost of the innovation |
| (b) Physical compatibility | (b) Cultural compatibility |
| 17. (a) Cost of the innovation | 26.(a) Durability |
| (b) Communicability | (b) Simplicity-complexity |
| 18. (a) Divisibility | 27 (a) Communicability |
| (b) Cultural Compatibility | (b) Physical compatibility |
| 19.(a) Profitability | 28 (a) Profitability |
| (b) Durability | (b) Divisibility |

APPENDIX D

Characteristics of innovations Schedule

1. Cost of the innovation:

Let us now consider the cost of the innovation. By cost we mean the initial purchase value plus the other necessary expenditures required to put the innovation into operations. What do you think about the following practices in the respect of. Please give your opinion against each practice in the appropriate column.

Practices	Very low cost	Low cost	Neither low nor high cost	High cost	Very high cost
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1. Dwarf wheat
 2. Potato
 3. Nitrogenous fertiliser
 4. Diammonium phosphate
 5. Compost or P.Y.M.
 6. Seed treatment
 7. Thresher
-

2. Simplicity-complexity:

A good number of practices have been recommended to you for use of increase crop yield. Some of these may be easy to use as they involve simple changes. There are others which may be difficult to you as they require changes in skill operation etc. Taking these into consideration please give your opinion about each of the following practices regarding the extent to which they can be practiced with easy and or difficult?

Practices	Very easy to use	Easy to use	Neither easy nor difficult to use	Difficult to use	Very difficult to use
-----------	------------------	-------------	-----------------------------------	------------------	-----------------------

1. Dwarf wheat
 2. Potato
 3. Nitrogenous fertiliser
 4. Diamphos
 5. Compost or P.Y.M.
 6. Seed treatment
 7. Thresher
-

3. Physical compatibility:

Keeping in view the farming resources available at your disposal such as type of soil, human and bullock labour, sources of irrigation etc. To what extent do you consider the following practices suitable in your farming situation ?

Practices	Most suitable	Suitable	Somewhat suitable	Least suitable	Not suitable
-----------	---------------	----------	-------------------	----------------	--------------

1. Dwarf wheat
 2. Potato
 3. Nitrogenous fertiliser
 4. Diamophos
 5. Compost or F.Y.M.
 6. Seed treatment
 7. Thresher
-

4. Profitability:

By profitability we mean the additional gain in terms of yield and/or money which one gets in using an improved practice over local one in a bigha of land considering from this point of view, to what extent do you consider the following practices being profitable in your farming situation ? Please give your opinion against each practice in the col. you feel appropriate.

Practices	Most profitable	Profitable	Somewhat profitable	Least profitable	Not profitable
-----------	-----------------	------------	---------------------	------------------	----------------

1. Dwarf wheat
 2. Potato
 3. Nitrogenous fertiliser
 4. Diamophos
 5. Compost or F.Y.M.
 6. Seed treatment
 7. Thresher
-

5. Communicability:

There are some practices which show spectacular results i.e. their beneficial responses are more apparently variable and evaluable. For exp. BHC dusting against crop pests. On the other hand there are other practices whose results are not quite observable and evaluable. In the light of this consideration. Please give your opinion against practices in the Col. you feel appropriate.

Practices	Results most visible	Results visible	Results somewhat visible	Results least visible	Results not clearly visible.
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1. Dwarf wheat
 2. Potato
 3. Nitrogenous fertiliser
 4. Diamophos
 5. Compost or F.Y.M.
 6. Seed treatment
 7. Thresher
-

6. Cultural compatibility:

There are some practices which you may not consider compatible since they are not found in line with the existing beliefs and habits and exp. poultry farming, contrary to these there are others which fit in with our existing beliefs and habits. In the light of the above consideration, please rate the following practices giving their respective positions in the appropriate col.

Practices	Most compatible	Quite compatible	Compatible	Some what compatible	Least compatible
1. Dwarf wheat					
2. Potato					
3. Nitrogenous fertiliser					
4. Diamophos					
5. Compost or F.Y.M.					
6. Seed treatment					
7. Thresher					

7. Divisibility:

There are some practices which are divisible to use i.e. which can be divided into any small quantities and still be used. For experiment Jowar seed or single superphosphate on the contrary there are others which are not divisible i.e. which can not be used on a fractional basis. For example thresher or any improved implements. In the light of above

consideration what do you consider the following practices ?
Give your opinion against each practices.

Practices	Divisible to use	Not divisible to use
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1. Dwarf wheat
 2. Potato
 3. Nitrogenous fertiliser
 4. Diamophos
 5. Compost or F.Y.M.
 6. Seed treatment
 7. Thresher
-

8. Durability:

Let us now consider the durability of the innovation. By durability mean, whether or not the practices are most durable for future? For example wheat can be stored for more time as compared to potato. What do you think the following practices in respect of durability. Please give your opinion against each practices in the appropriate column.

Practices	Most durable	Durable	Somewhat durable	Least durable	Not durable
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1. Dwarf wheat
 2. Potato
 3. Nitrogenous fertiliser
 4. Diamophos
 5. Compost or F.Y.M.
 6. Seed treatment
 7. Thresher.
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Showing the progressiveness scores of sixteen villages with their Q-values for Kalyanpur block (Kanpur).

Name of the villages	Total p-scores N=28	Median p-scores	Q-values
<u>Progressive villages</u>			
*1. Chakarpur	467	16.64	2.02 (P)
2. Sachendi	462	16.00	2.50
*3. Bhalmau	453	16.00	2.17 (P)
4. Bhaunti	440	15.35	2.95
5. Jugrajpur	433	15.30	3.00
6. Dalip pur	425	15.00	2.18
7. Binaur	418	14.90	2.70
8. Bhamtikhera	357	12.75	3.05
<u>Non-progressive villages</u>			
9. Tikra	350	12.00	2.50
10. Bara Sirohi	279	9.90	2.64
11. Kursauli	273	9.64	2.46
12. Bahera	269	9.64	2.64
*13. Maksoodabad	258	9.21	2.11 (N.P.)
*14. Raikepur	248	8.83	2.34 (N.P.)
15. Nasenia	248	8.70	2.46
16. Kapali	245	8.66	2.90

* Finally selected villages.

(P) = Progressive villages

(N.P.) = Non-progressive villages.

APPENDIX F.

Showing the progressiveness scores of 12 villages with
their Q-values for Mahewa Block (Etawah)

Name of villages	Total p-scores N=25	Median p-scores	Q-values
<u>Progressive villages</u>			
* 1. Naudhana	427	16.87	2.73 (P)
2. Nasirpur Vogha	403	15.87	2.95
3. Mahewa	394	15.66	3.48
4. Bahera	381	15.57	3.83
5. Rahatpur	363	14.62	4.00
* 6. Sonversa	338	13.41	2.30 (P)
<u>Non-progressive villages</u>			
7. Ujhiyani	324	13.00	3.13
8. Baraukh	275	11.00	2.50
* 9. Parsauli	261	10.43	1.47 (N.P.)
10. Ramaupura	243	9.85	1.96
* 11. Dalipnagar	238	9.31	1.92 (N.P.)
12. Saranya Naudhana	222	8.80	2.63

* Finally selected villages

(P) = Progressive villages.

(N.P.) = Non-progressive villages.

MASTER TABLE

Raw frequency distribution of characteristics scores of improved farm practices

Characteristics	Score point on the scale	Frequencies							
		Dwarf wheat	Pota- to	Nitro- gen- ous ferti- liser	Diamo- phos	Compo- st or P.Y.M.	Seed treat ment	Thre- sher	
		1	2	3	4	5	6	6	7
1. Cost of the innovation	5		24	1	4	03	116	47	08
	4		27	30	33	10	62	108	38
	3		83	62	111	80	21	43	117
	2		65	72	52	92	1	1	37
	1		01	35	00	15	00	00	00
2. Simplicity-compl exity	5		106	17	72	34	91	77	80
	4		59	81	86	84	94	91	99
	3		33	53	30	56	15	30	20
	2		02	44	12	20	00	02	1
	1		00	5	00	06	00	00	00
3. Physical-compatibility	5		141	47	77	84	79	23	110
	4		14	84	87	60	106	110	76
	3		07	30	30	26	14	65	12
	2		35	37	06	26	1	02	02
	1		3	02	00	4	00	00	00
4. Profitability	5		141	49	95	76	135	18	98
	4		17	87	89	60	58	113	85
	3		27	25	14	27	7	64	15
	2		6	38	02	25	00	05	02
	1		9	1	0	02	00	00	00

Contd.

	1	2	3	4	5	6	6	7
5. Communicability	5	133	47	91	92	56	18	108
	4	34	85	88	53	103	107	78
	3	20	31	19	32	40	67	12
	2	04	36	02	23	1	07	02
	1	09	1	0	0	0	1	0
6. Cultural compatibility	5	146	38	53	70	87	17	116
	4	21	72	69	68	84	93	74
	3	08	52	70	34	29	86	09
	2	23	38	08	24	00	04	1
	1	02	00	00	4	00	00	00
7. Divisibility	2	200	200	200	200	200	200	-
	1	-	-	-	-	-	-	200
8. Durability	5	108	00	2	4	41	01	54
	4	37	00	44	60	36	33	111
	3	24	20	93	81	88	96	31
	2	24	99	58	48	35	70	04
	1	07	81	03	07	00	00	00

APPENDIX I

An example for the calculation of Adoption Quotient (A.Q.)

1. Name of village-Chakarpur
2. Name of respondent- Balram Singh
3. Improved farm practice: Dwarf wheat
4. Total land : 25 Bighas

Years	Extent in bighas (e)	Potentiality in bighas(p)	Extent/potentiality (e/p)
1969-70	20	25	20/25= 0.800
1968-69	15	25	15/25= 0.600
1967-68	12	20	12/20=0.600
1966-67	12	25	12/25=0.480
1965-66	8	20	8/20=0.400
Total	Σ e	Σ p	Σ e/p = 2.880

$$A.Q. = y_j \times 100$$

$$y_j = \frac{tp - ti}{tp - ti}$$

$$\frac{\Sigma e/p}{tp - ti} = 2.880 \text{ (where } tp - ti = 5 \text{ years)}$$

$$\begin{aligned} \text{Therefore, A.Q.} &= \frac{2.880}{5} \times 100 \\ &= 57.60 \end{aligned}$$

1 Bigha = 0.55 acre

APPENDIX JPAIRED COMPARISON TECHNIQUEF-matrix

Table I- The F-matrix for 8 statements judged by 200 respondents

State- ments	Divisi- bility	Cultural compati- bility	Durabi- lity	Simpli- city complex- ity	Physical compati- bility	Cost of the innova- tion	Commu- nica- bility	Profi- tability
	1	2	3	4	5	6	7	8
Divisi- bility (1)	-	62	165	185	188	188	195	194
Cultu- ral compa- tibility (2)	138	-	138	176	179	194	196	189
Dura- bility (3)	35	62	-	184	185	193	194	197
Simpli- city- complex- ity (4)	15	24	16	-	112	92	80	114
Physi- cal- compa- tibility (5)	12	21	15	88	-	101	91	89
Cost of the innova- tion (6)	12	06	07	108	99	-	87	136
Commu- nica- bility (7)	05	04	06	120	109	113	-	138
Profi- tability (8)	06	11	03	86	111	64	62	-

Contd.

'P'matrix

Table II- The P-matrix corresponding to the 'P' matrix.

State- ments	1	2	3	4	5	6	7	8
1	-	.310	.825	.925	.940	.940	.975	.970
2	.690	-	.690	.880	.895	.970	.980	.945
3	.175	.310	-	.925	.925	.965	.970	.985
4	.075	.120	.080	-	.560	.460	.400	.570
5	.060	.105	.075	.440	-	.505	.455	.445
6	.060	.030	.035	.540	.495	-	.435	.680
7	.025	.020	.030	.600	.545	.565	-	.690
8	.030	.055	.015	.430	.555	.320	.310	-

'Z'matrix

Table III- The 'Z' matrix corresponding to the 'P'matrix.

State- ments	1	2	3	4	5	6	7	8
1	-	0.496	0.496	1.175	1.254	1.881	2.054	1.598
2	-0.496	-	0.935	1.440	1.555	1.555	1.960	1.881
3	-0.496	-0.935	-	1.405	1.440	1.812	1.881	2.170
4	-1.175	-1.440	-1.405	-	0.151	-0.100	-0.253	0.176
5	-1.254	-1.555	-1.440	-0.151	-	0.013	-0.113	-0.138
6	-1.881	-1.555	-1.812	0.100	-0.013	-	-0.164	0.468
7	-2.054	-1.960	-1.881	0.253	0.113	0.164	-	0.496
8	-1.598	-1.881	-2.170	-0.176	0.138	-0.468	-0.496	-
Means	-7.954	-8.30	-7.277	4.046	4.678	4.857	4.862	6.651
Means	-0.994	-1.103	-0.909	0.505	0.579	0.507	0.508	0.831
Means +	0.109	0.000	0.194	1.808	1.882	1.710	1.711	1.934
1.103								

Table IV

Theoretical normal deviates Z_{ij} corresponding to the scale distances between the statements of table III.

State- ments		1	2	3	4	5	6	7	8
	Scale values	.000	.109	.194	1.608	1.682	1.710	1.711	1.934
1	.000	-							
2	.109	-.109	-						
3	.194	-.194	-.085	-					
4	1.608	-1.608	-1.499	-1.414	-				
5	1.682	-1.682	-1.573	-1.488	-.074	-			
6	1.710	-1.710	-1.601	-1.516	-.102	-.028	-		
7	1.711	-1.711	-1.602	-1.517	-.103	-.029	-.001	-	
8	1.934	-1.934	-1.825	-1.740	-.326	-.252	-.224	-.223	-

Table V

Theoretical proportions p_{ij} corresponding to the theoretical normal deviates Z_{ij} of table IV.

State- ments		1	2	3	4	5	6	7	8
1	-								
2	.457	-							
3	.423	.466	-						
4	.034	.067	.079	-					
5	.046	.058	.068	.470	-				
6	.043	.055	.065	.459	.489	-			
7+	.043	.055	.065	.459	.489	.499	-		
8	.027	.034	.041	.372	.400	.411	.412	-	

Table VI Contd.

Table VI

Discrepancies between the theoretical proportions pi_j' of table V and the observed proportions pi_j of table II.

State- ments	1	2	3	4	5	6	7	8
1	-							
2	.233	-						
3	-.248	-.156	-					
4	.021	.053	.001	-				
5	.014	.047	.007	-.030	-			
6	.107	-.025	-.030	.081	.006	-		
7	-.018	-.035	-.035	.141	.056	.066	-	
8	.003	.021	-.026	.058	.155	-.091	-.102	-
Total	.148	-.095	-.083	.250	.217	-.025	-.102	

A. D. = .032

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