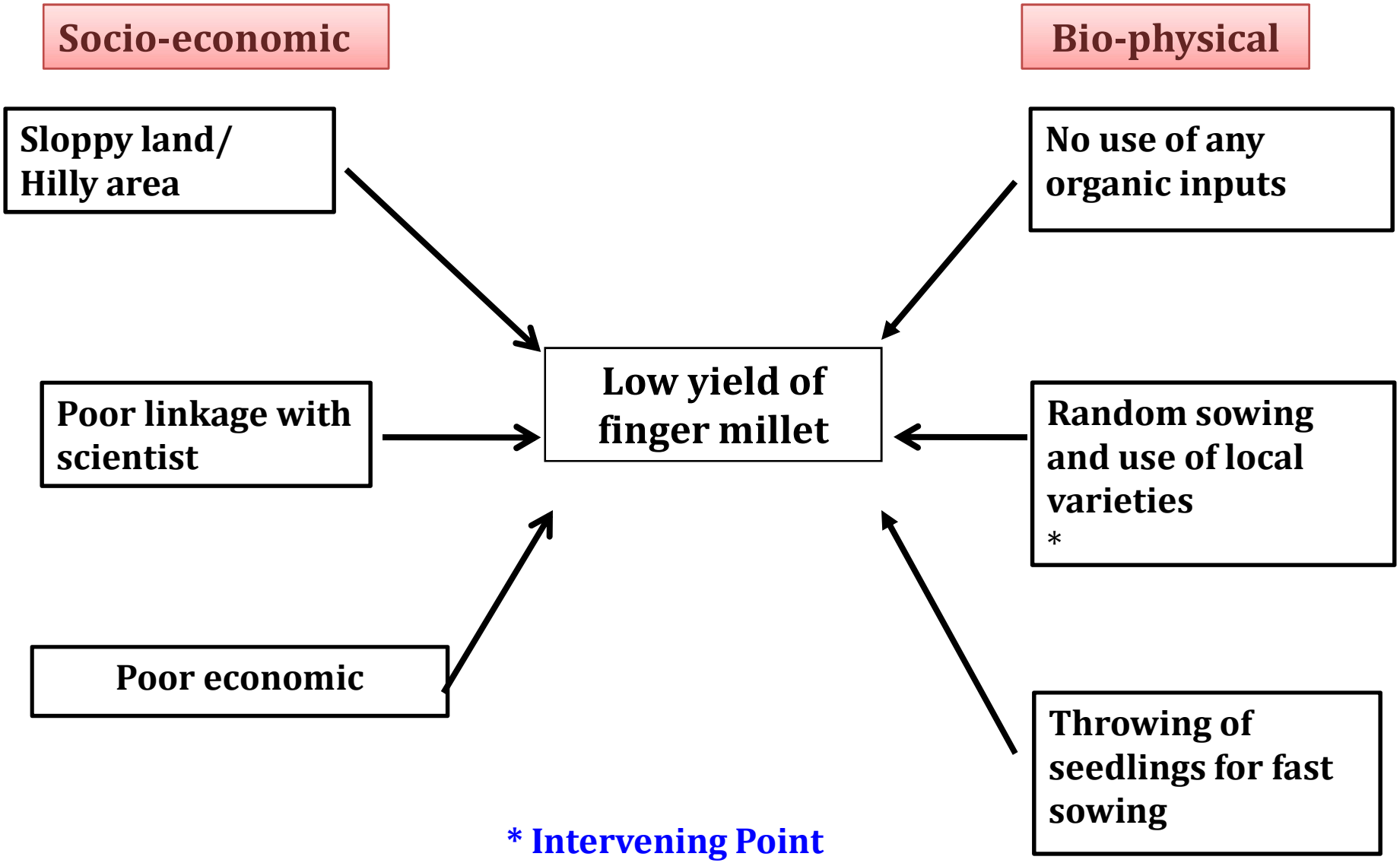
OFT 01: Varietal assessment of finger millet

Background:

Finger millet is a main staple food for tribal farmers of Dang district and also it emerging as a important nutritive cereal crop due to its high nutrient content. In Dang district, finger millet is normally grown on poor and marginal soils with local varieties. Finger millet requires healthy seedlings of high yielding varieties. Most of the farmers use local varieties of finger millet which reduce the number of productive tillers, small seeded less finger and susceptible to pest and diseases, so ultimately its reduce the crop yield.

Problem cause diagram



* Intervening Point

Details of OFT

1	**OFT Title**	Varietal assessment of finger millet
2	**Prioritized problem**	Use of local varieties
3	**Technology Assessed**	T_1 : Farmers Practices (Local varieties) T_2 : GNN 8 T_3 : CFMV 2 (Gira)
4	**Variety**	As per treatment
5	**Seed rate**	5 kg per ha
6	**Season**	*Kharif* – 2022 to 2024
7	**No. of trials**	10
8	**Total area of OFT**	3.0 ha
9	**Observation to be studied**	Yield (kg/ha)
10	**Source of Technology**	Hill Millet Research Station, NAU, Waghai
11	**Name of critical input**	Seed, Novel organic fertilizer, PSB and Azotobacter
12	**Appro. Cost per OFT**	500/-

Performance of the technology with performance indicators:

Result: 1st year

Treatment Yield (q/ha)	*Kharif*-2022		
	T_1	T_2	T_3
Highest	11.00	12.50	14.50
Lowest	9.90	11.00	13.00
Average	10.50	11.95	13.66

Result: 2nd year

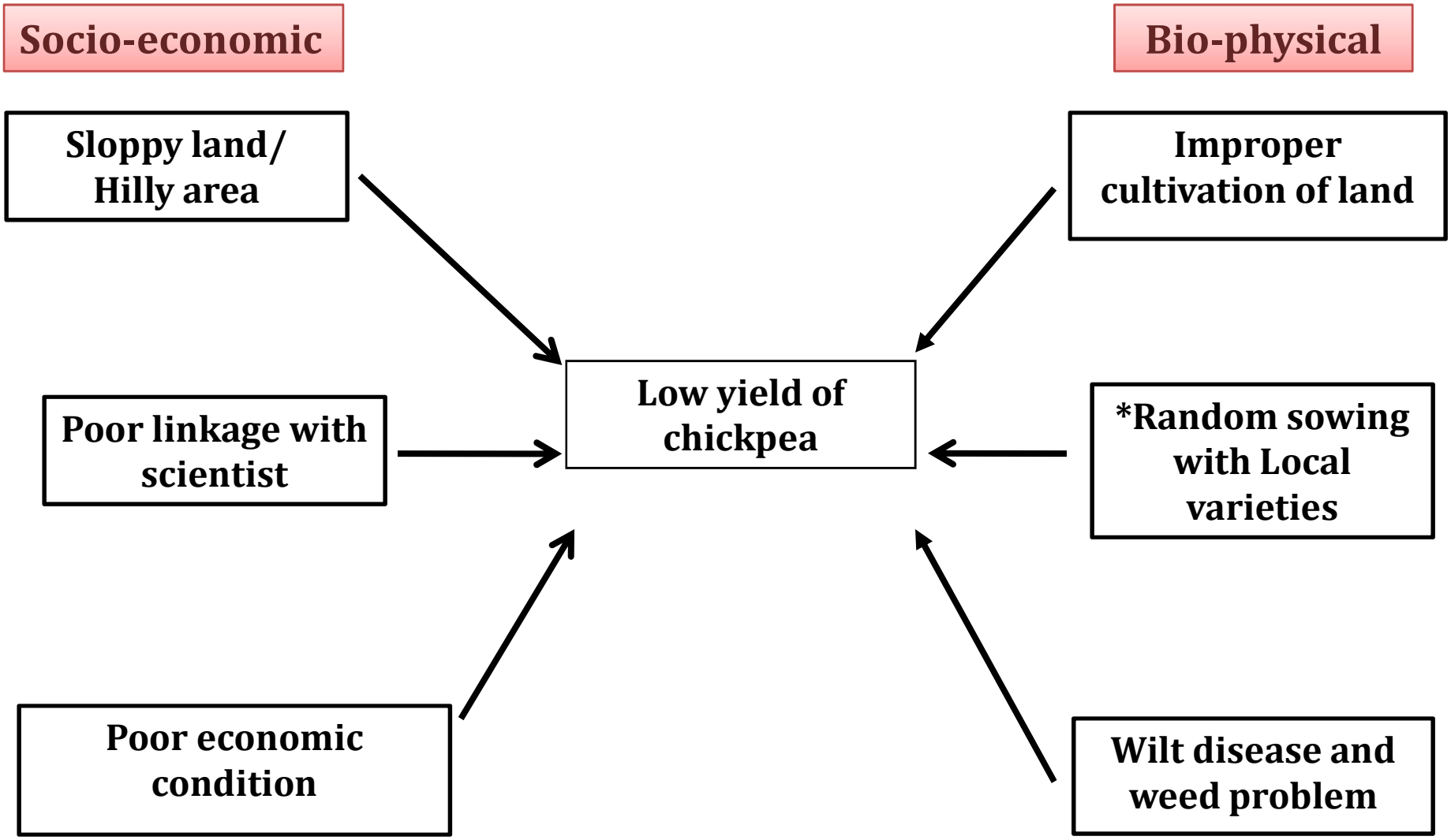
Treatment Yield (q/ha)	*Kharif*-2023		
	T_1	T_2	T_3
Highest	10.20	12.10	14.60
Lowest	8.50	10.40	12.70
Average	9.26	11.39	13.68

OFT 02: Varietal evaluation of chickpea

Background:

In dang district, productivity of chickpea is low because of improper cultivation of land and use of local varieties by farmers. Due to this severe wilt problem in local varieties which ultimately affect the growth and yield of chickpea. Chickpea required wilt resistance and high yielding variety for its better growth and development. Improper cultivation with local varieties reduce the plant population and ultimately it's reduce the crop yield.

Problem cause diagram



* Intervening Point

Details of OFT

1	OFT Title	Varietal evaluation of chickpea
2	Prioritized problem	Use of local varieties
3	Technology Assessed	T_1: Farmer variety (Local Varieties) T_2: GJG 6
4	Variety	As per treatment
5	Seed rate	60 kg per ha
6	Season	*Kharif* – 2022 to 2024
7	No. of trials	10
8	Total area of OFT	3.0 ha
9	Observation to be studied	Yield (kg/ha)
10	Source of Technology	Pulse Research Station, JAU, Junagadh
11	Name of critical input	Seed, Novel organic liquid nutrients, Rhizobium and PSB
12	Appro. Cost per OFT	1500/-

Not: Result awaited

OFT 03: Varietal assessment of Indian bean in the Dangs district

Background:

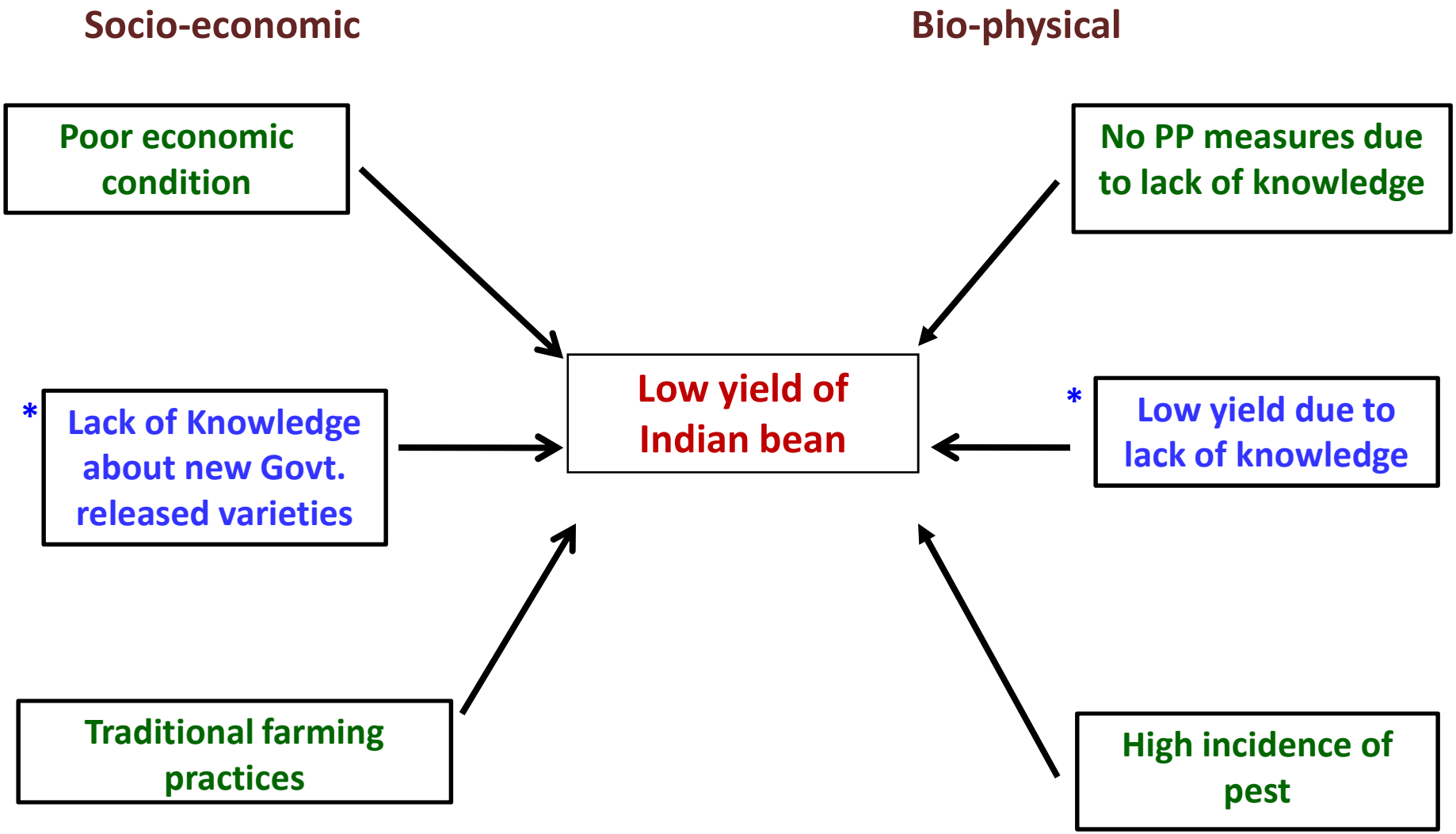
In the Dangs district, mostly Desi (Katargam) and other indeterminate variety of Indian bean is grown with low yield potential due to lack of knowledge about proper scientific cultivation and lack of knowledge about new released variety of State Agricultural Universities and Government Institutions.

GNIB 22 (>30.00 Q/ha) performed well under South Gujarat regions. This variety is Extra early, determinate, erect and dwarf plant type suitable as intercrop inSugarcane, pigeon pea.

GNIB 22 (>40.00 Q/ha) performed well under South Gujarat regions. This variety is The variety is early, determinate and erect type with good market & cooking quality and yield, hence it is highly acceptable to the farmers and consumers. Its green pod fetches similar price to that of *surti papadi*.

OFT has been framed for comparing farmer adopted Desi (Katargam)variety to "GNIB-21" and "GNIB 22" variety.

Problem cause diagram



* Intervening Point

Details of OFT

1	OFT Title	Varietal assessment of Indian bean in the Dang District
2	Prioritized problem	Low yield of Farmers variety (due to lack of knowledge about proper scientific cultivation method and lack of knowledge about new released variety of State Agricultural Universities and Government Institutions.)
3	Technology Assessed	T_1: Farmers practices (Katargam) T_2: GNIB 21 (2014) T_3: GNIB 22 (2017)
4	Variety	"Gujarat Navsari Indian Bean 21 " and "Gujarat navsari Indian Bean 22"
5	Seed rate	25-30 kg/ha
6	Season	Rabi – 2021-22
7	No. of trials	06 (0.1 ha per treatment and 0.3 ha per farmer)
8	Total area of OFT	1.8 ha
9	Observation to be studied	Primary parameters : Yield of pods (kg/ha)
10	Source of Technology	Navsari Agricultural University, Navsari (2016-17) Pusa research centre, NAU, NAvsari (2017)
11	Name of critical input	Seeds, Novel organic liquid nutrients, PSB ,Rhizobium and KMB (Novel & other Bio-fertilizer given for adoption of organic farming)

Not : Result Awaited (2023)

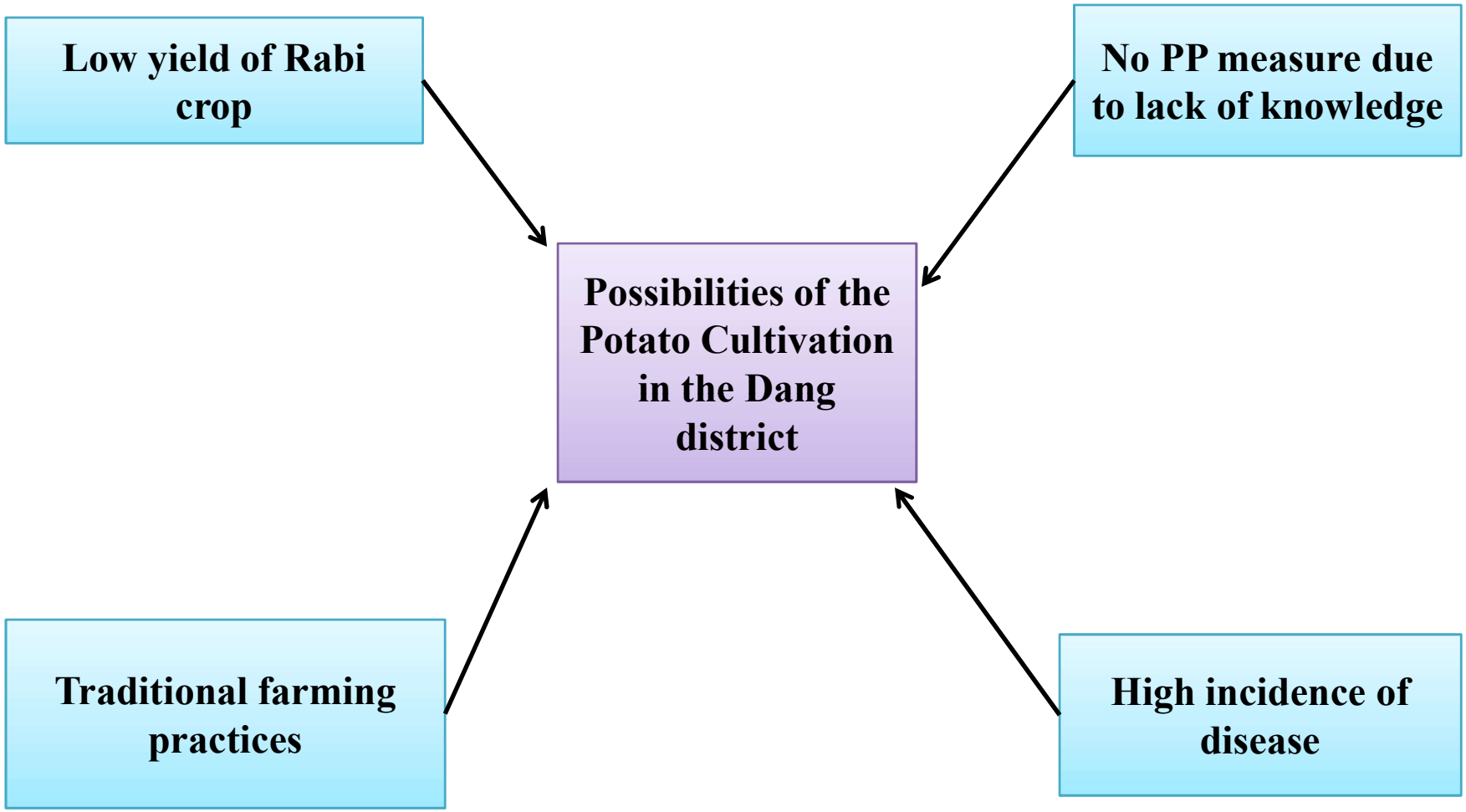
OFT 04: Possibilities of Potato cultivation in The Dangs district (Assessment)

Background:

In Dang district, chickpea is commonly grown in winter crops. Considering the soil of Dang district and as per the suggestion of Scientific Advisory Committee, it is possible to cultivate potato in Dang district. This on-farm trial is designed to test potato cultivation in the Dang district. According to the agriculture department of Dang district, the chickpea crop in Dang district yields about 2.5 quintals. The estimated production of potato(Var. Kufri badshah) is 50 tons per hectare

Problem cause diagram

Socio economic **Bio physical**



Details of OFT

Prioritized problem	**Possibilities of Potato cultivation in The Dang district**
Technology Assessed	T_1: Farmers practices (Gram) T_2: Potato crop(Kufri Badshah)
Variety	"Kufri badshah"
Seed rate	2500-3000 kg/ha for one row planting
Season	*Rabi*– 2022
No. of trials	06 (1.66 guntha per treatment and 3.33 guntha per farmer)
Total area of OFT	20 guntha (0.2 ha)
Observation to be studied	Yield of potato (kg/ha),
Source of Technology	Central Potato Research station , Kufrim Himachal Pradesh (1980)
Name of critical input	Tuber (50 kg per farmer)

Result (1st & 2nd year)

Sr. No.	Year	No of trial	Area (ha)	Yield(Q/ha)	
				T_1: Farmers practices (Gram)	T_2: Potato crop(Kufri Badshah)
1.	2021-22	10	0.6	10.83	139.50
2.	2022-23	**Input not given due to the lack of grant.**			

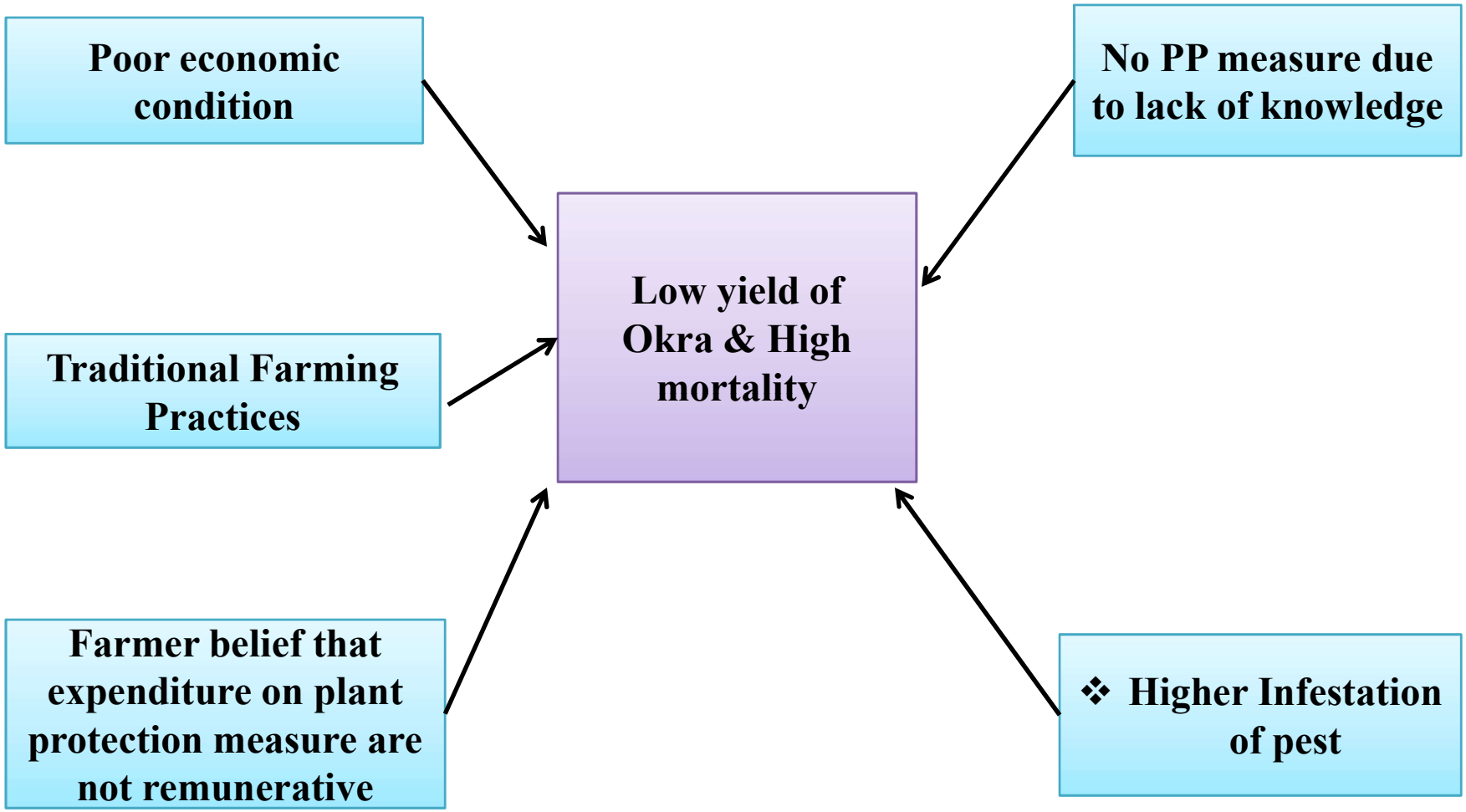
OFT 05: Management of Fruit & Shoot borer of Okra

Background:

Okra (*Abelmoschus esculentus*) is a vegetable crop widely grown during *Kharif / Rabi* season in dang district. Day by day increasing the area of Okra in this district gives comparatively lower yield. Large number of hybrid available in the market but cost of seeds as well as higher incidence of pest affect yield. Assessment of such public variety in Dang district for best performance for growth, yield and quality character for avoid these problem OFT is taken.

Problem cause diagram

Socio economic **Bio physical**



❖ **Intervening point**

Details of OFT

Treatments:	T_1: Farmers practice T_2: Installation of Pheromone trap T_3 : Spray Azadirachtin (Neem oil based) 1500 ppm
Season	*Kharif*
No. of villages	01
No. of farmers	06
Area/treatment/farmer	0.2 ha per treatment & 0.6 ha per farmer
Total area of OFT	3.6 ha
Observation to be recorded	Yield of Okra (kg/ha)
Estimated cost of inputs per trial/per farmer	Rs. 4000 (Approx.)

Result (1st ,2nd & 3rd year)

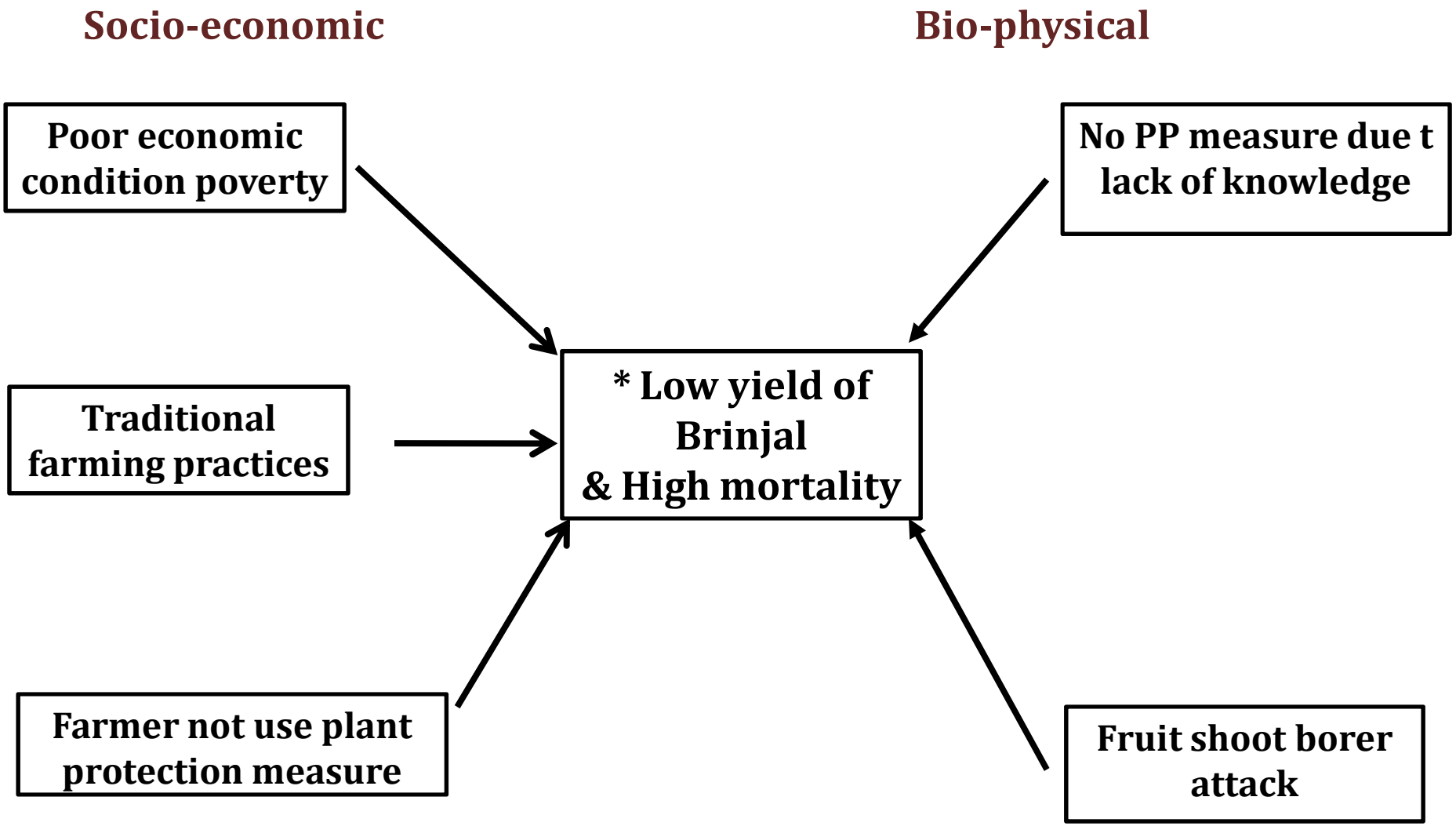
Sr. No.	Year	No of trial	Area (ha)	Yield(Q/ha)		
				T_1: Farmers practice	T_2: Installation of Pheromone trap	T_3: Spray Azadirachtin (Neem oil based) 1500 ppm
1.	2021-22	06	0.2	81.16	99.5	107.00
2.	2022-23	**Input not given due to lack of grant.**				
3.	2023-24	**Result is awaited**				

OFT 06: Assessment of pheromone trap for the management of fruit & shoot borer in Brinjal

Background:

Brinjal is one of the most common vegetables grown in dang district. Immature fruits are used in curries and a variety of dishes are prepared out of brinjal fruits are moderate source of vitamins and minerals like phosphorus, calcium and iron and nutrition value. Brinjal is infected by fruit & shoot borer. Occasional out brake of this disease causing losses to farmer.

Problem cause diagram



* Intervening Point

Details of OFT

1	OFT Title	Assessment of pheromone traps technology for the management of leucinodes orbonails in Brinjal.
2	Prioritized problem	Low yield of brinjal.
3	Technology Assessed	T1 : Farmers Practices T2 : Installation of pheromone traps @ 40 traps/ha (AAU,Anand) T3 : Remove the infected shoot and fruit + Installed pheromone traps @ 12/ha (TNAU,TN)
4	Variety	Mixed
5	Season	Kharif – 2022
6	No. of village	01
7	No. of farmer	06
8	Area/ treatment/farmer	0.2 ha per treatment & 0.6 ha per farmer
9	Total area of OFT	3.6 ha
10	Observation to be recorded	Yield of brinjal (kg/ha)
11	Source of Technology	AAU, Anand & TNAU,TN
12	Name of critical input	Pheromone trap
13	Estimated cost of input per trial/per farmer	4000

Not : Result awaited (2023)

OFT 07: Use of Chelated minerals in the diet of crossbred HF cows

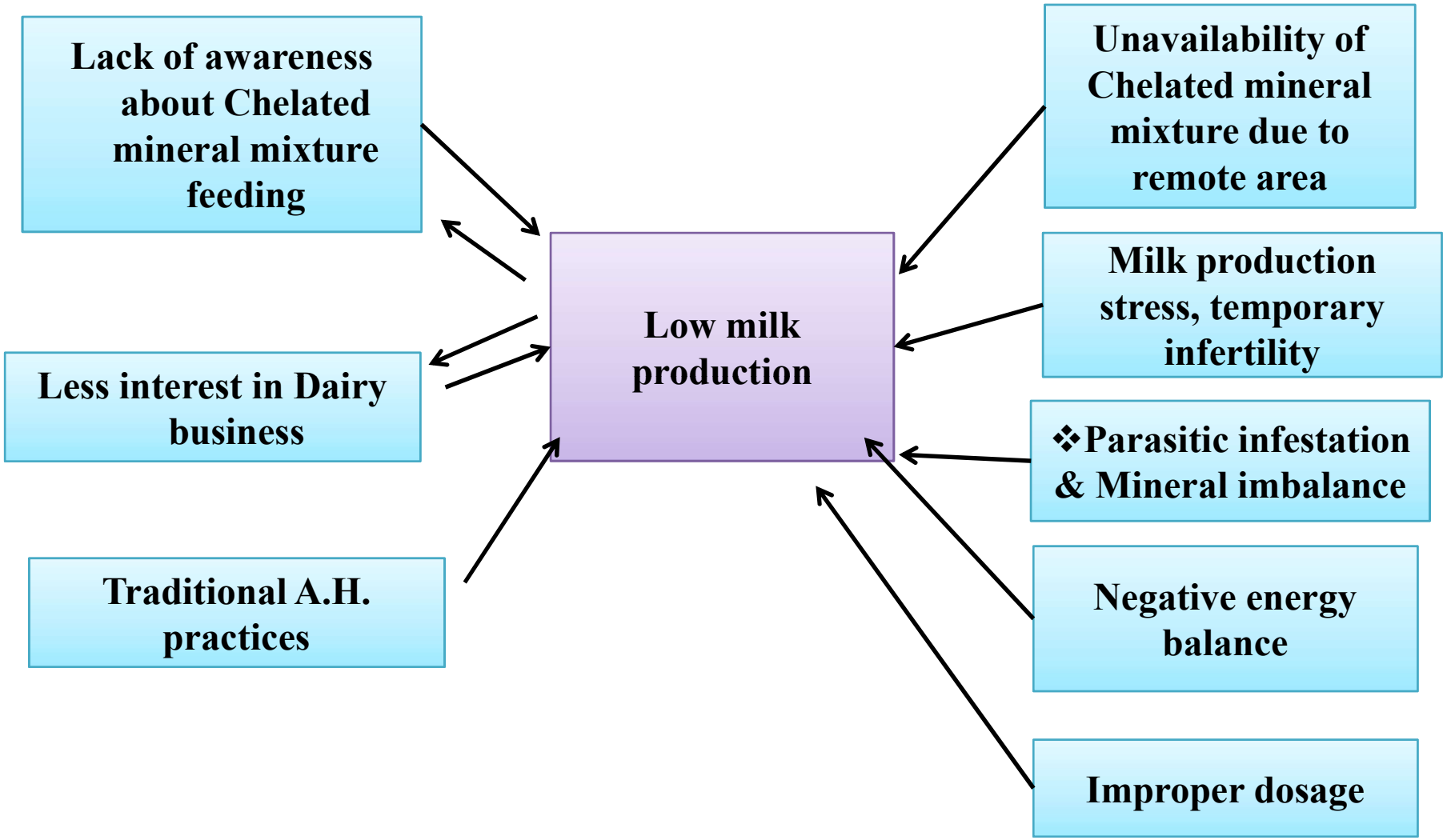
Background:

Parasitic load and mineral imbalance are known to directly affect the milk production to cattle. The dang district is a hilly area with heavy rainfall. Animal lining in such area became prone to parasitic infection due to ingestion of infected grasses around stagnant water while grazing. A few years ago, people were using local breeds & traditional husbandry practices, but now a days they are rearing crossbred cows. These valuable animals are highly productive but due to particular geographical location such animals become infected with parasites which directly affects the milk production.

Moreover, in spite of high rain, there is water scrcity during summer season due to particular geographical condition. So, green fodder is not available during summer, hence these animals undergo mineral imbalance & improper feeding. The socio- economic status of frames is not very good so, they could not feed their animals with mineral supplements. Such animals undergo negative energy balance due to malnutrition & high milk yield whatever the green grass these animals are grazing is surrounded by stagnant water & hence become infected by parasites. So, to overcome these problems of parasitic infestation & mineral imbalance we have identified following problems in proposed on farm testing programme.

Problem cause diagram

Socio economic | **Bio physical**



❖ **Intervening point**

Details of technologies selected for assessment:

Treatments	T1- Farmer's practice – feeding of locally available feeds and fodders T2- T1 + Chelated minerals @ 30 gm/cow/day for 120 days T3- T1 + Chelated minerals @ 30 gm/cow/day for 120 days + Bolus Fenbendazol @ 1 mg/ 5-7.5 kg body weight
Problems	Low milk production due to mineral imbalance & parasitic infestation Negative energy balance Milk production stress
No. of villages	10
No. of animals	10 (Crossbred milking cows each group)
Parameters recorded	Body weight (kg)
Estimated cost of inputs per trial/per farmer	18000/-

Result (1st & 2nd year)

Parameter	T_1	T_2	T_3	%Increase
Milk Production (Lit./day)	3.69	4.53	5.43	**8.34**
Post partum estrus (Days)	146	115	110	-

Note: Not conducted due to lack of grant (2023)