

*

0.89

121

%82

(P≤ 0.10)

(Marsh and Pannell, 1998;
Engle and Stone, 1989; Swanson, 1997)

.(Crowder and Anderson, 1996)
(1994)

(Peterson

.et al., 2002)

.(IFAD, 1995)

Indigenous knowledge

.(Gould and Ham, 2002)

*

.2008/4/28

2007/7/1

- (1998)
(World Bank, 1990; WFP, 1995)
- (Blum, 1994)
- (Belaid, Solh and Mazid, 2003)
- (NCARTT, 1996; MOA, 1998)
- (Taimeh and Sunna, 1999)
- (Engle and Stone, 1989)
- (Peterson et al., 2002)
- (Engle and Stone, 1989)
- (MOA, 1997)
- (1) (Taimeh and Sunna, 1999)
- (2) (Peterson et al., 2002)

18

(1)
Likert scale
)
(

111

147

.2006

.(1996

)
121

53

68

)

.(

2006

-

-

: (1)

18

72 - 18

72 - 34

0.886

3.135

0.214

56.430

8.981

Z = 0.840

P-value = 0.481

Kolmogrov-Smirnov (KS Test)

.(Springer et al., 2000; Sekaran, 1992)

(KS)

-

(1)

Reliability test

Kolmogrov-Smirnov

0.89

(1)

.Ordinal variables

0.60

47)
 (3) .((3) .
 (%46)
 (%21) (%56) (%76) %34
 .(P = 0.079)
 (3) .(Evenson, 1986)
 .(P=0.073) 56.4
 %78
 ±
 9 ± 56)
 (65)
 :**(3)**

21	14	7	47	23	24
(18.1)	(21.2)	(14.0)	(39.2)	(33.8)	(46.2)
75	37	38	57	32	25
(64.7)	(56.1)	(76.0)	(47.5)	(47.1)	(48.1)
20	15	5	16	13	3
(17.2)	(22.7)	(10.0)	(13.3)	(19.1)	(5.8)
116	66	50	120	68	52
(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)
P-value = 0.073; df = 2; $\chi^2 = 5.239$			P-value= 0.079; df = 2; $\chi^2 = 5.088$ χ^2		

.(Peterson et al., 2002)

(4)

.(Evenson, 1986)

(4)
 56.4
)
 72 18
 %78
 18
 .(
 %75)
 .(4
 3.74 2.66

.(%95)

:(4)

%95					
3.29	2.96	.083	3.12	121	1
3.03	2.66	.094	2.84	121	2
3.20	2.88	.082	3.04	121	3 *
2.97	2.66	.079	2.82	121	4
3.09	2.76	.084	2.93	121	5
3.12	2.80	.082	2.96	121	6 **
3.14	2.81	.083	2.98	121	7 **
3.18	2.87	.078	3.03	120	8
3.46	3.17	.072	3.31	121	9 **
3.74	3.51	.058	3.63	121	10
3.17	2.86	.079	3.02	121	11 **

%95					
3.39	3.10	.073	3.24	119	12
3.47	3.19	.072	3.33	119	13
3.48	3.19	.073	3.34	121	14
3.15	2.80	.091	2.98	121	15
3.46	3.17	.073	3.31	121	16
3.43	3.16	.067	3.30	121	17
3.44	3.14	.075	3.29	121	18
3.63	2.83	.830	3.16	116	

.%10

* %5

** :

.(P > 0.10)

(Crowder and Anderson, 1996)

(P = 0.06)

(P =0.026)

.(P =0.036)

(P =0.013)

(P =0.037)

(5)

.(P =0.086)

()

.(Sadighi, 2005)

: (5)

P-value			
0.974	t=0.032-	t-test	()
*0.073	$\chi^2 = 5.239$	χ^2 test	
*0.104	t=1.639	t-test	()
0.951	t=0.061	t-test	()
0.240	F=1.423	ANOVA	(50≤ 49-40 39-30 30>)
0.178	r=0.126	S.C.	
0.375	F=1.082	ANOVA	()
0.895	F=0.202	ANOVA	()
**0.015	F=3.632	ANOVA	(15 < 15-11 10-6 5-1)
*0.063	r=0.173	S.C.	
**0.016	r=-0.223	S.C.	

ANOVA stands for Analysis of Variance. S.C. stands for Spearman Correlation Test.

(P=0.073) KS
 (3) (t-test) (1) (ANOVA)
 (S.C.)
 (P ≤ 0.10) (χ² test) Nominal Variables
 (P ≤ 0.05)
 (5)
 (15 <) (P>0.10)

(P≤0.10)

%39

و

%2

(%23)

.(%29)

:
(1)

(2)

%82

(4)

(3)

1996

1998

14 - 12

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Perceptions of Agricultural Researchers and Extension Agents in Jordan towards Agricultural Research and Extension Linkages

*Ahmad Shukri Al-Rimawi**

ABSTRACT

The study aimed at exploring the perceptions of the researchers and extension agents who work for the Ministry of Agriculture in Jordan towards research-extension linkages and to investigate the relationship between attitudes and selected professional characteristics. A four-point Likert scale was used as a tool for data collection using a convenient proportional sample of 121 extension agents and researchers. Cronbach's alpha coefficient was found to be 0.89, which indicated the internal consistency of the scale. Parametric and non-parametric tests were used to analyze the data according to approximations of the scale to the normal distribution.

Overall perception of the respondents (82%) towards linkages was found to be moderate or high. Although extension agents, married respondents, those with long services and who have attended more training appear to have higher perceptions towards linkages ($P \leq 0.10$). No significant relationships were observed between perceptions and most of the selected characteristics. This indicates that perceptions of the respondents were very much alike. Positive perceptions towards linkages call for an institutional reform to integrate agricultural research and extension activities. This institutional framework should identify roles in an integrated way that links all stages of technology transfer and be based on well-founded participation principles.

KEYWORDS: Agricultural research, Extension, Research-extension linkages, Technology transfer, Attitude scale.

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