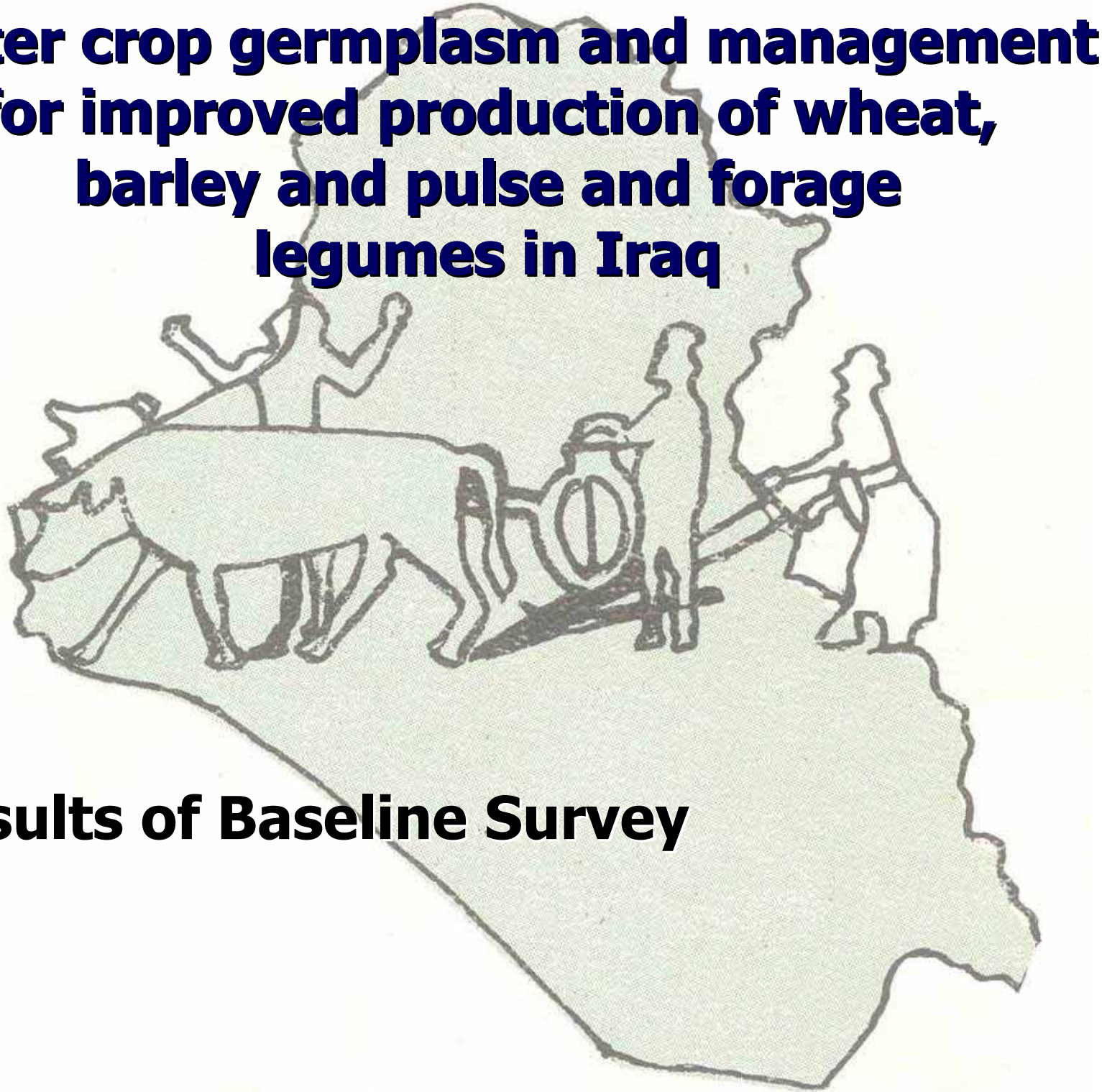
Better crop germplasm and management for improved production of wheat, barley and pulse and forage legumes in Iraq



Results of Baseline Survey

2006/07 Socio-economic Workplan

Activity	2005/2006	2006/2007
1.1 **Baseline information**	-Data collection -Data analysis -Results discussion - Constraints identified	Finalization of baseline report and publishing
1.4 **Constraints to adoption**	-Constraints identified - Yield and agronomic performance - Enterprise budgeting	-Yield and agronomic performance - Enterprise budgeting - Risk analysis - WUE/WP indicator - Emerging constraints and farmer opinion
1.6 **Adoption and impact assessment**		-Emerging constraints and farmers opinion - Ex-ante impact assessment
3.1 **Production constraints**	- Baseline information (1.1)	Monitoring results
4.3 **Capacity in adoption and impact assessment**	- Questionnaire - Visits to ICARDA for baseline data analysis	-Training (impact assessment workshop at ICARDA 5-9, Nov., 2006) - Visits to jointly analysis risk and WUE components

Sample Farms Distribution among Agro-ecological/Rainfall Zones in Ninevah Province

Area	No. of observation	%
High Rainfall Area	**80**	**30.7**
Alqosh	20	25
Zamar	20	25
Shekhan	20	25
faydah	20	25
Medium Rainf. Area	**61**	**23.4**
hamdaneia	20	32.8
Bashiqa	21	34.4
twlkeif	20	32.8
Low Rainfall Area	**60**	**23**
Mahalebiye	20	33.3
Tel-abta	20	33.3
Al-hadhar	20	33
Supplemental Irrigation	**60**	**23**
Rabeaa	20	33.3
Namroud	20	33.3
Homeidat	20	33.3
Total	**261**	**100**

Education Level

Level	Frequency	%
Illiterate	49	19.1
Primary	125	48.8
Secondary	26	10.2
High School	39	15.2
College	17	6.6
Total	**256**	**100**

Household size

Rainfall zone/ Production system	Average Family size (No.)	Workers in agriculture (No.)
H.R.A	9	3
M.R.A	15	5
L.R.A	14	5
S.I	12	3
Total	**12**	**4**

Average farm size of sample farms

Area	Average Family size (ha)	C.V (%)	No. of plots
H.R.A	63.8 (85.7)	130	5
M.R.A	82.8 (110.25)	120	13
L.R.A	315.5 (381.25)	120	8
S.I	127 (352)	276	4
Total	**139 (273.25)**	**193**	**7**

The importance of land tenure types

Land tenure	HRA	MRA	LRA	SI
Owned	***	**	*	***
Rented	*	*	***	*
Share cropping	**	***	**	**

Importance in terms of the percentage of land under each type

***** =1st important type of land tenure**

**** =2nd important type of land tenure**

*** =3rd important type of land tenure**

Farmer's Perceptions of Soil Characteristics

Soil characteristics	HRA	MRA	LRA	SI
Soil type	Medium	Medium	Medium & Shallow	Medium & Deep
Soil fertility	Medium	Medium	Medium & Poor	Medium & Fertile
Soil texture	Mixed & Clay	Mixed & Clay	Clay, Mixed & Sandy	Mixed & Clay

Soil type = shallow, medium, deep
Soil fertility = fertile, medium, poor
Soil texture = clay, mixed, sandy combined

Type of Farm Enterprise

Enterprise type	HRA	MRA	LRA	SI
Plant	89	78	61	88
Plant/livestock	11	22	38	12
Total	100	100	100	100

Type and Importance of Crop Rotations

HRA	MRA	LRA	SI
Wheat/fallow	Wheat/wheat Barley/barley	Barley/fallow Barley/Barley	Wheat/wheat
Wheat/wheat	Wheat/fallow Wheat/others	Barley/fallow	Wheat/fallow Barley/fallow
Wheat/chickpea	Combination		

Contribution of family labor to agricultural activities by gender

Contribution	Men	Women	Children
H.R	86	11	3
M.R	76	18	6
L.R	77	15	8
S.I	93	6	1
Total	**84**	**12**	**4**

Type and intensity of crop varieties (% of area)

Type	HRA	MRA	LRA	SI
D-wheat	92.5	49.9	5	98
L	80.2	58.1	100	6.1
I	19.8	42	-	93.9
B-wheat	7.5	39.8	-	2
L	42.7	45.5	-	100
I	57.3	54.5	-	-
Barley	-	10.5	95	-
L	-	95.2	100	-
I	-	4.8	-	-

Number of plowings (% of farmers per system)

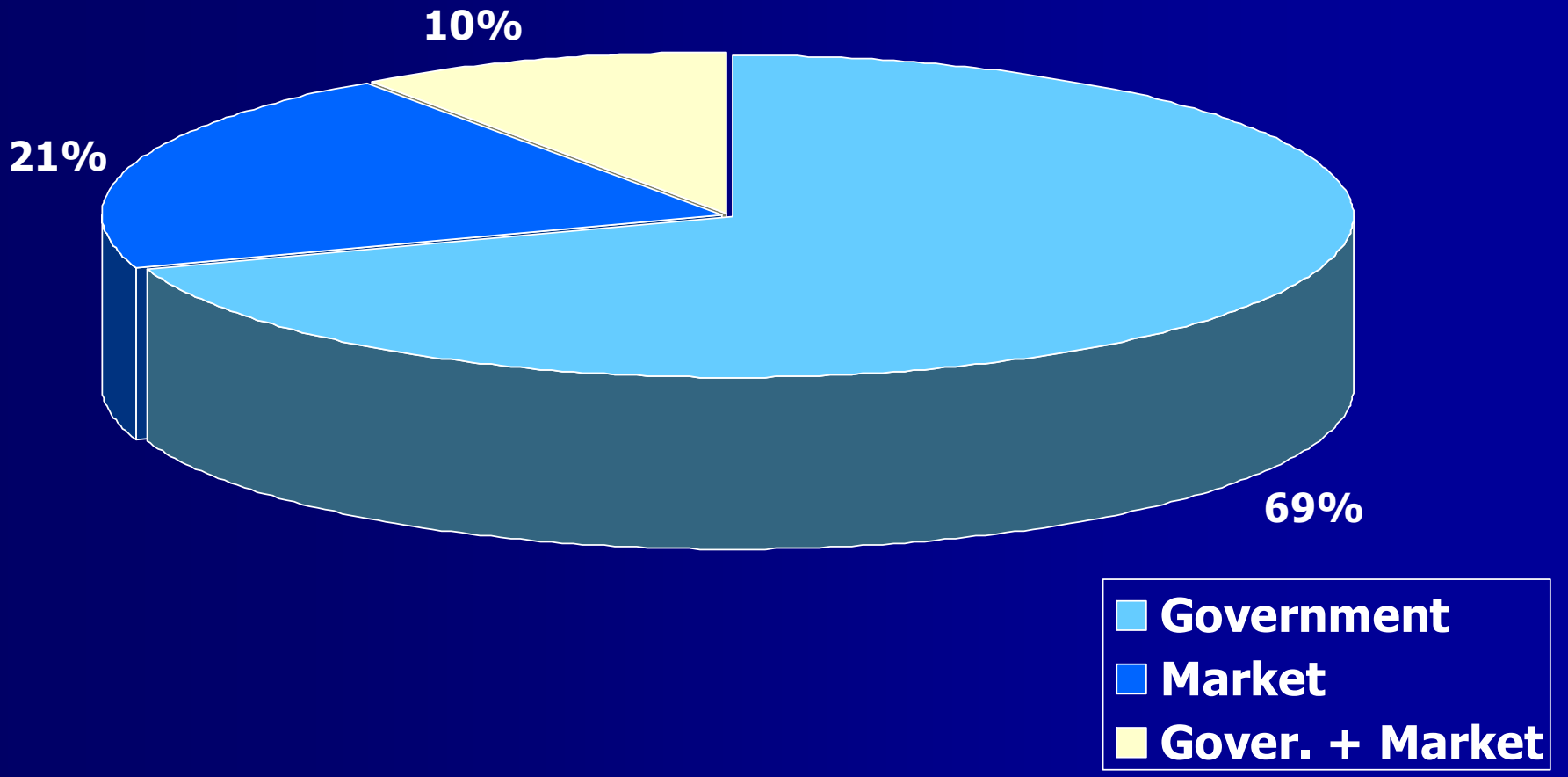
Crop	No. of plowings	H.R %	M.R %	L.R %	S.I %
Wheat	1	28.9	21.4	-	9.8
	2	65.8	73.8	100	82.4
	3	5.3	4.8	-	7.8
Barley	1	-	-	45	-
	2	-	100	55	-
Lentil	2	-	100	-	-

Source of Seeds (% of farmers)

1 = Government , 2= Farmer , 3= Others

Crop	HRA			MRA			LRA			SI		
	1	2	3	1	2	3	1	2	3	1	2	3
Local D. Wheat		100			95.7	4.3		100		50	25	25
Um Rabee		92.3	7.7	5.3	89.5	5.3				12.5	75	12.5
Sham	11.1	66.7	22.2	14.3	85.7					25	75	
Waha		85.7	14.3		100					25	75	
Abu Ghraib		100			100			100			100	
Ipa95		100										
Ipa99		100										
Local Barley					100							
Rihan					100		**21.1**	78.9				
Chickpea		100										
Lentil					100							

Source of Fertilizer (% of farmers)



Average Quantity of Fertilizer Applied

		Urea	NPK	Dap
Waha	H.R	148	160	100
	M.R	130	200	60
	SI	134	135	97
Sham	H.R	153	160	100
	M.R	106	147	110
	SI	94	-	86
Um Rabee	H.R	160	-	100
	M.R	124	128	94
	SI	100	-	74
Local Durum	H.R	160	161	99.2
	M.R	100	186	76.4
	SI	131	-	100

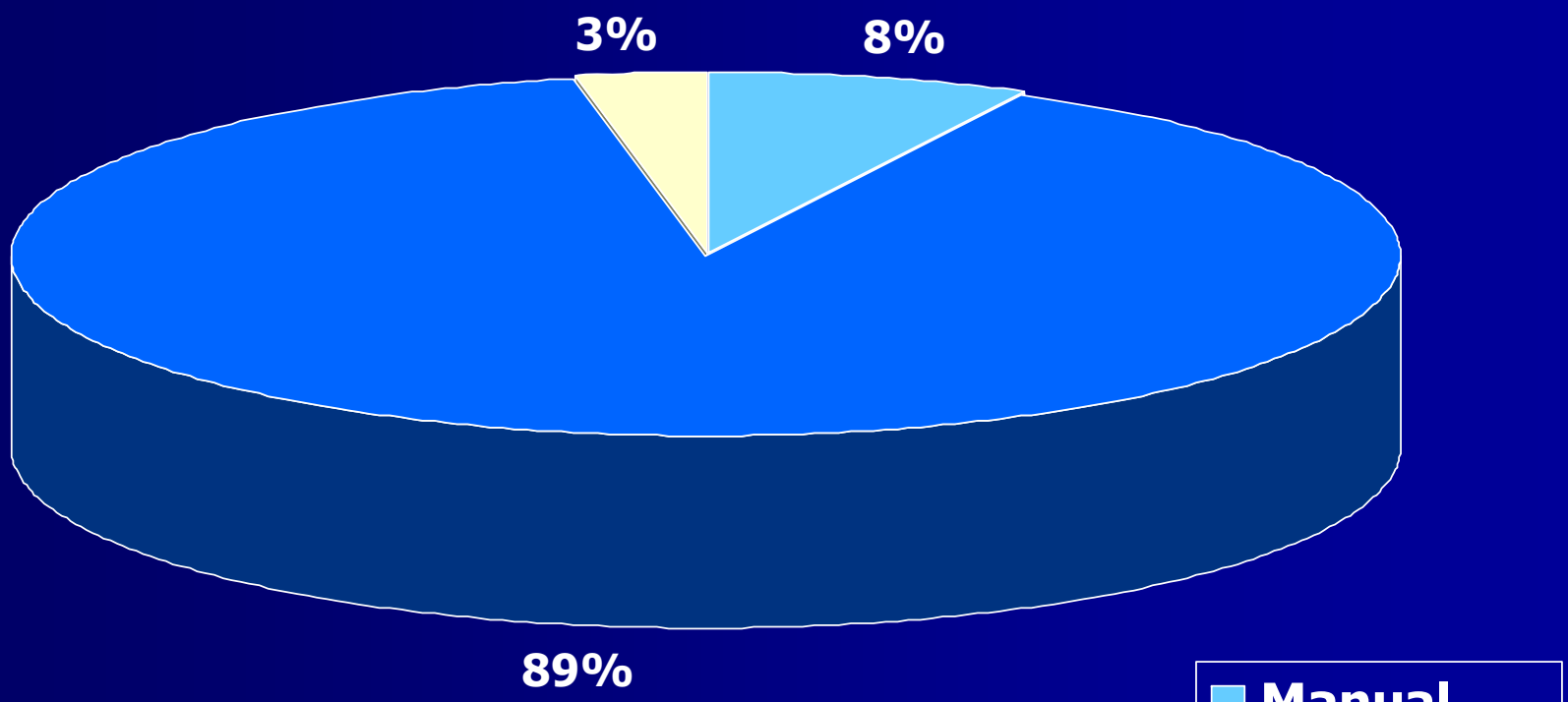
Average Quantity of Fertilizer Applied, cnt.

		Urea	NPK	Dap
Abu Graib	H.R	120	160	120
	M.R	126	140	160
	L.R	80	-	40
	SI	86	-	40
Improved Bread Wheat	H.R	180	-	100
	M.R	125	114	140
	SI	120	-	60
Barley	M.R	80	120	-
Total	H.R	150	161	100
	M.R	116	160	93
	L.R	80	-	40
	SI	124	135	93

Availability and Price Level of Fertilizer

Availability		Price Levels of fertilizer	
Yes	43.1	High	98.3
No	56.9	Moderate	2.7

Fertilization Method

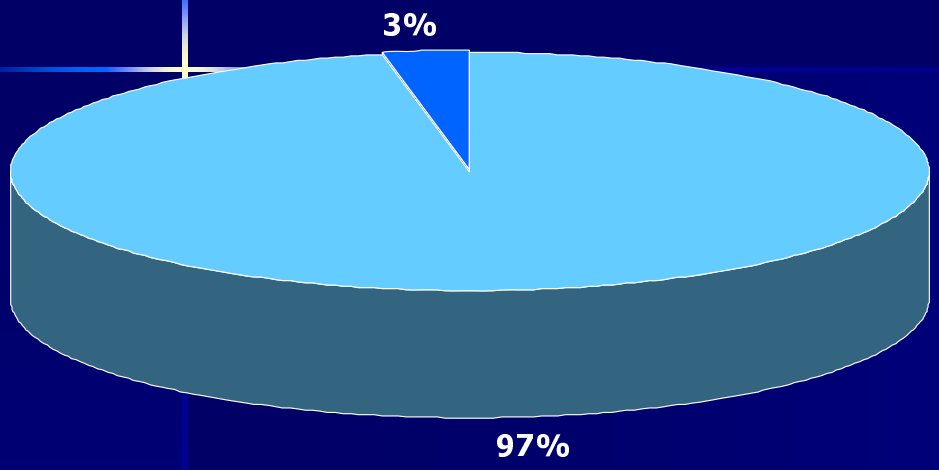


Farmers Perceptions on the Sensitivity of Varieties to Pests (Insects & Diseases)

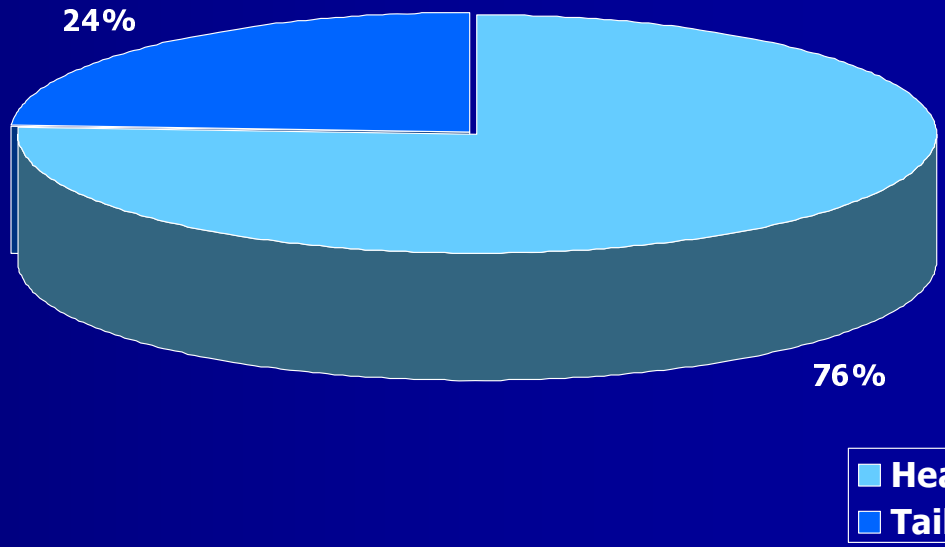
	Infection rate		
	Low %	Moderate %	High %
Local durum	22.4	40.8	36.7
Um rabee	26.5	17.8	55.9
Sham	23.5	23.5	52.9
Waha	62.5	16.7	20.8
Abu graib	11.1	44.4	44.4

Supplemental Irrigation

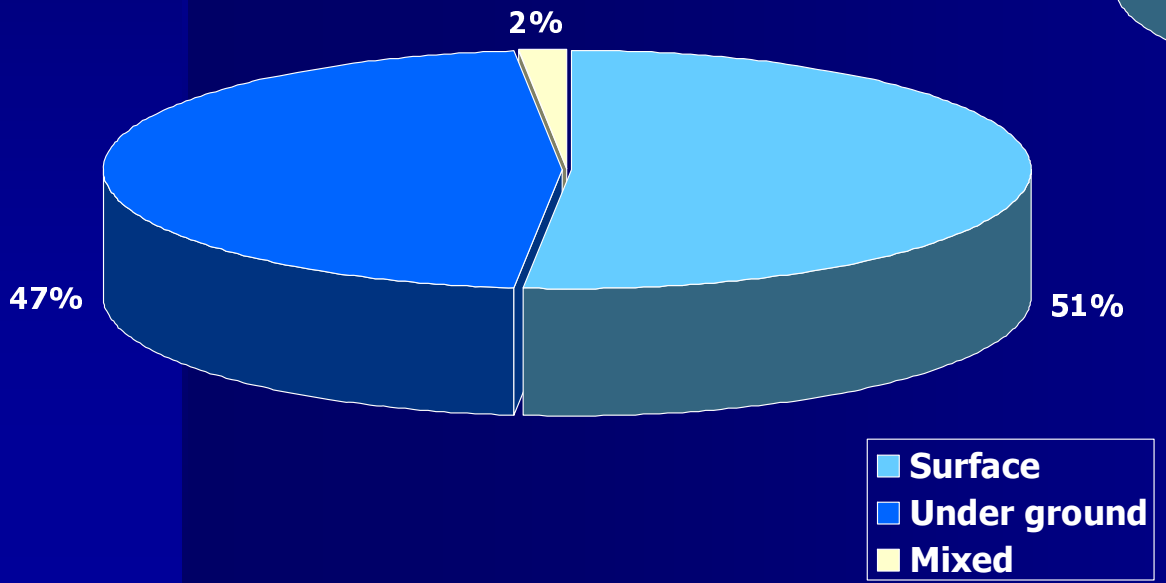
Irrigation Method



Farm Location rel. to water



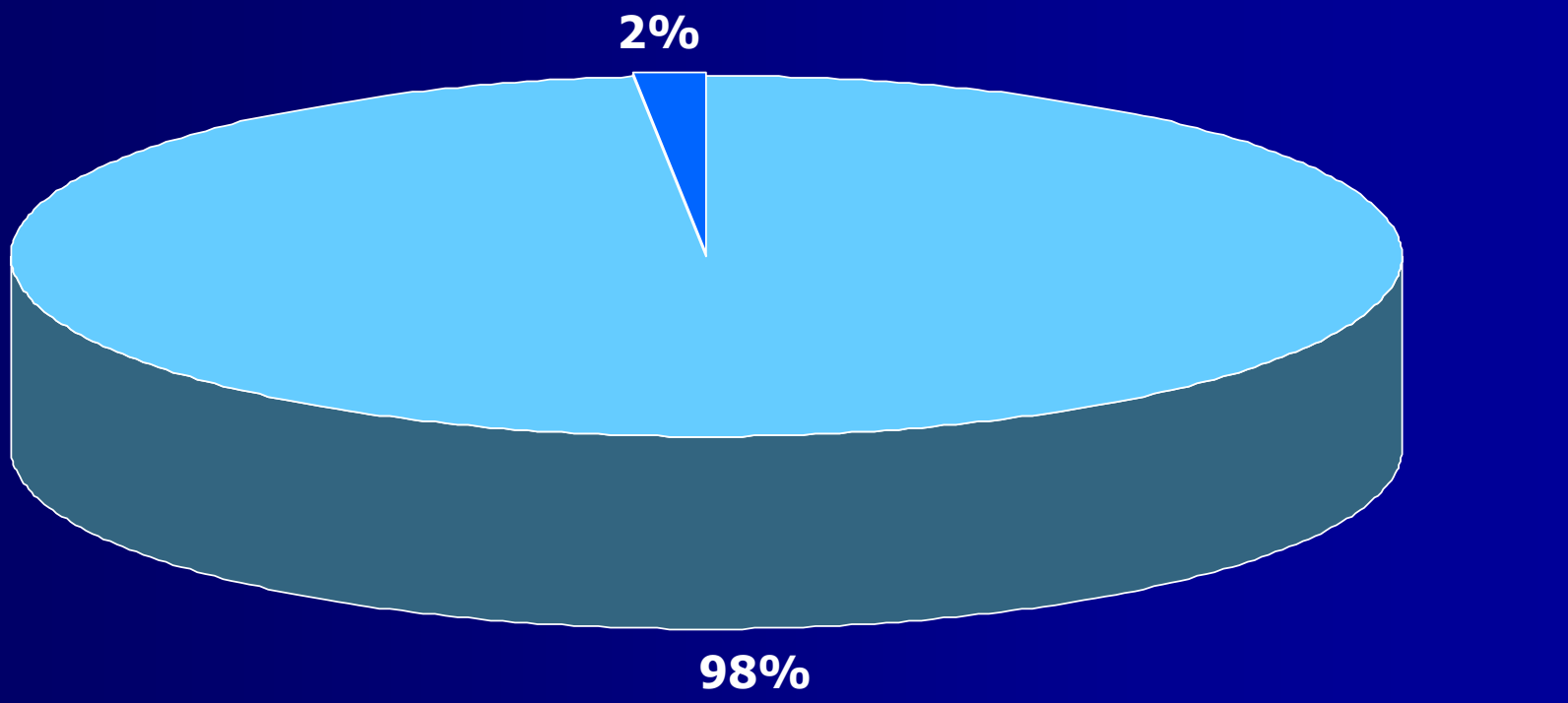
Water Source for S.I



Availability and Constraints of SI Services (% of Farmers)

	Spare parts	Fuel & Oil	Skilled Labor	Electricity
Available	7.9	10.9	26.6	10.9
Not available	20.6	26.6	1.6	89.1
Expensive	9.5	3.1	17.2	
Available + expensive	22.2	9.4	43.8	
Not available + expensive	39.7	50	10.9	

Harvesting method



Availability and Constraints of Harvesting Services (% of Farmers)

	Harvester	Spare Parts	Fuel & Oil
Available	88.2	27.6	32.8
Not available	11.8	25	46.9
Expensive		15.9	2.1
Available + expensive		19	3.7
Not available + expensive		12.5	14.5

Combine Mobility

	Yes	No
Movement of harvester from north to south	32.8	67.2
Mechanical harvest of pulses	5.9	94.1

Constraints on Marketing

Constraints	%
Market (far distance)	16.7
No marketing information	11.5
High taxes	7.7
Complicated process	32.6
Low prices	25.8
Competition	5.7
Total	100

Average flock size

Zone	Small Ruminant (head)	Cattle/Cow (head)
HRA	46	2
MRA	95	5
LRA	221	2
SI	278	4

Sources of Livestock Feed (%)

Zone	Wheat bran	Agro Industries bi-product	barley	Stable Grazing	Natural pastures
HR	23.79	0	33.93	19.55	22.73
MR	16.92	1.02	35	29.87	17.18
LR	26.59	0.91	31.14	25.45	15.91
SI	9.41	0	32.06	33.24	25.29
Total	19.73	0.55	33.47	26.44	19.82

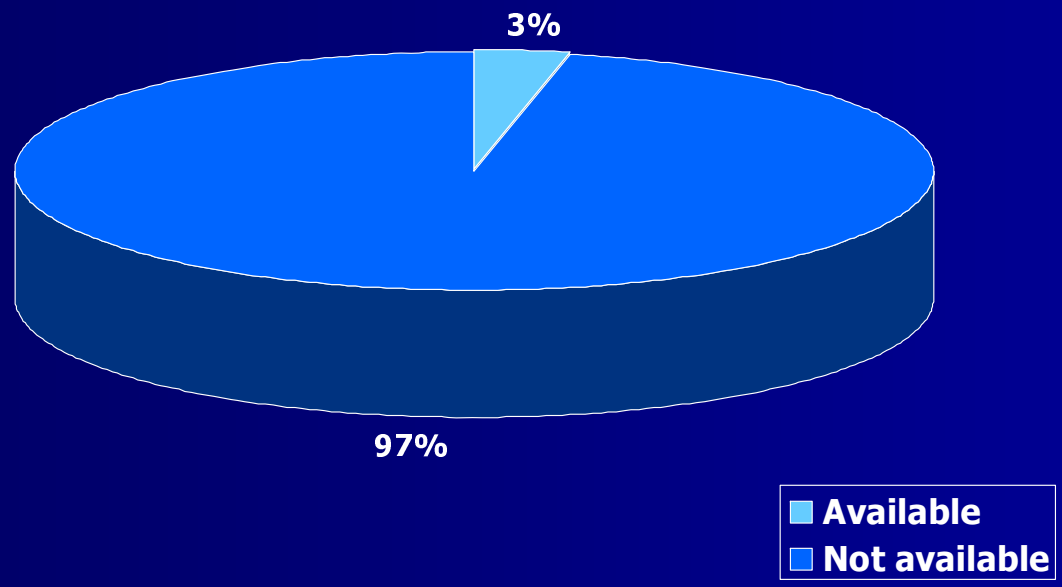
Distribution of farmer's income (%)

Zone	Plant	Livestock	Off-farm
HR	74.44	8.11	17.44
MR	59.73	26.19	14.07
LR	78.02	19.53	2.45
SI	85	5.09	9.9
Total	74.17	15.06	10.77

General Constraints

Constraints	%
Rainfall Amount Distribution	33.5
Markets	26.5
Policies	28.2
Disputes	11.8
Total	100

Availability of Extension Services



Production Constraints

Fertilizers Prices

	Urea	N.P.K.	Dap
High Prices	**99.6**	**98.8**	**96.1**
Moderate	**0.4**	**1.2**	**1.2**

Availability of Fertilizers

	Urea	N.P.K.	Dap
Available	**52.3**	**18.6**	**43.7**
Not Available	**47.7**	**81.4**	**56.3**

Quality of fertilizers

	Urea	N.P.K.	Dap
Good	**95.8**	**58.2**	**94.3**
Bad	**4.2**	**41.8**	**5.6**

Availability of extension service advice on pest-insect control

	%
Available	87.1
Not available	12.9

Intensity of weeds

	%
< 10	14.6
11-25	61.5
26-50	18.3
>50	5.1

Availability of Herbicides

	%
Available	**69.4**
Not available	**9.4**
Expensive	**21.4**

Availability of extension advice on herbicides

	%
Available	**68.2**
Not available	**31.8**