MANAGEMENT OF RICE PEST AND DISEASES IN PHURA VILLAGE, SIAHA DISTRICT, MIZORAM

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Introduction:

Phura is often called the barn of Maraland due to its large production of rice from the fields in the plain surrounding the village. The people of this town speak a distinct language known as Zyhno/ Hlaipao Vahapi. The town is mostly inhabited by the *Hlaipao* clan.

It has only two village councils - Phura North and Phura South. It is located 36 Kms. towards South from District headquarters – Siaha. There are 231 houses and total population is 1068 of which female population is 515 as per 2011 Census. Literacy rate is 70.6% and the Female Literacy rate is 84.88%.

Rice is the major crop in the village of Phura. It is mostly grown in rainfed through direct or transplanted method. Due to the infestation of pest and diseases, the quality and yield of the crop was reduced drastically in recent years.

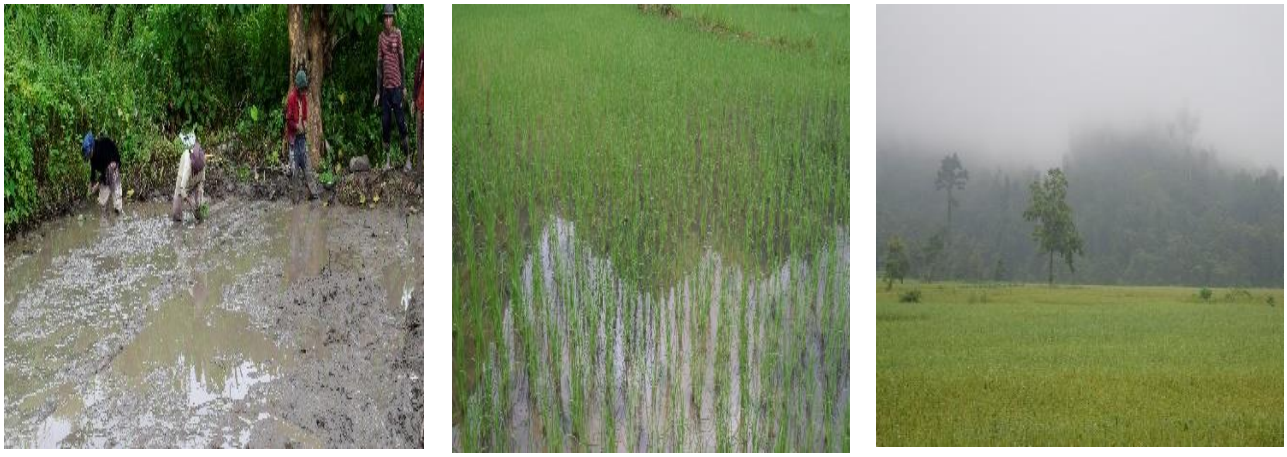

Fig: Nursery bed preparation and main field

Fig: Diagnostic visit, Field day and Harvesting

Initiatives:

KVK, Siaha had taken up a study to investigate the status and factors influencing the productivity of paddy under NCIPM NEH Project. From the study, it had been found that there was 20-30% loss in the production due to the infestation of pest and diseases. The common pest found are stem borer, leaf folder, gundhi bug and grasshopper and diseases like blast, sheath blight and false smut were also encountered. Rabi crops cannot be cultivated due to scarcity of water and animals are not yet controlled.

Trainings and demonstrations were conducted according to the need. Demonstration on control of pest and diseases were done at farmer's field.

KVK & NCIPM Intervention:

- Provision of high yielding and improved seeds
- Method demonstration on application of pesticides and fungicides to control infestation of pest and diseases.
- Intercultural operation.
- Gap filling and timely weeding was demonstrated.
- Diagnostic visit, Farmer Scientist Interaction, Group discussion, field visit and need based training.
- Management of the pest and diseases was taken up.

Management strategy adopted for major pest and diseases

i) Rice Stemborer: *Scirpophaga incertulas*

ETL: 5% Dead heart symptoms or 1- 2 egg masses/m2

Clip the seedling tips before transplanting to eliminate egg masses and collect and destroy the egg masses in main field and Spraying of Azadirachtin 0.03% 1000 ml/ha, Carbofuran 3% CG 25 kg/ha, Chlorpyriphos 20% EC 1.25 l/ha and Fipronil 5% SC 1000-1500 g/ha

ii) Rice Leaf folder: *Cnaphalocrocis mainsails*

ETL: 1 damage leaf/hill at vegetative phase and 5% of flag leaf damage at flowering

Avoid excessive use of nitrogenous fertilizers and keeping the bunds clean. Spraying of NSKE 5% or carbaryl 50 WP 1 Kg or chlorpyriphos 20 EC 1250 ml/ ha


iii) Rice Earhead Bug: *Leptocorisa acuta*

ETL: 1-2 bug/hill or 5 bugs/100 earheads at flowering and 16 bugs/100 ear heads from milky stage to grain maturity.

Dusting of Quinalphos at 25 kg/ha twice, the first during flowering and second a week later or Spray Malathion 50 EC 500 ml/ha


iv) Grasshopper: *Hieroglyphus banian*


Spraying the crop with chlorpyriphos 20 EC 1250 ml/ha.

v) Blast: *Drechslera oryzae*

Spraying of carbendazim 50WP @ 500g/ha and Spraying of Carbendazim + Thiram + Mancozeb (1:1:1) 0.2% at 50% flowering stage.

vi) Sheath rot: *Sarocladium oryzae*

Application of Foliar spray with Neem oil at 3% (15 lit /ha) starting from disease appearance and spraying of Carbendazim 50 WP @ 500g/ha

vii) False Smut: *Ustilaginoidea virens*

Two spraying of Copper hydroxide 77WP @ 1.25kg/ha at boot leaf and 50% flowering stages.

Key Results:

Table.1. Average yield of paddy before and after the intervention

Sl. no	Variety Name	Area cultivated in hectare	Average price obtained per kg	Average Yield before intervention (q/ha)	Gross cost of cultivation	Gross return before intervention	Net income	Average Yield after intervention (q/ha)	Gross return after intervention	Net income
1	Local	138	40	24.4	10000	97,600	87600	30.5	1,22,000	1,12,000

Impact and conclusion:

With the timely intervention of KVK, Siaha and NCIPM, New Delhi there has been a boon on agricultural produces with horizontal extension to the village and nearby villages. It is remarkable that farmers had become aware of technical know-how to address pest-attack and other infestations on the crops. Scientific knowledge was inculcated into the minds of the marginal farmers who had blindly suffered a huge loss due to crop damages caused by pests and other disastrous insects.

As a result of the continued efforts, there has been a clear sign of improvement in terms of agricultural yields reported in the recent past. Those who are heavily dependent on agriculture for their livelihood are able to reenergize themselves to embark on intensive cultivation in a larger scale. Once the method of cultivation has changed with the intervention of agricultural scientists from KVK, their waning hopes have gained a new impetus to march on the road to progress through agriculture.