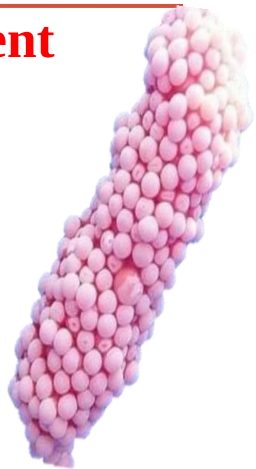
Ministry of Agriculture, Livestock and Irrigation
Department of Agriculture
Loilem District, Shan State

Integrated Golden Apple Snail management And Farmer's knowledge Survey Loilem District Rice Area



Daw Khin Hnin Thu

Staff Officer

Plant Protection Division, Loilem District

Introduction

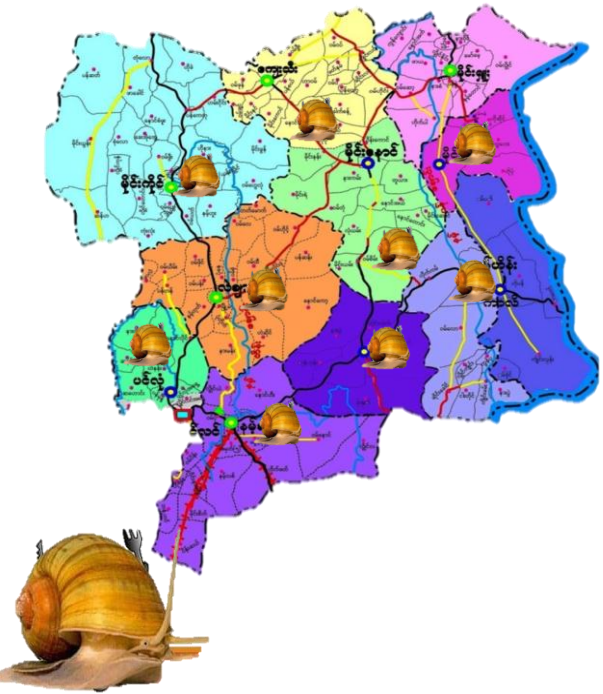
- The Golden Apple Snail (GAS) ,Species of *Pomacea*, is a large freshwater snail native to tropical and subtropical South America (Halwart 1994c)
- It was initially introduced to Taiwan from South America in 1980 for aquaculture, for both local food consumption and export (Naylor 1996).
- Within 5 years from its introduction ,GAS become abundant in Japan, China and Phillippines.
- In 2002,there were large populations in most Asian countries.
- In Myanmar,according to Khin et.al.2002 GAS was firstly aware in Shan State since the early 1990 s(Believe to be distributed from China,but there were no significantly damaged.

GAS Infected rice area in Myanmar

	Infected rice area (ac)						
Year	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2017-2018	2018-2019
Mon	567.50	30.00	37.00	95.00	15.00	-	-
Shan	207.00	35.00	304.00	3.00	-	-	296.00
Kachin	66.00	170.20	40.00	55.00	123.00	97.00	58.00
Kayin	1288.00	162.00	42.00	31.00	30.00	-	6.55
Bago	31.00	-	-	-	31.50	1012.97	1981.00
Tanintharyi	14.00	-	5.00	9.00	0.50	-	-
Ayeyarwaddy	-	-	121.00	671.50	468.00	19232.00	6178.00
Yangon	-	-	-	-	-	13898.79	-
Sagaing	-	-	-	-	-	225.0	15.00
Mandalay	-	-	-	-	-	10.00	50.00
Magway	-	-	-	-	-	2.00	-

Problem Statements.

GAS and Loilem District Rice Areas

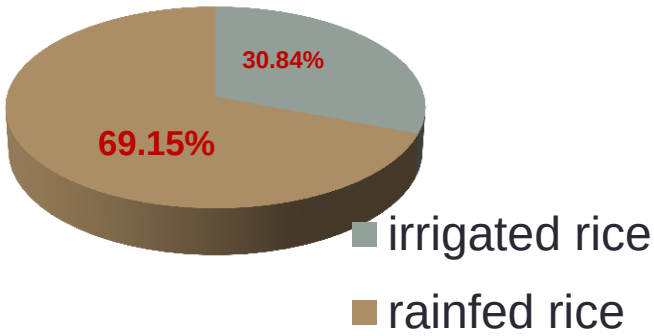


In Loilem District ,the first record of GAS presence was in the early 2005 but there were no significant damage

(Loilem District PPd)

Problem Statements.

Loilem District Rice Areas



Approximately 30.84.%
Of rice field can be infested by GASs.

No	Types	acre
1	Lowland rice	95838
a	-irrigated	65794
b	-rainfed	30044
2	others	117678
3	Total rainy season rice	213274

Objectives of the study

- **To undertate about the integrated GASs managements in our District Rice Areas.**
- **To distribute knownledge about GASs to local Farmers.**

Materials and Methods

- The Farmer household survey was conducted in Three villages Hipat ,Wanpon ,no.5 villages from Namsam township.
- Township and villages are purposely selected and farmers were randomly selected.
- Calculated by excel.
- This survey interviewed a total numbers of 100 respondents.
- The survey questionnairerised subdivided into three main sections

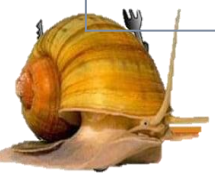
-The farmer's characteristics and farming practices

- Infestation level due to GASs.

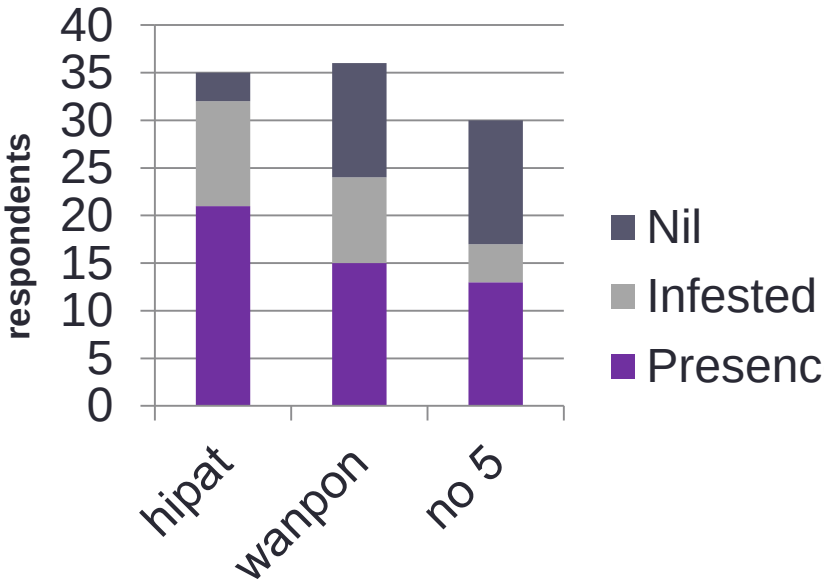
-current pest management of GASs.

1. farmers characteristics and farming practices

No	village	Mean age	Gender		Average Land holding	Rice growing method		
			male	female		Tran-splant	Direct Seedling	both
1	Hipat	56	17	18	6.0	30	2	3
2	Wan pon	48	20	15	8.5	30	3	2
3	No (5)	51	12	18	4.0	18	7	5
		52	49	51	6.1	78	12	10



2. Infestation level.



	Presence	Infested	Nil
Hipat	21	11	3
Wanpon	15	9	12
No 5	13	4	13
total	49	24	28

Fig .1 Infestation level of GASs in survey area.

3.(a) Current pest Managements of GASs

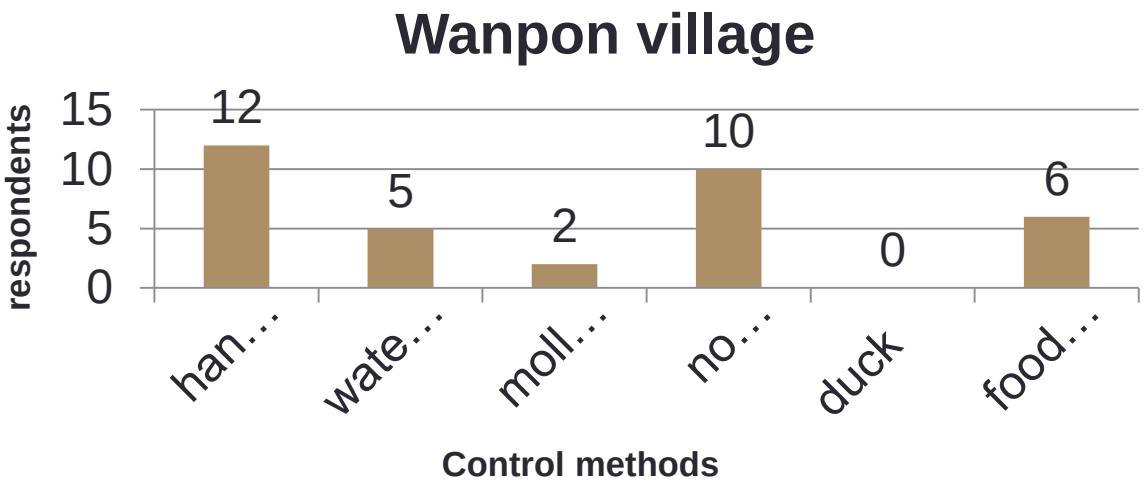


Fig .3 current pest management of GASs in Wanpon village.

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3.(a) Current pest Managements of GASs

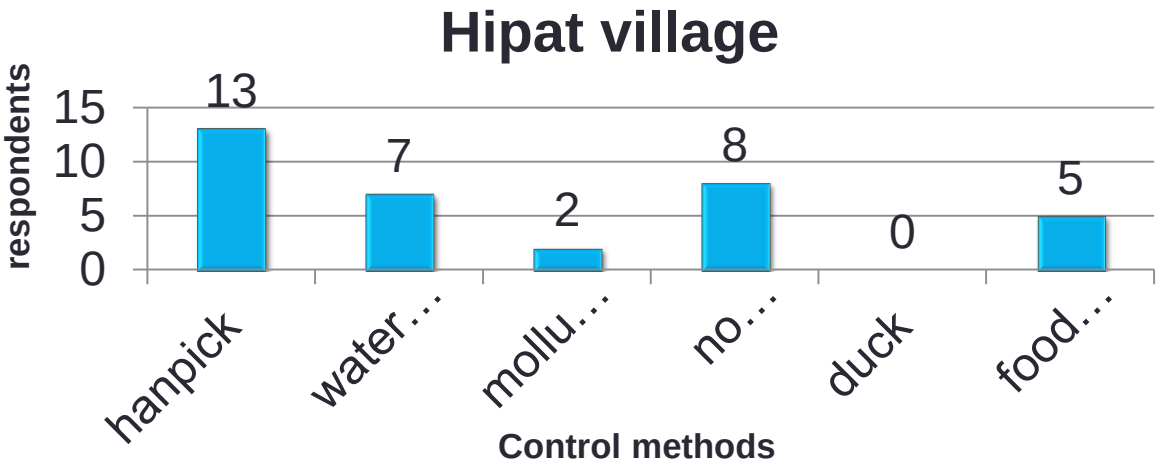


Fig .2 current pest management of GASs.in Hipat village.

3.(a) Current pest Managements of GASs

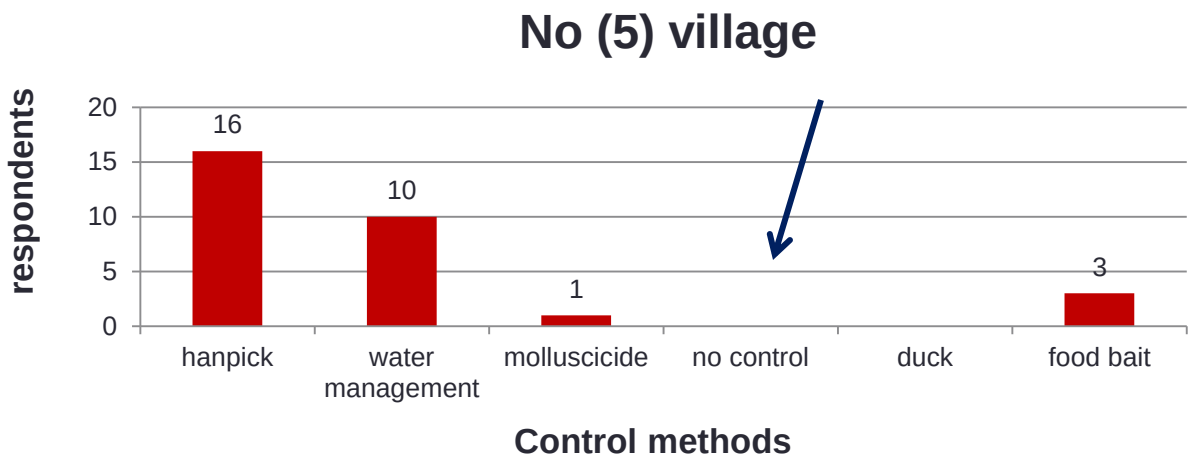


Fig .3 current pest management of GASs in No (5) village.

3.(a) Current pest Managements of GASs

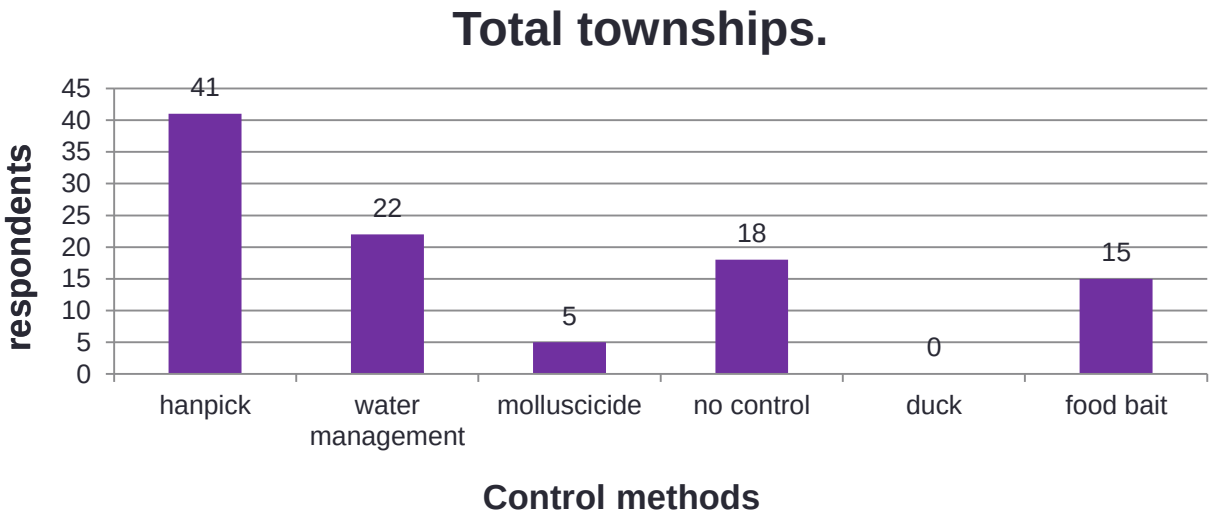
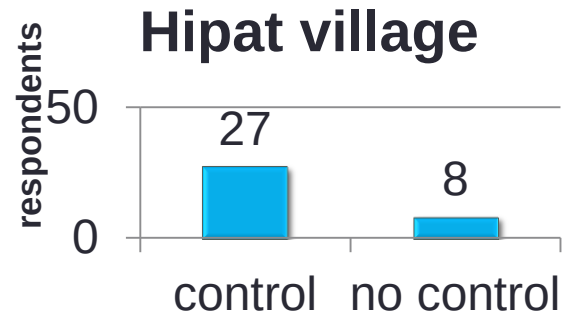
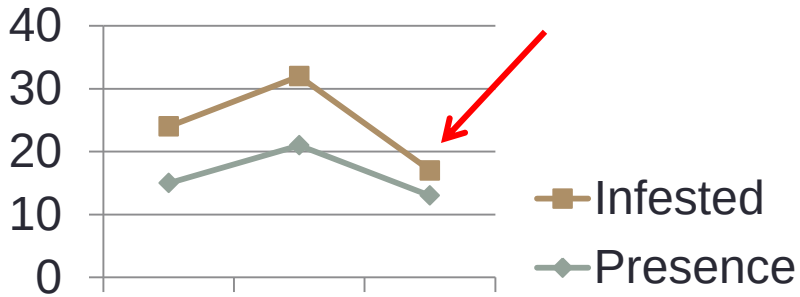


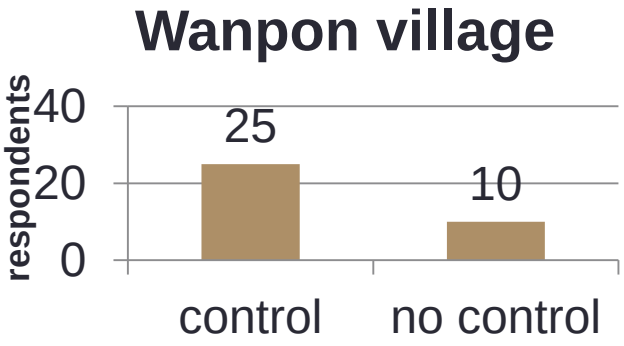
Fig .4 current pest management of GASs in total survey area.

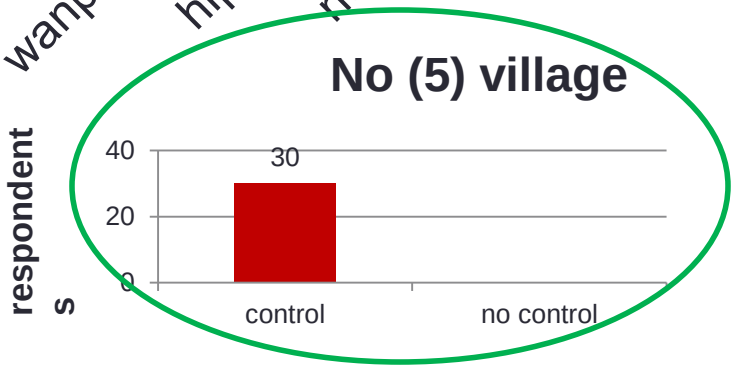
Result and Discusion.

Result and discussion.









GAS Project ,Training ,Campaign Loilem District

No	Year	project	Training	Campaign
1	2018	–	10	–
2	2019	1	35	5
3	2020	–	–	–
4	2021	–	–	–
5	2022	–	15	1
	total	**1**	**60**	**6**

Result and Discusion.

- Most of the farmers know the behavior of GAS.
- A few of farmers did not used any control measure at all because they believe that GASs cannot seriously infested and damage .
- When the presence of Gas was noted for the first time in a place, there are neither substancial damages nor losses caused by them.
- For regions that have not been infested and threated so far by GASs, prevention of GASs procedure must be distributed as primary strategy.

Conclusion

- GASs are quickly spreading from township to townships and causing more and more damages from year to years.
- life cycle ; its ability to grow and reproduce quickly makes it an incredibly successful invasive species.
- Invasive apple snails have proved to be a major problem both economically and environmentally across many parts of world and ASEAN countries.
- GASs problems are national wide problems that urgently need to take actions.

Refrences

- Department of Plant protection Division,Shan State.
- Department of Plant protection Division,Loilem District.
- Aung Ko Win,Htar Htar Naing,Thi Tar Oo,Myint Thaung 2018 problem of GASs in selected Rice Growing Area.

Future Need

- There have been many farmers known about GASs infestation and damage before and after this survey.
- However ,much additional work is required for developing sustainable management of GASs..

Thank You So much