

KRISHI VIGYAN KENDRA

Kasturbagram, Indore (M.P.)



Survey Reports

(Cheerakhan, Silotiya, Merkhedi, Chhoti Jam, Rajpura & Narlay)



KASTURBA GANDHI NATIONAL MEMORIAL TRUST

Kasturbagram, Indore-452020 (M.P.)

Cheerakhan (Block-Depalpur)

BACKGROUND INFORMATION

VILLAGE – CHEERAKHAN

Village Cheerakhan of Depalpur block is situated 27 KM. away from KGNMT, Kasturbagram. All the information related to population farm families, cultivated land, available resources, soil type, cropping pattern etc. are given below:

Name of Village	Cheerakhan
Tehsil	Depalpur
District	Indore
Post Office	Dhamod
Police Station	Betma
Distance from KVK	27 KM
Population	Total No. of family - 260 Population - 2000 Farm Family - 200
Institution	Temple-2
Educational Institute	School (Primary) -1 Anganwadi - 1
Land Record	
Total Land	175 ha
Uncultivated Land	30 ha
Irrigated Land	175 ha
Farmers family	165
Farmers category	
0.5 to 1 ha	100 farmers
1.0 to 2.5 ha	35 farmers
More than 2.5 ha	32 farmers
Cropping pattern	
Kharif	Cauliflower (50% area) + Soybean (50% area)
Rabi	Wheat (40% Area) + Potato/Garlic/Onion (60% area)
Summer	Okra, Sponge Guard & Kidne Bean (15% area)
Major problems in summer vegetables	
Okra	Mosaic, Fruit borer and white fly
Kidney bean	Blight
Sponge Guard	Aphid, red pumpkin beetle

Time Line

The sequences of important events of the village are as follows:

1960	Radio
1964	First School established
1971	Electrification of village completed
1971	Kachcha Road was constructed
1975	Use of chemical Fertilizer was started
1981	First tractor was purchased
1982	Soybean cultivation was started

1983	TV
1987	Use of insecticide was started
1995	Telephone facility started
1999	Anganwadi started
2002	Use of weedicide was started
2002	Panchayat
2007	First Agriculture Extension agency (Krishi Vigyan Kendra, Kasturbagram) came.

Soil Type

The soils of the village are black and vary from medium to shallow black. The soils are mostly plain. Water holding capacity of the soil is good.

Water

The ground water level in the village is 350-400 Feet. The natural recharge of the ground water is low due to cementing action of black soil and low infiltration rate.

Farming system

The farming system is crop and animal based. Farmers are growing crops and fodder crops for rearing animal. Major agricultural operations are carried out from bullock and Tractor drawn implements.

Cropping Pattern

Farmers are growing various crops in Rabi , Kharif and Zaid season. Soybean and Maize in Kharif, Wheat, Gram, Potato, Garlic, Onion, and Cauliflower in Rabi and cucurbits in Zaid are the major crops of the village.

Agronomical Crops

Soybean

Like the most villages of the Malwa region, the soybean is the cash crop of this village. The productivity of the soybean is 16 Quintal per ha. Farmers are using 6 varieties of the soybean viz. JS-335, JS-7105, NRC 7, JS-9305, and Samrat. The choice of the farmers according to the soybean varieties is ranked by matrix ranking, which is given below:

S. No.	Farmers Criteria	JS-335	Samrat	JS 93-05	NRC 7
1.	Duration	3	5	4	4
2.	Yield	5	4	4	4
3.	Resistance to disease and pest	3	4	3	4
4.	Cost of input	5	4	4	4
5.	Price	5	5	5	5
Total		21	22	20	21
Rank		II	I	III	II

The above table shows that the **samrat, NRC-7 and JS-335** variety of soybean is most popular in the village.

Crop production

Crop: Soybean

Season: Kharif

Situation: Rainfed

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
1.	Field preparation	3 times	3 times	Nil	Nil
2.	Variety	Samrat, JS 93-05, JS-335 & NRC-7	JS-93-05 and JS-95-60	Partial	Demo.& Training
3.	Type of seed	Own seed	Certified seed	Full	Demo.
4.	Sowing method	Single box seed drill (mix with fertilizer)	Seed cum Ferti drill	Full	Demo.
5.	Seed treatment	NIL	Carbandazim @3gm/kg seed	Partial	Training
6.	Inoculation	Nil	Rhi & PSB @5 gram each /kg seed	Full	Demo.
7.	Spacing	14 inch	18 inch	Partial	Training
8.	Seed rate	100-120 Kg/ha	75 kg/ha	Partial	Training
9.	Time of sowing	June last week/July 1 st week	June last week/July 1 st week	Nil	Nil
10.	Manure	According to availability	10 ton/ha	Partial	Training
11.	Fertilizer	N 54 Kg./ha P 23 Kg./ha 46 Kg. N is used after 30 DAS	N 20, P 60-80, K-20,S-20 Kg./ha	Partial	Training
12.	Weeding 1- Hand 2- Dora	1 times 2 times	1 times 2 times Pendamethaline or Emazathpyr @ 1lit/ha	Partial	Training
13.	Diseases	Yellow mosaic Bacterial Pensfale Seeding rot Non-Podding (Sterility)	NIL	NIL	NIL
14.	Control measures	Nil	Seed treatment	Full	Demo.
15.	Insects	Blue Beetle Girdle Beetle Semi looper	NIL	NIL	NIL
16.	Control Measures	Endosulphan & Cypermethin 1 Lit/ha	Endo- 1 Lit Mythomil-1.2 Lit Trizophos-0.8 Lit /ha	Partial	Demo. & Training
17.	Harvesting method	By hand	By hand	Nil	Nil
18.	Threshing method	By tractor operated thresher	Tractor Thresher (800RPM)	Partial	Training
19.	Any type of seed production?	NIL	-	-	-
20.	Identification of Maturity stage	Yellow leaves	Yellow leaves	Nil	Nil

21.	Production (Qnt./ha.)	Samrat - 13-14 Q/ha JS-93-05: 13-14 Q. NRC-7: 13-14 Q/ha JS 335: 14-15 Q/ha	JS93-05: (25-30 Q.) JS 95-60: (25-30 Q)	Nil	Nil
22.	Product utilization i-Own consumption ii-Sell out in market iii- Storage	Sell out in market	i-Own consumption ii-Sell out in market iii-Storage	Partial	Training

Crop: Wheat

Season: Rabi

Situation: Irrigated

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
1.	Field preparation	3 Times (With 1 planking)	3 Times (With 1 planking)	Nil	Nil
2.	Variety	LOK-1	Malav Shakti, Malav Ratna HI-1418 GW-173	Partial	OFT
3.	Seed rate	120-140 Kg/ha	100-125 Kg/ha	Nil	Nil
4.	Sowing method	By seed drill	Seed cum Ferti drill	Full	Demo.
5.	Seed treatment	NIL	Thirum@3gm/kg seed	Full	Demo.
6.	Type of seed	Own	Certified	Partial	Training & Demo
7.	Spacing	9 inch	9 inch	Nil	Nil
8.	Time of sowing	Oct last week to Nov. I week	Oct last week to Nov. I week	Nil	Nil
9.	Inoculation	Nil	Azato & PSB @5-5 gram/seed	Full	Demo.
10.	Fertilizer / ha	N - 82 Kg. P - 64 Kg. K - 92 Kg.	N – 80,P - 40 K - 20 Kg./ha(2-Irri.) N – 120, P - 60K - 40 Kg./ha (Irri.)	Partial	OFT
11.	Irrigation	4-5 times	2-6 times	Nil	Nil
12.	Disease	Smut & bunt	Nil	Nil	Nil
13.	Control	Nil	Control Thirum@3gm/kg seed & resistant varieties	Full	Demo.
14.	Insects	Termite	Nil	Nil	Nil
15.	Control	Nil	Phorate@10kg/ha	Full	Demo.
16.	Harvesting method	By hand	By hand	Nil	Nil
17.	Threshing	By tractor operated thresher	Electric & Tractor drawn Thresher (800RPM)	Partial	Training
18.	Storage	In bins with EDB ampoule & neem leaves	In bins with EDB ampoule	Partial	Training

19.	Yield	40-45 q/ha	50- 60 Qha.	-	-
20.	Crop residue burning	Burning	No burning	Complete	Awareness camp

Crop: Potato

Season: Rabi

Situation: Irrigated

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
1.	Field preparation	3 Times+1Planking	3 Times+1Planking	Nil	Nil
2.	Variety	Jyoti & Loker (White)	K.Jyoti, Chipsona 1&2&3,K.Surya	Full	Demo
3.	Seed rate	25-30q/ha	25-30 q/ha	Partial	Training
4.	Spacing	60 cm	60 cm.	Nil	Nil
5.	Sowing	By potato planter	By potato planter	Nil	Nil
6.	Manure	According to availability	10 Ton /ha	Partial	Training
7.	Fertilizer	N - 78 P - 332 K - 344	N - 120 P - 100 K - 75 Kg/ha	Partial	Training
8.	Seed treatment	Carbondasim@0.2%	Dithane M-45 (2.5% Sol.)	Partial	Training
9.	Earthing	2-3 times,	2 times	Partial	Training
10.	Irrigation	4 Nos.	4nos	Nil	Nil
11.	Insect Pest	Aphid	-	-	-
12.	Control	Rogar 1 Lit/ha	Dimethoate-1 Lit Or Imedacloprid(0.2-0.3 Lit/ha)	Partial	Training
13.	Disease	Blight, & Bacterial wilt	Nil	Nil	Nil
14.	Control	M-45, 1-1.5 Kg/ha	M-45(1.5 Kg/ha) CuOCl2(2-2.5 Kg/ha)	Partial	Demo.
15.	Harvesting	by Desi Plough	by plough	Nil	Nil
16.	Threshing	By Tractor operated thresher	By Tractor & electric operated thresher	Nil	Nil
17.	Yield	200-210q/ha	225-275 q./ha	Nil	Nil
18.	Storage	Yes, in the cold storage	Cold storage	Nil	Nil

Crop: Garlic**Season: Rabi****Situation: Irrigated**

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
1.	Field preparation	3 time	3 Times + 1 Planking	Partial	Training
2.	Variety	Malkapuri, Amleta Junagarh	J. Garlic-282	Partial	Demo.
3.	Method of sowing	Dibbling	Broad Cast, dibbling, garlic planter	Nil	Nil
4.	Seed rate	3-4 qnt/ha	1.36-2.27 Qnt/ha	Full	Deom.
5.	Spacing	6 inch	7.5''- 15''	Partial	Demo.
6.	Treatment	NIL	M-45 @ 0.2%	Partial	Training
7.	Weeding	3 weeding + 1 spray of gold	Hand weeding (3)	Nil	Nil
8.	Manure	According to availability	40-50 Ton /ha	Partial	Training
9.	Fertilizer	N - 261 P - 238 K - 72	N - 150 Kg. P - 40 Kg K - 50 Kg	Full	Trg & Demo.
10.	Irrigation	10-12 Nos.	10-12 Nos.	Nil	Nil
11.	Disease	Sprouting, Yellow leaves and leaves damage in the field of cauliflower (previous crop)	-	-	-
12.	Control	Sulpher 1 Kg/ha	Control of vector & Disease free seed	Full	Deom.
13.	Insect Pest	Thrips & Aphid	-	-	-
14.	Control	Roger and Imidacloprid 1 Lit/ha	Dimethoate-1 Lit Or Imedacloprid(0.2-0.3 Lit/ha)	Partial	Training
15.	Yield	90-110 q/ha	60-110(Qnt./ ha.)	Nil	Nil

Crop: Onion**Season: Rabi****Situation: Irrigated**

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
1.	Field preparation	2-3 Times	3 Times + 1 Planking	Partial	Training
2.	Variety	Desi White, Hybrid Prashant	ALR	Partial	Demo.
3.	Sowing method				
4.	Seed rate	9 kg/ha	8 kg/ha	Partial	Demo.
5.	Spacing	9"	10" –15"	Partial	Training
6.	Seed treatment	NIL	Thiram @3gm/ kg seed		
7.	Manure	4-5 Ton /ha	20-25 Ton /ha	Partial	Training
8.	Fertilizer 1- 2- 3-	N - 115 Kg. P - 72 Kg K - 150 Kg	N - 150 Kg. P - 40 Kg K - 50 Kg	Partial	Demo.
9.	Irrigation	12-15	12-15	NIL	NIL
10.	Diseases	Leaf curling	NIL	NIL	NIL
11.	Control Measures	NIL	Control of vector & Disease free seed	Full	Training
12.	Insects	Thrips & Aphid	NIL	NIL	NIL
13.	Control Measures	Rogar - 1 Lit/ha	Dimethoate-1 Lit Or Imedacloprid(0.2-0.3 Lit/ha)	Partial	Training & Demo.
14.	Production	250-300 (Qnt./ ha.)	300-350 (Qnt./ ha.)	-	-

Crop: Cauliflower**Season: Kharif / Rabi****Situation: Irrigated**

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
1.	Field Preparation	3 time	4 Times+1Planking	Nil	Nil
2.	Variety	Kharif - Suparfast & Anand Rabi - Madhuri & Pearl white	Pusa early synthetic	Partial	Training & Demo.
3.	Seed rate	450-500 gm.	600 gm./ha	Nil	Nil
4.	Treatment	No treatment of seedlings	Thirum 3 gm/Kg seed	Full	Training & Demo.
5.	Spacing	p x p(18") r x r (22")	p x p(18") r x r (24")	Partial	Training & Demo.
6.	Transplanting	Use 30 day old	Use 30 day old seedlings	Nil	Nil
7.	Weeding	1 hand weeding, 1 Dora	2-3 times hand weeding,	Partial	Training
8.	Manure	According to availability	15 -20Ton /ha	Partial	Training
9.	Fertilizer	N - 240 P - 170 K - 68	N - 60 Kg. P - 40 Kg K - 40 Kg (60 Kg.N after 45 Days)	Full	Demo.v
10.	Disease	Powdery mildew, Blight	-	-	-
11.	Control	Sulphur & M-45 1 Kg./ha	M-45 (1.25 Kg /ha)& INM	Partial	Training
12.	Insect Pest	DBM & Aphid	-	-	-
13.	Control	Imidacloprid 500 ml. & Endosulphan 1 lit/ha	Rogar 1.25 or Imidacloprid 250 ml./ha Quinolphos 625 ml or Triclorophon 625 ml /ha	Partial	Training
14.	Irrigation	8-9 Nos.	8-9Nos	Nil	Nil
15.	Yield	30-35 Thousand Nos./ha	45000 to 50000 no./ha	Partial	Training

Some of the farmers are growing Okra (Local), Cauliflower in Kharif season (Var –Pusa snowqal& Pusa Synthetic). In Zaid season some farmer takes cucurbits (cucumber, Bitter guard, Sponge guard). The major problems Okra & cucurbits are as follows:-

S. No.	Crop	Problem
1	Okra	Use of imbalance fertilizer, Local seed, Insects(Frut borer, Aphid) and Diseases(YMV & Powdery mildew)
2	Cucurbits	Use of imbalance fertilizer, Insects(Frut borer, Aphid) and Diseases(YMV & Powdery mildew) & Higher sex ratio(M/F)

Animal Science

Live stock population:

S. No.	Type of animal	Number
01	Cow -	110 (Cross breed-20 & Desi-90)
02	Buffalo	120 (15- Murrah & 105- Desi)
03	Bullock	120 Pair
04	Goat	450-500

Purpose of live stock rearing:

S. No.	Type of animal	Purpose
01	Cow	Milk
02	Buffalo	-do-
03	Bullock	Agril. operations
04	Goat	for selling and meat purpose

Milk production/ day /animal

S. No.	Type of animal	Quantity
01	Cow	3-4 Lit
02	Buffalo	5-6 Lit

Total milk production: 650-700 Lit / day

Average Milk Production During the year

S. No.	Month	Avg. Milk (in lit. / Day)
1	January	850-875
2	February	775-800
3	March	825-850
4	April	750-800
5	May	675-700
6	June	650-700
7	July	775-800
8	August	870-900
9	September	900-925
10	October	900-925
11	November	875-900
12	December	850-875

Type of house for animal:

Kuchcha & Pucca

Feed:

- 1-Green fodder - Green - Maize, Jowar & Barseem
- 2-Straw - Wheat, Gram & Soybean
- 3-Radimade feed (concentrate) - Occasionally for milch animal
- 4-Mix fodder - For milch animal
- 5-Other (Cotton cake) - For milch animal

Method of fodder (Green/dry) storage:

- 1- NIL for green fodder
- 2- Traditional for straw

Major Diseases of livestock:

- 1- Goat - FMD
- 2- Cow, Buffalo - FMD, Mastitis, kali Peshab & HSBQ
- 3- Bullock - FMD, kali Peshab & HSBQ

Facility of Hospital: (Yes/No) No

Distance from village: -----km. **3 KM. away from the village**

A.I. practices:(Yes/No) No

Vaccination:(Yes/No) No

Knowledge of improved fodder crops: YES

Use of improved fodder crops:No

Knowledge of improved fodder crop Cultivation practices: No

Agriculture Engineering

Tractor	12
Trolly	12
Seed drill	12
Cultivator	12
Duck foot	12
Potato Planter	6
MB plough	2
No. of Bullock pair	120
No. of Bullock cart	100
Tube well	250
Monoblock motor	105
Thresher	6 Electric, 1 tractor drawn
Sprayer	175
Generator	2
Bullock drawn implements	Desi plough 65, Bakhar 120, Dora 120, Dufan 120
Irrigation Source	Tubewell-210, Dug well-50, & Small tank - 1
Method of irrigation	Flood
Water conservation practices	NIL
Soil	Black cotton
Soil depth	40 feet
Soil conservation practice	NIL
Zero tillage practice	NIL
Knowledge of implements maintenance	Yes but not proper

Field preparation:

I- Kharif crops- 3 times (by duck foot cultivator & 2 times cultivator)
 II- Rabi crops- 2 times (Duck foot & 9 tine cultivator)

Sowing method:

S. No.	Crop	Method
01	Soybean	Single box seed drill
03	Wheat	Single box seed drill
05	Potato	Planter
06	Garlic	Broad casting
07	Cauliflower	Transplanting

Source of irrigation:

S. No.	Source of Irrigation	Number
01	River	NIL
02	Tank	01
03	Canal	NIL
04	Open well	50
05	Tube well	210

Method of irrigation: (Flood, Sprinkler, and Drip)

S. No.	Crop	Method
01	Soybean	NIL
02	Wheat	Flood
03	Gram	Flood
04	Potato	Flood
05	Garlic	Flood

Drainage Practices:

NIL

Water Table/level:

250-300 Feet

Water conservation practices:

Nil

Soil conservation practices:

Across sowing on sloppy land

Method of drudgery reduction:

Nil

Care and maintenance of agriculture implements: Occasionally (by outsider mechanic)**Knowledge about following improved implements:**

Rotavator	-	No
Double box seed drill	-	Yes
Disc plough	-	Yes
Disc harrow	-	Yes
Garlic planter	-	No
Spiral grader	-	No

Women in agriculture

Major agriculture work of rural women:

S. No.	Work	Practice	Recommended practice	Need	Intervention
1-	Weeding	Hand	Hand / wheel hoe	Partial	Trg. & Demo.
2-	Harvesting	Hand	Hand / Harvester	-	
3-	Storage	Traditional (Neem leaves and EDB)	EDB	Partial	Trg.
4-	Preservation of fruits (Mango & Lime)	Traditional	Scientific	Partial	Trg. & Demo.

Major agriculture work done by rural women:

- Weeding
- Harvesting
- Helps in threshing
- Grain storage and
- House work

Preservation -

- Mango - Pickle & Murabba
- Lime - Pickle
- Chilli - Pickle

Use of Soybean -

No knowledge of preparation and use of soya food in the diet. But maximum women want to prepare and use soya food like milk, nuts, sweets etc.

Health:

Malnutrition: NIL

Knowledge and use of Soybean in daily food: NIL

Knowledge of cloth stitching:(Yes/No), Yes, some women have

Use of fruit, vegetable and sprouted grains in Daily diet: (Yes/No) Yes

Any type of women SHG: NIL

Interest areas in which they want to improve the skill:

- 1- Preservation of fruits (Mango and Lime)
- 2- Improved weeding implements
- 3- Stitching of garments

Rank Based Quotient (Developed by Sabarathnam -1988) was used to find out the importance of farmers problems.

Formula is given below:

$$RBQ = \frac{\sum_{i=1}^n (F_i)(n+1-i)}{Nn} \times 100$$

Frequency of the farmers for various ranks of the problems (Crop – Soybean)

S.N.	Problem	I	II	III	IV	V	VI	VII	VIII	IX	X
1	Lack of resources			1				1			1
2	Lack of technical knowledge		1		1		1				
3	High seed rate		14			4				1	
4	No seed treatment	11		1	2		1			1	
5	Imbalance nutrition			14		3			1		
6	Incidence of seedling rot		12		2	1		1		1	1
7	Infestation of semilooper	14				2	1	1			
8	Infestation of girdle beetle			9			3		2		
9	Sterility				1			1		2	1
10	Use of poor quality chemical			1			2			1	

Number of participants: 20

Frequency of the farmers for various ranks of the problems (Crop – Soybean)

S.N.	Problem		RBQ Value
1	Lack of resources	10X0+9X0+8X1+7X0+6X0+5X0+4X1+3X0+2X0+1X1	4.33
2	Lack of technical knowledge	10X0+9X1+8X0+7X1+6X0+5X1+4X0+3X0+2X0+1X0	7.00
3	High seed rate	10X0+9X14+8X0+7X0+6X4+5X0+4X0+3X0+2X1+1X0	50.66
4	No seed treatment	10X11+9X0+8X1+7X2+6X0+5X1+4X0+3X0+2X1+1X0	46.33
5	Imbalance nutrition	10X0+9X0+8X14+7X0+6X3+5X0+4X0+3X1+2X0+1X0	44.33
6	Incidence of seedling rot	10X0+9X12+8X0+7X2+6X1+5X0+4X1+3X0+2X1+1X1	45.00
7	Infestation of semilooper	10X14+9X0+8X0+7X0+6X2+5X1+4X1+3X0+2X0+1X0	53.66
8	Infestation of girdle beetle	10X0+9X0+8X9+7X0+6X0+5X3+4X0+3X2+2X0+1X0	31.00
9	Sterility	10X0+9X0+8X0+7X1+6X0+5X0+4X1+3X0+2X2+1X1	5.33
10	Use of poor quality chemical	10X0+9X0+8X1+7X0+6X0+5X2+4X0+3X0+2X1+1X0	6.66

RBQ, M.V., and rank of different problems identified by the farmers value (Crop- Soybean)

S.N.	Problem	RBQ Value	Average % Loss	Area under crops (ha)	Magnitude Value	Rank
1	Lack of resources	4.33	4	12	207.84	X
2	Lack of technical knowledge	7.00	6	23	966.00	VIII
3	High seed rate	50.66	9	87	39666.78	III
4	No seed treatment	46.33	9	95	39612.15	IV
5	Imbalance nutrition	44.33	14	95	58958.90	II
6	Incidence of seedling rot	45.00	8	95	34200.00	V
7	Infestation of semilooper	53.66	15	95	76465.50	I
8	Infestation of girdle beetle	31.00	12	43	15996.00	VI
9	Sterility	5.33	3	15	239.85	IX
10	Use of poor quality chemical	6.66	9	46	2757.24	VII

Frequency of the farmers for various ranks of the problems (Crop – Wheat)

S.N.	Problem	I	II	III	IV	V	VI	VII	VIII	IX	X
1	Lack of resources					1		1			1
2	Lack of technical knowledge				1		1			1	
3	High seed rate		14			2			2		
4	No seed treatment	14			1			2			1
5	Use of old Varieties		12		2						
6	Use of poor quality seed			10		1	2			2	
7	Imbalance nutrition	14	3					1			1
8	Incidence of Weeds			6				2	3		
9	Infestation of termite				5		3			2	1
10	Use of poor quality chemical					1			1		

Number of participants: 20

Frequency of the farmers for various ranks of the problems (Crop – Wheat)

S.N	Problem		RBQ Value
1	Lack of resources	10X0+9X0+8X0+7X0+6X1+5X0+4X1+3X0+2X0+1X1	3.66
2	Lack of technical knowledge	10X0+9X0+8X0+7X1+6X0+5X1+4X0+3X0+2X1+1X0	4.66
3	High seed rate	10X0+9X14+8X0+7X0+6X2+5X0+4X0+3X2+2X0+1X0	48.00
4	No seed treatment	10X14+9X0+8X0+7X1+6X0+5X0+4X2+3X0+2X0+1X1	52.00
5	Use of old Varieties	10X0+9X12+8X0+7X2+6X0+5X0+4X0+3X0+2X0+1X0	40.66
6	Use of poor quality seed	10X0+9X0+8X10+7X0+6X1+5X2+4X0+3X0+2X2+1X0	33.33
7	Imbalance nutrition	10X14+9X3+8X0+7X0+6X0+5X0+4X1+3X0+2X0+1X1	57.33
8	Incidence of Weeds	10X0+9X0+8X6+7X0+6X0+5X0+4X2+3X3+2X0+1X0	21.66
9	Infestation of termite	10X0+9X0+8X0+7X5+6X0+5X3+4X0+3X0+2X2+1X1	18.33
10	Use of poor quality chemical	10X0+9X0+8X0+7X0+6X1+5X0+4X0+3X1+2X0+1X0	3.00

RBQ, M.V., and rank of different problems identified by the farmers value (Crop- Wheat)

S.N.	Problem	RBQ Value	Average % Loss	Area under crops	Magnitude Value	Rank
1	Lack of resources	3.66	4	11	161.04	IX
2	Lack of technical knowledge	4.66	5	16	372.80	VIII
3	High seed rate	48.00	8	73	28032.00	V
4	No seed treatment	52.00	9	80	37440.00	III
5	Use of old Varieties	40.66	16	64	41635.84	II
6	Use of poor quality seed	33.33	11	80	29330.40	IV
7	Imbalance nutrition	57.33	19	85	92587.95	I
8	Incidence of Weeds	21.66	9	21	4093.74	VI
9	Infestation of termite	18.33	4	14	1026.48	VII
10	Use of poor quality chemical	3.00	2	6	36.00	X

Frequency of the farmers for various ranks of the problems (Crop – Potato)

S.N.	Problem	I	II	III	IV	V	VI	VII	VIII	IX	X
1	Lack of resources			2			2			1	
2	Lack of technical knowledge				4			1		2	1
3	High seed rate			6		2		1	1		1
4	Improper seed treatment		14		4		1		1		
5	Imbalance nutrition		13		3		2			1	
6	Early blight	14			1	1		1		1	
7	Incidence of bacterial wilt	13		2			1	2	2		
8	Infestation aphid	8		4		2		1			1
9	Cracking	16		1		1	1			1	
10	Use of old variety seed			1	9			5		2	1

Number of participants: 20

Frequency of the farmers for various ranks of the problems (Crop – Potato)

S.N.	Problem		RBQ Value
1	Lack of resources	10X0+9X0+8X2+7X0+6X0+5X2+4X0+3X0+2X1+1X0	9.33
2	Lack of technical knowledge	10X0+9X0+8X0+7X3+6X0+5X0+4X2+3X0+2X2+1X1	11.33
3	High seed rate	10X0+9X0+8X8+7X0+6X2+5X0+4X1+3X1+2X0+1X1	28.00
4	Improper seed treatment	10X0+9X14+8X0+7X4+6X0+5X0+4X0+3X1+2X0+1X0	52.33
5	Imbalance nutrition	10X0+9X12+8X0+7X3+6X0+5X2+4X0+3X0+2X1+1X0	47.00
6	Early blight	10X14+9X0+8X0+7X0+6X1+5X0+4X0+3X0+2X1+1X0	49.33
7	Incidence of bacterial wilt	10X13+9X0+8X2+7X0+6X0+5X0+4X2+3X2+2X0+1X0	53.33
8	Infestation aphid	10X8+9X0+8X5+7X0+6X2+5X0+4X3+3X0+2X0+1X0	48.00
9	Cracking	10X16+9X0+8X1+7X0+6X1+5X1+4X0+3X0+2X1+1X0	60.33
10	Use of old variety seed	10X0+9X0+8X0+7X12+6X0+5X0+4X5+3X0+2X2+1X1	36.33

RBQ, M.V., and rank of different problems identified by the farmers value (Crop- Potato)

S. No.	Problem	RBQ Value	Average % Loss	Area under crops	Magnitude Value	Rank
1	Lack of resources	9.33	4	3	111.96	X
2	Lack of technical knowledge	11.33	5	5	283.25	IX
3	High seed rate	28.00	8	9	2016.00	VII
4	Improper seed treatment	52.33	9	21	9890.37	IV
5	Imbalance nutrition	47.00	16	21	15792.00	I
6	Early blight	49.33	11	21	11395.23	III
7	Incidence of bacterial wilt	53.33	11	21	12319.23	II
8	Infestation aphid	48.00	9	21	9072.00	V
9	Cracking	60.33	2	14	1689.24	VIII
10	Use of old variety seed	36.33	5	14	2543.10	VI

Frequency of the farmers for various ranks of the problems (Crop – Garlic)

S.N.	Problem	I	II	III	IV	V	VI	VII	VIII	IX	X
1	Lack of resources				1			1	1		
2	Lack of technical knowledge		5			3			1		1
3	High seed rate	9		1			2			2	2
4	No seed treatment	9		1		1	1		1	1	1
5	Imbalance nutrition	14			2			1		1	1
6	Weed infestation			4		2			1		
7	Leaf curling		6				2		2		1
8	Infestation of thrips	16			1		1	1		1	
9	Sprouting			4			1			1	
10	Use of poor quality chemical			13		3		2			

Number of participants: 20

Frequency of the farmers for various ranks of the problems (Crop – Garlic)

S.N.	Problem		RBQ Value
1	Lack of resources	10X0+9X0+8X0+7X1+6X0+5X0+4X1+3X1+2X0+1X0	4.66
2	Lack of technical knowledge	10X0+9X5+8X0+7X0+6X3+5X0+4X0+3X1+2X0+1X1	22.33
3	High seed rate	10X9+9X0+8X1+7X0+6X0+5X2+4X0+3X0+2X2+1X2	38.00
4	No seed treatment	10X9+9X0+8X1+7X0+6X1+5X1+4X0+3X1+2X1+1X1	38.33
5	Imbalance nutrition	10X14+9X0+8X0+7X2+6X0+5X0+4X1+3X0+2X1+1X1	53.66
6	Weed infestation	10X0+9X0+8X4+7X0+6X2+5X0+4X0+3X1+2X0+1X0	15.00
7	Leaf curling	10X0+9X6+8X0+7X0+6X0+5X2+4X0+3X2+2X0+1X1	23.66
8	Infestation of thrips	10X16+9X0+8X0+7X1+6X0+5X1+4X1+3X0+2X1+1X0	59.33
9	Sprouting	10X0+9X0+8X4+7X0+6X0+5X1+4X0+3X0+2X1+1X0	13.00
10	Use of poor quality chemical	10X0+9X0+8X13+7X0+6X3+5X0+4X2+3X0+2X0+1X0	43.33

RBQ, M.V., and rank of different problems identified by the farmers value (Crop- Garlic)

S. No.	Problem	RBQ Value	Average % Loss	Area under crops	Magnitude Value	Rank
1	Lack of resources	4.66	4	3	55.92	X
2	Lack of technical knowledge	22.33	5	5	558.25	IX
3	High seed rate	38.00	8	9	2736.00	V
4	No seed treatment	38.33	5	11	2108.15	VII
5	Imbalance nutrition	53.66	16	14	12019.84	I
6	Weed infestation	15.00	11	14	2310.00	VI
7	Leaf curling	23.66	11	14	3643.64	III
8	Infestation of thrips	59.33	9	14	7475.58	II
9	Sprouting	13.00	8	14	1456.00	VIII
10	Use of poor quality chemical	43.33	5	14	3033.10	IV

Frequency of the farmers for various ranks of the problems (Crop – Cauliflower)

S.N.	Problem	I	II	III	IV	V	VI	VII	VIII	IX	X
1	Lack of resources					1		1			
2	Lack of technical knowledge			1			1			1	
3	High plant population		11		1				1		1
4	Improper raising of nursery			8		2		3		1	
5	No seedling treatment			12		1				1	
6	Lanky seedlings			12		2		1			1
7	Imbalance nutrition	16			1				1		
8	Incidence of DBM	13			2			1			1
9	Infestation aphid	16			1			1			1
10	Use of poor quality chemical		10		2				1		

Number of participants: 20

Frequency of the farmers for various ranks of the problems (Crop – Cauliflower)

S.N.	Problem		RBQ Value
1	Lack of resources	10X0+9X0+8X0+7X0+6X1+5X0+4X1+3X0+2X0+1X0	3.33
2	Lack of technical knowledge	10X0+9X0+8X1+7X0+6X0+5X1+4X0+3X0+2X1+1X0	5.00
3	High plant population	10X0+9X11+8X0+7X1+6X0+5X0+4X0+3X1+2X0+1X1	36.66
4	Improper raising of nursery	10X0+9X0+8X8+7X0+6X2+5X0+4X3+3X0+2X1+1X0	30.00
5	No seedling treatment	10X0+9X0+8X12+7X0+6X1+5X0+4X0+3X0+2X1+1X0	34.66
6	Lanky seedlings	10X0+9X0+8X12+7X0+6X2+5X0+4X1+3X0+2X0+1X1	37.66
7	Imbalance nutrition	10X16+9X0+8X0+7X1+6X0+5X0+4X0+3X1+2X0+1X0	56.66
8	Incidence of DBM	10X13+9X0+8X0+7X2+6X0+5X0+4X1+3X0+2X0+1X1	53.00
9	Infestation aphid	10X16+9X0+8X0+7X1+6X0+5X0+4X1+3X0+2X0+1X1	57.33
10	Use of poor quality chemical	10X0+9X10+8X0+7X2+6X0+5X0+4X0+3X1+2X0+1X0	35.66

RBQ, M.V., and rank of different problems identified by the farmers value (Crop- Cauliflower)

S.N.	Problem	RBQ Value	Average % Loss	Area under crops	Magnitude Value	Rank
1	Lack of resources	3.33	4	3	39.96	X
2	Lack of technical knowledge	5.00	5	5	125.00	IX
3	High plant population	36.66	8	9	2639.52	V
4	Improper raising of nursery	30.00	9	12	3240.00	III
5	No seedling treatment	34.66	6	12	2495.52	VII
6	Lanky seedlings	37.66	7	12	3163.44	IV
7	Imbalance nutrition	56.66	18	12	12238.56	I
8	Incidence of DBM	53.00	12	4	2544.00	VI
9	Infestation aphid	57.33	13	12	8943.48	II
10	Use of poor quality chemical	35.66	5	12	2139.60	VIII

Suggestions to overcome the problems and constraints of farmers

After conducting PRA, many problems of farmers related to agriculture have come into the light. If we overcome these problems and constraints, farmers will get more than the present. Following suggestions could be useful to overcome these constraints and problems:

1. There should be organizing on farm training and demonstrations to educate the farmers about new technologies and recommended practices.
2. Agriculture inputs like seed, fertilizer, chemicals etc. should be made available in adequate quantity and quality on well time.
3. The required technical knowledge and skills about agriculture production technology should be made available to the farmers, farmwomen and rural youth well in time so that they can utilize it for increasing the production and productivity of their farming system.
4. Greater interaction of the farmers with the agriculture scientist/researchers should be ensured through Kisan Mela, Field Days, Field Visits and other extension activities.

Analysis of the information identifies the problems and needs of the farmers and shows ways to the project authority to plan educational strategy and programme.

Silotiya

(Block-Sanwer)

Village - SILOTIA

Village Silotia is situated 32 KM. away from KGNMT, Kasturbagram. All the information related to population farm families, cultivated land, available resources, soil type, cropping pattern etc. are given below:

Name of Village	Silotiya
Panchayat	Mandlawada
Tehsil	Sanwer
District	Indore
Police Office	Kshipra
Distance from road and name	2km From AB Road
Distance from KVK	32km
Population	1975
Farm family	108
Total Land	175 ha
Cultivated Land	169 ha
Irrigated Land	169 ha (Irrigated water availability till March-April)
Uncultivated Land	6 ha
Soil Depth	60-80 Feet (Black cotton, first 10 feet)
Small Land Holding	18
Medium Land Holding	40
Big Land Holding	45
Major Crops	Soybean, maize, potato, wheat, gram, garlic, onion, and Cauliflower
Natural Resources (Water)	Main source of drinking and irrigation water is tube well
Social and religious Institute	Temple - 2 Cooperative Society - 1
Educational Institute	School (Primary) -1 Anganwadi - 1
Commercial Institute	Kirana Shop - 3 Carpenter Shop- 1 Hair saloon - 1

Time Line

The sequences of important events of the village are as follows:

1960	Radio
1970	Fertilizer
1971	Electrification of village completed
1981	First tractor was purchased
1983	Soybean cultivation was started
1985	TV
1991	First School established
1991	Kachcha Road was constructed
1995	Telephone facility started
1997	Use of insecticide was started
1999	Anganwadi started
2002	Use of weedicide was started
2007	First Agriculture Extension agency (Krishi Vigyan Kendra, Kasturbagram) came.

Soil Type

The soils of the village are black and vary from medium to shallow black. The soils are mostly plain. Water holding capacity of the soil is good.

Water

The ground water level in the village is 250 Feet. The natural recharge of the ground water is low due to cementing action of black soil and low infiltration rate.

Farming system

The farming system is crop and animal based. Farmers are growing crops and fodder crops for rearing animal. Major agricultural operations are carried out from bullock and Tractor drawn implements.

Cropping Pattern

Farmers are growing various crops in Rabi, Kharif and Zaid season. Soybean and Maize in Kharif, Wheat, Gram, Potato, Garlic, Onion, and Cauliflower in Rabi and cucurbits in Zaid are the major crops of the village.

Agronomical Crops

Soybean

Like the most villages of the Malwa region, the soybean is the cash crop of this village. The productivity of the soybean is 16 Quintal per ha. Farmers are using 6 varieties of the soybean viz. JS-335, JS-7105, NRC 7, JS-9305, and Samrat. The choice of the farmers according to the soybean varieties is ranked by matrix ranking, which is given below:

S. No.	Farmers Criteria	JS-335	Samrat	JS 7105	JS 93-05	NRC 7
1.	Duration	3	5	5	4	4
2.	Yield	5	4	4	4	4
3.	Resistance to disease and pest	3	4	4	3	4
4.	Cost of input	5	4	4	4	4
5.	Price	5	5	5	5	5
Total		21	22	22	20	21
Rank		II	I	I	III	II

The above table shows that the JS-7105 and samrat variety of soybean is most popular in the village.

Crop production

Crop: Soybean

Season: Kharif

Situation: Rainfed

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
01	Field preparation	3 times	3 times	Nil	Nil
02	Varieties	Samrat, BS-2, JS-335, NRC-7, JS-71-05, & JS-93-05	JS-93-05 and JS-95-60	Partial	Demo. & Training
03	Sowing method	Single box Seed drill, seed + fertilizer	Seed cum Ferti drill	Full	Demo.
04	Seed treatment	10% farmers are doing	Carbandazim @3gm/kg seed	Partial	Training

05	Seed inoculation	NIL	Rhi & PSB @5 gram/kg seed	Full	Demo.
06	Seed rate	90-100 Kg/ha	75 kg/ha	Partial	Training
07	Time of sowing	June last week/July 1 st week	June last week/July 1 st	Nil	Nil
08	Type of seed	Own seed	Certified seed	Full	Demo.
09	Spacing	14 inch (50%) 18 inch (50%)	18 inch (50%)	Partial	Training
10	Manure	10 ton/ha	10 ton/ha	Nil	Nil
11	Fertilizer	N 9-21 Kg./ha P 23-69 Kg./ha	N 20, P 60-80, K-20,S-20 Kg./ha	Partial	Training
12	Weeding 1- Hand 2-Dora 3-Chemical	1 times 2 times 30% are using	1 times 2 times Pendamethaline Emazathpyr @ 1lit/ha	Partial	Training
13	Diseases 1- Yellow mosaic 2- Bacterial Pastule 3- Seeding rot 4-Non-Podding	Nil	Nil	Nil	Nil
14	Control Measures	NIL	Seed treatment, Reco. Seed rate	Full	Demo.
15	Insects 1- Blue Beetle 2- Semi looper 3- Girdle Beetle 4- Heliothis	Nil	Nil	Nil	Nil
16	Control Measures	Endo, Mono & Trizophos 1 Lit/ha (3 Spray)	Endo- 1 Lit Mythomil-1.2 Lit Trizophos-0.8 Lit /ha	Partial	Training
17	Any type of seed production?	NIL	-	-	-
18	Identification of Maturity stage	Yellow leaves	Yellow leaves	Nil	Nil
19	Harvesting method	By hand	By hand	Nil	Nil
20	Threshing method	Tractor Thresher	Tractor Thresher (800RPM)	Partial	Training
21	Production (Qnt./ ha.)	Samrat - 13-14 Q/ha JS93-05: 13-14 Q. JS - 71-05: 14-15Q. NRC-7: 13-14 Q/ha JS 335: 14-15 Q/ha	JS93-05: (25-30 Q.) NRC-7: (25-30 Q) JS 335: (25-30 Q)	-	-
22	Product utilization i-Own consumption ii-Sell out in market iii- Storage	Sell out in market	i-Own consumption ii-Sell out in market iii-Storage	Partial	Training

Crop: Wheat**Season: Rabbi****Situation: Irrigated**

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
1.	Field preparation	3 Times (With 1 planking)	3 Times (With 1 planking)	Nil	Nil
2.	Variety	LOK-1, Malav Shri, Malav Shakti, Malav Ratna	Malav Shakti, Malav Ratna HI-1418 GW-173	Partial	OFT
3.	Seed rate	100-125 Kg/ha	100-125 Kg/ha	Nil	Nil
4.	Sowing method	Single Box Seed drill (Mix with fertilizer)	Seed cum Ferti drill	Full	Demo.
5.	Seed treatment	NIL	Thirum@3gm/kg seed	Full	Demo.
6.	Seed inoculation	NIL	Azato & PSB @5 gram/kg seed	Full	Demo.
7.	Spacing	9 inch	9 inch	Nil	Nil
8.	Type of seed	Own & certified seed	Certified	Partial	Training & Demo
9.	Weeding	Chemical (2-4 D@1.5 Lit/ha)	2-4 D@0.5 & Isoproturon@1kg AI /ha	Partial	Training
10.	Fertilizer / ha	N - 60 Kg. P - 104 Kg. K - 16 Kg.	N – 80,P - 40 K - 20 Kg./ha(2-Irri.) N – 120, P - 60K - 40 Kg./ha (Irri.)	Partial	OFT
11.	Irrigation	4-6 times	2-6 times	Nil	Nil
12.	Disease	Smut & bunt (Occasionally) Black coloured leashed	Nil	Nil	Nil
13.	Control	NIL	Thirum@3gm/kg seed& resistant varieties	Full	Demo.
14.	Insects	Termite & Shot Borer	Nil	Nil	Nil
15.	Control	NIL	Phorate@10kg/ha	Full	Demo.
16.	Yield	Lok - 1, 45 Qnt. Malav Shakti & Malav Shree- 45-50 Q/ha Malav Ratna - 48-52 Q/ha	Malav Shakti-60 Malav Ratna-60 HI-1418-45 GW-173-64 Q/ha	Nil	Nil
17.	Storage	In bins with EDB ampoule & neem leaves	In bins with EDB ampoule	Partial	Training

18.	Crop residue Burning	Burning	No Burning	Full	Awareness camp
19.	Harvesting method	By hand	By hand	Nil	Nil

Crop: Gram

Season: Kharif

Situation: Irrigated

Variety : Ujain 21 and Dollar

Rec. Variety : JG 218 & JG 412

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
1.	Field preparation	2 Times	2 Times+ 1 planking	Nil	Nil
2.	Seed rate	110-130 Kg/ha	75-100 Kg/ha	Partial	Demo.
3.	Seed treatment	25% farmers are doing	Carbandazim @3gm/kg seed	Partial	Demo.
4.	Seed inoculation	NIL	Rhi & PSB @5gram each /kg seed	Full	Demo.
5.	Sowing method	Seed Drill	Seed cum Ferti drill	Full	Demo.
6.	Type of seed	Own seed	Certified	Full	Demo.
7.	Weeding	NIL	By Hand	Full	Demo.
8.	Spacing	14 inch	18 inch	Partial	Demo.
9.	Fertilizer	N-18, P-128 Kg.	N-20, P-50Kg.	Partial	Demo.
10.	Irrigation	2 (+ 1 Palewa)	2 (+ 1 Palewa)	Nil	Nil
11.	Time of sowing	Oct last week to Nov-IIInd week	15Oct-15Nov	Nil	Nil
12.	Diseases	Wilt	Nil	Nil	Nil
13.	Control Measures	NIL	Seed treatment & Spray of M-45@ 0.3%	Full	Demo.
14.	Insects	Gram cut worm Caterpillar	Gram cut worm & Caterpillar	Nil	Nil
15.	Control Measures	Endo - 1 Lit (Use of water in insecticide solution is 150-200 lit./ha	Endo – 1.5 Lit Profeno. -1.5 Lit Trizophos-0.8 Lit /ha	Partial	Demo.

16.	Harvesting method	By hand	By hand	Nil	Nil
17.	Threshing	By tractor operated thresher	Electric & Tractor drawn Thresher (800RPM)	Partial	Training
18.	Production	14-17 (Qnt./ ha.)	15-18 (Qnt./ ha.)	Nil	Nil
19.	Storage	In bins with EDB ampoule & neem leaves	In bins with EDB ampoule	Partial	Trainning
20.	Crop residue burning	Burning	No burning	Complete	Awareness camp

Horticulture

Crop: Cauliflower Season: Kharif

Situation: Rainfed

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
1.	Field preparation	4 Times+1Planking	4 Times+1Planking	Nil	Nil
2.	Variety	Hybrid of Rajkumar	Pusa early synthetic	Partial	Training & Demo.
3.	Seed rate	600 gm./ha	600 gm./ha	Nil	Nil
4.	Spacing	p x p(12") r x r (22")	p x p(18") r x r (24")	Partial	Training & Demo.
5.	Transplanting	Use 30 day old seedlings	Use 30 day old seedlings	Nil	Nil
6.	Manure	10 Ton / ha	15 -20Ton /ha	Partial	Training
7.	Fertilizer	N - 380 Kg. P - 280 Kg (Top dressing of DAP)	N - 60 Kg. P - 40 Kg K - 40 Kg (60 Kg.N after 45 Days)	Full	Demo.
8.	Insect Pest	DBM & Aphid	Nil	Nil	Nil
9.	Control	Rogar 1 Lit./ha Imidacloprid 250 ml./ha	Rogar 1.25 or Imidacloprid 250 ml./ha Quinolphos 625 ml or Triclorophon 625 ml /ha	Partial	Training
10.	Diseases	Blight, Whiptail, Risiness	Nil	Nil	Nil
11.	Control	M-45 (1.25 Kg/ha)	M-45 (1.25 Kg /ha)& INM	Partial	Training
12.	Weeding	2-3 times hand weeding use of whip super @1 Lit./ha	2-3 times hand weeding,	Partial	Training
13.	Harvesting	Manually	Manually	Nil	Nil
14.	Crop duration	90-95 days	90-95 days	Nil	Nil
15.	Yield	36000 to 45000 no./ha	45000 to 50000 no./ha	-	-

Crop: Potato

Season: Rabi

Situation: Irrigated

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
1.	Field preparation	2 Times	3 Times+1Planking	Partial	Training
2.	Variety	Jyoti, Chipsona 1 & 2, Lokar	K.Jyoti, Chipsona 1&2&3,K.Surya	Partial	Training
3.	Seed rate	30-35 q/ha	25-30 q/ha	Partial	Training
4.	Spacing	60 cm.	60 cm.	Nil	Nil
5.	Seed treatment	10% farmers are doing with Dithane M-45 (2.5% Sol.)	Dithane M-45 (2.5% Sol.)	Partial	Training, Demo.
6.	Earthing	1 times	2 times	Partial	Training
7.	Fertilizer	N - 174 P - 168 K - 75 Kg/ha	N - 120 P - 100 K - 75 Kg/ha	Partial	Training & Demo.
8.	Manure	5-10 Ton /ha	5-10 Ton /ha	Nil	Nil
9.	Disease	Blight and Bacterial wilt	M-45(1.5 Kg/ha) CuOCl ₂ (2-2.5 Kg/ha)	Partial	Demo.
10.	Control	M-45 1-1.5 Kg/ha (Spray)	M-45 1-1.5 Kg/ha (Spray)	Partial	Training & Demo.
11.	Insect	Aphid	Nil	Nil	Nil
12.	Control	Rogar 1 Lit/ha	Dimethoate-1 Lit/ha Or Imedacloprid(0.2-0.3 Lit/ha)	Partial	Training & Demo.
13.	Harvesting	by Desi plough	by plough	Nil	Nil
14.	Yield	200-250 q./ha	225-275 q./ha	Nil	Nil
15.	Storage	Yes, in the cold storage	Cold storage	Nil	Nil

Crop: Garlic**Season: Rabi****Situation: Irrigated**

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
1.	Field preparation	2 Times	3 Times +1 Planking	Partial	Training
2.	Variety	Jamnagar & Amleta	J. Garlic-282	Partial	Demo.
3.	Seed rate	4-4.5 q/ha	1.36-2.27 Qnt/ha	Full	Deom.
4.	Spacing	9"- 6"	15" – 7.5"	Partial	Demo.
5.	Seed treatment	NIL	M-45 @ 0.2%	Partial	Training
6.	Sowing method	Broad Cost, dibling, garlic planter	Broad Cost, dibling, garlic planter	Nil	Nil
7.	Weeding	2-3 Times by hand	Hand weeding	Nil	Nil
8.	Manure	5-10 Ton /ha	40-50 Ton /ha	Partial	Training
9.	Fertilizer	N - 115 Kg. P - 72 Kg K - 150 Kg	N - 150 Kg. P - 40 Kg K - 50 Kg	Partial	Demo.
10.	Irrigation	10-12	10-12	NIL	NIL
11.	Diseases	Leaf curling	Nil	Nil	Nil
12.	Control Measures	NIL	Control of vector & Disease free seed	Full	Deom.
13.	Insects	Thrips & Aphid	Nil	Nil	Nil
14.	Control 1- Measures 2-	Rogar - 1 Lit/ha	Dimethoate-1 Lit Or Imedacloprid(0.2-0.3 Lit/ha)	Partial	Training
15.	Production	60-65 (Qnt./ ha.)	60-110(Qnt./ ha.)	Nil	Nil

Crop: Onion**Season: Rabi****Situation: Irrigated**

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
15.	Field preparation	2-3 Times	3 Times + 1 Planking	Partial	Training
16.	Variety	Desi White, Hybrid Prashant	ALR	Partial	Demo.
17.	Sowing method				
18.	Seed rate	9 kg/ha	8 kg/ha	Partial	Demo.
19.	Spacing	9"	10" – 15"	Partial	Training
20.	Seed treatment	NIL	Thiram @3gm/ kg	Full	Training &

			seed		Demo.
21.	Weeding				
22.	Manure	4-5 Ton /ha	20-25 Ton /ha	Partial	Training
23.	Fertilizer	N - 115 Kg. P - 72 Kg K - 150 Kg	N - 150 Kg. P - 40 Kg K - 50 Kg	Partial	Training & Demo.
24.	Irrigation	12-15	12-15	NIL	NIL
25.	Diseases	Leaf curling	NIL	NIL	NIL
26.	Control Measures	NIL	Control of vector & Disease free seed	Full	Training
27.	Insects	Thrips & Aphid	NIL	NIL	NIL
28.	Control Measures	Rogar - 1 Lit/ha	Dimethoate-1 Lit Or Imidacloprid (0.2-0.3 Lit/ha)	Partial	Training & Demo.
29.	Production	250-300 (Qnt./ha.)	300-350 (Qnt./ha.)	NIL	NIL

Crop: Cucurbits (cucumber)

Crop: Cucumber

Season: Zaid

Situation: Irrigated

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
1.	Field preparation	2-3 Times	3 Times + 1 Planking	Partial	Training
2.	Variety	Local & Hybrid	Pusa sanyog , himangi	Partial	Demo.
3.	Sowing method				
4.	Seed rate	3.5kg/ha	2.5 kg/ha.	Partial	Demo.
5.	Spacing	75 -100 cm	75 -100 cm	Nil	Nil
6.	Seed treatment	Nil	Thirum@3gm/kg	Full	Training & Demo.
7.	Manure	10 ton/ha.	10 ton/ha.	Nil	Nil
8.	Fertilizer	138:100:80	200:125:125	Partial	Demo.
9.	Irrigation	12-15	12-15	NIL	NIL
10.	Diseases	Powdery mildew	NIL	NIL	NIL
11.	Control Measures	Nil	Sulphex @0.2% Calixin @0.5%	Full	Training
12.	Insects	Fruitfly, red pumpkin beetle	NIL	NIL	NIL
13.	Control Measures	Dimethoate@0.2%	Carbary@0.1%	Partial	Training & Demo.
14.	Production	80-90qnt/ha	110qnt/ha.	NIL	NIL

Animal Science**Live stock population:**

S. No.	Type of animal	Number
01	Cow	80 (23-Desi & 57- Cross breed)
02	Buffalo	250 (Desi - 60, Murrah- 190)
03	Bullock	70 Pair
04	Goat	45

Purpose of live stock rearing:

S. No.	Type of animal	Purpose
01	Cow	Milk
02	Buffalo	-do-
03	Bullock	Agril. operations
04	Goat	Selling

Milk production/ day /animal

S. No.	Type of animal	Quantity
01	Cow	8-9 Lit
02	Buffalo	9-10 Lit

Total milk production- 2500 - 3000 lit/day**Average Milk Production During the year**

S. No.	Month	Avg. Milk (in lit. / Day)
1	January	2250-2300
2	February	2100-2150
3	March	2050-2150
4	April	1750-1800
5	May	1700-1750
6	June	1700-1750
7	July	2500-2700
8	August	2700-2900
9	September	2850-3000
10	October	2450-2600
11	November	1900-2100
12	December	2300-2400

Type of house for animal:

Kuchcha & Pucca

Feed:

- 1-Green fodder - Green - Maize, Jowar & Barseem
2-Straw - Wheat, Gram & Soybean
3-Radimade feed (concentrate) - Occasionally for milch animal

- 4-Mix fodder - For milch animal
- 5-Other(Cotton cake) - For milch animal

Method of fodder (Green/dry) storage:

- 1- NIL for green fodder
- 2- Traditional for straw

Major Diseases of livestock:

- 1- Goat - FMD
- 2- Cow, Buffalo - FMD, Mastitis, kali Peshab & H.S
- 3- Bullock - FMD, Mastitis, kali Peshab & H.S

Facility of Hospital: (Yes/No) NO

Distance from village: -----km. **6 KM. away from the village**

A.I. practices:(Yes/No) NO

Vaccination:(Yes/No) NO

Knowledge of improved fodder crops: YES

Use of improved fodder crops: Yes

Knowledge of improved fodder crop Cultivation practices: No

Agriculture Engineering

Available implements	Tractor – 20, Trolley – 19, Cultivator - 20 M.B. Plough – 2, Duckfoot - 20 Seed drill – 20, Sprayer – 85, Dufan - 3 Potato planter – 10, Leveller - 4 Bullock cart – 60, Bullock pair - 70 Set of bullock drawn implements - 60 Thresher - 1 (Tractor drawn) Thresher - 6 (Electric) Diesel Engine – 3, Generator - 2
Irrigation	Dug well – 1, Tube well - 250 Electric Motor - 300
Irrigation system	Flood
Sowing technique by seed drill	Seed mixed with fertilizer
Ground Water level	250-350 Feet
Field Preparation	9 tine cultivator - 2 times Duck foot - 1 time (with 1 planking)
Intercropping	No
Zero tillage Practice	No
Soil and water conservation practice	No (No need)

Field preparation:

I- Kharif crops - 3 times (by duck foot cultivator & 2 times cultivator)

II- Rabi crops - 2 times (Duck foot & 9 tine cultivator)

Sowing method:

S. No.	Crop	Method
01	Soybean	Single box seed drill
02	Maize	Dufan
03	Wheat	Single box seed drill
04	Gram	Single box seed drill
05	Potato	Planter
06	Garlic	Broad casting
07	Onion	Transplanting

Source of irrigation:

S. No.	Source of Irrigation	Number
01	River	NIL
02	Tank	NIL
03	Canal	NIL
04	Open well	2
05	Tube well	250

Method of irrigation: (Flood, Sprinkler, and Drip)

S. No.	Crop	Method
01	Soybean	NIL
02	Maize	NIL
03	Wheat	Flood
04	Gram	Flood
05	Potato	Flood
06	Garlic	Flood
07	Onion	Flood

Drainage Practices: NIL

Water Table/level: 250-300 Feet

Water conservation practices: Nil

Soil conservation practices: Across sowing on sloppy land

Method of drudgery reduction: Nil

Care and maintenance of agriculture implements:

Occasionally (by outsider mechanic)

Knowledge about following improved implements:

Rotavator	-	No
Double box seed drill	-	Yes
Disc plough	-	Yes
Disc harrow	-	Yes
Garlic planter	-	No
Spiral grader	-	No

Women in agriculture

Major agriculture work of rural women:

S. No.	Work	Practice	Recommended practice	Need	Intervention
1-	Weeding	Hand	Hand / wheel hoe	Partial	Trg. & Demo.
2-	Harvesting	Hand	Hand / Harvester	-	
3-	Storage	Traditional (Neem leaves and EDB)	EDB	Partial	Trg.
4-	Preservation of fruits (Mango & Lime)	Traditional	Scientific	Partial	Trg. & Demo.

- | |
|---|
| <ul style="list-style-type: none"><input type="checkbox"/> Use of soybean in diet - No (but want to learn how to prepare soya food)<input type="checkbox"/> Kitchen garden - No<input type="checkbox"/> Availability of labour throughout the year. There is a crisis of agriculture labour in the month of September and October in the village. |
|---|

Health:

Malnutrition: NO

Knowledge and use of Soybean in daily food: NIL

Knowledge of cloth stitching: (Yes/No), Yes, some women have

Use of fruit, vegetable and sprouted grains in Daily diet: (Yes/No) Yes

Any type of women SHG Nos: : No

Interest areas in which they want to improve the skill:

- 1- Preservation of fruits (Mango and Lime)
- 2- Improved weeding implements
- 3- Stitching of garments

Rank Based Quotient (Developed by Sabarathnam -1988) was used to find out the importance of farmers problems.

Formula is given below:

$$RBQ = \frac{\sum_{i=1}^n (F_i) (n+1-i)}{Nn} \times 100$$

Frequency of the farmers for various ranks of the problems (Crop – Soybean)

S.N.	Problem	I	II	III	IV	V	VI	VII	VIII	IX	X
1	Lack of resources			1				1			1
2	Lack of technical knowledge		1		1		1				
3	High seed rate		12			4				1	
4	No seed treatment	11			2		1			1	
5	Imbalance nutrition			14		3			1		
6	Incidence of seedling rot		13		2	1		1		1	1
7	Infestation of semilooper	14				2	1	1			
8	Infestation of girdle beetle			10			3		2		
9	Sterility				1			1		2	1
10	Use of poor quality chemical						2			1	

Number of participants: 20

Frequency of the farmers for various ranks of the problems (Crop – Soybean)

S.N.	Problem		RBQ Value
1	Lack of resources	10X0+9X0+8X1+7X0+6X0+5X0+4X1+3X0+2X0+1X1	6.50
2	Lack of technical knowledge	10X0+9X1+8X0+7X1+6X0+5X1+4X0+3X0+2X0+1X0	10.50
3	High seed rate	10X0+9X12+8X0+7X0+6X4+5X0+4X0+3X0+2X1+1X0	67.00
4	No seed treatment	10X11+9X0+8X0+7X2+6X0+5X1+4X0+3X0+2X0+1X1	65.50
5	Imbalance nutrition	10X0+9X0+8X14+7X0+6X3+5X0+4X0+3X1+2X0+1X0	66.5
6	Incidence of seedling rot	10X0+9X13+8X0+7X2+6X1+5X0+4X1+3X0+2X1+1X1	72.00
7	Infestation of semilooper	10X14+9X0+8X0+7X0+6X2+5X1+4X1+3X0+2X0+1X0	80.50
8	Infestation of girdle beetle	10X0+9X0+8X10+7X0+6X0+5X3+4X0+3X2+2X0+1X0	50.50
9	Sterility	10X0+9X0+8X0+7X1+6X0+5X0+4X1+3X0+2X2+1X1	8.00
10	Use of poor quality chemical	10X0+9X0+8X0+7X0+6X0+5X2+4X0+3X0+2X1+1X0	6.00

RBQ, M.V., and rank of different problems identified by the farmers value (Crop- Soybean)

S.N.	Problem	RBQ Value	Average % Loss	Area under crops (ha)	Magnitude Value	Rank
<u>1</u>	Lack of resources	6.50	4	6	156.00	IX
<u>2</u>	Lack of technical knowledge	10.50	6	16	1008.00	VIII
<u>3</u>	High seed rate	67.00	9	32	19296.00	VI
<u>4</u>	No seed treatment	65.50	9	130	76635.00	III
<u>5</u>	Imbalance nutrition	66.50	14	130	121030.00	II
<u>6</u>	Incidence of seedling rot	72.00	8	130	74880.00	IV
<u>7</u>	Infestation of semilooper	80.50	15	130	156975.00	I
<u>8</u>	Infestation of girdle beetle	50.50	12	32	19392.00	V
<u>9</u>	Sterility	8.00	3	4	96.00	X
<u>10</u>	Use of poor quality chemical	6.00	9	32	1728.00	VII

Frequency of the farmers for various ranks of the problems (Crop – Wheat)

S.N.	Problem	I	II	III	IV	V	VI	VII	VIII
1	Lack of resources					1		1	
2	Lack of technical knowledge				1		1		
3	High seed rate		6		1	1			
4	No seed treatment	14			1			1	
5	Use of old Varieties		8		2		1		
6	Use of poor quality seed		1	8		1	2		
7	Imbalance nutrition	14	3			1		1	
8	Incidence of Weeds			4			1	2	
9	Infestation of termite	1	1		2		3		
10	Use of poor quality chemical			1		2		1	

Number of participants: 20

Frequency of the farmers for various ranks of the problems (Crop – Wheat)

S. N.	Problem		RBQ Value
1	Lack of resources	10X0+9X0+8X0+7X0+6X1+5X0+4X1+3X0+2X0+1X0	3.33
2	Lack of technical knowledge	10X0+9X0+8X0+7X1+6X0+5X1+4X0+3X0+2X1+1X0	4.66
3	High seed rate	10X0+9X6+8X0+7X1+6X1+5X0+4X0+3X2+2X0+1X0	24.33
4	No seed treatment	10X14+9X0+8X0+7X1+6X0+5X0+4X1+3X0+2X0+1X1	50.66
5	Use of old Varieties	10X0+9X8+8X0+7X2+6X0+5X1+4X0+3X0+2X0+1X0	30.33
6	Use of poor quality seed	10X0+9X1+8X8+7X0+6X1+5X2+4X0+3X0+2X2+1X0	31.00
7	Imbalance nutrition	10X14+9X3+8X0+7X0+6X1+5X0+4X1+3X0+2X0+1X1	59.33
8	Incidence of Weeds	10X0+9X0+8X4+7X0+6X0+5X1+4X2+3X3+2X0+1X0	18.00
9	Infestation of termite	10X1+9X1+8X0+7X2+6X0+5X3+4X0+3X0+2X2+1X1	17.66
10	Use of poor quality chemical	10X0+9X0+8X1+7X0+6X2+5X0+4X0+3X1+2X1+1X0	8.33

RBQ, M.V., and rank of different problems identified by the farmers value (Crop- Wheat)

Sl.N.	Problem		Average % Loss	Area under crops	Magnitude Value	Rank
<u>1</u>	Lack of resources	3.33	4	3	39.96	IX
<u>2</u>	Lack of technical knowledge	4.66	5	2	46.60	VIII
<u>3</u>	High seed rate	24.33	8	12	2335.68	V
<u>4</u>	No seed treatment	50.66	9	43	19605.42	II
<u>5</u>	Use of old Varieties	30.33	16	21	10190.88	IV
<u>6</u>	Use of poor quality seed	31.00	11	32	10912.00	III
<u>7</u>	Imbalance nutrition	59.33	19	46	51854.42	I
<u>8</u>	Incidence of Weeds	18.00	9	12	1944.00	VI
<u>9</u>	Infestation of termite	17.66	4	4	282.56	VII
<u>10</u>	Use of poor quality chemical	8.33	2	2	33.32	X

Frequency of the farmers for various ranks of the problems (Crop – Potato)

S.N.	Problem	I	II	III	IV	V	VI	VII	VIII	IX	X
1	Lack of resources					1			1		1
2	Lack of technical knowledge			2		2		1		1	
3	High seed rate			4			3		2	1	1
4	Improper seed treatment		16			1		1			1
5	Imbalance nutrition	20									
6	Early blight			13		5		1	1		
7	Incidence of bacterial wilt		4		6		3			1	1
8	Infestation aphid		17	1	1	1					
9	Cracking				2		1		1		1
10	Use of old variety seed		13	2			1		1	1	1

Number of participants: 20

Frequency of the farmers for various ranks of the problems (Crop – Potato)

S.N.	Problem		RBQ Value
1	Lack of resources	$10X0+9X0+8X0+7X0+6X1+5X0+4X0+3X1+2X0+1X1$	3.33
2	Lack of technical knowledge	$10X0+9X0+8X2+7X0+6X2+5X0+4X1+3X0+2X1+1X0$	11.33
3	High seed rate	$10X0+9X0+8X4+7X0+6X0+5X3+4X0+3X2+2X1+1X1$	18.66
4	No seed treatment	$10X0+9X16+8X0+7X0+6X1+5X0+4X1+3X0+2X0+1X1$	51.66
5	Imbalance nutrition	$10X20+9X0+8X0+7X0+6X0+5X0+4X0+3X0+2X1+1X0$	66.66
6	Early blight	$10X0+9X0+8X13+7X0+6X5+5X0+4X1+3X1+2X0+1X0$	47.00
7	Incidence of bacterial wilt	$10X0+9X4+8X0+7X6+6X0+5X3+4X0+3X0+2X1+1X1$	32.00
8	Infestation aphid	$10X0+9X17+8X1+7X1+6X1+5X0+4X0+3X0+2X0+1X0$	58.00
9	Cracking	$10X0+9X0+8X0+7X2+6X0+5X1+4X0+3X1+2X0+1X1$	7.66
10	Use of old variety seed	$10X0+9X13+8X2+7X0+6X0+5X1+4X0+3X1+2X1+1X1$	48.00

RBQ, M.V., and rank of different problems identified by the farmers value (Crop- Potato)

<u>S.N.</u>	<u>Problem</u>	<u>RBQ Value</u>	<u>Average % Loss</u>	<u>Area under crops</u>	<u>Magnitude Value</u>	<u>Rank</u>
<u>1</u>	Lack of resources	3.33	4	7	93.24	X
<u>2</u>	Lack of technical knowledge	11.33	9	12	1223.64	VIII
<u>3</u>	High seed rate	18.66	6	15	1679.40	VII
<u>4</u>	No seed treatment	51.66	11	30	17047.80	IV
<u>5</u>	Imbalance nutrition	66.66	17	40	45324.80	I
<u>6</u>	Early blight	47.00	13	40	24440.00	III
<u>7</u>	Incidence of bacterial wilt	32.00	9	15	4320.00	VI
<u>8</u>	Infestation aphid	58.00	15	40	34800.00	II
<u>9</u>	Cracking	7.66	10	15	1149.00	IX
<u>10</u>	Use of old variety seed	48.00	9	30	12960.00	V

Frequency of the farmers for various ranks of the problems (Crop – Onion)

S.N.	Problem	I	II	III	IV	V	VI	VII	VIII	IX	X
1	Lack of resources					1			1		1
2	Lack of technical knowledge					2		1		1	
3	Improper raising of nursery			4			3		2	1	1
4	No treatment of seedlings		16			1		1			1
5	Infestation of Weeds			13		5		1	1		
6	Imbalance nutrition	20									
7	Botrytis blight		3		2		1			1	1
8	Incidence of leaf curling					2	1		1		1
9	Infestation of thrips		17	1	1	1					
10	Use of poor quality chemical		3	2			1		1	1	1

Number of participants: 20

Frequency of the farmers for various ranks of the problems (Crop – Onion)

S.N.	Problem		RBQ Value
1	Lack of resources	10X0+9X0+8X0+7X0+6X1+5X0+4X0+3X1+2X0+1X1	3.33
2	Lack of technical knowledge	10X0+9X0+8X0+7X0+6X2+5X0+4X1+3X0+2X1+1X0	6.00
3	Improper raising of nursery	10X0+9X0+8X4+7X0+6X0+5X3+4X0+3X2+2X1+1X1	18.66
4	No treatment of seedlings	10X0+9X16+8X0+7X0+6X1+5X0+4X1+3X0+2X0+1X1	51.66
5	Infestation of Weeds	10X0+9X0+8X13+7X0+6X5+5X0+4X1+3X1+2X0+1X0	47.00
6	Imbalance nutrition	10X20+9X0+8X0+7X0+6X0+5X0+4X0+3X0+2X0+1X0	66.66
7	Botrytis blight	10X0+9X3+8X0+7X2+6X0+5X1+4X0+3X0+2X1+1X1	16.33
8	Incidence of leaf curling	10X0+9X0+8X0+7X0+6X2+5X1+4X0+3X1+2X0+1X1	7.00
9	Infestation of thrips	10X0+9X17+8X1+7X1+6X1+5X0+4X0+3X0+2X0+1X0	58.00
10	Use of poor quality chemical	10X0+9X3+8X2+7X0+6X0+5X1+4X0+3X1+2X1+1X1	18.00

RBQ, M.V., and rank of different problems identified by the farmers value (Crop- Onion)

<u>S.N.</u>	<u>Problem</u>	<u>RBQ Value</u>	<u>Average % Loss</u>	<u>Area under crops</u>	<u>Magnitude Value</u>	<u>Rank</u>
<u>1</u>	Lack of resources	3.33	4	2	26.64	X
<u>2</u>	Lack of technical knowledge	6.00	9	4	216.00	VIII
<u>3</u>	Improper raising of nursery	18.66	6	12	1343.52	V
<u>4</u>	No treatment of seedlings	51.66	6	12	3719.52	IV
<u>5</u>	Infestation of Weeds	47.00	13	12	7332.00	III
<u>6</u>	Imbalance nutrition	66.66	17	12	13598.64	I
<u>7</u>	Botrytis blight	16.33	9	3	440.91	VI
<u>8</u>	Incidence of leaf curling	7.00	7	4	196.00	IX
<u>9</u>	Infestation of thrips	58.00	14	12	9744.00	II
<u>10</u>	Use of poor quality chemical	18.00	4	4	288.00	VII

Frequency of the farmers for various ranks of the problems (Crop – Garlic)

S.N.	Problem	I	II	III	IV	V	VI	VII	VIII	IX	X
1	Lack of resources				1				1		
2	Lack of technical knowledge		3			2			1		1
3	High seed rate	3		1			2			2	2
4	No seed treatment	4		1		1	1		1	1	1
5	Imbalance nutrition	14	1		2			1		1	1
6	Weed infestation			3		2			1		
7	Leaf curling		7				2		2		1
8	Infestation of thrips	16			1		1	1		1	
9	Sprouting			4			2			1	
10	Use of poor quality chemical			8		3		2			

Number of participants: 20

Frequency of the farmers for various ranks of the problems (Crop – Garlic)

S.N.	Problem	
1	Lack of resources	10X0+9X0+8X0+7X1+6X0+5X0+4X0+3X1+2X0+1X0
2	Lack of technical knowledge	10X0+9X3+8X0+7X0+6X2+5X0+4X0+3X1+2X0+1X1
3	High seed rate	10X3+9X0+8X1+7X0+6X0+5X2+4X0+3X0+2X2+1X2
4	No seed treatment	10X4+9X0+8X1+7X0+6X1+5X1+4X0+3X1+2X1+1X1
5	Imbalance nutrition	10X14+9X1+8X0+7X2+6X0+5X0+4X1+3X0+2X1+1X1
6	Weed infestation	10X0+9X0+8X3+7X0+6X2+5X0+4X0+3X1+2X0+1X0
7	Leaf curling	10X0+9X7+8X0+7X0+6X0+5X2+4X0+3X2+2X0+1X1
8	Infestation of thrips	10X16+9X0+8X0+7X1+6X0+5X1+4X1+3X0+2X1+1X0
9	Sprouting	10X0+9X0+8X4+7X0+6X0+5X2+4X0+3X0+2X1+1X0
10	Use of poor quality chemical	10X0+9X0+8X8+7X0+6X3+5X0+4X2+3X0+2X0+1X0

RBO, M.V., and rank of different problems identified by the farmers value (Crop- Garlic)

<u>S.N.</u>	<u>Problem</u>	<u>RBO Value</u>	<u>Average % Loss</u>	<u>Area under crops</u>	<u>Magnitude Value</u>	<u>Rank</u>
<u>1</u>	<u>Lack of resources</u>	3.33	<u>4</u>	<u>3</u>	<u>39.96</u>	<u>X</u>
<u>2</u>	<u>Lack of technical knowledge</u>	14.33	<u>5</u>	<u>5</u>	<u>358.25</u>	<u>IX</u>
<u>3</u>	<u>High seed rate</u>	18.00	<u>8</u>	<u>9</u>	<u>1296.00</u>	<u>VII</u>
<u>4</u>	<u>No seed treatment</u>	21.66	<u>5</u>	<u>11</u>	<u>1191.30</u>	<u>VIII</u>
<u>5</u>	<u>Imbalance nutrition</u>	56.66	<u>16</u>	<u>25</u>	<u>22664.00</u>	<u>I</u>
<u>6</u>	<u>Weed infestation</u>	13.00	<u>11</u>	<u>25</u>	<u>3575.00</u>	<u>V</u>
<u>7</u>	<u>Leaf curling</u>	26.66	<u>11</u>	<u>25</u>	<u>7331.50</u>	<u>III</u>
<u>8</u>	<u>Infestation of thrips</u>	59.33	<u>9</u>	<u>25</u>	<u>13349.25</u>	<u>II</u>
<u>9</u>	<u>Sprouting</u>	14.66	<u>8</u>	<u>25</u>	<u>2932.00</u>	<u>VI</u>
<u>10</u>	<u>Use of poor quality chemical</u>	30.00	<u>5</u>	<u>25</u>	<u>3750.00</u>	<u>IV</u>

Suggestions to overcome the problems and constraints of farmers

After conducting PRA, many problems of farmers related to agriculture have come into the light. If we overcome these problems and constraints, farmers will get more than the present. Following suggestions could be useful to overcome these constraints and problems:

There should be organizing on farm training and demonstrations to educate the farmers about new technologies and recommended practices.

Agriculture inputs like seed, fertilizer, chemicals etc. should be made available in adequate quantity and quality on well time.

The required technical knowledge and skills about agriculture production technology should be made available to the farmers, farmwomen and rural youth well in time so that they can utilize it for increasing the production and productivity of their farming system.

Greater interaction of the farmers with the agriculture scientist/researchers should be ensured through Kisan Mela, Field Days, Field Visits and other extension activities.

Analysis of these information, identifies the problems and needs of the farmers and shows ways to the project authority to plan educational strategy and programme.

Rajpura

(Block-MHOW)

VILLAGE – RAJPURA

BACKGROUND INFORMATION

Village Rajpura of MHOW block is situated 35 KM. away from KGNMT, Kasturbagram. All the information related to population farm families, cultivated land, available resources, soil type, cropping pattern etc. are given below:

Name of Village	Rajpura
Tehsil	Mhow
Panchayat	Rajpura
District	Indore
Post Office	Choral
Police Station	Simrol
Distance from road and name	7 KM. from Indore Khandwa Road
Distance from KVK	35 KM
Population	Total No. of family - 65 Population - 628 ST Family - 63
Land Record	Total Land - 60 ha Irrigated - 26 ha Average land holding: 0.5-1.5 ha
Educational Institute	School (Middle) -1960 Anganwadi - 1 (1998)

Time Line

The sequences of important events of the village are as follows:

1960	First School established
1970	First Radio purchased
1985	Soybean cultivation was started
1987	Electrification of village completed
1989	First TV Purchased
1990	Use of Fertilizer was started
1998	Anganwadi started
2000	First Tubewell was dug
2001	First Motorcycle was purchased
2001	Use of insecticide was started
2003	Kachcha Road was constructed
2003	Heavy infestation of got pox
2004	Community hall was constructed
2007	Telephone facility started (Cell Phone)
2007	First Agriculture Extension agency (Krishi Vigyan Kendra, Kasturbagram) came.

Soil Type

The soils of the village are medium black and mix red. The soils are mostly undulated. Water holding capacity of the soil is good but there is a problem of soil erosion in undulated area of the village.

Water

The ground water level in the village is 200-250 Feet. The natural recharge of the ground water is low due to cementing action of black soil and low infiltration rate.

Farming system

The farming system is crop and animal based. Farmers are growing crops. Major agricultural operations are carried out bullock and bullock drawn implements.

Cropping Pattern

Farmers are growing various crops in Rabi, Kharif and Zaid season. Soybean and Maize in Kharif, Wheat, Gram in Rabi and cucurbits in Zaid are the major crops of the village.

CROP PRODUCTION**Crop: Soybean****Season: Kharif****Situation: Rainfed**

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
1.	Field preparation	3 cultivation	3 times	Nil	Nil
2.	Variety	Samrat & JS 335	JS-93-05 and JS-95-60	Partial	Demo.& Training
3.	Type of seed	Own seed	Certified seed	Full	Demo.
4.	Sowing method	By dufan	By dufan and seed drill	Partial	Demo.& Training
5.	Seed treatment	NIL	Carbondazim @ 3g / kg seed	Partial	Demo.& Training
6.	Inoculation	NIL	Rhi & PSB @5 gram each /kg. seed	Full	Demo.
7.	Spacing	16 inch	18 inch	Partial	Training
8.	Seed rate	110-125 Kg/ha	75-80 kg/ha	Partial	Demo.& Training
9.	Time of sowing	June last week/July 1 st	June last week/July 1 st	Nil	Nil
10.	Manure	10 ton/ha	10 ton/ha	Nil	Nil
11.	Fertilizer	N 30 Kg./ha P 80 Kg./ha K 40 Kg./ha	N 20 Kg./ha P 60 Kg./ha K 20 Kg./ha & S 20 Kg./ha	Partial	Training
12.	Weeding	1 Hand weeding & 2-3 time Dora	1 hand weeding 2 time Dora & Pendamethaline or Emazathpyr @ 1 lit/ha	Partial	Training
13.	Diseases	Yellow mosaic Bacterial pustule, Seeding rot & Non-Podding (Sterility)	NIL	NIL	NIL
14.	Control Measures	NIL	Seed treatment, Reco. Seed rate	Full	Demo.
15.	Insects	Blue Beetle Girdle Beetle Semi looper	NIL	NIL	NIL
16.	Control Measures	Endo - 1 Lit./ha Mono - 1 Lit./ha	Endo- 1 Mythomil-1.2 Trizophos-0.8 Lit /ha	Partial	Demo.& Training
17.	Any type of seed production?	NIL	-	-	-

18.	Identification of Maturity stage	Yellow leaves	Yellow leaves	Nil	Nil
19.	Harvesting method	By hand	By hand	Nil	Nil
20.	Threshing method	Electric Thresher	Tractor Thresher (800RPM)	Partial	Training
21.	Production (Qnt./ ha.)	10-12 Q/ha	JS93-05: (25-30 Q.) JS 95-60: (25-30 Q)	NIL	NIL
22.	Product utilization i-Own consumption ii-Sell out in market iii- Storage	Sell out in market	i-Own consumption ii-Sell out in market iii-Storage	Partial	Training

Crop: Maize
Variety - Sathi (Deshi)

Season: Rabi

Situation: Rainfed
Rec. variety: JM-216, IVM 421

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
01	Field preparation	2 Times	3 times	Nil	Nil
02	Sowing method	By Dufan & dibbling	By Dufan & dibbling	Nil	Nil
03	Seed rate	9-12 Kg/ha	20 kg / ha.	Partial	Demo.& Training
04	Seed treatment	NIL	Thirum @3gm/seed	Full	Training
05	Seed inoculation	NIL	Azato. & PSB @5-5 gram/seed	Full	Demo.
06	Type of seed	Own	Certified	Full	Demo.
07	Spacing	45 x 45 cm.	45 x 45 cm.	Nil	Nil
08	Manure	9-10 ton/ha	10 ton/ha	Nil	Nil
09	Fertilizer	N-46, P-40 Kg./ha	N-100, P-40 K-30 Kg./ha	Partial	Training & Demo
10	Weeding	1 hand weeding + 2-3 Dora	1 hand weeding + 2-3 Dora Simagin @ 0.2%	Partial	Training
11	Diseases	Stalk rot	-	-	-
12	Control Measures	NIL	Capton @ 0.15%	Partial	Training
13	Insects	Jasid Aphid, Shoot Fly	-	-	-
14	Control Measures	Endo - 1 Lit/ha Roger 1 Lit/ha	Melathion @0.5 % Phorate @20 kg/ ha	Partial	Training
15	Harvesting method	By hand	By hand	Nil	Nil
16	Threshing method	By hand	By hand	Nil	Nil
17	Production (Qnt./ ha.)	14-15 Qnt. / ha.	20-25 Qnt. / ha.	-	-

Crop: Wheat

Season: Rabi

Situation: Irrigated

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
1.	Field preparation	2 Times	3 Times (With 1 planking)	Nil	Nil
2.	Variety	LOK-1, WH-147	Malav Shakti, Malav Ratna HI-1418 GW-173	Partial	OFT

3.	Seed rate	130-140 Kg/ha	100-125 Kg/ha	Partial	Trg. & Demo.
4.	Seed treatment	NIL	Thirum@3gm/kg seed	Full	Demo.
5.	Inoculation	NIL	Azato & PSB @5-5 gram/seed	Full	Demo.
6.	Sowing method	By dufan	Seed cum Ferti drill	Full	Demo.
7.	Spacing	9 inch	9 inch	Nil	Nil
8.	Type of seed	Own seed	Certified	Full	Demo.
9.	Weeding	Chemical (2-4 D@1.5 Lit/ha)	2-4 D@0.5 & Isoproturon@1kg AI /ha	Partial	Training
10.	Fertilizer / ha	N - 40 Kg. P - 32 Kg. K - 16 Kg.	N – 80,P - 40 K - 20 Kg./ha(2-Irri.) N – 120, P - 60K - 40 Kg./ha (Irri.)	Partial	OFT
11.	Irrigation (No. & Interval)	4-6 times	2-6 times	Nil	Nil
12.	Disease	Smut & bunt (Occasionally) Black coloured leashed	-	-	-
13.	Control	NIL	Thirum@3gm/kg seed& resistant varieties	Full	Demo.
14.	Insects 1-	Termite	-	-	-
15.	Control	NIL	Phorate@10kg/ha	Full	Demo.
16.	Harvesting method	By hand	By hand	Nil	Nil
17.	Threshing	By hand	By hand	Nil	Nil
18.	Yield	30-35 q/ha	45 – 55 q/ha	NIL	NIL
19.	Storage	Neem leaves & EDB ampoules (@ 1 amp./q)	EDB ampoules (@ 1 amp./q)	NIL	NIL
20.	Crop residue burning	Burning	No burning	Complete	Awareness camp

Crop: Gram**Season: Rabi****Situation: Irrigated**

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
1.	Field preparation	2 Times	2 Times+ 1 planking	Nil	Nil
2.	Variety	Ujjan 21	JG 218 & JG 412		
3.	Type of seed	Own	Certified	Full	Demo.
4.	Spacing	14 inch	18 inch	Partial	Demo.
5.	Seed rate	100-110 Kg/ha	75-100 Kg/ha	Partial	Demo.
6.	Seed treatment	NIL	Carbandazim @3gm/seed	Partial	Demo.
7.	Inoculation	NIL	Rhi & PSB @5 gram/kg seed	Full	Demo.
8.	Sowing method	by Dufan	Seed cum Ferti drill	Full	Demo.
9.	Fertilizer	N-18, P-46 Kg./ha	N-20, P-60, K-20 Kg./ha	Partial	Demo.
10.	Weeding	NIL	By Hand & Dora	Full	Demo.
11.	Irrigation	2 (+ 1 Palewa)	2 (+ 1 Palewa)	Nil	Nil
12.	Time of sowing	Oct last to Nov-II week	Oct last to Nov-II week	Nil	Nil
13.	Diseases	Wilt, seedling rot	-	-	-
14.	Control Measures	NIL	Seed treatment & Spray of M- 45@ 0.3%	Full	Demo.
15.	Insects	Gram cut worm Caterpillar	-	-	-
16.	Control Measures	Endo - 1 Lit (Use of water in insecticide solution is 150- 200 lit./ha	Endo – 1.5, Profeno. -1.5, Trizophos-0.8 Lit /ha	Partial	Demo.
17.	Harvesting	by Desi Plough	by plough	Nil	Nil
18.	Threshing	By hand	By hand	Nil	Nil
19.	Production	12-13 (Qnt./ ha.)	20-22 qnt. /ha.	-	-
20.	Storage	Yes, in the cold storage	Cold storage	Nil	Nil

Some of the farmers are taking cotton, Groundnut, Jowar, Clusterbean, and Okra.
The problems of these crops are as follows: -

S. No.	Crop	Variety	Problems
01	Cotton	(BT cotton)	Heavy attack of aphid & boll worm and imbalance use of fertilizer
02	Groundnut	(Local)	Use of old variety (Bakhkhar ki) and infestation of tikka disease
03	Jowar	(Vidisha)	Use of old variety (Vidisha) and Heavy attack of shoot borer
04	Cluster bean		Use of old variety infestation of YMV & aphid
05	Okra		Heavy attack of aphid, YMV, fruit borer

Animal Science

Live stock population:

S. No.	Type of animal	Number
01	Cow	125(Desi)
02	Buffalo	200 (Desi - 130, Murrah- 70)
03	Bullock	52 Pair
04	Goat	450-500 (Desi)
05	Poultry birds	450-500 (Desi)

Purpose of live stock rearing:

S. No.	Type of animal	Purpose
01	Cow	Milk
02	Buffalo	-do-
03	Bullock	Agril. operations
04	Goat	for selling and meat purpose
05	Poultry birds	for eggs and meat

Milk production/ day /animal

S. No.	Type of animal	Quantity
01	Cow	1-2 Lit/day/cow
02	Buffalo	3-5 Lit/Buffalo

Average Milk Production During the year

S. No.	Month	Avg. Milk (in lit. / Day)
1	January	775-800
2	February	750-775
3	March	700-725
4	April	675-725
5	May	625-650
6	June	625-650
7	July	750-775
8	August	800-850
9	September	800-850
10	October	775-825
11	November	800-850
12	December	800-850

Type of house for animal: - Kuchcha & Pucca

Feed:

- 1-Green fodder - Anjan leaves, (December to June)
Maize & Jowar (July to October)
- 2-Straw - Always (Soybean, Wheat and Gram
for milch animal)
- 3-Radimade feed (concentrate) - Nil
- 4-Mix fodder - For milch animal
- 5-Other (Cotton cake) - For milch animal

Method of fodder (Green/dry) storage:

- 1- NIL for green fodder
- 2- Traditional for straw

Major Diseases of livestock:

- 1- Cow, Buffalo - FMD, Mastitis, Kali Peshab & H.S.
- 2- Bullock - FMD, Kali Peshab & HS
- 3- Goat - Goat pox, PPR and FMD
- 4- Poultry - Ranikhet

Facility of Hospital: (Yes/No) No

Distance from village: 7 km. away from the village Choral

A.I. practices:(Yes/No) No

Vaccination:(Yes/No) No

Knowledge of improved fodder crops: No

Use of improved fodder crops: No

Knowledge of improved fodder crop Cultivation practices: No

Agriculture Engineering

No. of Bullock pair	52
No. of Bullock cart	6-7
Tube well	5
Hand Pump	5
Thresher	3
Sprayer	4
Bullock drawn implements	42 set of bakkhar, plough, dora and dufan etc.
Field preparation	By bullock drawn implements
Sowing method	Dufan
Irrigation method	Flood
Soil countervail practice	Sowing across the slope

Field preparation:

I- Kharif crops-

3 times (Bullock drawn implements)

II- Rabi crops -

2 times (Bullock drawn implements)

Sowing method:

S. No.	Crop	Method
01	Soybean	Dufan
02	Maize	Dufan
03	Wheat	Dufan
04	Gram	Dufan

Source of irrigation:

S. No.	Source	Nos.
1.	River	1
2.	Tank	NIL
3.	Canal	NIL
4.	Open well	3
5.	Tube well	5

Method of irrigation: (Flood, Sprinkler, and Drip)

S. No.	Crop	Method
01	Soybean	NIL
02	Maize	NIL
05	Wheat	Flood
06	Gram	Flood
08	Other	Flood

Drainage Practices: NIL

Water Table/level: 200-250 Feet

Water conservation practices: NIL

Soil conservation practices: NIL

Method of drudgery reduction: NIL

Care and maintenance of agriculture implements: Occasionally (by outsider mechanic)

Knowledge about following improved implements:

Rotavator	-	No
Double box seed drill	-	Yes
Disc plough	-	No
Disc harrow	-	No
Garlic planter	-	No
Spiral grader	-	No

Women in agriculture

Major agriculture work of rural women:

S. No.	Work	Practice	Recommended practice	Need	Intervention
1-	Weeding	Hand	Hand / wheel hoe	Partial	Trg. & Demo.
2-	Harvesting	Hand	Hand / Harvester	-	
3-	Storage	Traditional (Neem leaves)	EDB ampoule	Partial	Trg.
4-	Preservation of fruits (Mango & Lime)	Traditional	Scientific	Partial	Trg. & Demo.
<input type="checkbox"/> Work - Weeding and harvesting, storage (traditional method - neem leaves) <input type="checkbox"/> Preservative practice - Mango, pickle <input type="checkbox"/> Use of soybean in diet - No					

Health:

Under nutrition:- NIL

Knowledge and use of Soybean in daily food:- NIL

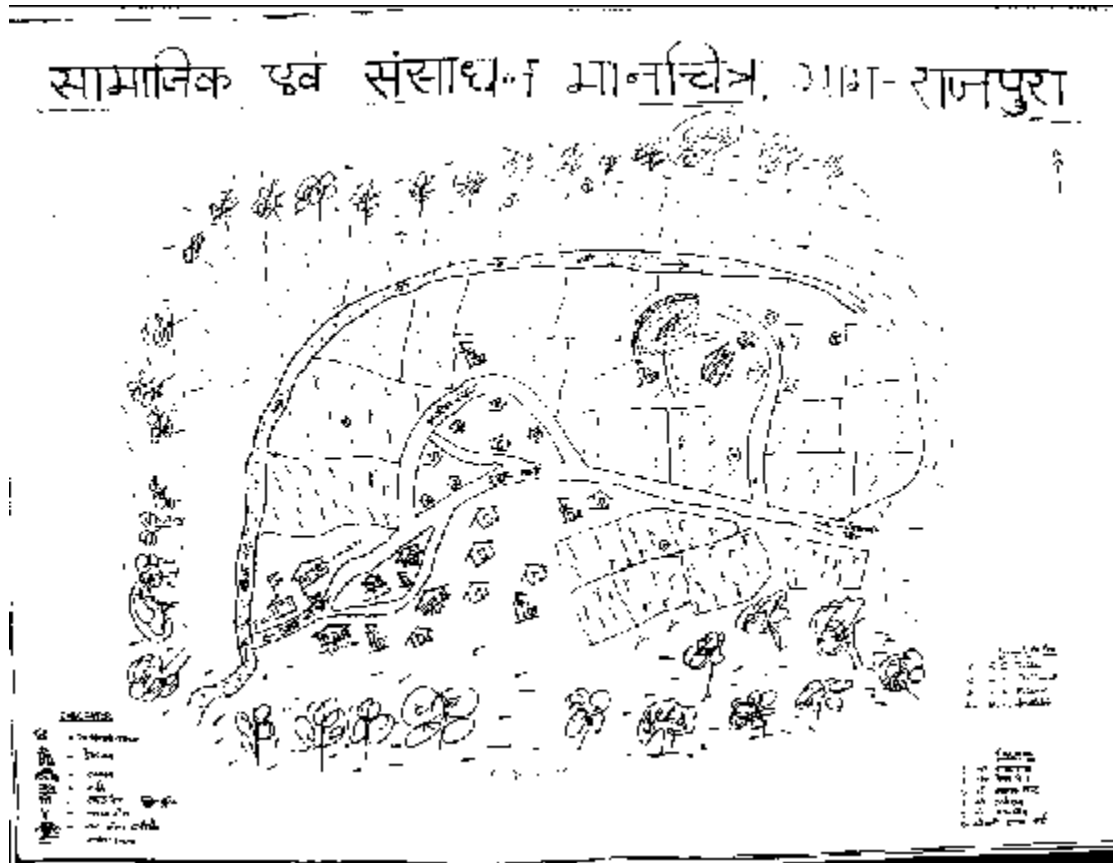
Knowledge of cloth stitching:- Yes (some women have)

Use of fruit, vegetable and sprouted grains in Daily diet (Yes/No): - Yes

Any type of women SHG:- Nil

Interest areas in which they want to improve the skill:

- 1- Preservation of fruits (Mango, chilly and Lime)
- 2- Improved weeding implements
- 3- Stitching of garments



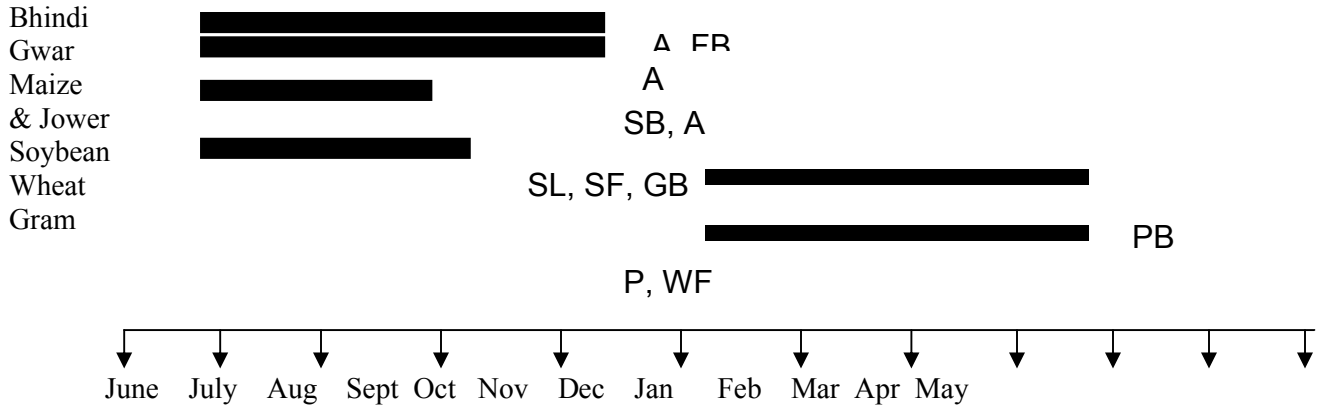
VILLAGE TRANSECT

Characters	Upper side	Medium side	Lower side
Soil	Mix red	Mix Red & Medium Black	Mix Red & Medium Black
Soil depth (ft.)	2 & 7 Feet	2 & 7 Feet	2 & 7 Feet
Topography	Undulated	Undulated	Undulated
Vegetation	Sagon, Neem, Babool, Mahua, Anjan, Tendu, Dhawra, Kher	Sagon, Neem, Babool, Mahua, Anjan, Tendu, Dhawra, Kher	Sagon, Neem, Babool, Mahua, Anjan, Tendu, Dhawra, Kher
Crops	Soybean, Maize, Jowar, Gwar, Bhindi, Wheat	Soybean, Maize, Jowar, Gwar, Bhindi, Wheat	Soybean, Maize, Jowar, Gwar, Bhindi, Wheat
Irrigation	Flood	Flood	Flood
Diseases	Wilt, Yellow strip, Yellow vein mosaic, Seedling rot	Wilt, Yellow strip, Yellow vein mosaic, Seedling rot	Wilt, Yellow strip, Yellow vein mosaic, Seedling rot
Insects	Stem fly, Semi looper, Girdle beetle, Gram pod borer, Termite, Aphid, Shoot borer, Fruit borer	Stem fly, Semi looper, Girdle beetle, Gram pod borer, Termite, Aphid, Shoot borer, Fruit borer	Stem fly, Semi looper, Girdle beetle, Gram pod borer, Termite, Aphid, Shoot borer, Fruit borer
Livestock	Cow, Buffalo, Goat, Poultry birds	Cow, Buffalo, Goat, Poultry birds	Cow, Buffalo, Goat, Poultry birds
Water bodies	Well & Tube well	Well & Tube well	River

Trend and Change

Discription	Before 20 Year	Before 15 Year	Before 10 Year	Before 5 Year	At present	After 5 Year
Rain	XXXXXXXXXX XXXX	XXXXXXXXXX X	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX X	XXXXXXXXXX X
Forest	YYYYYYYY YY	YYYYYYYY Y	YYYYYYYY	YYYYY	YY	Y
Population	⇒	⇒⇒	⇒⇒⇒	⇒⇒⇒⇒	⇒⇒⇒⇒⇒	⇒⇒⇒⇒⇒⇒
Cow	○○	○○	○○○	○○○	○○○	○○○
Bullock	▣▣	▣▣	▣▣▣	▣▣▣▣	▣▣▣▣	▣▣▣▣
Buffelow)()()()()()(
Goat	□□□□	□□□□□	□□□□	□□□□	□□□□□	□□□□□
Irrigated area		☞	☞☞	☞☞	☞☞	☞☞☞
Cost of cultivation	→	→	→→	→→	→→	→→→
Productivity	⇒⇒	⇒⇒	⇒⇒⇒	⇒⇒⇒⇒	⇒⇒⇒⇒	⇒⇒⇒⇒
Loan		o o	o o	o o	o o o	o o o o

Seasonality & Crop and Insect Infestation



Seasonality & Availability of Green fodder

Month \ Source	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Maize	-	-	-	-	-	I	III	III	II	I	-	-
Jowar	-	-	-	-	-	I	III	III	II	I	-	-
Anjan	II	II	II	II	II	I	-	-	-	-	-	II

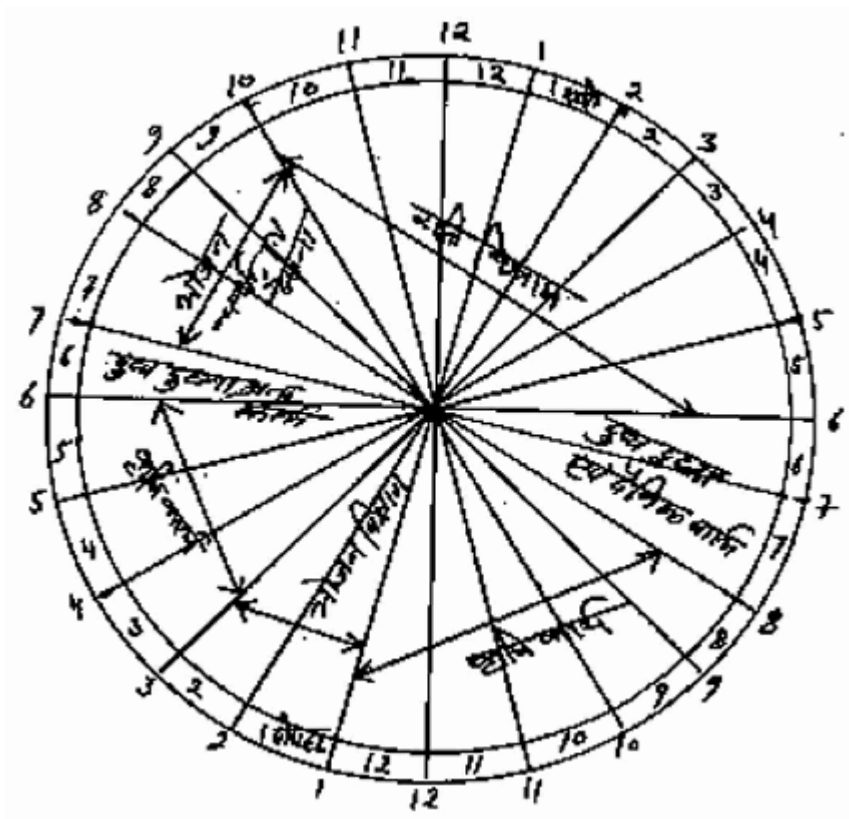
MATIX RANKING FOR SOYBEAN VARIETIES

Variety \ Criteria	JS 71-05	JS 335	Samrat
Duration	5	3	5
Cultivation cost	3	3	3
Insect infestation	3	3	3
Disease incidence	3	4	3

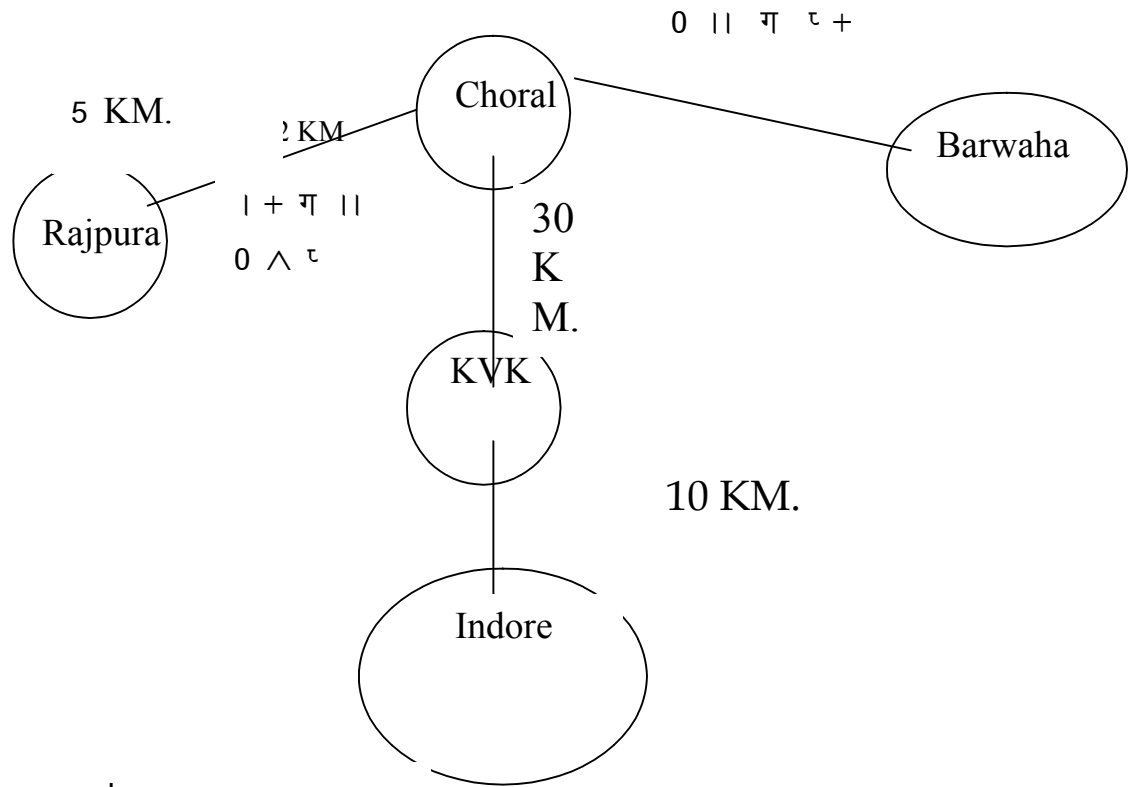
Market demand	4	4	4
Fertilizer	3	3	3
Fooder yield	3	4	3
Fooder quality	3	3	3
Yield	4	5	3
Total	31	32	30
Rank	II	I	III

Daily Routine Diagram

- 1- Sleeping time & 8 PM to 5 AM
- 2- Daily routine work $\frac{1}{4}$ Milking] Animal care $\frac{1}{2}$ & 6 AM to 8 AM
- 3- Agril. work & 8 AM to 1 PM
- 4- Lunch & rest & 1 PM to 3PM
- 5- Agril. work & 3 PM to 6 PM
- 6- Daily routine work $\frac{1}{4}$ Milking] Animal care $\frac{1}{2}$ - 6 PM to 8 PM



Mobility Map



Indicators

- | - For labour work
- + - For Medicare
- ग - For education
- ॥ - For selling Agro products
- 0 - For marketing
- ^ - For court work
- ¢ - For purchasing of fertilizer & seed

Rank Based Quotient (Developed by Sabarathnam -1988) was used to find out the importance of farmers problems.

Formula is given below:

$$RBQ = \frac{\sum_{i=1}^n (F_i)(n+1-i)}{Nn} \times 100$$

Frequency of the farmers for various ranks of the problems (Crop – Soybean)

S.N.	Problem	I	II	III	IV	V	VI	VII	VIII	IX	X
1	Lack of resources			1				1			1
2	Lack of technical knowledge		1		1		1				
3	High seed rate		12			4				1	
4	No seed treatment	11			2		1			1	
5	Imbalance nutrition			14		3			1		
6	Incidence of seedling rot		13		2	1		1		1	1
7	Infestation of semilooper	14				2	1	1			
8	Infestation of girdle beetle			10			3		2		
9	Sterility				1			1		2	1
10	Use of poor quality chemical						2			1	

Number of participants: 20

Frequency of the farmers for various ranks of the problems (Crop – Soybean)

S.N.	Problem	I	II	III	IV	V	VI	VII	VIII	IX	X	RBQ Value
1	Lack of resources					10X0+9X0+8X1+7X0+6X0+5X0+4X1+3X0+2X0+1X1						6.50
2	Lack of technical knowledge					10X0+9X1+8X0+7X1+6X0+5X1+4X0+3X0+2X0+1X0						10.50
3	High seed rate					10X0+9X12+8X0+7X0+6X4+5X0+4X0+3X0+2X1+1X0						67.00
4	No seed treatment					10X11+9X0+8X0+7X2+6X0+5X1+4X0+3X0+2X0+1X1						65.50
5	Imbalance nutrition					10X0+9X0+8X14+7X0+6X3+5X0+4X0+3X1+2X0+1X0						66.5
6	Incidence of seedling rot					10X0+9X13+8X0+7X2+6X1+5X0+4X1+3X0+2X1+1X1						72.00
7	Infestation of semilooper					10X14+9X0+8X0+7X0+6X2+5X1+4X1+3X0+2X0+1X0						80.50
8	Infestation of girdle beetle					10X0+9X0+8X10+7X0+6X0+5X3+4X0+3X2+2X0+1X0						50.50
9	Sterility					10X0+9X0+8X0+7X1+6X0+5X0+4X1+3X0+2X2+1X1						8.00
10	Use of poor quality chemical					10X0+9X0+8X0+7X0+6X0+5X2+4X0+3X0+2X1+1X0						6.00

RBQ, M.V., and rank of different problems identified by the farmers value (Crop- Soybean)

S.N.	Problem	RBQ Value	Average % Loss	Area under crops (ha)	Magnitude Value	Rank
1	Lack of resources	6.50	4	8	208.00	IX
2	Lack of technical knowledge	10.50	6	11	693.00	VIII
3	High seed rate	67.00	9	24	14472.00	V
4	No seed treatment	65.50	9	45	26527.00	III
5	Imbalance nutrition	66.50	14	45	41895.00	II
6	Incidence of seedling rot	72.00	8	45	25920.00	IV
7	Infestation of semilooper	80.50	15	45	54337.50	I
8	Infestation of girdle beetle	50.50	12	23	13938.00	VI
9	Sterility	8.00	3	4	96.00	X
10	Use of poor quality chemical	6.00	9	32	1728.00	VII

Frequency of the farmers for various ranks of the problems (Crop – Wheat)

S.N.	Problem	I	II	III	IV	V	VI	VII	VIII	IX	X
1	Lack of resources					1		1			
2	Lack of technical knowledge						1			1	
3	High seed rate		8			2			2		
4	No seed treatment	14			1						1
5	Use of old Varieties		12		2						
6	Use of poor quality seed			8		1	2			2	
7	Imbalance nutrition	14	3					1			1
8	Incidence of Weeds			6				2	3		
9	Infestation of termite				5		3			2	1
10	Use of poor quality chemical					2			1		

Number of participants: 20

Frequency of the farmers for various ranks of the problems (Crop – Wheat)

S. N.	Problem	I	II	III	IV	V	VI	VII	VIII	IX	X	RBQ Value
1	Lack of resources					10X0+9X0+8X0+7X0+6X1+5X0+4X1+3X0+2X0+1X0						5.00
2	Lack of technical knowledge					10X0+9X0+8X0+7X0+6X0+5X1+4X0+3X0+2X1+1X0						3.50
3	High seed rate					10X0+9X8+8X8+7X0+6X2+5X0+4X0+3X2+2X0+1X0						45.00
4	No seed treatment					10X14+9X0+8X0+7X1+6X0+5X0+4X0+3X0+2X0+1X1						74.00
5	Use of old Varieties					10X0+9X12+8X0+7X2+6X0+5X0+4X0+3X0+2X0+1X0						61.00
6	Use of poor quality seed					10X0+9X0+8X8+7X0+6X1+5X2+4X0+3X0+2X2+1X0						42.00
7	Imbalance nutrition					10X14+9X3+8X0+7X0+6X0+5X0+4X1+3X0+2X0+1X1						86.00
8	Incidence of Weeds					10X0+9X0+8X6+7X0+6X0+5X6+4X2+3X3+2X0+1X0						32.50
9	Infestation of termite					10X0+9X0+8X0+7X5+6X0+5X3+4X0+3X0+2X2+1X1						27.50
10	Use of poor quality chemical					10X0+9X0+8X0+7X0+6X2+5X0+4X0+3X1+2X0+1X0						7.50

RBQ, M.V., and rank of different problems identified by the farmers value (Crop- Wheat)

<u>S.N.</u>	<u>Problem</u>	<u>RBQ Value</u>	<u>Average % Loss</u>	<u>Area under crops</u>	<u>Magnitude Value</u>	<u>Rank</u>
<u>1</u>	Lack of resources	5.00	4	3	60.00	IX
<u>2</u>	Lack of technical knowledge	3.50	5	5	87.50	VIII
<u>3</u>	High seed rate	45.00	8	15	5400.00	V
<u>4</u>	No seed treatment	74.00	9	22	14652.00	III
<u>5</u>	Use of old Varieties	61.00	16	22	21472.00	II
<u>6</u>	Use of poor quality seed	42.00	11	22	10164.00	IV
<u>7</u>	Imbalance nutrition	86.00	19	22	35948.00	I
<u>8</u>	Incidence of Weeds	32.50	9	12	3510.00	VI
<u>9</u>	Infestation of termite	27.50	4	5	1237.50	VII
<u>10</u>	Use of poor quality chemical	7.50	2	2	30.00	X

Frequency of the farmers for various ranks of the problems (Crop – Gram)

S.N.	Problem	I	II	III	IV	V	VI	VII	VIII	IX	X
1	Lack of resources			2			2			1	
2	Lack of technical knowledge				3			2		2	1
3	High seed rate			8		2		1	1		1
4	No seed treatment		14		4				1		
5	Imbalance nutrition		12		3		2			1	
6	Use of traditional variety	14				1				1	
7	Incidence of wilt	13		2				2	2		
8	Infestation of gram cut worm	8		5		2		3			
9	Infestation of pod borer	16		1		1	1			1	
10	Use of poor quality chemical				12			5		2	1

Number of participants: 20

Frequency of the farmers for various ranks of the problems (Crop – Gram)

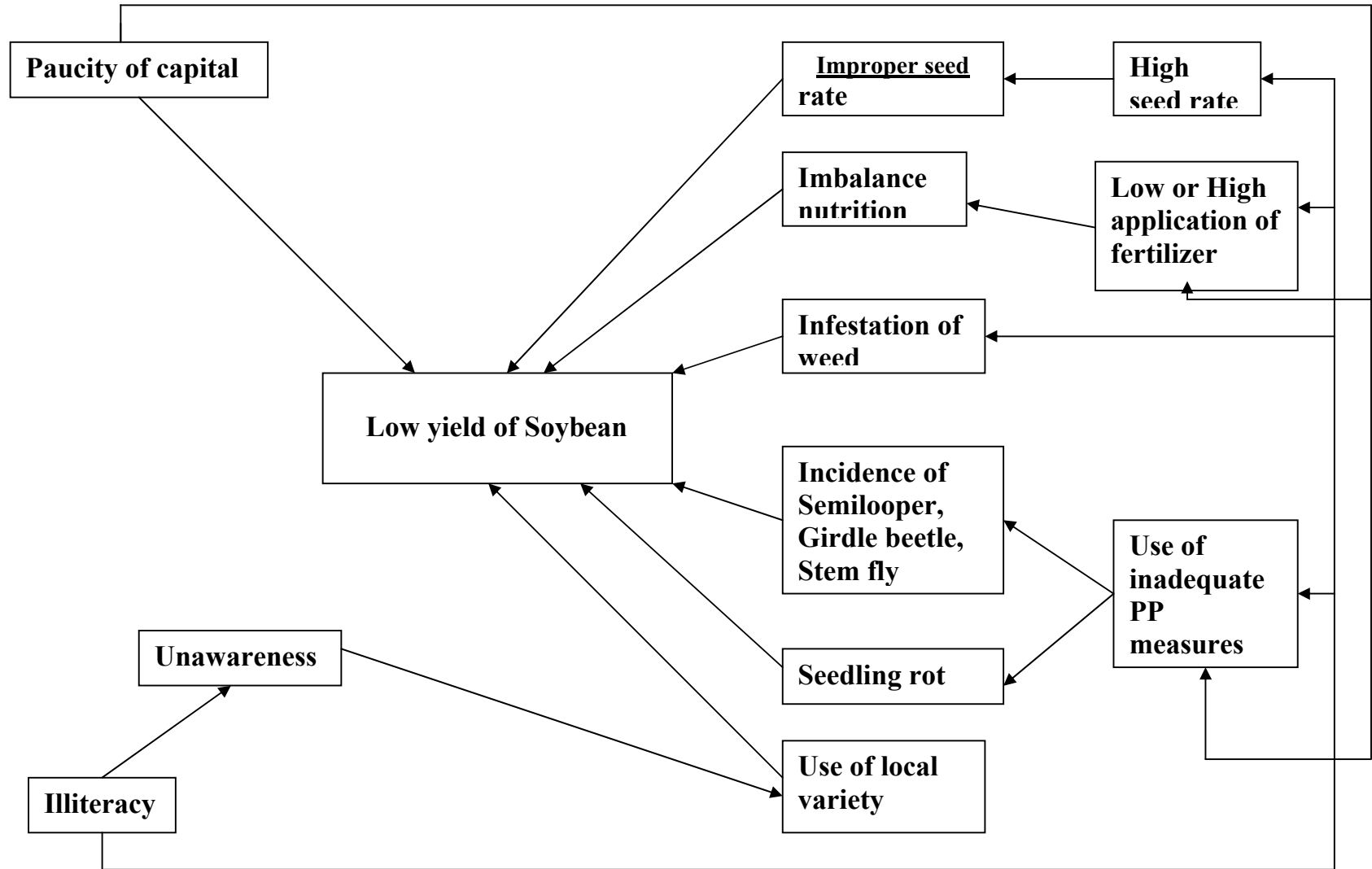
S.N.	Problem		RBQ Value
1	Lack of resources	10X0+9X0+8X2+7X0+6X0+5X2+4X0+3X0+2X1+1X0	14.00
2	Lack of technical knowledge	10X0+9X0+8X0+7X3+6X0+5X0+4X2+3X0+2X2+1X1	17.00
3	High seed rate	10X0+9X0+8X8+7X0+6X2+5X0+4X1+3X1+2X0+1X1	42.00
4	No seed treatment	10X0+9X14+8X0+7X4+6X0+5X0+4X0+3X1+2X0+1X0	78.5
5	Imbalance nutrition	10X0+9X12+8X0+7X3+6X0+5X2+4X0+3X0+2X1+1X0	70.50
6	Use of traditional variety	10X14+9X0+8X0+7X0+6X1+5X0+4X0+3X0+2X1+1X0	74.00
7	Incidence of wilt	10X13+9X0+8X2+7X0+6X0+5X0+4X2+3X2+2X0+1X0	80.00
8	Infestation of gram cut worm	10X8+9X0+8X5+7X0+6X2+5X0+4X3+3X0+2X0+1X0	73.00
9	Infestation of pod borer	10X16+9X0+8X1+7X0+6X1+5X1+4X0+3X0+2X1+1X0	90.50

10	Use of poor quality chemical	10X0+9X0+8X0+7X12+6X0+5X0+4X5+3X0+2X2+1X1	54.50
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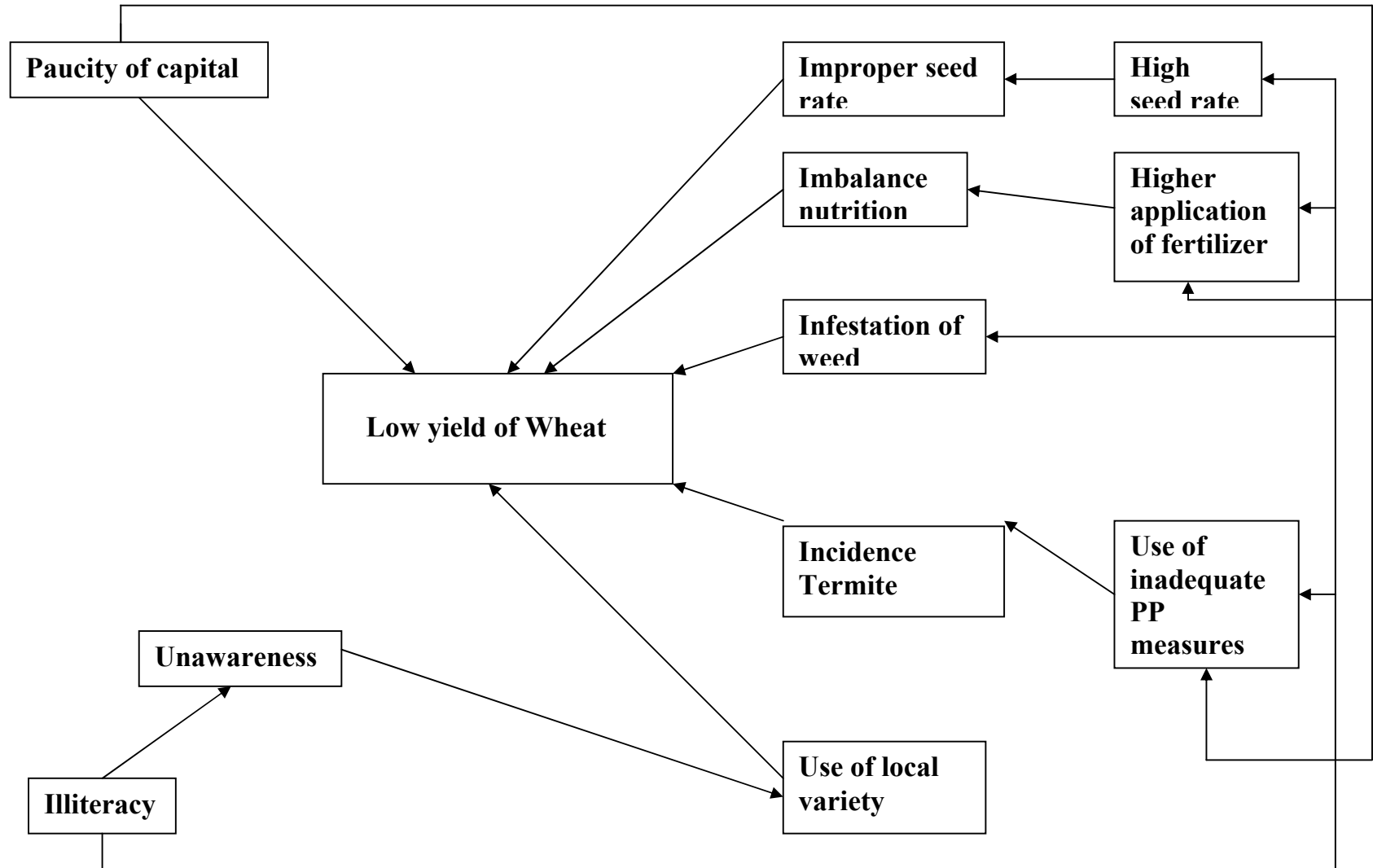
RBO, M.V., and rank of different problems identified by the farmers value (Crop- Gram)

<u>S.N.</u>	<u>Problem</u>	<u>RBO Value</u>	<u>Average % Loss</u>	<u>Area under crops</u>	<u>Magnitude Value</u>	<u>Rank</u>
<u>1</u>	Lack of resources	14.00	4	3	168.00	X
<u>2</u>	Lack of technical knowledge	17.00	5	5	425.00	IX
<u>3</u>	High seed rate	42.00	8	9	3024.00	VII
<u>4</u>	No seed treatment	78.5	9	14	9891.00	V
<u>5</u>	Imbalance nutrition	70.50	16	14	18753.00	II
<u>6</u>	Use of traditional variety	74.00	11	14	11396.00	IV
<u>7</u>	Incidence of wilt	80.00	11	14	12320.00	III
<u>8</u>	Infestation of gram cut worm	73.00	9	4	2628.00	VIII
<u>9</u>	Infestation of pod borer	90.50	19	14	24073.00	I
<u>10</u>	Use of poor quality chemical	54.50	5	14	3815.00	VI

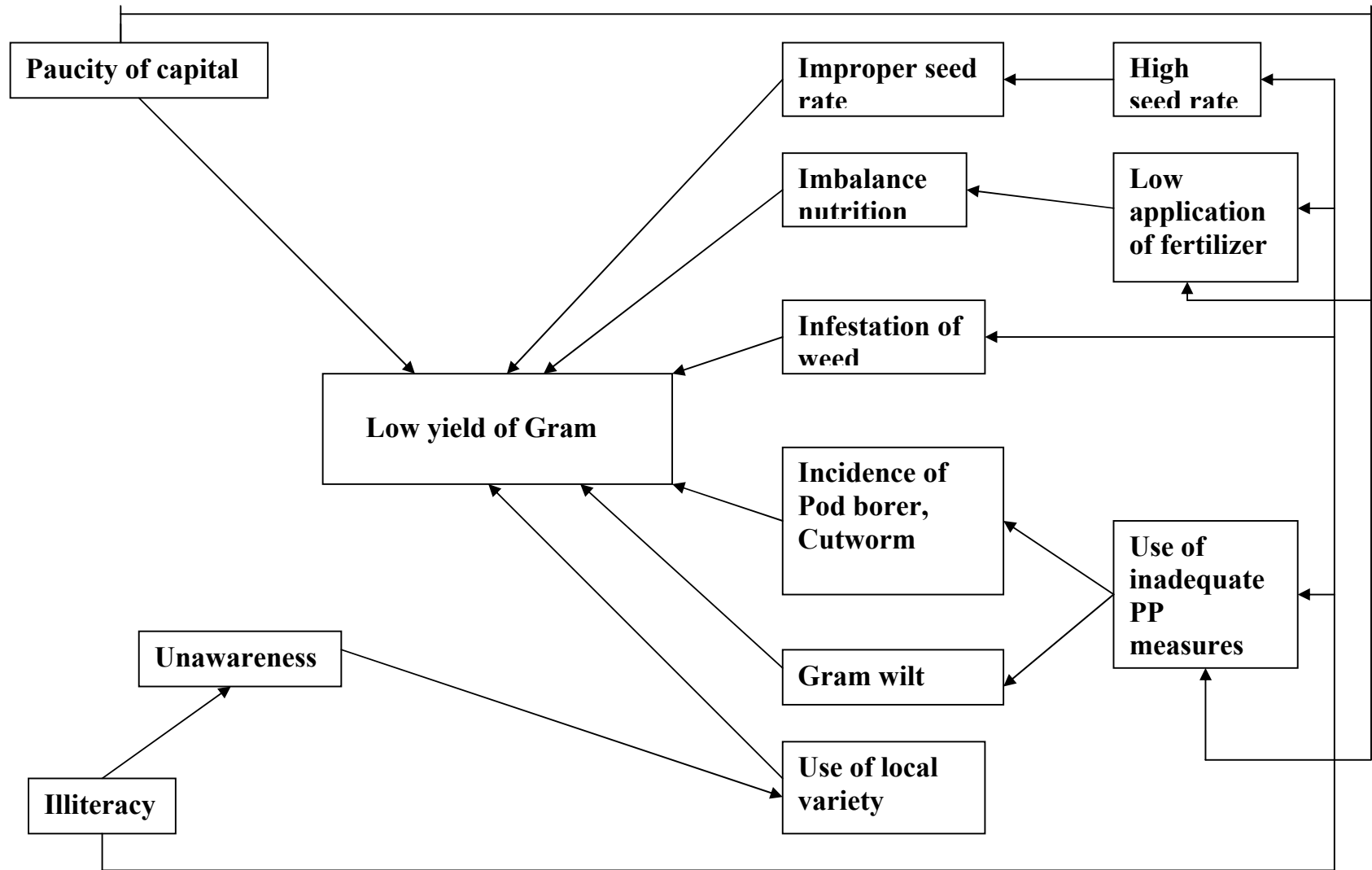
1-Problem Causes Diagram



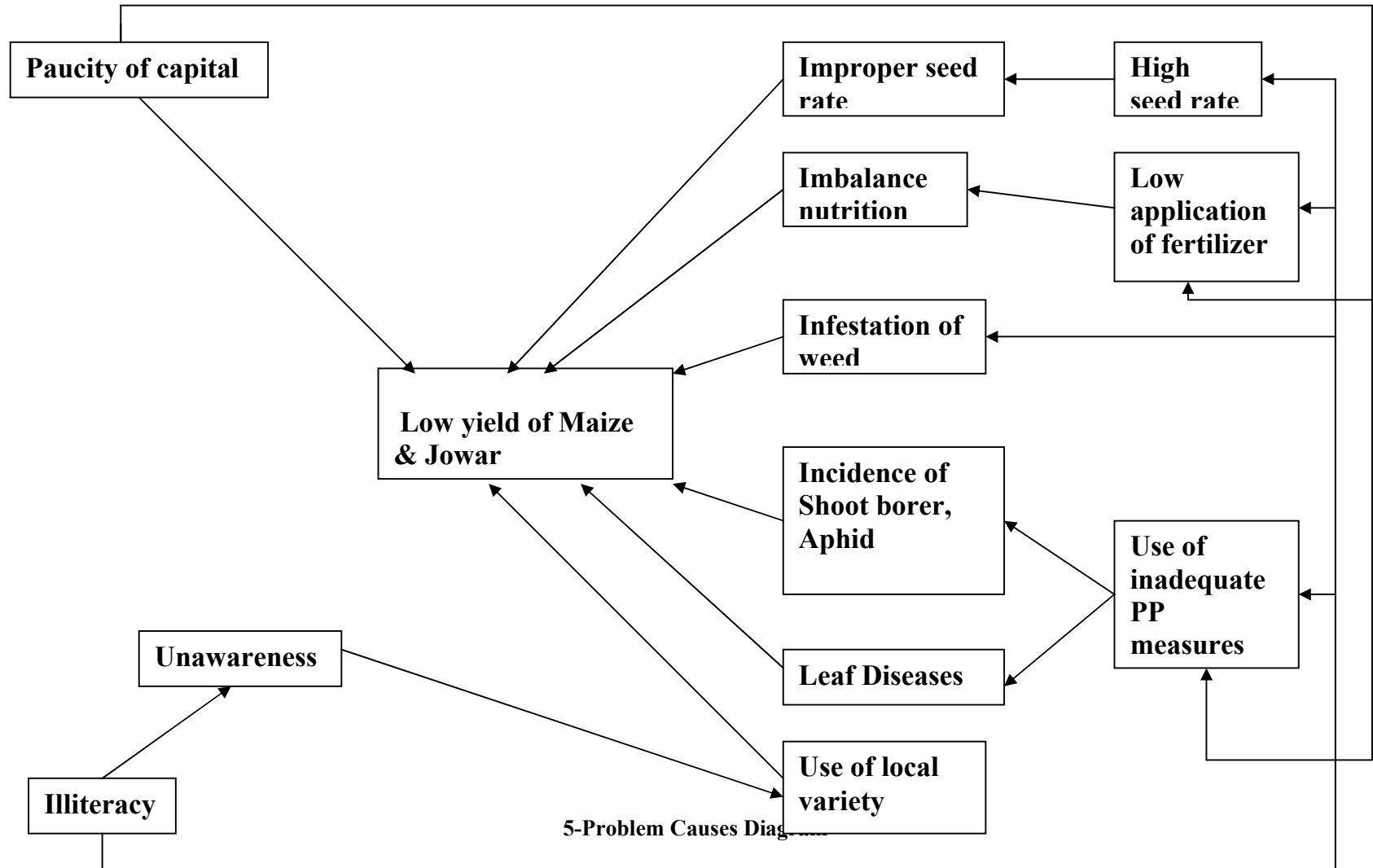
2-Problem Causes Diagram



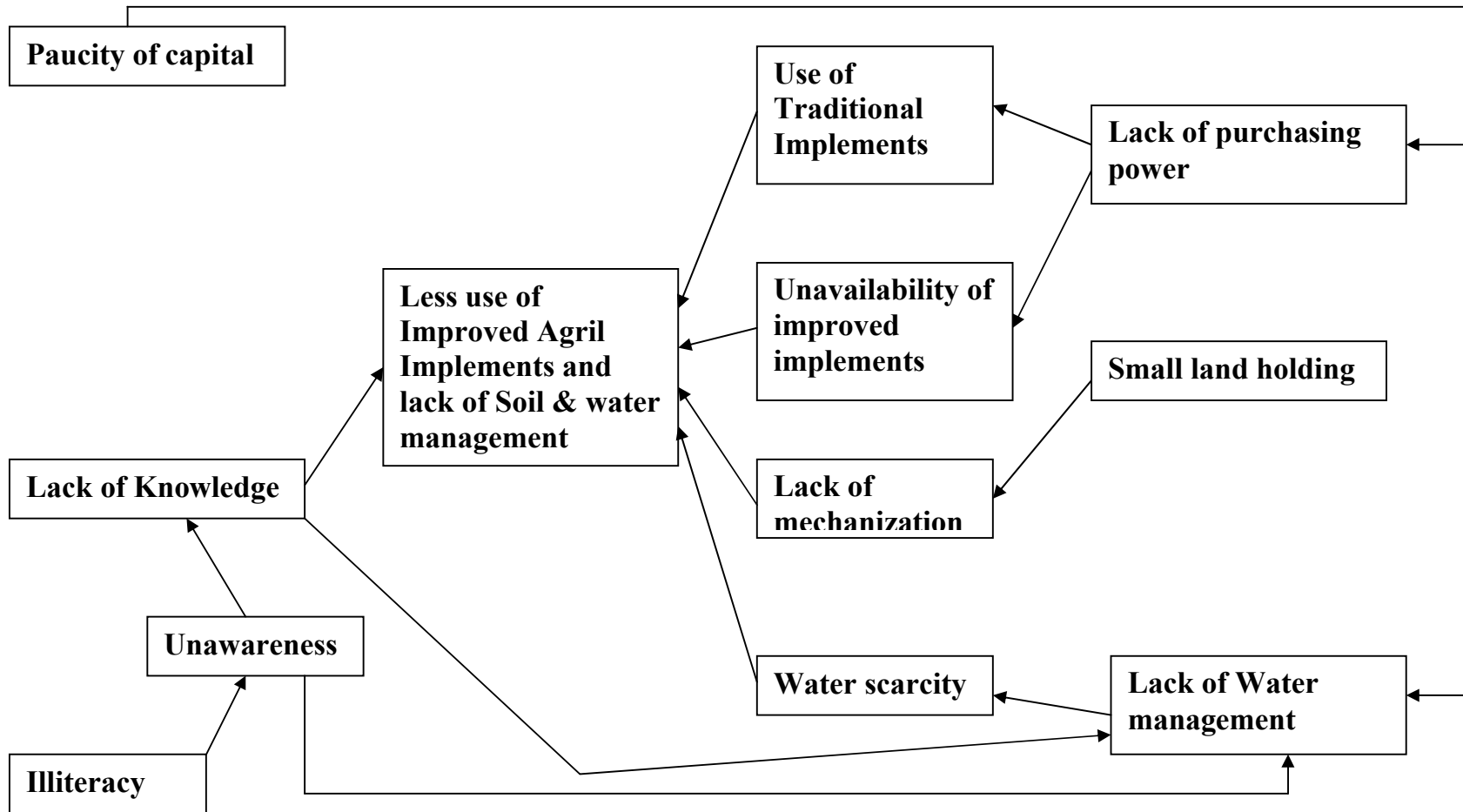
3-Problem Causes Diagram



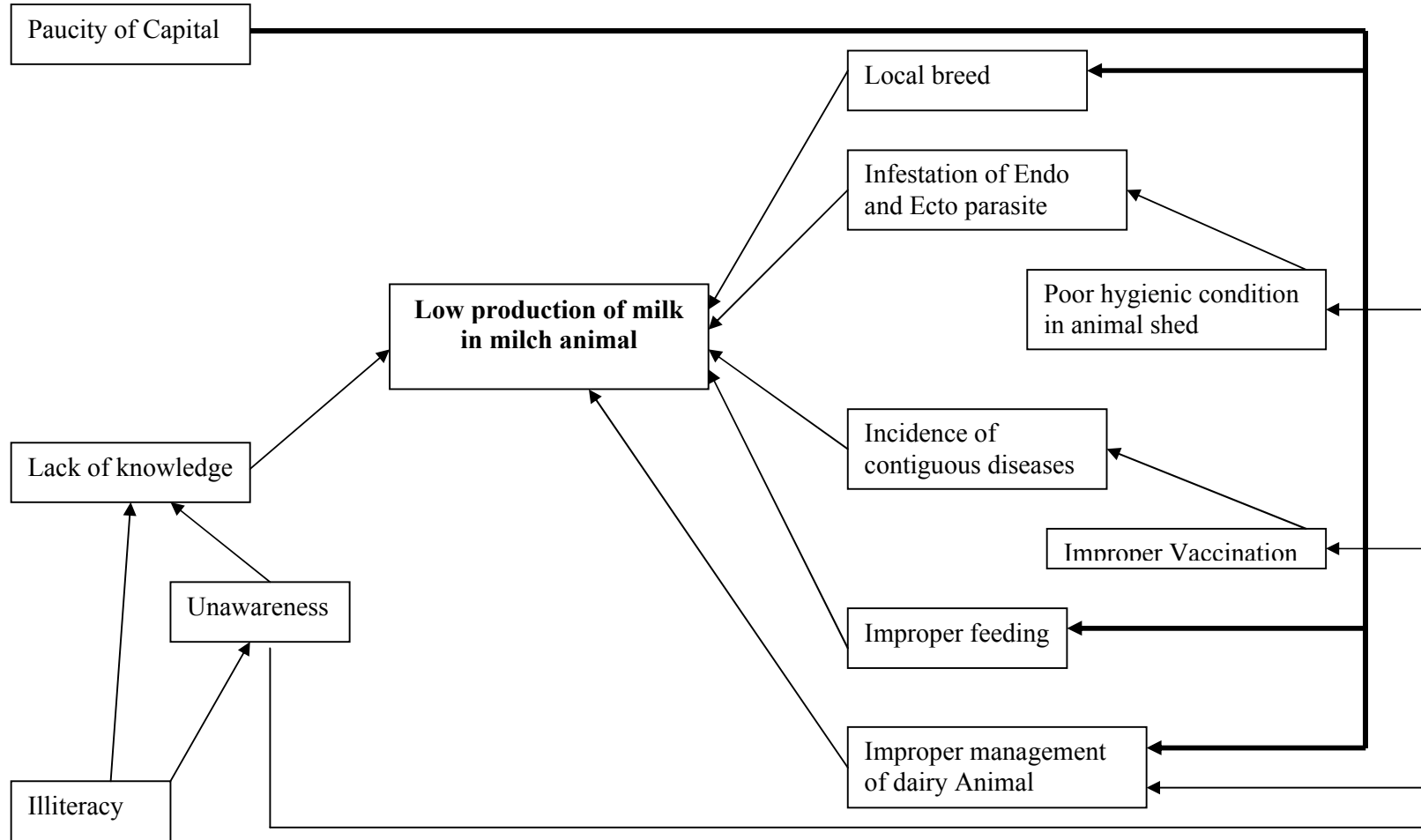
4-Problem Causes Diagram



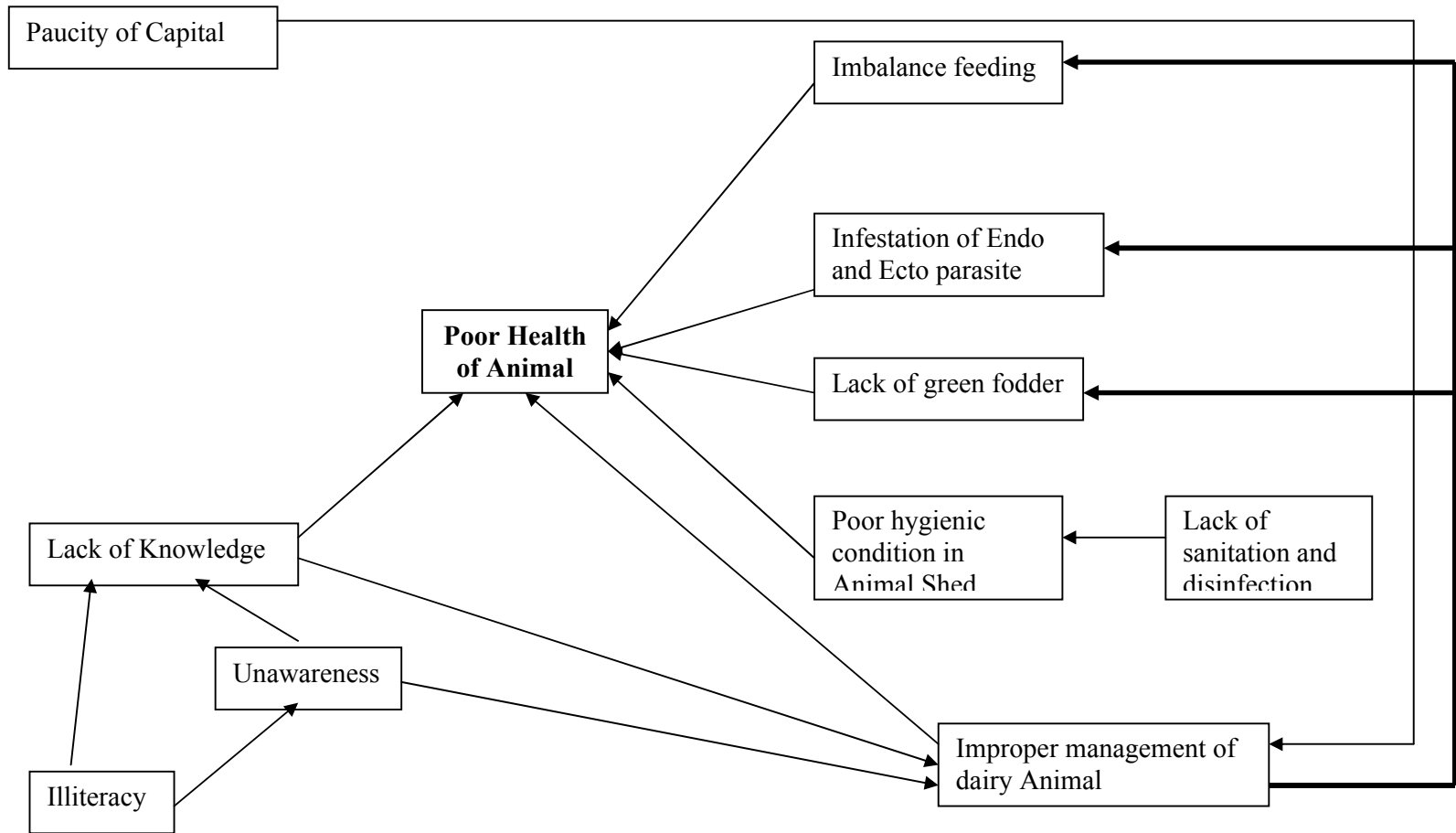
5-Problem Causes Diagram



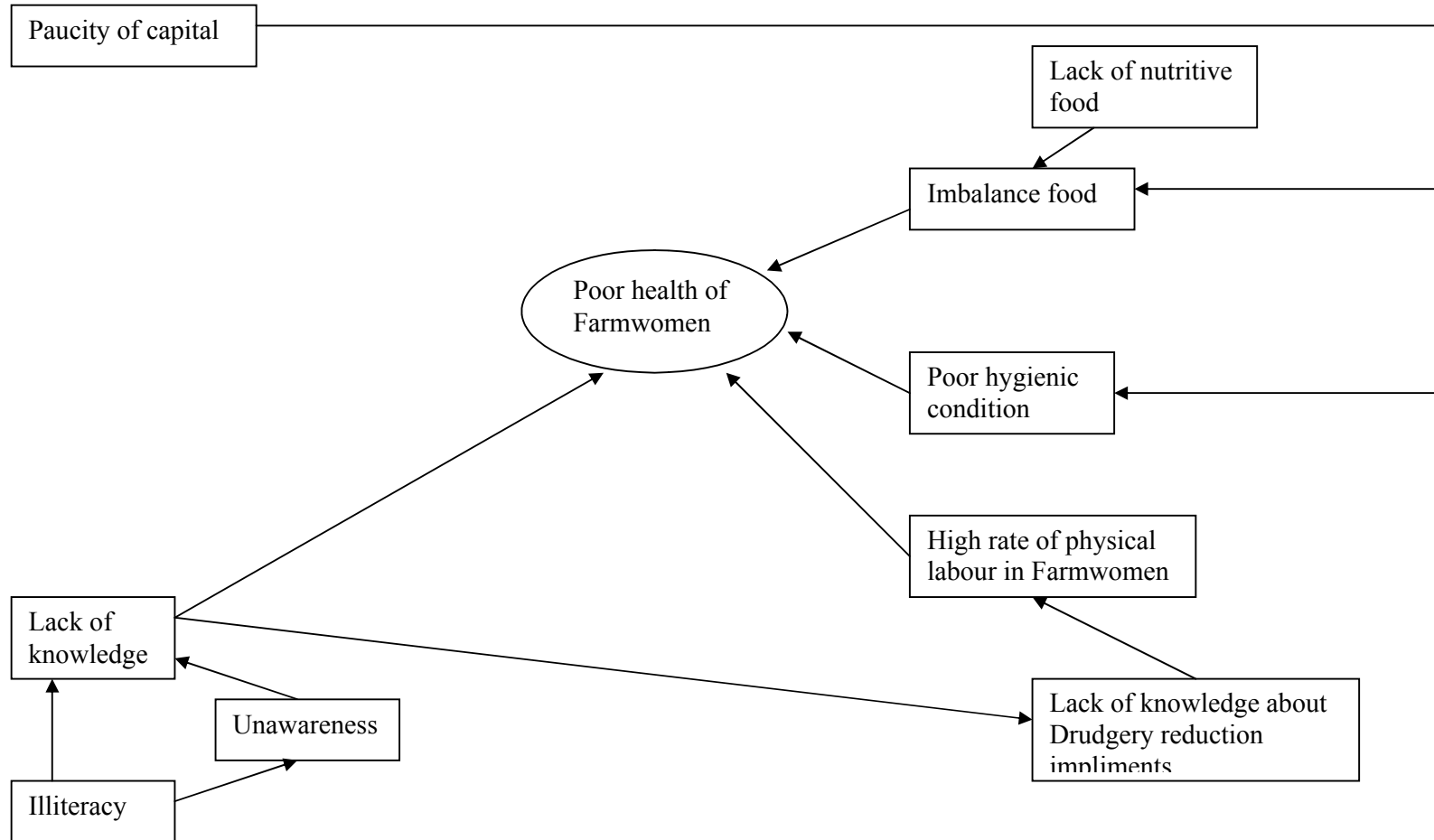
6-Problem Causes Diagram



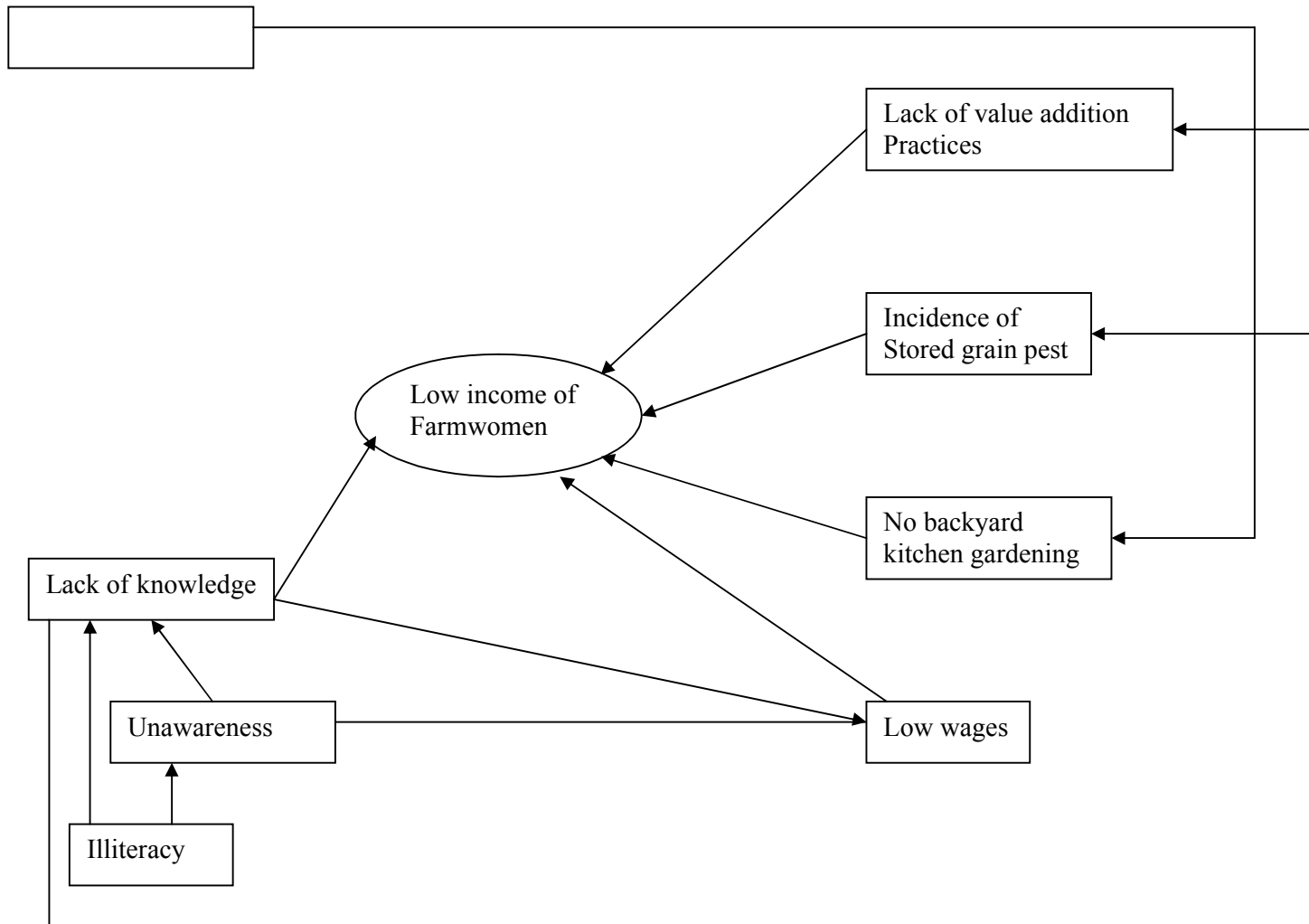
7-Problem Causes Diagram



8-Problem Causes Diagram



9-Problem Causes Diagram



Merkhedi (Block-Sanwer)

VILLAGE -MERKHEDI

BACKGROUND INFORMATION

Village Merkhedi of Sanwer block is situated 38 KM. away from KGNMT, Kasturbagram. All the information related to population farm families, cultivated land, available resources, soil type, cropping pattern etc. are given below:

Name of Village	Merkhsdi
Panchayat	Baghana
Tehsil	Sanwer
District	Indore
Police Office	Sanwer
Distance from road and name	8 km from Sanwer Road
Distance from KVK	38 km
Population	745
No. of farm family	70
Total Land	600 Acre
Total Cultivated iand	520 Acre
Irrigated Land	480 Acre
Waste Land	80 Acre
Average Land Holding	8 Acre
Biggest Farmer	Badrilal Jee s/o Saligram Jee- 19 Acre
Smallest Holding	0.5 Acre
Major Crops	Kharif – Soybean(Mixed with Maize) Rabi – Wheat, Gram, Potato, Garlic and Onion Zaid – Coriander and cucurbits
Natural Resources (Water)	Nil
Social and religious Institute	Temple - 2
Educational Institute	School (Primary) - 1
Commercial Institute	Kirana Shop - 3 Carpanter shop - 1

TIME LINE

Sr. No.	Time (Year)	Event
1.	Ancient	Village establishment
2.	1965	Radio
3.	1976	Electrification
4.	1978	Use of fertilizer started
5.	1978	HYV of wheat sown in
6.	1980	First tube well dug
7.	1986	Any incidence- Rust in WheaT
8.	1978	Soya Cultivation (black)
9.	1984	TV
10.	1981	First Motorcycle
11.	1987	Soya Cultivation (yellow)
12.	1980	Fist tractor
13.	2000	Phone
14.	2001	Road construction (kuchcha)
15.	1989	Use of Insecticide started
16.	1981	Transportation facility(By Tractor)

17.	1965	Primary school
18.	2000	Hybrid variety of vegetables stated
19.	1998	Vegetable cultivation started
20.	2006	Use of dollar gram
21.	2009	First agriculture agency-KVK

Soil Type

The soils of the village are black (vary from medium to shallow black) and brown. The soils are mostly plain. Water holding capacity of the soil is good.

Water

The ground water level in the village is 350-500 Feet. The natural recharge of the ground water is low due to cementing action of black soil and low infiltration rate.

Farming system

The farming system is crop and animal based. Farmers are growing crops and fodder crops for rearing animal. Major agricultural operations are carried out by both Bullock and Tractor drawn implements.

Cropping Pattern

Farmers are growing various crops in Rabi , Kharif and Zaid season. Soybean and Maize in Kharif, Wheat, Gram, Potato, Garlic, and Onion, in Rabi and cucurbits and coriander in Zaid are the major crops of the village.

Crop production

Seed production programme of any crop: NIL

Preparation of any type of organic manure: YES

Type of method: Traditional

1 - Crop: Soybean

Season: Kharif

Situation: Rainfed

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
1.	Field preparation	2 time cultivator and 1time duckphoot	3 times	Nil	Nil
2.	Variety	JS-335, 9305, NRC-7, Samrat	JS-93-05 and JS-95-60	Partial	Demo.& Training
3.	Type of seed	Own seed	Certified seed	Full	Demo.
4.	Sowing method	By seed drill	Seed cum Ferti drill	Full	Demo.
5.	Seed treatment	Only 6 farmer are doing by Carbandazim @3gm/seed	Carbandazim @3gm/seed	Full	Training
6.	Seed inoculation	Nil	Rhi & PSB @5 gram each per kg. seed	Full	Demo.

7.	Spacing	14 inch (RxR)	18 inch (RxR)	Partial	Training
8.	Seed rate	120-130 kg/ha	75 kg/ha	Partial	Training
9.	Time of sowing	June last week/July 1 st	June last week/July 1 st	Nil	Nil
10.	Manure	5-10 ton/ha based on availability	10 ton/ha	Nil	Nil
11.	Fertilizer	N- 20, P- 100-110, K-0, S- 47 Kg./ha	N 20, P 60-80, K-20,S-20 Kg./ha	Partial	Training
12.	Weeding 1- Hand 2-Dora 3-Chem.	1time 2 time Nil	1 time 2 time Pendamethaline or Emazathpyr @ 1lit/ha	Partial	Training
13.	Diseases	Seedling rot	-	-	-
14.	Control Measures	Nil	Seed treatment, Reco. Seed rate	Full	Demo.
15.	Insects	Blue beetle, Girdle beetle, Stem fly, Semilooper	-	-	-
16.	Control Measures	Endo- 1 Trizophos-0.8 Cyper – 0.8 Lit /ha	Endo- 1 Mythomil-1.2 Trizophos-0.8 Lit /ha	Partial	Training
17.	Harvesting method	By hand	By hand	Nil	Nil
18.	Identification of Maturity stage	Yellow leaves	Yellow leaves	Nil	Nil
19.	Threshing method	Tractor Thresher	Tractor Thresher (800RPM)	Partial	Training
20.	Any type of seed production?	Nil	-	-	-
21.	Production (Qnt./ ha.)	JS-9305:13-15 Q. JS-335: 14-16 NRC-7: 12-15 Samrat :14-16	JS93-05: (25-30 Q.) JS 95-60: (25-30 Q)	-	-
22.	Product utilization i-Own consumption ii-Sell out in market iii- Storage	i-Nil ii-Sell out in market iii-Storage for next year Sowing	i-Own consumption ii-Sell out in market iii-Storage	Partial	Training

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
01	Field preparation	2 time cultivator and 1time duckfoot with planking	3 Times (With 1 planking)	Nil	Nil
02	Variety	Lok-1 and 8498	Malav Shakti, Malav Ratna HI-1418 GW-173	Full	OFT
03	Seed rate	125-150 Kg/ha	100-125 Kg/ha	Partial	Trg. & Demo.
04	Sowing method	Seed drill	Seed cum Ferti drill	Full	Demo.
05	Seed treatment	Nil	Thirum@3gm/kg seed	Full	Demo.
06	Seed inoculation	Nil	Azato & PSB @5-5 gram/seed	Full	Demo.
07	Spacing	9 inch	9 inch	Nil	Nil
08	Type of seed	Own seed	Certified	Full	Demo.
09	Time of sowing	Oct last week to Nov-II week	Oct last week to Nov-II week	NIL	NIL
10	Weeding	Nil	2-4 D@0.5 kg. & Isoproturon@1kg AI /ha	Full	Training
11	Fertilizer	N – 169, P – 144 K – 72 Kg./ha (Irri.)	N – 80,P - 40 K - 20 Kg./ha(2-Irri.) N – 120, P - 60K - 40 Kg./ha (Irri.)	Partial	OFT
12	Irrigation (No. & Interval)	6 times	2-6 times	Nil	Nil
13	Diseases	NIL	NIL	NIL	NIL
14	Control measures	NIL	Thirum@3gm/kg seed& resistant varieties	Full	Demo.
15	Insects	Termite and Stem borer	NIL	NIL	NIL
16	Control measures	Nil	Phorate@10kg/ha	Full	Demo.
17	Harvesting	By hand	By hand	Nil	Nil
18	Threshing	By Tractor operated & electric thresher	By Tractor operated & electric thresher	Nil	Nil
19	Yield	35-40 q/ha	45 – 55 q/ha	Nil	Nil
20	Storage	EDB ampoules (@ 1 amp./q)	EDB ampoules (@ 1 amp./q)	NIL	NIL
21	Crop residue burning	Burning	No burning	Full	Awareness camp

3- Crop: Gram**Season: Rabi****Situation: Irrigated****Variety - Annagiri, Dollar****Rec. Variety: JG-218 & JG-412**

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
01	Field preparation	2 time cultivator and 1time duckphoot with planking	2 Times+ 1 planking	Nil	Nil
02	Variety	Annagiri, Dollar	JG-218 & JG-412	Full	Demo.
03	Seed rate	100-120 kg./ha.	75-100 Kg/ha	Partial	Demo.
04	Sowing method	Seed drill	Seed cum Ferti drill	Full	Demo.
05	Seed treatment	Nil	Carbandazim @3gm/seed	Full	Demo.
06	Seed inoculation	Nil	Rhi & PSB @5-5 gram/seed	Full	Demo.
07	Spacing	14 inch	18 inch	Partial	Demo.
08	Type of seed	Local	Certified	Full	Demo.
09	Time of sowing	Oct last week to Nov-II week	Oct last week to Nov-II week	NIL	NIL
10	Weeding	Nil	By Hand & Dora	Full	Demo.
11	Fertilizer	Nil	N-20, P-50Kg.	Partial	Demo.
12	Irrigation	2 (+ 1 Palewa)	2 (+ 1 Palewa)	NIL	NIL
13	Disease	Wilt and seedling rot	NIL	NIL	NIL
14	Control Measures	Nil	Seed treatment & Spray of M-45@ 0.3%	Full	Demo.
15	Insects	Cater pillar, Cut worm,semilooper	NIL	NIL	NIL
16	Control Measures	Endo – 1.5, Trizophos-0.8 Cyper- 0.8 Lit /ha	Endo – 1.5, Profeno. -1.5, Trizophos-0.8 Lit /ha	Partial	Demo.
17	Harvesting	by hand	by hand	NIL	NIL
18	Threshing	By Tractor operated	By Tractor operated & electric thresher	Nil	Nil
19	Production (Qnt./ ha.)	10-12 qnt./ha	20 – 25 qnt. / ha.	-	-
20	Storage	EDB ampoules (@ 1 amp./q)	EDB ampoules (@ 1 amp./q)	NIL	NIL

4 - Crop: Garlic**Season: Rabi****Situation: Irrigated**

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
1.	Field preparation	2 Times	3 Times + 1 Planking	Partial	Training
2.	Variety	Jamnagar, Vidisha, Malkapuri & Amleta	J. Garlic-282	Partial	Demo.
3.	Seed rate	3 - 3.5 q/ha	1.36 - 2.27 qnt/ha	Full	Demo.
4.	Spacing	9"- 6"	15" -7.5"	Partial	Demo.
5.	Seed treatment	NIL	Mancozab (M-45) 5 gm. per kg. seed	Partial	Training
6.	Sowing method	Broad Cost, dibbling, garlic planter	Broad Cost, dibbling, garlic planter	Nil	Nil
7.	Weeding	2-3 Times by hand	Hand weeding	Nil	Nil
8.	Manure	5-10 Ton /ha	40-50 Ton /ha	Partial	Training
9.	Earthing	2 times	2 times		
10.	Fertilizer	N - 106 P - 36 K - 18 Kg/ha	N - 150 Kg. P - 40 Kg K - 50 Kg	Partial	Demo.
11.	Irrigation	10-12 days interval	10-12 days interval	Nil	Nil
12.	Diseases	Leaf curling	-	-	-
13.	Control Measures	NIL	Control of vector & Disease free seed	Full	Deom.
14.	Insects 1- 2-	Thrips & Aphid	-	-	-
15.	Control 1- Measures 2-	Rogar - 1 Lit/ha	Dimethoate-1 Lit Or Imedacloprid(0.2-0.3 Lit/ha)	Partial	Training
16.	Production	60-80 (Qnt./ ha.)	60-110(Qnt./ ha.)	-	-

5- Crop: Potato
Season: Rabi Situation: Irrigated

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
16.	Field preparation	2 Times	3 Times+1Planking	Partial	Training
17.	Variety	Jyoti, Chipsona 1, and Lokar	K.Jyoti, Chipsona 1&2&3,K.Surya	Partial	Training
18.	Seed rate	30-35 q/ha	25-30 q/ha	Partial	Training
19.	Spacing	60 cm.	60 cm.	Nil	Nil
20.	Seed treatment	10% farmers are doing with Carbondesim (2.5% Sol.)	Dithane M-45 (2.5% Sol.)	Partial	Training, Demo.
21.	Earthling	2 times	2 times	Nil	Nil
22.	Fertilizer	N - 106 P - 36 K - 18 Kg/ha	N - 120 P - 100 K - 75 Kg/ha	Partial	Training & Demo.
23.	Manure	5-10 Ton /ha	20-25 Ton /ha	Nil	Nil
24.	Disease	Blight and Bacterial wilt	Nil	Nil	Nil
25.	Control	M-45 1-1.5 Kg/ha (Spray)	M-45(1.5 Kg/ha) CuOC12(2-2.5 Kg/ha)	Partial	Training & Demo.
26.	Insect	Aphid and PTM	Nil	Nil	Nil
27.	Control	Rogar 1 Lit/ha	Dimethoate-1 Lit/ha Or Imedacloprid(0.2-0.3 Lit/ha) Chlorepyriphos	Partial	Training & Demo.
28.	Harvesting	by Desi plough	by plough	Nil	Nil
29.	Yield	180-200 q./ha	225-275 q./ha	Nil	Nil
30.	Storage	Yes, in the cold storage	Cold storage	Nil	Nil

6- Crop: Onion **Season: Rabi** **Situation: Irrigated**

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
30.	Field preparation	2-3 Times	3 Times + 1 Planking	Partial	Training
31.	Variety	Desi White, Hybrid Prashant	ALR	Partial	Demo.
32.	Sowing method	Transplanting	Transplanting	Nil	Nil
33.	Seed rate	9 kg/ha	8 kg/ha	Partial	Demo.
34.	Spacing	9"-6"	10" -15"	Partial	Training
35.	Seed treatment	NIL	Thiram @3gm/ kg seed	Full	Training & Demo.
36.	Weeding				

37.	Manure	4-5 Ton /ha	20-25 Ton /ha	Partial	Training
38.	Fertilizer	N - 106 P - 36 K - 18 Kg/ha	N - 150 Kg. P - 40 Kg K - 50 Kg	Partial	Training & Demo.
39.	Irrigation	12-15	12-15	NIL	NIL
40.	Diseases	Leaf curling	NIL	NIL	NIL
41.	Control Measures	NIL	Control of vector & Disease free seed	Full	Training
42.	Insects	Thrips & Aphid	NIL	NIL	NIL
43.	Control Measures	Rogar - 1 Lit/ha	Dimethoate-1 Lit Or Imidacloprid (0.2-0.3 Lit/ha)	Partial	Training & Demo.
44.	Production	250-300 (Qnt./ ha.)	300-350 (Qnt./ ha.)	NIL	NIL

Crop: Cucumber

Season: Zaid

Situation: Irrigated

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
15.	Field preparation	2-3 Times	3 Times + 1 Planking	Partial	Training
16.	Variety	Hybrid	Hybrid	Nil	Nil
17.	Sowing method				
18.	Seed rate	2.5kg/ha	2.5 kg/ha.	Nil	Nil
19.	Spacing	75 -100 cm	75 -100 cm	Nil	Nil
20.	Seed treatment	Nil	Thirum@3gm/kg	Full	Training & Demo.
21.	Manure	10 ton/ha.	10 ton/ha.	Nil	Nil
22.	Fertilizer	138:100:80	200:125:125	Partial	Demo.
23.	Irrigation	12-15	12-15	NIL	NIL
24.	Diseases	Powdery mildew	NIL	NIL	NIL
25.	Control Measures	Nil	Sulphex @0.2% Calaxin @0.5%	Full	Training
26.	Insects	Fruitfly, red pumpkin beetle	NIL	NIL	NIL
27.	Control Measures	Dimethoate@0.2%	Carbary@0.1%	Partial	Training & Demo.
28.	Production	80-90qnt/ha	110qnt/ha.	NIL	NIL

Animal Husbandry

Live stock population:

S. No.	Type of animal	Number
01	Cow	20 (11-Desi & 9-Cross)
02	Buffalo	250 (Murrha)
03	Bullock	40 (Malwi)
04	Goat	60 (Jamunapari & Sirohi))

Purpose of live stock rearing:

S. No.	Type of animal	Purpose
01	Cow	Milk
02	Buffalo	Milk
03	Bullock	Agricultural Operation
04	Goat	Meat purpose

Milk production/ day /animal

S. No.	Type of animal	Quantity
01	Cow	Desi- 2lit. & Cross- 4-5 lit.
02	Buffalo	6-8 lit.

Average Milk Production During the year

S. No.	Month	Avg. Milk (in lit. / Day)
1	January	900
2	February	750
3	March	750
4	April	600
5	May	550
6	June	500
7	July	550
8	August	1000
9	September	1100
10	October	1150
11	November	1100
12	December	1000

Type of house for animal: Kuchcha & Pucca**Feed:**

- 1-Green fodder - Maize & Jowar (July to October),
Berseem (November to February)
- 2-Straw - Always (Soybean, Wheat and Gram
for milch animal)
- 3-Radimade feed (concentrate) - Occasionally for milch animal
- 4-Mix fodder - For milch animal
- 5-Other (Cotton cake) - For milch animal

Method of fodder (Green/dry) storage:

- 1- NIL for green fodder
- 2- Traditional for straw

Major Diseases of livestock:

- 1- Goat - FMD
- 2- Cow, Buffalo - FMD, Mastitis, Kali Peshab, Anoestrus & H.S.
- 3- Bullock - FMD, Kali Peshab & H.S

Facility of Hospital: (Yes/No)- No

Nearest Veterinary Hospital - Hatod

Distance from village: 6 km.

A.I. practices:(Yes/No) No

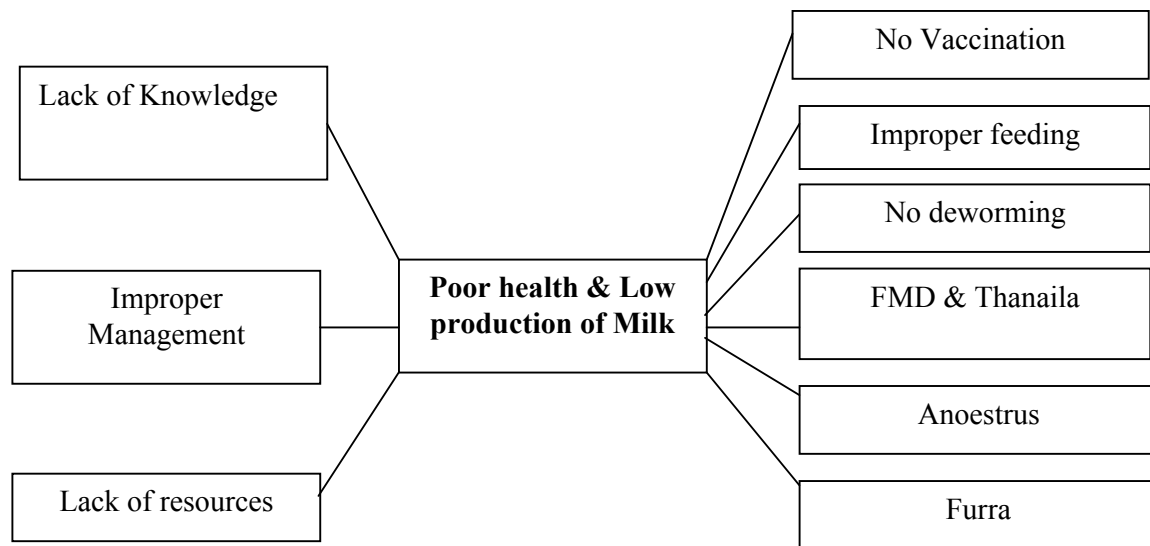
Vaccination:(Yes/No) Yes

Knowledge of improved fodder crops: Yes (Maize, Jowar, sudan grass, berseem, Nepiar grass)

Use of improved fodder crops: Yes (Maize, Jowar, and berseem)

Knowledge of improved fodder crop Cultivation practices: Yes (Maize, Jowar, and berseem)

Problems Relrted to Animal Husbandry



Agriculture Engineering

Socio Economic Causes

Bio Physical Causes

01	Tractor with Trolley	12
02	Seed drill (single Box)	12
03	Seed drill (Double Box)	Nil
04	Duck foot cultivator	12
05	Cultivator	12
06	M.B. Plough	2
07	Potato Planter	Nil
08	Hand Sprayer	70
09	Power sprayer	4
10	Duster	Nil
11	Bullock cart	20
12	Bullock drawn implements	Yes(seed drill, bakkhar, dora, plough, dufan, etc)
13	Chaff cutter	Nil
14	Thresher (Electric)	10
15	Thresher (tractor drawn)	3

16	Diesel Engine	13
17	Generator	10
18	Pump set (Monoblock)	20
19	Tube well motor	210

Field preparation:

I- Kharif crops- 3 times (by duck foot cultivator & 2 times cultivator)
 II- Rabi crops- 2 times (by Duck foot & 9 tine cultivator)

Sowing method:

S. No.	Crop	Method
01	Soybean	Single box seed drill
02	Wheat	Single box seed drill
03	Gram	Single box seed drill
04	Garlic	Broadcast, dibbling & Garlic planter
05	Potato	Potato planter
06	Onion	Transplanting

Source of irrigation:

S. No.	Source	Nos.
6.	River	Nil
7.	Tank	Nil
8.	Canal	Nil
9.	Open well	02
10.	Tube well	200

Method of irrigation: (Flood, Sprinkler, and Drip)

S. No.	Crop	Method
01	Soybean	NIL
02	Wheat	Flood
03	Gram	Flood
04	Garlic	Flood
05	Potato	Flood
06	Onion	Flood

Drainage Practices: NIL

Water Table/level: 350-500 Feet

Water conservation practices: NIL

Soil conservation practices: Across sowing on sloppy land

Method of drudgery reduction: NIL

Care and maintenance of agril. implements: Occasionally (by outsider mechanic)

Knowledge about following improved implements:

Rotavator - Yes

Double box seed drill	-	Yes
Disc plough	-	No
Disc harrow	-	Yes
Garlic planter	-	Yes
Spiral grader	-	No

Women in Agriculture

Major agriculture work of rural women:

S. No.	Work	Practice	Recommended practice	Need	Intervention
1-	Weeding	Hand	Hand / wheel hoe	Partial	Trg. & Demo.
2-	Harvesting	Hand	Hand / Harvester	-	
3-	Storage	Traditional (Neem leaves and EDB)	EDB	Partial	Trg.
4-	Preservation of fruits (Mango & Lime)	Traditional	Scientific	Partial	Trg. & Demo.
<input type="checkbox"/> Preservative practice - Mango, pickle and murabba, lime and mango pickle <input type="checkbox"/> Use of soybean in diet – No (but want to learn how to prepare soya food) <input type="checkbox"/> Kitchen garden - No <input type="checkbox"/> Availability of labour throughout the year. There is a crisis of agriculture labour in the month of September and October in the village.					

Health:

Malnutrition: Nil

Knowledge and use of Soybean in daily food: NIL

Knowledge of cloth stitching: (Yes/No), Yes, some women have

Use of fruit, vegetable and sprouted grains in Daily diet: (Yes/No) Yes

Any type of women SHG: No

Interest areas in which they want to improve the skill:

1- Preservation of fruits (Mango and Lime)

2- Improved weeding implements

3- Stitching of garments

Problem Prioritization

Rank Based Quotient (Developed by Sabarathnam -1988) was used to find out the importance of farmers problems.

Formula is given below:

$$\text{RBQ} = \frac{\sum_{i=1}^n (F_i) (n+1-i)}{Nn} \times 100$$

Frequency of the farmers for various ranks of the problems (Crop – Soybean)

S.N.	Problem	I	II	III	IV	V	VI	VII	VIII	IX
1	Lack of resources				1			1		
2	Lack of technical knowledge		1		1			1		
3	High seed rate		12			3			1	
4	No seed treatment	11			2		1			
5	Imbalance nutrition			13		3			1	
6	Incidence of seedling rot		14		2	1		1		
7	Infestation of semilooper	14				2	1	1		
8	Infestation of girdle beetle			10			3		2	
9	Sterility				1			1		
10	Use of poor quality chemical					2				

Number of participants: 20

Frequency of the farmers for various ranks of the problems (Crop – Soybean)

S.N.	Problem	
1	Lack of resources	10X0+9X0+8X0+7X1+6X0+5X0+4X1+3X0+2X0+1X1
2	Lack of technical knowledge	10X0+9X1+8X0+7X1+6X0+5X0+4X1+3X0+2X0+1X0
3	High seed rate	10X0+9X12+8X0+7X0+6X3+5X0+4X0+3X1+2X1+1X
4	No seed treatment	10X11+9X0+8X0+7X2+6X0+5X1+4X0+3X0+2X0+1X
5	Imbalance nutrition	10X0+9X0+8X13+7X0+6X3+5X0+4X0+3X1+2X0+1X
6	Incidence of seedling rot	10X0+9X14+8X0+7X2+6X1+5X0+4X1+3X0+2X1+1X
7	Infestation of semilooper	10X14+9X0+8X0+7X0+6X2+5X1+4X1+3X0+2X0+1X
8	Infestation of girdle beetle	10X0+9X0+8X10+7X0+6X0+5X3+4X0+3X2+2X0+1X
9	Sterility	10X0+9X0+8X0+7X1+6X0+5X0+4X1+3X0+2X2+1X1
10	Use of poor quality chemical	10X0+9X0+8X0+7X0+6X2+5X0+4X0+3X0+2X1+1X0

RBQ, M.V., and rank of different problems identified by the farmers value (Crop- Soybean)

S.N.	Problem	RBQ Value	Average % Loss	Area under crops (ha)	Magnitude Value	Rank
1	Lack of resources	4.00	4	25	400.00	IX
2	Lack of technical knowledge	6.66	6	160	6393.60	VIII
3	High seed rate	43.66	9	160	62870.40	IV
4	No seed treatment	43.33	9	235	91642.95	III
5	Imbalance nutrition	41.66	14	235	137061.40	II
6	Incidence of seedling rot	51.00	8	130	53040.00	V
7	Infestation of semilooper	53.66	15	260	209274.00	I
8	Infestation of girdle beetle	33.66	12	90	36352.80	VI
9	Sterility	5.33	3	8	127.92	X
10	Use of poor quality chemical	4.66	9	185	7758.90	VII

Frequency of the farmers for various ranks of the problems (Crop – Wheat)

S.N.	Problem	I	II	III	IV	V	VI	VII	V
1	Lack of resources					1		1	
2	Lack of technical knowledge						1		
3	High seed rate		8			2			
4	No seed treatment	14			1				
5	Use of old Varieties		12		2				
6	Use of poor quality seed			8		1	2		
7	Imbalance nutrition	14	3					1	
8	Incidence of Weeds			6				2	
9	Infestation of termite				5		3		
10	Use of poor quality chemical					2			

Number of participants: 20

Frequency of the farmers for various ranks of the problems (Crop – Wheat)

S. N.	Problem	
1	Lack of resources	10X0+9X0+8X0+7X0+6X1+5X
2	Lack of technical knowledge	10X0+9X0+8X0+7X0+6X0+5X
3	High seed rate	10X0+9X8+8X8+7X0+6X2+5X
4	No seed treatment	10X14+9X0+8X0+7X1+6X0+5X
5	Use of old Varieties	10X0+9X12+8X0+7X2+6X0+5X
6	Use of poor quality seed	10X0+9X0+8X8+7X0+6X1+5X
7	Imbalance nutrition	10X14+9X3+8X0+7X0+6X0+5X
8	Incidence of Weeds	10X0+9X0+8X6+7X0+6X0+5X
9	Infestation of termite	10X0+9X0+8X0+7X5+6X0+5X
10	Use of poor quality chemical	10X0+9X0+8X0+7X0+6X2+5X

RBO, M.V., and rank of different problems identified by the farmers value (Crop- Wheat)

<u>S.N.</u>	<u>Problem</u>	<u>RBO Value</u>	<u>Average % Loss</u>	<u>Area under crops</u>	<u>Magnitude Value</u>	<u>Rank</u>
<u>1</u>	Lack of resources	5.00	4	16	320.00	IX
<u>2</u>	Lack of technical knowledge	3.50	5	33	577.50	VIII
<u>3</u>	High seed rate	45.00	8	45	16200.00	V
<u>4</u>	No seed treatment	74.00	9	132	87912.00	III
<u>5</u>	Use of old Varieties	61.00	16	132	128832.00	II
<u>6</u>	Use of poor quality seed	42.00	11	132	60984.00	IV
<u>7</u>	Imbalance nutrition	86.00	19	132	215688.00	I
<u>8</u>	Incidence of Weeds	32.50	9	41	11992.50	VI
<u>9</u>	Infestation of termite	27.50	4	23	2530.00	VII
<u>10</u>	Use of poor quality chemical	7.50	2	13	195.00	X

Frequency of the farmers for various ranks of the problems (Crop – Gram)

S.N.	Problem	I	II	III	IV	V	VI	VII	VIII
1	Lack of resources			2			2		
2	Lack of technical knowledge				3			2	
3	High seed rate			8		2		1	
4	No seed treatment		14		4				
5	Imbalance nutrition		12		3		2		
6	Use of traditional variety	14				1			
7	Incidence of wilt	13		2				2	
8	Infestation of gram cut worm	8		5		2		3	
9	Infestation of pod borer	16		1		1	1		
10	Use of poor quality chemical				12			5	

Number of participants: 20

Frequency of the farmers for various ranks of the problems (Crop – Gram)

S.N.	Problem	
1	Lack of resources	10X0+9X0+8X2+7X0+6X0+5X2+4X0+3X0+2X1+1X0
2	Lack of technical knowledge	10X0+9X0+8X0+7X3+6X0+5X0+4X2+3X0+2X2+1X1
3	High seed rate	10X0+9X0+8X8+7X0+6X2+5X0+4X1+3X1+2X0+1X1
4	No seed treatment	10X0+9X14+8X0+7X4+6X0+5X0+4X0+3X1+2X0+1X0
5	Imbalance nutrition	10X0+9X12+8X0+7X3+6X0+5X2+4X0+3X0+2X1+1X0
6	Use of traditional variety	10X14+9X0+8X0+7X0+6X1+5X0+4X0+3X0+2X1+1X0
7	Incidence of wilt	10X13+9X0+8X2+7X0+6X0+5X0+4X2+3X2+2X0+1X0
8	Infestation of gram cut worm	10X8+9X0+8X5+7X0+6X2+5X0+4X3+3X0+2X0+1X0
9	Infestation of pod borer	10X16+9X0+8X1+7X0+6X1+5X1+4X0+3X0+2X1+1X0
10	Use of poor quality chemical	10X0+9X0+8X0+7X12+6X0+5X0+4X5+3X0+2X2+1X1

RBO, M.V., and rank of different problems identified by the farmers value (Crop- Gram)

<u>S.N.</u>	<u>Problem</u>	<u>RBO Value</u>	<u>Average % Loss</u>	<u>Area under crops</u>	<u>Magnitude Value</u>	<u>Rank</u>
<u>1</u>	Lack of resources	14.00	4	13	728.00	X
<u>2</u>	Lack of technical knowledge	17.00	5	13	1105.00	IX
<u>3</u>	High seed rate	42.00	8	46	15456.00	VI
<u>4</u>	No seed treatment	78.5	9	52	36738.00	V
<u>5</u>	Imbalance nutrition	70.50	16	52	58656.00	II
<u>6</u>	Use of traditional variety	74.00	11	52	42328.00	IV
<u>7</u>	Incidence of wilt	80.00	11	52	45760.00	III
<u>8</u>	Infestation of gram cut worm	73.00	9	15	9855.00	VII
<u>9</u>	Infestation of pod borer	90.50	19	42	72219.00	I
<u>10</u>	Use of poor quality chemical	54.50	5	35	9537.50	VIII

Suggestions to overcome the problems and constraints of farmers

After conducting PRA, many problems of farmers related to agriculture have come into the light. If we overcome these problems and constraints, farmers will get more than the present. Following suggestions could be useful to overcome these constraints and problems:

5. There should be organizing on farm training and demonstrations to educate the farmers about new technologies and recommended practices.
6. Agriculture inputs like seed, fertilizer, chemicals etc. should be made available in adequate quantity and quality on well time.
7. The required technical knowledge and skills about agriculture production technology should be made available to the farmers, farmwomen and rural youth well in time so that they can utilize it for increasing the production and productivity of their farming system.
8. Greater interaction of the farmers with the agriculture scientist/researchers should be ensured through Kisan Mela, Field Days, Field Visits and other extension activities.

Analysis of these information, identifies the problems and needs of the farmers and shows ways to the project authority to plan educational strategy and programme.

Chhoti Jam (Block-MHOW)

VILLAGE – Chhoti Jam

BACKGROUND INFORMATION

Village Chhoti Jam of MHOW block is situated 50 KM. away from KGNMT, Kasturbagram. All the information related to population farm families, cultivated land, available resources, soil type, cropping pattern etc. are given below:

Name of Village	Chhoti Jam
Panchayat	Chhoti Jam
Tehsil	MHOW
District	Indore
Police Station	Bargonda
Distance from road and name	On Indore Mandleshwar Road
Distance from KVK	50 km
Population	950
No. of farm family	95(Banjara-31, Brahman-19, Mankar-12, Pasi-8, Bhil-8, Harijan-12, Gawali-5)
Total Land	240 Acre
Waste Land	Nil
Cultivated Land	240 Acre
Irrigated Land	110 Acre
Average Land Holding	3-5 Acre
Biggest Farmer (Jagdish Pandit)	15 Acre
Smallest Holding	2 Acre
Major Crops	Kharif – Soybean(Mix with Maize) Rabi – Wheat, Gram, Garlic and Potato)
Natural Resources (Water)	River - (Choral) - 1
Social and religious Institute	Temple - 5
Educational Institute	School (Middle) -1
Commercial Institute	Kirana Shop – 3, Motor Rebinding Shop- 1 Cloth and stitching shop - 1

TIME LINE

Sr. No.	Time (Year)	Event
22.	Ancient	Village establishment
23.	1961	Radio
24.	1978	Electrification
25.	1973	Use of fertilizer started
26.	1978	HYV of wheat sown in
27.	1992	First tube well dug
28.	1982	Soya Cultivation (black)
29.	1987	Soya Cultivation (yellow)
30.	1985	TV
31.	1988	First Motorcycle
32.	1989	Fist tractor
33.	2006	Phone (Mobile)
34.	2002	Road construction (Pukka)
35.	2002	Use of Insecticide started
36.	1990	Transportation facility(by Tractor)
37.	1964	Primary School
38.	2002	Middle school
39.	2001	Hybrid variety of vegetables stated
40.	Ancient	Tank
41.	2009	First agriculture agency-KVK

Soil Type

The soils of the village are black, red, and pander. Major part of the soils is mostly hilly and plain. Water holding capacity of the soil is good.

Water

The ground water level in the village is 400-500 Feet. The natural recharge of the ground water is low due to cementing action of black soil and low infiltration rate.

Farming system

The farming system is crop and animal based. Farmers are growing crops and fodder crops for rearing animal. Major agricultural operations are carried out by both Bullock and Tractor drawn implements.

Cropping Pattern

Farmers are growing various crops in Rabi , Kharif and Zaid season. Soybean and Maize in Kharif, Wheat, Gram, Potato, and Garlic in Rabi and cucurbits in Zaid are the major crops of the village.

Crop production

Seed production programme of any crop:	NIL
Preparation of any type of organic manure:	YES
Type of method:	Traditional

1- Crop: Soybean

Season: Kharif

Situation: Rainfed

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
23.	Field preparation	2 time cultivator and 1time duckphoot	3 times	Nil	Nil
24.	Variety	JS-335, and 9305	JS-93-05 and JS-95-60	Partial	Demo.& Training
25.	Type of seed	Own seed	Certified seed	Full	Demo.
26.	Sowing method	By seed drill	Seed cum Ferti drill	Full	Demo.
27.	Seed treatment	Nil	Carbandazim @3gm/seed	Full	Training
28.	Seed inoculation	Nil	Rhi & PSB @5 gram each per kg. seed	Full	Demo.
29.	Spacing	14 inch (RxR)	18 inch (RxR)	Partial	Training
30.	Seed rate	120-130 kg/ha	75 kg/ha	Partial	Training
31.	Time of sowing	June last week/July 1 st	June last week/July 1 st	Nil	Nil
32.	Manure	5-10 ton/ha based on availability	10 ton/ha	Nil	Nil
33.	Fertilizer	N- 18, P- 78 K-0 Kg./ha	N 20, P 60-80, K-20,S-20 Kg./ha	Partial	Training
34.	Weeding 1- Hand 2-Dora 3-Chem.	1time 2 time Nil	1 time 2 time Pendamethaline or Emazathpyr @ 1lit/ha	Partial	Training
35.	Diseases	Seedling rot	-	-	-
36.	Control Measures	Nil	Seed treatment, Reco. Seed rate	Full	Demo.
37.	Insects	Blue beetle, Girdle beetle, Hairy cater pillar, Semilooper	-	-	-
38.	Control Measures	Endo- 1 Cyper – 0.8 Lit /ha	Endo- 1 Mythomil-1.2 Trizophos-0.8 Lit /ha	Partial	Training
39.	Harvesting method	By hand	By hand	Nil	Nil
40.	Identification of Maturity stage	Yellow leaves	Yellow leaves	Nil	Nil
41.	Threshing method	Tractor Thresher	Tractor Thresher (800RPM)	Partial	Training
42.	Any type of seed production?	Nil	-	-	-
43.	Production (Qnt./ ha.)	JS-9305:13-15 Q JS-335: 14-16 Q	JS93-05: (25-30 Q.) JS 95-60: (25-30 Q)	-	-
44.	Product utilization i-Own consumption	i-Nil ii-Sell out in	i-Own consumption	Partial	Training

	ii-Sell out in market iii- Storage	market iii-Storage for next year Sowing	ii-Sell out in market iii-Storage		
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2- Crop: Wheat**Season: Rabi****Situation: Irrigated**

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
01	Field preparation	2 time cultivator and 1time duckphoot with planking	3 Times (With 1 planking)	Nil	Nil
02	Variety	Lok-1 and WH-147	Malav Shakti, Malav Ratna HI-1418 GW-173	Full	OFT
03	Seed rate	125-150 Kg/ha	100-125 Kg/ha	Partial	Trg. & Demo.
04	Sowing method	Seed drill	Seed cum Ferti drill	Full	Demo.
05	Seed treatment	Nil	Thirum@3gm/kg seed	Full	Demo.
06	Seed inoculation	Nil	Azato & PSB @5-5 gram/seed	Full	Demo.
07	Spacing	9 inch	9 inch	Nil	Nil
08	Type of seed	Own seed	Certified	Full	Demo.
09	Time of sowing	Oct last week to Nov-II week	Oct last week to Nov-II week	NIL	NIL
10	Weeding	Nil	2-4 D@0.5 kg. & Isoproturon@1kg AI /ha	Full	Training
11	Fertilizer	N – 64, P – 46 Kg./ha (Irri.)	N – 80,P - 40 K - 20 Kg./ha(2-Irri.) N – 120, P - 60K - 40 Kg./ha (Irri.)	Partial	OFT
12	Irrigation (No. & Interval)	6 times	2-6 times	Nil	Nil
13	Diseases	NIL	NIL	NIL	NIL
14	Control measures	NIL	Thirum@3gm/kg seed& resistant varieties	Full	Demo.
15	Insects	Termite and Shoot borer	NIL	NIL	NIL
16	Control measures	Nil	Phorate@10kg/ha	Full	Demo.
17	Harvesting	By hand	By hand	Nil	Nil
18	Threshing	By Tractor operated & electric thresher	By Tractor operated & electric thresher	Nil	Nil
19	Yield	32-40 q/ha	45 – 55 q/ha	Nil	Nil
20	Storage	EDB ampoules (@ 1 amp./q)	EDB ampoules (@ 1 amp./q)	NIL	NIL
21	Crop residue burning	Burning	No burning	Full	Awareness camp

3- Crop: Gram**Season: Rabi****Situation: Irrigated**

Variety - Annagiri
Rec. Variety: JG-218 & JG-412

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
01	Field preparation	2 time cultivator and 1time duckphoot with planking	2 Times+ 1 planking	Nil	Nil
02	Variety	Annagiri	JG-218 & JG-412	Full	Demo.
03	Seed rate	100-120 kg./ha.	75-100 Kg/ha	Partial	Demo.
04	Sowing method	Seed drill	Seed cum Ferti drill	Full	Demo.
05	Seed treatment	Nil	Carbandazim @3gm/seed	Full	Demo.
06	Seed inoculation	Nil	Rhi & PSB @5-5 gram/seed	Full	Demo.
07	Spacing	14 inch	18 inch	Partial	Demo.
08	Type of seed	Local	Certified	Full	Demo.
09	Time of sowing	Oct last week to Nov-II week	Oct last week to Nov-II week	NIL	NIL
10	Weeding	Nil	By Hand & Dora	Full	Demo.
11	Fertilizer	Nil	N-20, P-50Kg.	Partial	Demo.
12	Irrigation	2 (+ 1 Palewa)	2 (+ 1 Palewa)	NIL	NIL
13	Disease	Wilt and seedling rot	NIL	NIL	NIL
14	Control Measures	Nil	Seed treatment & Spray of M-45@ 0.3%	Full	Demo.
15	Insects	Gram cater pillar, Gram cut worm, semilooper	NIL	NIL	NIL
16	Control Measures	Endo – 1.5, Cyper- 0.8 Lit /ha	Endo – 1.5, Profeno. -1.5, Trizophos-0.8 Lit /ha	Partial	Demo.
17	Harvesting	by hand	by hand	NIL	NIL
18	Threshing	By Tractor operated	By Tractor operated & electric thresher	Nil	Nil
19	Production (Qnt./ ha.)	10-12 qnt./ha	20 – 25 qnt. / ha.	-	-
	Storage	EDB ampoules (@ 1 amp./q)	EDB ampoules (@ 1 amp./q)	NIL	NIL

4- Crop: Garlic**Season: Rabi****Situation: Irrigated**

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
17.	Field preparation	2 Times	3 Times + 1 Planking	Partial	Training
18.	Variety	Jamnagar, & Amleta	J. Garlic-282	Partial	Demo.
19.	Seed rate	3 - 3.5 q/ha	1.36 - 2.27 qnt/ha	Full	Demo.
20.	Spacing	9"- 6"	15" -7.5"	Partial	Demo.
21.	Seed treatment	NIL		Full	Training
22.	Sowing method	Broad Cost, dibbling, garlic planter	Broad Cost, dibbling, garlic planter	Nil	Nil
23.	Weeding	2-3 Times by hand	Hand weeding	Nil	Nil
24.	Manure	5-10 Ton /ha	40-50 Ton /ha	Partial	Training
25.	Earthing	2 times	2 times		
26.	Fertilizer	N - 116 P - 80 K - 40 Kg/ha	N - 150 Kg. P - 40 Kg K - 50 Kg	Partial	Demo.
27.	Irrigation	10-12 days interval	10-12 days interval	Nil	Nil
28.	Diseases	Leaf curling	-	-	-
29.	Control Measures	NIL	Control of vector & Disease free seed	Full	Deom.
30.	Insects 1- 2-	Thrips & Aphid	-	-	-
31.	Control 1- Measures 2-	Rogar - 1 Lit/ha	Dimethoate-1 Lit Or Imedacloprid(0.2-0.3 Lit/ha)	Partial	Training
32.	Production	60-80 (Qnt./ ha.)	60-110(Qnt./ ha.)	-	-
33.					

5- Crop: Potato**Season: Rabi****Situation: Irrigated**

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
31.	Field preparation	2 Times	3 Times+1Planking	Partial	Training
32.	Variety	Jyoti, and Lokar	K.Jyoti, Chipsona 1&2&3,K.Surya	Partial	Training
33.	Seed rate	30-35 q/ha	25-30 q/ha	Partial	Training
34.	Spacing	60 cm.	60 cm.	Nil	Nil
35.	Seed treatment	Nil	Dithane M-45 (2.5% Sol.)	Partial	Training, Demo.
36.	Earthing	2 times	2 times	Nil	Nil
37.	Fertilizer	N - 72 P - 128 Kg/ha	N - 120 P - 100 K - 75 Kg/ha	Partial	Training & Demo.
38.	Manure	5-10 Ton /ha	5-10 Ton /ha	Nil	Nil
39.	Disease	Blight and Bacterial wilt	Nil	Nil	Nil
40.	Control	M-45 (1-1.5 Kg/ha)	M-45(1.5 Kg/ha) CuOCl ₂ (2-2.5 Kg/ha)	Partial	Training & Demo.
41.	Insect	Aphid and PTM	Nil	Nil	Nil
42.	Control	Rogar 1 Lit/ha	Dimethoate-1 Lit/ha Or Imedacloprid(0.2-0.3 Lit/ha) Chlorepyriphos	Partial	Training & Demo.
43.	Harvesting	by Desi plough	by plough	Nil	Nil
44.	Yield	150-180 q./ha	225-275 q./ha	Nil	Nil
45.	Storage	Yes, in the cold storage	Cold storage	Nil	Nil

Animal Husbandry**Live stock population:**

S. No.	Type of animal	Number
01	Cow	100 (Nimadi)
02	Buffalo	200 (50-Desi & 150- Murrah)
03	Bullock	50
04	Goat	150 (Yamunapari, Barbari, and Beetle)

Purpose of live stock rearing:

S. No.	Type of animal	Purpose
01	Cow	Milk
02	Buffalo	Milk
03	Bullock	Agricultural operation
04	Goat	For meat purpose

Milk production/ day /animal

S. No.	Type of animal	Quantity
01	Cow	3 lit./day
02	Buffalo	6-7 lit./day

Average Milk Production During the year

S. No.	Month	Avg. Milk (in lit. / Day)
1	January	1000
2	February	950
3	March	950
4	April	800
5	May	600
6	June	600
7	July	700
8	August	1100
9	September	1150
10	October	1150
11	November	1100
12	December	1100

The highest milk producer is Mr. Hariom Jee Maharaj (80 – 90 lit./day)

Note: - The milk producers are not sailing out the milk but they prepare khoya at first and than supply it to the businessman.

Type of house for animal: Kuchcha & Pucca

Feed:

- 1-Green fodder - Maize & Jowar (July to October),
- 2-Straw - Always (Soybean, Wheat and Gram for milch animal)
- 3-Radimade feed (concentrate) - Occasionally for milch animal
- 4-Mix fodder - For milch animal
- 5-Other(Cotton cake) - For milch animal

Method of fodder (Green/dry) storage:

- 1- NIL for green fodder
- 2- Traditional for straw

Major Diseases of livestock:

- 1- Goat - FMD
- 2- Cow, Buffalo - FMD, Mastitis, Kali Peshab, Anoestrus & H.S.
- 3- Bullock - FMD, Kali Peshab & H.S

Facility of Hospital: (Yes/No) No

Nearest Veterinary Hospital - Man

Distance from village: 12 km.

A.I. practices :(Yes/No) No

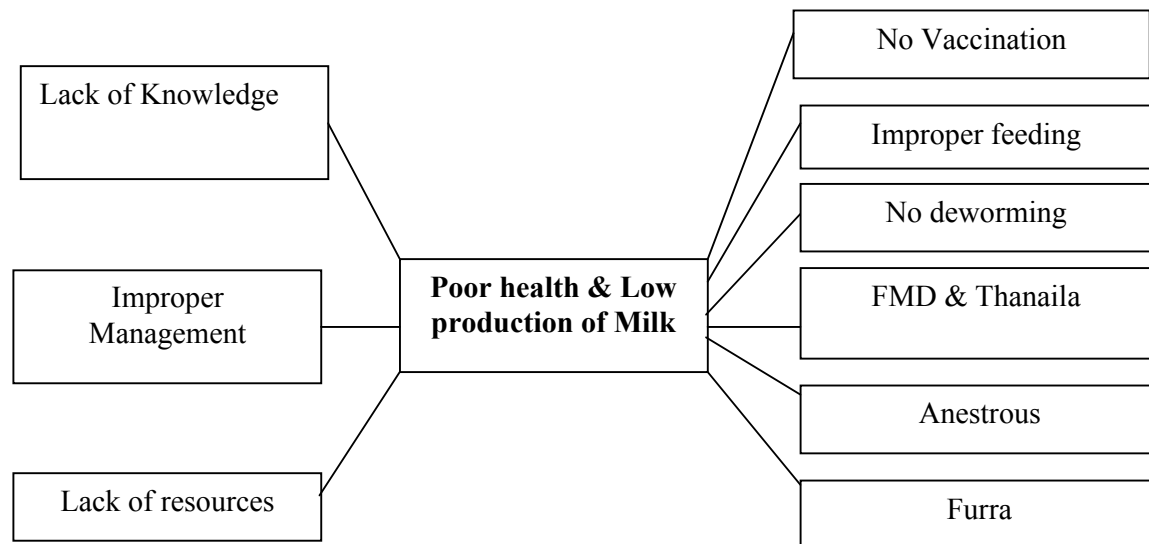
Vaccination :(Yes/No)No

Knowledge of improved fodder crops: Yes (Maize, Jowar, sudan grass, berseem, Nepiar grass)

Use of improved fodder crops: Yes (Maize, Jowar, and berseem)

Knowledge of improved fodder crop Cultivation practices: Yes (Maize, Jowar, and berseem)

Problems Related to Animal Husbandry



Socio Economic Causes

Agriculture Engineering

Bio Physical Causes

Available implements:

S. No.	Name of Implement	Number
01	Tractor with Trolley	5
02	Seed drill (single Box)	5
03	Seed drill (Double Box)	Nil
04	Duck foot cultivator	5
05	Cultivator	5
06	M.B. Plough	1
07	Potato Planter	1
08	Hand Sprayer	22
09	Power sprayer	3
10	Duster	Nil
11	Bullock pair	25
12	Bullock cart	25
13	Bullock drawn implements	Yes(seed drill, bakkhar, dora, plough, dufan, etc)
14	Chaff cutter	Nil
15	Thresher (Electric)	3
16	Thresher (tractor drawn)	1
17	Diesel Engine	3
18	Generator	2
19	Pump set (Monoblock)	5
20	Tube well motor	8

Field preparation:

I- Kharif crops- 3 times (by duck foot cultivator & 2 times cultivator)
 II- Rabi crops- 2 times (Duck foot & 9 tine cultivator)

Sowing method:

S. No.	Crop	Method
01	Soybean	Single box seed drill
02	Wheat	Single box seed drill
03	Gram	Single box seed drill
04	Garlic	Broadcast, dibbling & Garlic planter
05	Potato	Potato planter

Source of irrigation:

S. No.	Source	Nos.
11.	River	1
12.	Tank	1
13.	Canal	-
14.	Open well	5
15.	Tube well	5

Method of irrigation: (Flood, Sprinkler, and Drip)

S. No.	Crop	Method
01	Soybean	NIL
02	Wheat	Flood
05	Gram	Flood
06	Garlic	Flood
08	Potato	Flood

Drainage Practices: NIL**Water Table/level:** 400-500 Feet**Water conservation practices:** NIL**Soil conservation practices:** Across sowing on sloppy land**Method of drudgery reduction:** NIL**Care and maintenance of agriculture implements:** Occasionally
(By outsider mechanic)**Knowledge about following improved implements:**

Rotavator - No
 Double box seed drill - Yes
 Disc plough - No
 Disc harrow - No

Garlic planter - Yes

Spiral grader - No

Women in Agriculture

Major agriculture work of rural women:

S. No.	Work	Practice	Recommended practice	Need	Intervention
1-	Weeding	Hand	Hand / wheel hoe	Partial	Trg. & Demo.
2-	Harvesting	Hand	Hand / Harvester	-	
3-	Storage	Traditional (Neem leaves and EDB)	EDB	Partial	Trg.
4-	Preservation of fruits (Mango & Lime)	Traditional	Scientific	Partial	Trg. & Demo.
<ul style="list-style-type: none"><input type="checkbox"/> Preservative practice - Mango, pickle and murabba, lime and mango pickle<input type="checkbox"/> Use of soybean in diet – No (but want to learn how to prepare soya food)<input type="checkbox"/> Kitchen garden - No<input type="checkbox"/> Availability of labour throughout the year. There is a crisis of agriculture labour in the month of September and October in the village.					

Health:

Malnutrition: Nil

Knowledge and use of Soybean in daily food: NIL

Knowledge of cloth stitching: (Yes/No), Yes, some women have

Use of fruit, vegetable and sprouted grains in Daily diet: (Yes/No) Yes

Any type of women SHG: Nos: No

Interest areas in which they want to improve the skill:

1- Preservation of fruits (Mango and Lime)

2- Improved weeding implements

3- Sticking of garments

Rank Based Quotient (Developed by Sabarathnam -1988) was used to find out the importance of farmers problems.

Formula is given below:

$$RBQ = \frac{\sum_{i=1}^n (F_i) (n+1-i)}{Nn} \times 100$$

Frequency of the farmers for various ranks of the problems (Crop – Soybean)

S.N.	Problem	I	II	III	IV	V	VI	VII	VIII	IX
1	Lack of resources				1			1		
2	Lack of technical knowledge		1		1			1		
3	High seed rate		12			3			1	
4	No seed treatment	11			2		1			
5	Imbalance nutrition			13		3			1	
6	Incidence of seedling rot		14		2	1		1		
7	Infestation of semilooper	14				2	1	1		
8	Infestation of girdle beetle			10			3		2	
9	Sterility				1			1		
10	Use of poor quality chemical					2				

Number of participants: 20

Frequency of the farmers for various ranks of the problems (Crop – Soybean)

S.N.	Problem	
1	Lack of resources	10X0+9X0+8X0+7X1+6X0+5X0+4X1+3X0+2X0+1X1
2	Lack of technical knowledge	10X0+9X1+8X0+7X1+6X0+5X0+4X1+3X0+2X0+1X0
3	High seed rate	10X0+9X12+8X0+7X0+6X3+5X0+4X0+3X1+2X1+1X0
4	No seed treatment	10X11+9X0+8X0+7X2+6X0+5X1+4X0+3X0+2X0+1X0
5	Imbalance nutrition	10X0+9X0+8X13+7X0+6X3+5X0+4X0+3X1+2X0+1X0
6	Incidence of seedling rot	10X0+9X14+8X0+7X2+6X1+5X0+4X1+3X0+2X1+1X0
7	Infestation of semilooper	10X14+9X0+8X0+7X0+6X2+5X1+4X1+3X0+2X0+1X0
8	Infestation of girdle beetle	10X0+9X0+8X10+7X0+6X0+5X3+4X0+3X2+2X0+1X0
9	Sterility	10X0+9X0+8X0+7X1+6X0+5X0+4X1+3X0+2X2+1X1
10	Use of poor quality chemical	10X0+9X0+8X0+7X0+6X2+5X0+4X0+3X0+2X1+1X0

RBQ, M.V., and rank of different problems identified by the farmers value (Crop- Soybean)

S.N.	Problem	RBQ Value	Average % Loss	Area under crops (ha)	Magnitude Value	Rank
<u>1</u>	Lack of resources	4.00	4	25	400.00	IX
<u>2</u>	Lack of technical knowledge	6.66	6	160	6393.60	VIII
<u>3</u>	High seed rate	43.66	9	160	62870.40	IV
<u>4</u>	No seed treatment	43.33	9	235	91642.95	III
<u>5</u>	Imbalance nutrition	41.66	14	235	137061.40	II
<u>6</u>	Incidence of seedling rot	51.00	8	130	53040.00	V
<u>7</u>	Infestation of semilooper	53.66	15	260	209274.00	I
<u>8</u>	Infestation of girdle beetle	33.66	12	90	36352.80	VI
<u>9</u>	Sterility	5.33	3	8	127.92	X
<u>10</u>	Use of poor quality chemical	4.66	9	185	7758.90	VII

Frequency of the farmers for various ranks of the problems (Crop – Wheat)

S.N.	Problem	I	II	III	IV	V	VI	VII	v
1	Lack of resources					1		1	
2	Lack of technical knowledge						1		
3	High seed rate		8			2			
4	No seed treatment	14			1				
5	Use of old Varieties		12		2				
6	Use of poor quality seed			8		1	2		
7	Imbalance nutrition	14	3					1	
8	Incidence of Weeds			6				2	
9	Infestation of termite				5		3		
10	Use of poor quality chemical					2			

Number of participants: 20

Frequency of the farmers for various ranks of the problems (Crop – Wheat)

S. N.	Problem	I	II	III	IV	V	VI	VII	v
1	Lack of resources					10X0+9X0+8X0+7X0+6X1+5X			
2	Lack of technical knowledge					10X0+9X0+8X0+7X0+6X0+5X			
3	High seed rate					10X0+9X8+8X8+7X0+6X2+5X			
4	No seed treatment					10X14+9X0+8X0+7X1+6X0+5X			
5	Use of old Varieties					10X0+9X12+8X0+7X2+6X0+5X			
6	Use of poor quality seed					10X0+9X0+8X8+7X0+6X1+5X			
7	Imbalance nutrition					10X14+9X3+8X0+7X0+6X0+5X			
8	Incidence of Weeds					10X0+9X0+8X6+7X0+6X0+5X			
9	Infestation of termite					10X0+9X0+8X0+7X5+6X0+5X			
10	Use of poor quality chemical					10X0+9X0+8X0+7X0+6X2+5X			

RBO, M.V., and rank of different problems identified by the farmers value (Crop- Wheat)

<u>S.N.</u>	<u>Problem</u>	<u>RBO Value</u>	<u>Average % Loss</u>	<u>Area under crops</u>	<u>Magnitude Value</u>	<u>Rank</u>
<u>1</u>	Lack of resources	5.00	4	16	320.00	IX
<u>2</u>	Lack of technical knowledge	3.50	5	33	577.50	VIII
<u>3</u>	High seed rate	45.00	8	45	16200.00	V
<u>4</u>	No seed treatment	74.00	9	132	87912.00	III
<u>5</u>	Use of old Varieties	61.00	16	132	128832.00	II
<u>6</u>	Use of poor quality seed	42.00	11	132	60984.00	IV
<u>7</u>	Imbalance nutrition	86.00	19	132	215688.00	I
<u>8</u>	Incidence of Weeds	32.50	9	41	11992.50	VI
<u>9</u>	Infestation of termite	27.50	4	23	2530.00	VII
<u>10</u>	Use of poor quality chemical	7.50	2	13	195.00	X

Frequency of the farmers for various ranks of the problems (Crop – Gram)

S.N.	Problem	I	II	III	IV	V	VI	VII	VIII
1	Lack of resources			2			2		
2	Lack of technical knowledge				3			2	
3	High seed rate			8		2		1	
4	No seed treatment		14		4				
5	Imbalance nutrition		12		3		2		
6	Use of traditional variety	14				1			
7	Incidence of wilt		13	2				2	
8	Infestation of gram cut worm		8	5		2		3	
9	Infestation of pod borer		16	1		1	1		
10	Use of poor quality chemical				12			5	

Number of participants: 20

Frequency of the farmers for various ranks of the problems (Crop – Gram)

S.N.	Problem	
1	Lack of resources	10X0+9X0+8X2+7X0+6X0+5X2+4X0+3X0+2X1+1X0
2	Lack of technical knowledge	10X0+9X0+8X0+7X3+6X0+5X0+4X2+3X0+2X2+1X1
3	High seed rate	10X0+9X0+8X8+7X0+6X2+5X0+4X1+3X1+2X0+1X1
4	No seed treatment	10X0+9X14+8X0+7X4+6X0+5X0+4X0+3X1+2X0+1X0
5	Imbalance nutrition	10X0+9X12+8X0+7X3+6X0+5X2+4X0+3X0+2X1+1X0
6	Use of traditional variety	10X14+9X0+8X0+7X0+6X1+5X0+4X0+3X0+2X1+1X0
7	Incidence of wilt	10X13+9X0+8X2+7X0+6X0+5X0+4X2+3X2+2X0+1X0
8	Infestation of gram cut worm	10X8+9X0+8X5+7X0+6X2+5X0+4X3+3X0+2X0+1X0
9	Infestation of pod borer	10X16+9X0+8X1+7X0+6X1+5X1+4X0+3X0+2X1+1X0
10	Use of poor quality chemical	10X0+9X0+8X0+7X12+6X0+5X0+4X5+3X0+2X2+1X1

RBO, M.V., and rank of different problems identified by the farmers value (Crop- Gram)

<u>S.N.</u>	<u>Problem</u>	<u>RBO Value</u>	<u>Average % Loss</u>	<u>Area under crops</u>	<u>Magnitude Value</u>	<u>Rank</u>
<u>1</u>	Lack of resources	14.00	4	13	728.00	X
<u>2</u>	Lack of technical knowledge	17.00	5	13	1105.00	IX
<u>3</u>	High seed rate	42.00	8	46	15456.00	VI
<u>4</u>	No seed treatment	78.5	9	52	36738.00	V
<u>5</u>	Imbalance nutrition	70.50	16	52	58656.00	II
<u>6</u>	Use of traditional variety	74.00	11	52	42328.00	IV
<u>7</u>	Incidence of wilt	80.00	11	52	45760.00	III
<u>8</u>	Infestation of gram cut worm	73.00	9	15	9855.00	VII
<u>9</u>	Infestation of pod borer	90.50	19	42	72219.00	I
<u>10</u>	Use of poor quality chemical	54.50	5	35	9537.50	VIII

Suggestions to overcome the problems and constraints of farmers

After conducting PRA, many problems of farmers related to agriculture have come into the light. If we overcome these problems and constraints, farmers will get more than the present. Following suggestions could be useful to overcome these constraints and problems:

9. There should be organizing on farm training and demonstrations to educate the farmers about new technologies and recommended practices.
10. Agriculture inputs like seed, fertilizer, chemicals etc. should be made available in adequate quantity and quality on well time.
11. The required technical knowledge and skills about agriculture production technology should be made available to the farmers, farmwomen and rural youth well in time so that they can utilize it for increasing the production and productivity of their farming system.
12. Greater interaction of the farmers with the agriculture scientist/researchers should be ensured through Kisan Mela, Field Days, Field Visits and other extension activities.

Analysis of these information, identifies the problems and needs of the farmers and shows ways to the project authority to plan educational strategy and programme.

Narlay (Block-Indore)

VILLAGE - Narlay

BACKGROUND INFORMATION

Village Narlay of Indore block is situated 21 KM. away from KGNMT, Kasturbagram. All the information related to population farm families, cultivated land, available resources, soil type, cropping pattern etc. are given below:

Name of Village	Narlay
Panchayat	Narlay
Tehsil	Indore
District	Indore
Police Office	Rangwasa
Distance from road and name	Rangwasa Road, 5 Km
Distance from KVK	21 Km.
Population	850
No. of farm family	92
Total Land	680 Acre
Irrigated Land	520 Acre
Waste Land	30 Acre
Average Land Holding	5-8 Acre
Biggest Farmer (Sunder jee)	25 Acre
Smallest Holding	0.5 Acre
Major Crops	Kharif - Soybean Rabi - Wheat and Gram
Natural Resources (Water)	Nala (Seasonal) - River - (Kshipra) -
Social and religious Institute	Temple - Chaupal -
Educational Institute	School (Middle) -
Commercial Institute	Kirana Shop - Cloth and stitching shop -

TIME LINE

Sr. No.	Time (Year)	Event
42.	Ancient	Village establishment
43.	1966	Radio
44.	1968	Electrification
45.	1975	Use of fertilizer started
46.	1975	HYV of wheat sown in
47.	1980	First tube well dug
48.	1970	Soya Cultivation (black)
49.	1985	TV
50.	1980	First Motorcycle
51.	1975	Soya Cultivation (yellow)
52.	1990	Fist tractor
53.	2000	Phone
54.	2008	Road construction (Pukka)
55.	1995	Use of Insecticide started
56.	1952	Primary school
57.	2004	Hybrid variety of vegetables stated
58.	2007	Use of dollar gram

59.	2009	First agriculture agency-KVK
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Soil Type

The soils of the village are black and vary from medium to shallow black. The soils are mostly plain. Water holding capacity of the soil is good.

Water

The ground water level in the village is 200-250 Feet. The natural recharge of the ground water is low due to cementing action of black soil and low infiltration rate.

Farming system

The farming system is crop and animal based. Farmers are growing crops and fodder crops for rearing animal. Major agricultural operations are carried out bullock and bullock drawn implements.

Cropping Pattern

Farmers are growing various crops in Rabi , Kharif and Zaid season. Soybean and Maize in Kharif, Wheat, Gram, Potato, Garlic, Maithy and, Round Gourd in Rabi and cucurbits in Zaid are the major crops of the village.

Crop production

Seed production programme of any crop: .NIL

Preparation of any type of organic manure: YES

Type of method: Traditional

1 - **Crop: Soybean**

Season: Kharif

Situation: Rainfed

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
45.	Field preparation	2 time cultivator and 1time duckphoot	3 times	Nil	Nil
46.	Variety	JS-335, 9305, BS-2 NRC-7, Samrat	JS-93-05 and JS-95-60	Partial	Demo. & Training
47.	Type of seed	Own seed	Certified seed	Full	Demo.
48.	Sowing method	By seed drill	Seed cum Ferti drill	Full	Demo.
49.	Seed treatment	Only 4 farmer are doing by Carbandazim @3gm/seed	Carbandazim @3gm/seed	Full	Training
50.	Seed inoculation	Nil	Rhi & PSB @5 gram each per kg. seed	Full	Demo.
51.	Spacing	14 inch (RxR)	18 inch (RxR)	Partial	Training
52.	Seed rate	120-130 kg/ha	75 kg/ha	Partial	Training
53.	Time of sowing	June last week/July 1 st	June last week/July 1 st	Nil	Nil
54.	Manure	5-10 ton/ha based on availability	10 ton/ha	Nil	Nil
55.	Fertilizer	N- 00, P- 72, K-0, S- 54 Kg./ha	N 20, P 60-80, K-20,S-20 Kg./ha	Partial	Training

56.	Weeding 1- Hand 2-Dora 3-Chem.	1time 2 time Nil	1 time 2 time Pendamethaline or Emazathpyr @ 1lit/ha	Partial	Training
57.	Diseases	Seedling rot	-	-	-
58.	Control Measures	Nil	Seed treatment, Reco. Seed rate	Full	Demo.
59.	Insects	Blue beetle, Girdle beetle, Stem fly, Semilooper	-	-	-
60.	Control Measures	Endo- 1 Trizophos-0.8 Cyper – 0.8 Lit /ha	Endo- 1 Mythomil-1.2 Trizophos-0.8 Lit /ha	Partial	Training
61.	Harvesting method	By hand	By hand	Nil	Nil
62.	Identification of Maturity stage	Yellow leaves	Yellow leaves	Nil	Nil
63.	Threshing method	Tractor Thresher	Tractor Thresher (800RPM)	Partial	Training
64.	Any type of seed production?	Nil	-	-	-
65.	Production (Qnt./ ha.)	JS-9305:13-15 Q. JS-335: 14-16 Q. NRC-7: 12-15 Q. BS-2: 13-15 Q. Samrat :14-16 Q.	JS93-05: (25-30 Q.) JS 95-60: (25-30 Q)	-	-
66.	Product utilization i-Own consumption ii-Sell out in market iii- Storage	i-Nil ii-Sell out in market iii-Storage for next year Sowing	i-Own consumption ii-Sell out in market iii-Storage	Partial	Training

2- Crop: Wheat

Season: Rabi

Situation: Irrigated

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
01	Field preparation	2 time cultivator and 1time duckfoot with planking	3 Times (With 1 planking)	Nil	Nil
02	Variety	Lok-1 and WH-147	Malav Shakti, Malav Ratna HI-1418 GW-173	Full	OFT
03	Seed rate	140-160 Kg/ha	100-125 Kg/ha	Partial	Trg. & Demo.
04	Sowing method	Seed drill	Seed cum Ferti drill	Full	Demo.
05	Seed treatment	Nil	Thirum@3gm/kg seed	Full	Demo.
06	Seed inoculation	Nil	Azato & PSB @5-5 gram/seed	Full	Demo.
07	Spacing	9 inch	9 inch	Nil	Nil
08	Type of seed	Own seed	Certified	Full	Demo.
09	Time of sowing	Oct last week to Nov-II week	Oct last week to Nov-II week	NIL	NIL
10	Weeding	Nil	2-4 D@0.5 kg. & Isoproturon@1kg AI /ha	Full	Training
11	Fertilizer	N – 200, P – 70 K – 40 Kg./ha (Irri.)	N – 80,P - 40 K - 20 Kg./ha(2-Irri.) N – 120, P - 60K - 40 Kg./ha (Irri.)	Partial	OFT
12	Irrigation (No. & Interval)	6 times	2-6 times	Nil	Nil
13	Diseases	Smut & bunt	NIL	NIL	NIL
14	Control measures	NIL	Thirum@3gm/kg seed& resistant varieties	Full	Demo.
15	Insects	Termite and Stem borer	NIL	NIL	NIL
16	Control measures	Nil	Phorate@10kg/ha	Full	Demo.
17	Harvesting	By hand	By hand	Nil	Nil
18	Threshing	By Tractor operated & electric thresher	By Tractor operated & electric thresher	Nil	Nil
19	Yield	40-42 q/ha	45 – 55 q/ha	Nil	Nil
20	Storage	EDB ampoules (@ 1 amp./q)	EDB ampoules (@ 1 amp./q)	NIL	NIL
21	Crop residue burning	Burning	No burning	Full	Awareness camp

3- Crop: Gram**Season: Rabi****Situation: Irrigated****Variety - Annagiri, Dollar****Rec. Variety: JG-218 & JG-412**

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
01	Field preparation	2 time cultivator and 1time duckphoot with planking	2 Times+ 1 planking	Nil	Nil
02	Variety	Annagiri, Dollar	JG-218 & JG-412	Full	Demo.
03	Seed rate	100-120 kg./ha.	75-100 Kg/ha	Partial	Demo.
04	Sowing method	Seed drill	Seed cum Ferti drill	Full	Demo.
05	Seed treatment	Nil	Carbandazim @3gm/seed	Full	Demo.
06	Seed inoculation	Nil	Rhi & PSB @5-5 gram/seed	Full	Demo.
07	Spacing	14 inch	18 inch	Partial	Demo.
08	Type of seed	Local	Certified	Full	Demo.
09	Time of sowing	Oct last week to Nov-II week	Oct last week to Nov-II week	NIL	NIL
10	Weeding	Nil	By Hand & Dora	Full	Demo.
11	Fertilizer	Nil	N-20, P-50Kg.	Partial	Demo.
12	Irrigation	2 (+ 1 Palewa)	2 (+ 1 Palewa)	NIL	NIL
13	Disease	Wilt and seedling rot	NIL	NIL	NIL
14	Control Measures	Nil	Seed treatment & Spray of M-45@ 0.3%	Full	Demo.
15	Insects	Cater pillar, Cut worm,semilooper	NIL	NIL	NIL
16	Control Measures	Endo – 1.5, Trizophos-0.8 Cyper- 0.8 Lit /ha	Endo – 1.5, Profeno. -1.5, Trizophos-0.8 Lit /ha	Partial	Demo.
17	Harvesting	by hand	by hand	NIL	NIL
18	Threshing	By Tractor operated	By Tractor operated & electric thresher	Nil	Nil
19	Production (Qnt./ ha.)	11-14 qnt./ha	20 – 25 qnt. / ha.	-	-
20	Storage	EDB ampoules (@ 1 amp./q)	EDB ampoules (@ 1 amp./q)	NIL	NIL

Crop: Garlic**Season: Rabi****Situation: Irrigated**

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
34.	Field preparation	2 Times	3 Times + 1 Planking	Partial	Training
35.	Variety	Jamnagar, Malkapuri & Amleta	J. Garlic-282	Partial	Demo.
36.	Seed rate	2 - 2.5 q/ha	1.36-2.27 Qnt/ha	Partial	Demo.
37.	Spacing	9"- 6"	15" -7.5"	Partial	Demo.
38.	Seed treatment	NIL	Mancozab (M-45) 5 gm. per kg. seed	Full	Training
39.	Sowing method	Broad Cost, dibbling, garlic planter	Broad Cost, dibbling, garlic planter	Nil	Nil
40.	Weeding	2-3 Times by hand	Hand weeding	Nil	Nil
41.	Manure	5-10 Ton /ha	40-50 Ton /ha	Partial	Training
42.	Earthing	2 times	2 times	Partial	Training
43.	Fertilizer	N - 30 P -130 K - 40 Kg/ha	N - 150 Kg. P - 40 Kg K - 50 Kg	Partial	Demo.
44.	Irrigation	10-12 days interwal	10-12 days interwal	Nil	Nil
45.	Diseases	Leaf curling	-	-	-
46.	Control Measures	NIL	Control of vector& Disease free seed	Full	Deom.
47.	Insects 1- 2-	Thrips Aphid	-	Partial	Training
48.	Control 1- Measures 2-	Rogar - 1 Lit/ha	Dimethoate-1 Lit Or Imedacloprid(0.2-0.3 Lit/ha)	-	-
49.	Production	60-80 (Qnt./ ha.)	60-110(Qnt./ ha.)	-	-
50.	Harvesting	Manual	Manual		

Crop: Potato**Season: Rabi****Situation: Irrigated**

S. No.	Cultivation Practices	Farmers Practice (A)	Recommended Practice (B)	Gap Between A & B (Need)	Intervention
46.	Field preparation	2 Times	3 Times+1Planking	Partial	Training
47.	Variety	Jyoti, Chipsona 1, and Lokar	K.Jyoti, Chipsona 1&2&3, K.Surya	Partial	Training
48.	Seed rate	30-35 q/ha	25-30 q/ha	Partial	Training
49.	Spacing	60 cm.	60 cm.	Nil	Nil
50.	Seed treatment	10% farmers are doing with Carbandesim (2.5% Sol.)	Dithane M-45 (2.5% Sol.)	Partial	Training, Demo.
51.	Earthing	2 times	2 times	Nil	Nil
52.	Fertilizer	N - 106 P - 36 K - 18 Kg/ha	N - 120 P - 100 K - 75 Kg/ha	Partial	Training & Demo.
53.	Manure	5-10 Ton /ha	20-25 Ton /ha	Nil	Nil
54.	Disease	Blight and Bacterial wilt	Nil	Nil	Nil
55.	Control	M-45 1-1.5 Kg/ha (Spray)	M-45(1.5 Kg/ha) CuOCl ₂ (2-2.5 Kg/ha)	Partial	Training & Demo.
56.	Insect	Aphid and PTM	Nil	Nil	Nil
57.	Control	Rogar 1 Lit/ha	Dimethoate-1 Lit/ha Or Imedacloprid(0.2-0.3 Lit/ha) Chlorepyriphos	Partial	Training & Demo.
58.	Harvesting	by Desi plough	by plough	Nil	Nil
59.	Yield	180-200 q./ha	225-275 q./ha	Nil	Nil
60.	Storage	Yes, in the cold storage	Cold storage	Nil	Nil

Animal Husbandry**Live stock population:**

S. No.	Type of animal	Number
01	Cow	20 (11-Desi & 9-Cross)
02	Buffalo	150(Desi) + 50(Murraha)
03	Bullock	30 (Malwi)
04	Goat	100 (Jamunapari & Sirohi)

Purpose of live stock rearing:

S. No.	Type of animal	Purpose
01	Cow	Milk
02	Buffalo	Milk
03	Bullock	Agricultural Operation
04	Goat	Meat purpose

Milk production/ day /animal

S. No.	Type of animal	Quantity
01	Cow	Desi- 2lit. & Cross- 4-5 lit.
02	Buffalo	6-8 lit.

Average Milk Production During the year

S. No.	Month	Avg. Milk (in lit. / Day)
1	January	700
2	February	650
3	March	650
4	April	500
5	May	450
6	June	400
7	July	450
8	August	800
9	September	800
10	October	850
11	November	850
12	December	900

Type of house for animal: Kuchcha & Pucca**Feed:**

- 1-Green fodder - Maize & Jowar (July to October),
Berseem (November to February)
- 2-Straw - Always (Soybean, Wheat and Gram
for milch animal)
- 3-Radimade feed (concentrate) - Occasionally for milch animal
- 4-Mix fodder - For milch animal
- 5-Other (Cotton cake) - For milch animal

Method of fodder (Green/dry) storage:

- 1- NIL for green fodder
- 2- Traditional for straw

Major Diseases of livestock:

- 1- Goat - FMD
- 2- Cow, Buffalo - FMD, Mastitis, Kali Peshab, Anoestrus & H.S.
- 3- Bullock - FMD, Kali Peshab & H.S

Facility of Hospital: (Yes/No)- No

Nearest Veterinary Hospital - Rangwasa

Distance from village: 5 km.

A.I. practices :(Yes/No) Yes

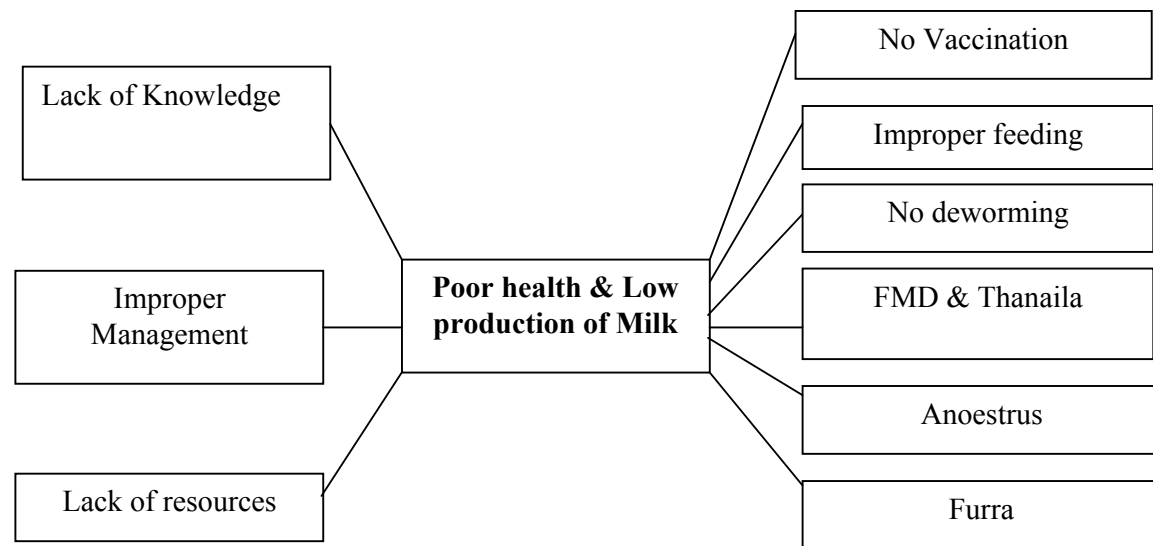
Vaccination :(Yes/No) Yes

Knowledge of improved fodder crops: Yes (Maize, Jowar, sudan grass, berseem, Nepiar grass)

Use of improved fodder crops: Yes (Maize, Jowar, and berseem)

Knowledge of improved fodder crop Cultivation practices: Yes (Maize, Jowar, and berseem)

Problems Relrted to Animal Husbandry



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Socio Economic Causes

Bio Physical Causes

01	Tractor with Trolley	10
02	Seed drill (single Box)	10
03	Seed drill (Double Box)	Nil
04	Duck foot cultivator	10
05	Cultivator	10
06	M.B. Plough	01
07	Potato Planter	05
08	Hand Sprayer	55
09	Power sprayer	6
10	Duster	Nil
11	Bullock cart	15
12	Bullock drawn implements	Yes(seed drill, bakkhar, dora, plough, dufan, etc)
13	Chaff cutter	Nil
14	Thresher (Electric)	10
15	Thresher (tractor drawn)	02

16	Diesel Engine	06
17	Generator	02
18	Pump set (Monoblock)	15
19	Tube well motor	210

Field preparation:

I- Kharif crops- 3 times (by duck foot cultivator & 2 times cultivator)
 II- Rabi crops- 2 times (by Duck foot & 9 tine cultivator)

Sowing method:

S. No.	Crop	Method
01	Soybean	Single box seed drill
02	Wheat	Single box seed drill
03	Gram	Single box seed drill
04	Garlic	Broadcast, dibbling & Garlic planter
05	Potato	Potato planter

Source of irrigation:

S. No.	Source	Nos.
16.	River	01
17.	Tank	Nil
18.	Canal	Nil
19.	Open well	20 (05 - Dry)
20.	Tube well	200

Method of irrigation: (Flood, Sprinkler, and Drip)

S. No.	Crop	Method
01	Soybean	NIL
02	Wheat	Flood
03	Gram	Flood
04	Garlic	Flood
05	Potato	Flood

Drainage Practices: NIL

Water Table/level: 250-300 Feet

Water conservation practices: NIL

Soil conservation practices: Across sowing on sloppy land

Method of drudgery reduction: NIL

Care and maintenance of agril. implements: Occasionally (by outsider mechanic)

Knowledge about following improved implements:

Rotavator - Yes
 Double box seed drill - Yes

Disc plough	-	No
Disc harrow	-	Yes
Garlic planter	-	Yes
Spiral grader	-	No

Women in Agriculture

Major agriculture work of rural women:

S. No.	Work	Practice	Recommended practice	Need	Intervention
1-	Weeding	Hand	Hand / wheel hoe	Partial	Trg. & Demo.
2-	Harvesting	Hand	Hand / Harvester	-	
3-	Storage	Traditional (Neem leaves and EDB)	EDB	Partial	Trg.
4-	Preservation of fruits (Mango & Lime)	Traditional	Scientific	Partial	Trg. & Demo.
<input type="checkbox"/> Preservative practice - Mango, pickle and murabba, lime and mango pickle <input type="checkbox"/> Use of soybean in diet – No (but want to learn how to prepare soya food) <input type="checkbox"/> Kitchen garden - No <input type="checkbox"/> Availability of labour throughout the year. There is a crisis of agriculture labour in the month of September and October in the village.					

Health:

Malnutrition: Nil

Knowledge and use of Soybean in daily food: NIL

Knowledge of cloth stitching: (Yes/No), yes, some women have

Use of fruit, vegetable and sprouted grains in Daily diet: (Yes/No) Yes

Any type of women SHG: 02

Interest areas in which they want to improve the skill:

1- Preservation of fruits (Mango and Lime)

2- Improved weeding implements

3- Stitching of garments