

# Landscape Change and Resilient Livelihoods

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# Background

- Recurring study in 3 villages of Nambak district, Luang Prabang Province, Laos
- Understanding the changes in landscape, livelihoods and resilience of households in the study area
- Comparative study of the villages over space and time





# Objectives

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Understanding the land use change and drivers in 3 study villages.

- What changes have happened?
- Why the changes have happened?
- What are the vulnerabilities of households?
- How people are coping with the vulnerabilities?

# Research questions:

What are the main changes, both positive and negative, to livelihoods in the past ten years?

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- **Food security:** In the last 12 months, have you been faced with a situation when you did not have enough food to feed the household?
- **Shocks and crises:** During the past 12 months, has your household been severely negatively affected by any of the following events?
  - E.g. drought, floods, water shortage, death or sickness of a family member
- **Forest changes:** Has your household cleared forest or planted trees in the past 5 years? For what reasons?
- **Climate-related changes:** Have you observed any changes in your village in the past 5 years?
  - E.g. temperature, precipitation, frequency and severity of fires
- **Climate-related changes:** What major changes has a certain effect (temperature, precipitation etc.) had on your household condition?
  - E.g. Increase/decrease in availability of food, health or income



# Methods and data

- Focus group discussion
  - Men and women separately
  - Participatory methods e.g. making of historical timeline, seasonal calendar and participatory map made by group members with supportive questions as guideline
- Household interviews
  - Randomly selected
  - 31 interviews in total
    - Ban Bom 7
    - Nayang Tai 15
    - Vienghingsoung 9
- Climatic data





# Study Area

- Households randomly selected in each village
  - **Vienghingsoung** is the most remote village, access by road only during dry season
  - **Ban Bom** is well connected by road and better infrastructure than two other villages
  - **Nayang Tai** is located between these two, handicraft village





# Results

- Landscape change
- General description of villages
- Timelines
- Food security
- Shocks and crises
- Forest change
- Tree planting
- Climate variability and change



# General landscape change in 3 villages

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Summary of the situation and some most important points from the following next 2 slides and

- Major drivers – roads, market
- Landscape changes
  - B. Vienghin – subsistence agriculture to market-oriented farming systems; Job's Tears, Cassava, Cardamom, Cattle rearing
  - B. Nayang Tai – rubber plantations (stopped livestock rearing), tobacco farming
  - B. Bom – sustenance farming reducing, oranges, rubber



# Vieng Hinh Community

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The community co-exists by the two Ethnic groups

- The Hmong people, 86 Households
- The Khmu people, 55 Households

Both are Hills-forests dweller Ethnic/Indigenous people of Southeast – Asia who believes in Animism worshiping the ancestor spirits and beings in nature, but they are also adopt some Laotian tradition such as 'Basi' ceremony and the 'Pasin' wearing of women.

They possess the knowledge of utilizing various forest plants making them the keen NTFPs gatherers and running it as alternative income.

- The popular livelihood here are agricultural based production specifically in Highland agriculture by growing upland rice and the practice in shifting cultivation for subsistence.
- But the livelihood tend to be more monetary dependence since 2005 when the Car can access to the Village and they start to contact and commerce with the Laotian and the Chinese traders.
- Nowadays, Job's tear become popularize for cash crops so do with maize and Cow cattle.



# Nayang Tai

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Same community as Nayang Nue, but separate to register in the government list

- The Tai Lue people, 112 Households
- The Hmong people, 30-40 Households

The Tai Lue people are one of the Tais ethnic group who mostly believe in Buddhism many Tais have the historical connection to Xishuangbanna and have their own written language manuscripts passing down for generations.

The signature livelihood of this community is the handicraft-based production, the cotton fabric weaving which became popularize since 2000 from the JICA and Laos government intervention.

In the past, Nayang people grow rice in the paddy field which now they alternate their rice crops with Tobacco since the establishment of the company in 2002.

And some people also change their agricultural land use into rubber plantation feeding the latex to the Sino company since 2006 whilst also stop growing the cattle.

In 2018, There was also another the Tourism intervention from Laos Government, JICA and Thai's Silapakorn University to set up the Homestay village here as well.



# Ban Bom

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## A Laotian community

- About 400 Households

Most people are Buddhists and sustain their life with monetary based economy such as doing trading, businesses , and wage labor.

The most signature local product of the community is the River weed which people started gathering from Nam Bak river since 1995 whilst each household also have their own orange orchard.

In 1985 people start alternating their paddy fields with Tabacco to sell to the factory that came to settled in.

And in 2005 the demand for rubber latex also driven some people converted their land into rubber plantation.

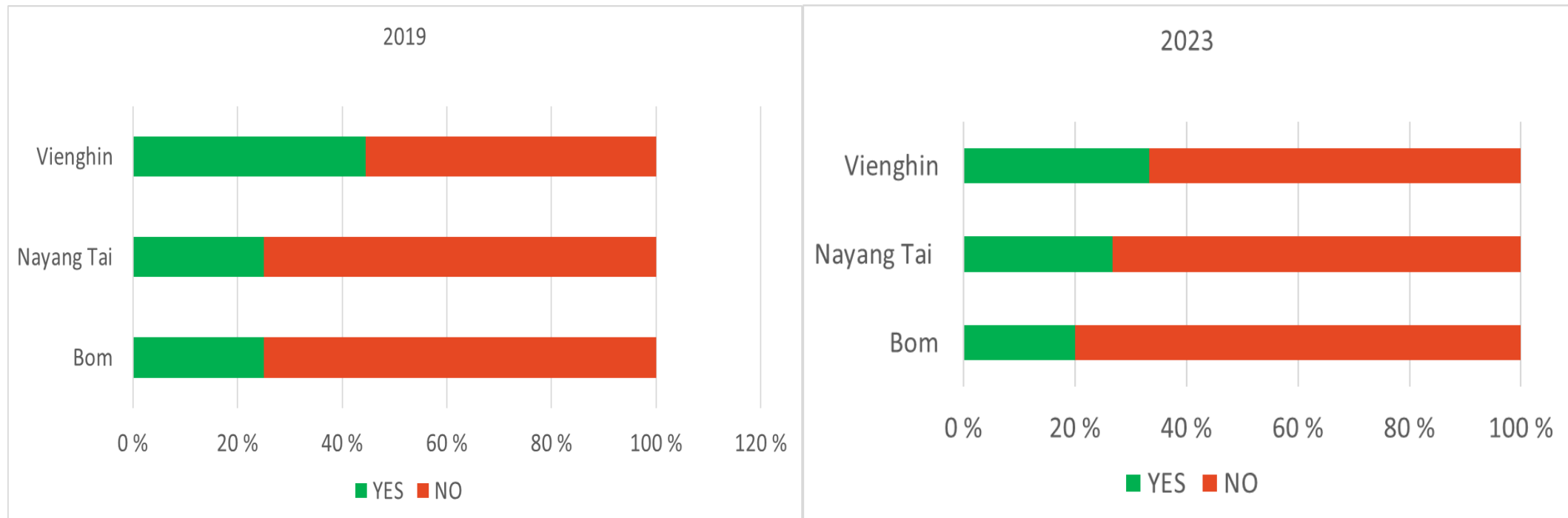
Meanwhile, some households also become the middle-man for Broom grass, orange and lime which was popular in year 2014.

In 2017, River weed have became more popular local product, where there is community factory to produce.

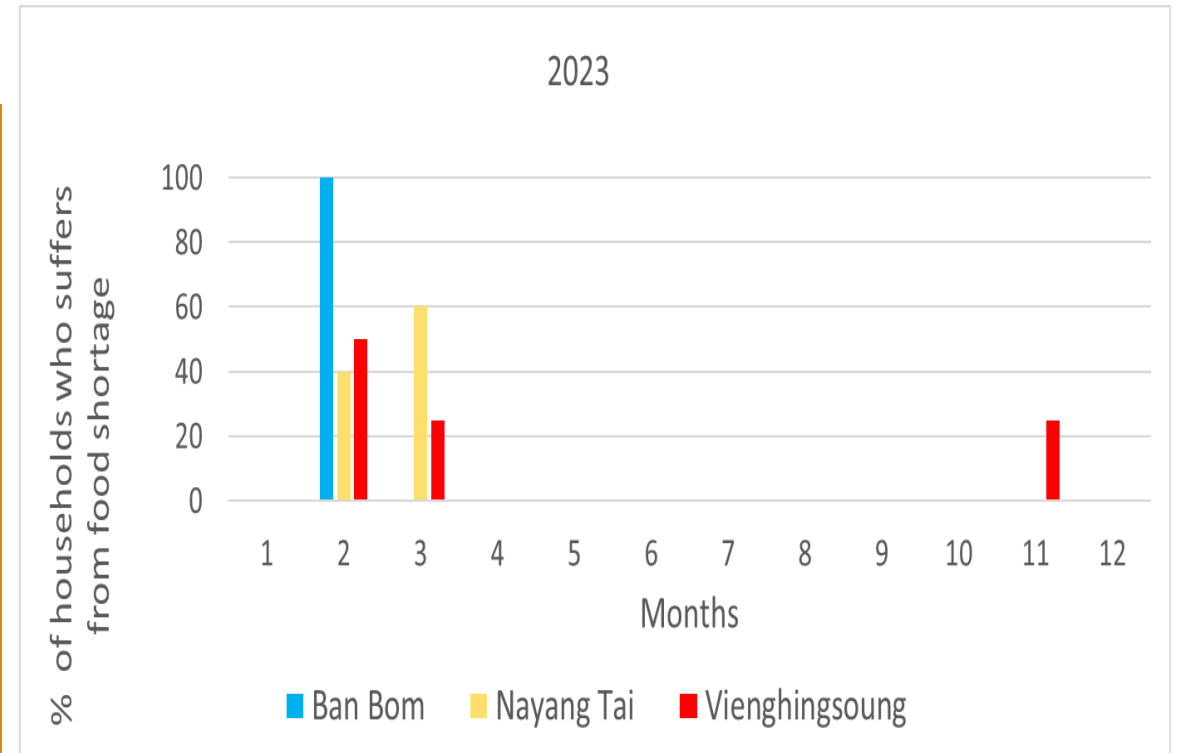
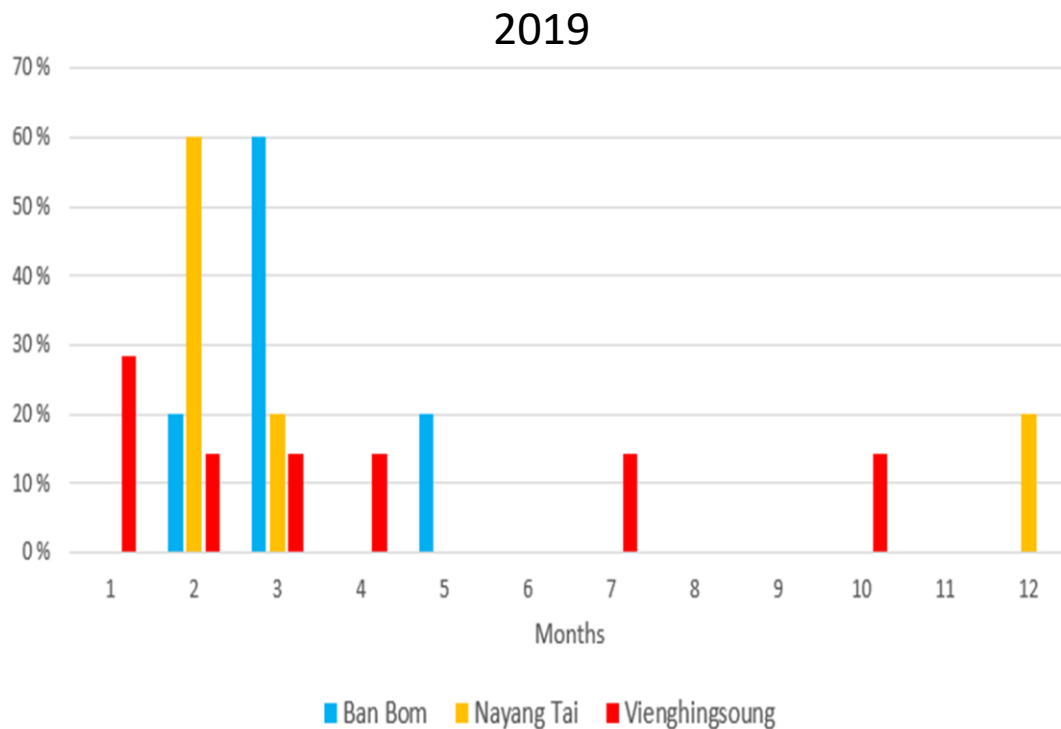


# Food Security

In the last 12 months, have you been faced with a situation where you did not have enough food to feed the household?



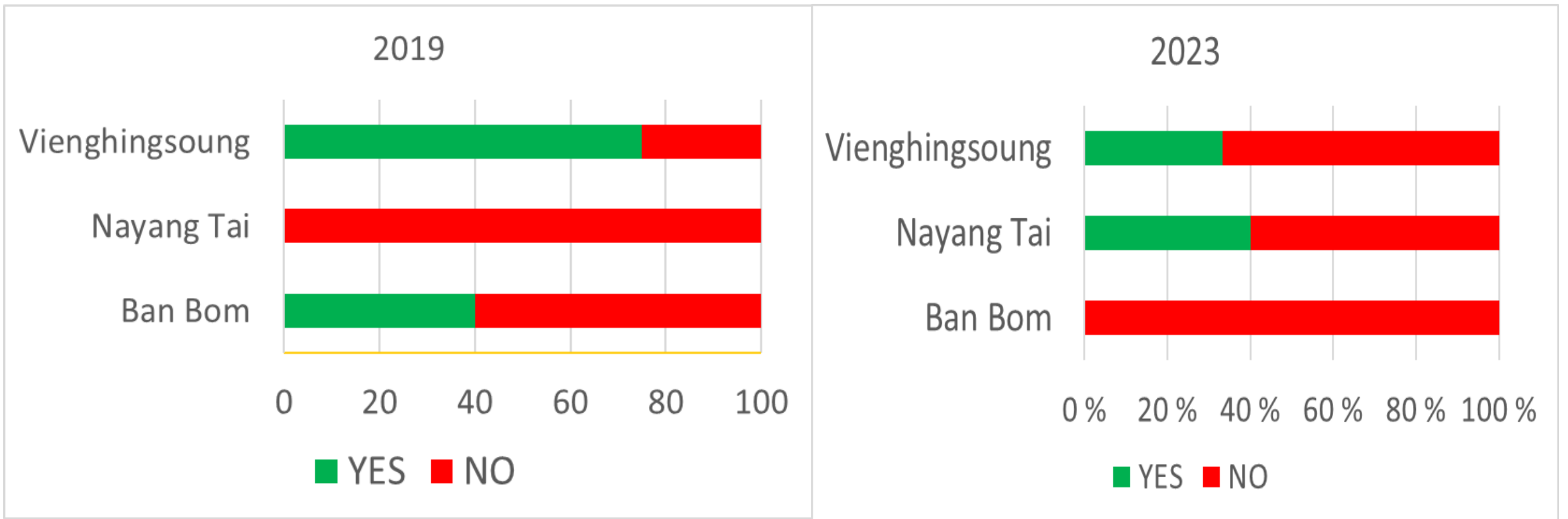




**Food Security** – How many months in the past 12 months did you not have enough food to feed the household?

# Food Security

During the critical months when you did not have enough food to feed the household did your household consume or use forest or wild products to meet the needs





# Food Security

For those few households that rely primarily on forest products to overcome the food shortage, which are the main forest products they use?

	Vienghingsoung (all products for sell)	Nayang Tai (all products for subsistance)
Rank 1	Wild Orchids (unidentified species)	Wild vegetables /bamboo shoots
Rank 2	Konjac, "Devil's tongue, Elephant Yam", Amorphophallus konjac	Bamboo shoot
Rank 3	Chan dai, Dragon's Blood tree, Dracaena cochinchinensis	mushroom



# Seasonal Calendar – Shocks and Crises

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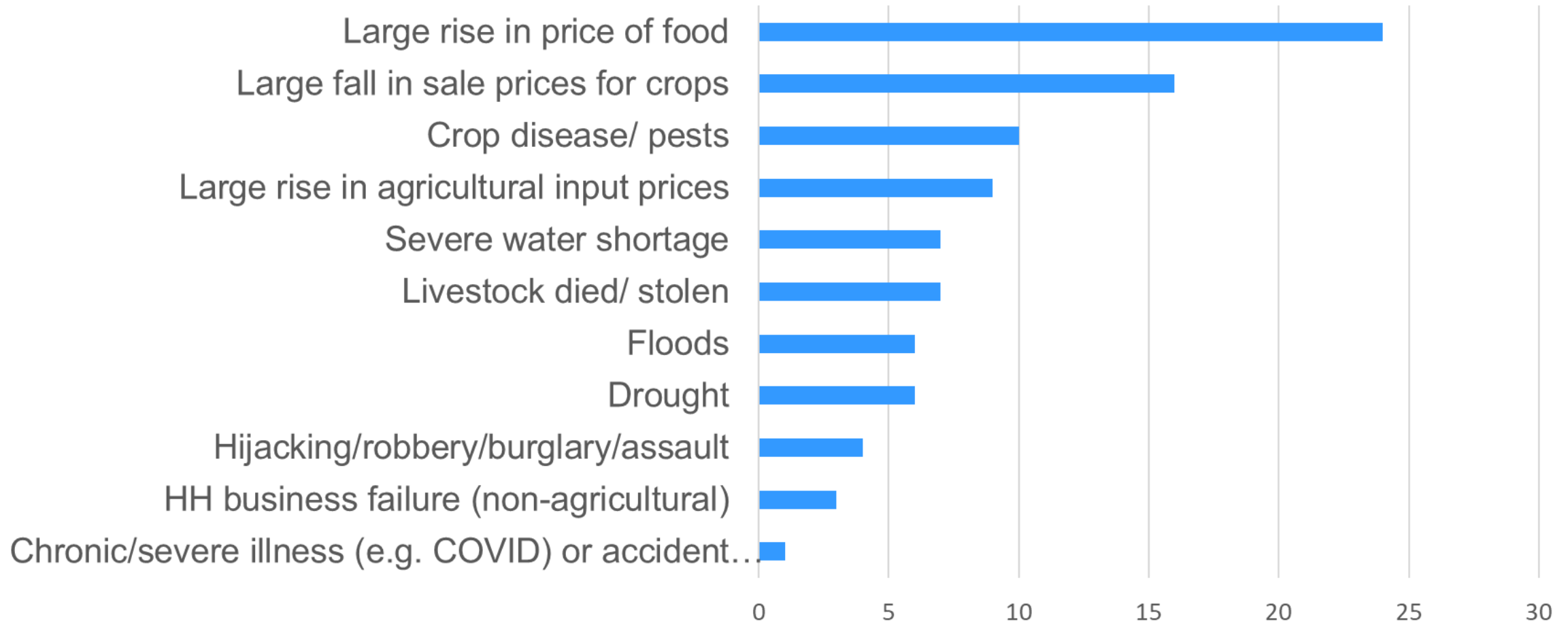
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rainy Season						X	X	X	X	X		
Dry Season	X	X	X	X	X							X

Nayang Tai - Flood								X	X			
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Ban Bom - Flood							X	X	X	X		
Ban Bom - Storms		X	X	X								

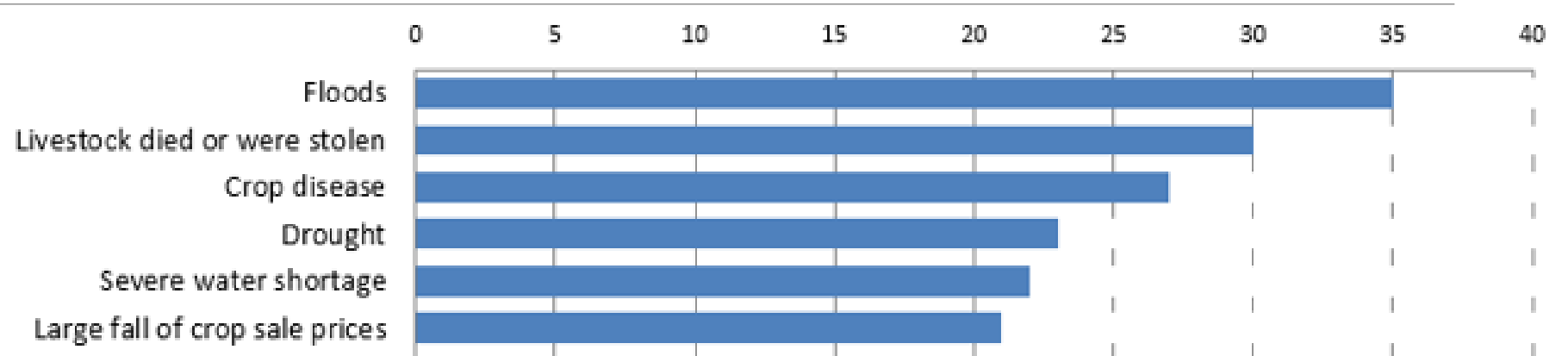


# Major Shocks and Crises in the 3 villages

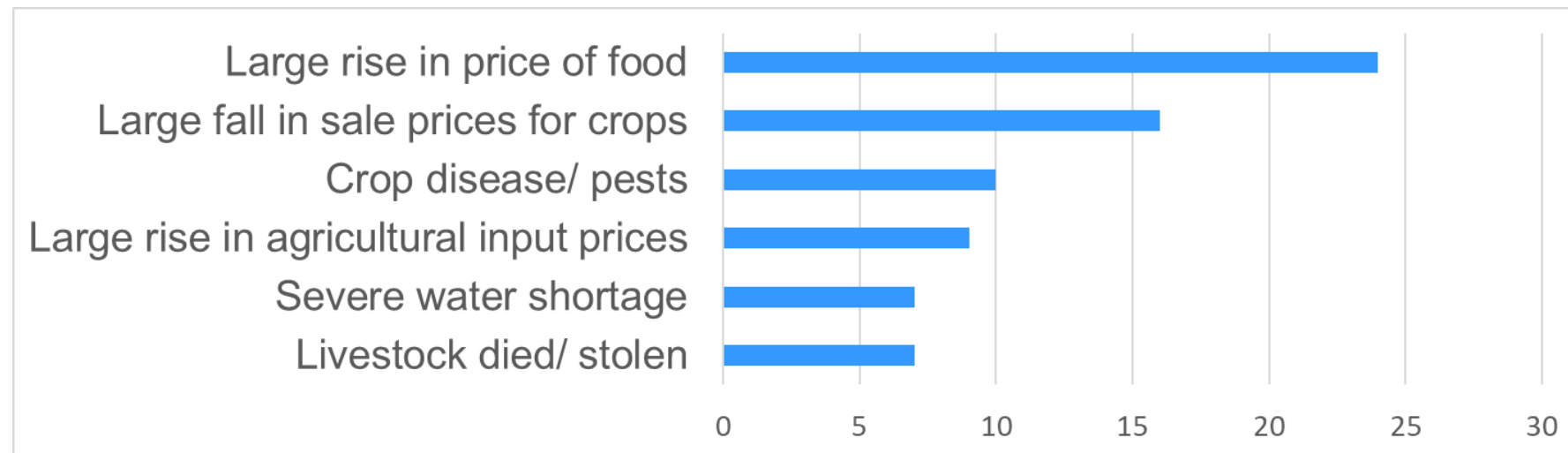


# Change in Shocks and Crises

2019

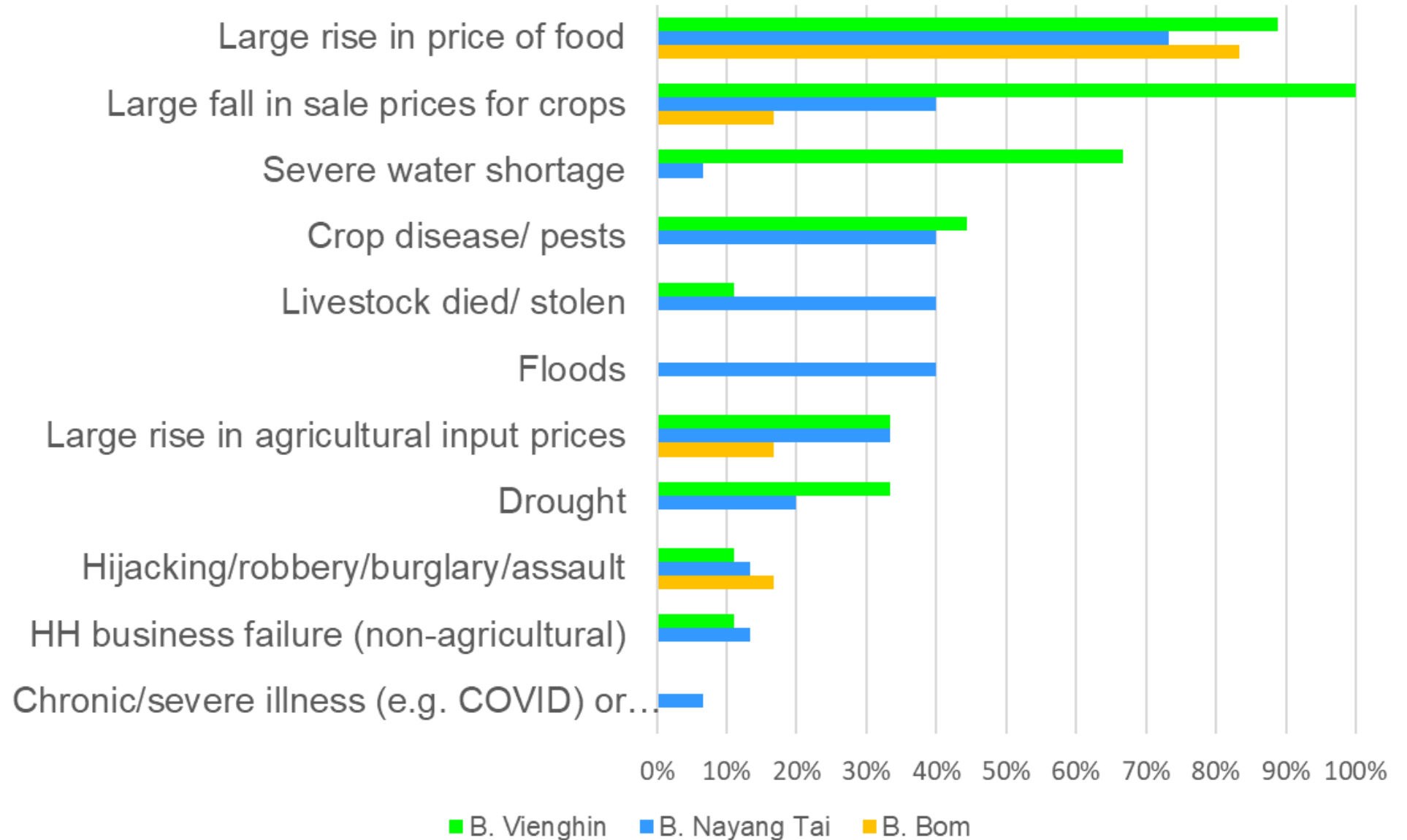


2023



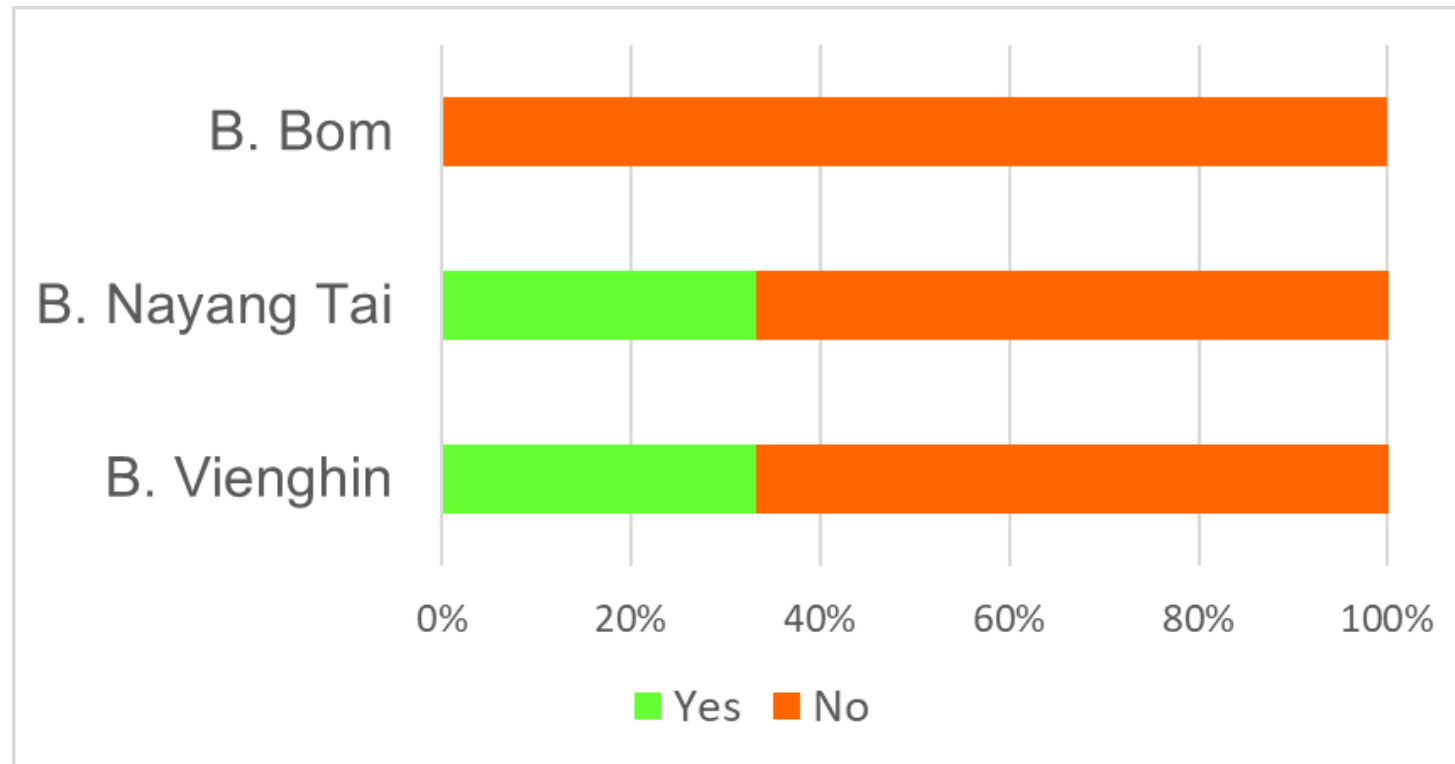


## Shocks and Crises – Comparative to three villages



# Forest Products Collection as Recovery

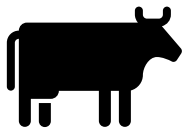
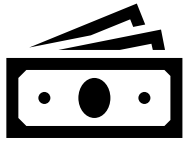
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# Coping Strategies

- 86% of the HHs – no specific coping strategies
- Vienghinsoung – growing cassava; increasing cattle numbers
- Nayang Tai – began planting rubber; weave more products
- Frugal expenditure and beginning rubber plantations were mentioned by many HHs



10-12 Million Kips per Cow

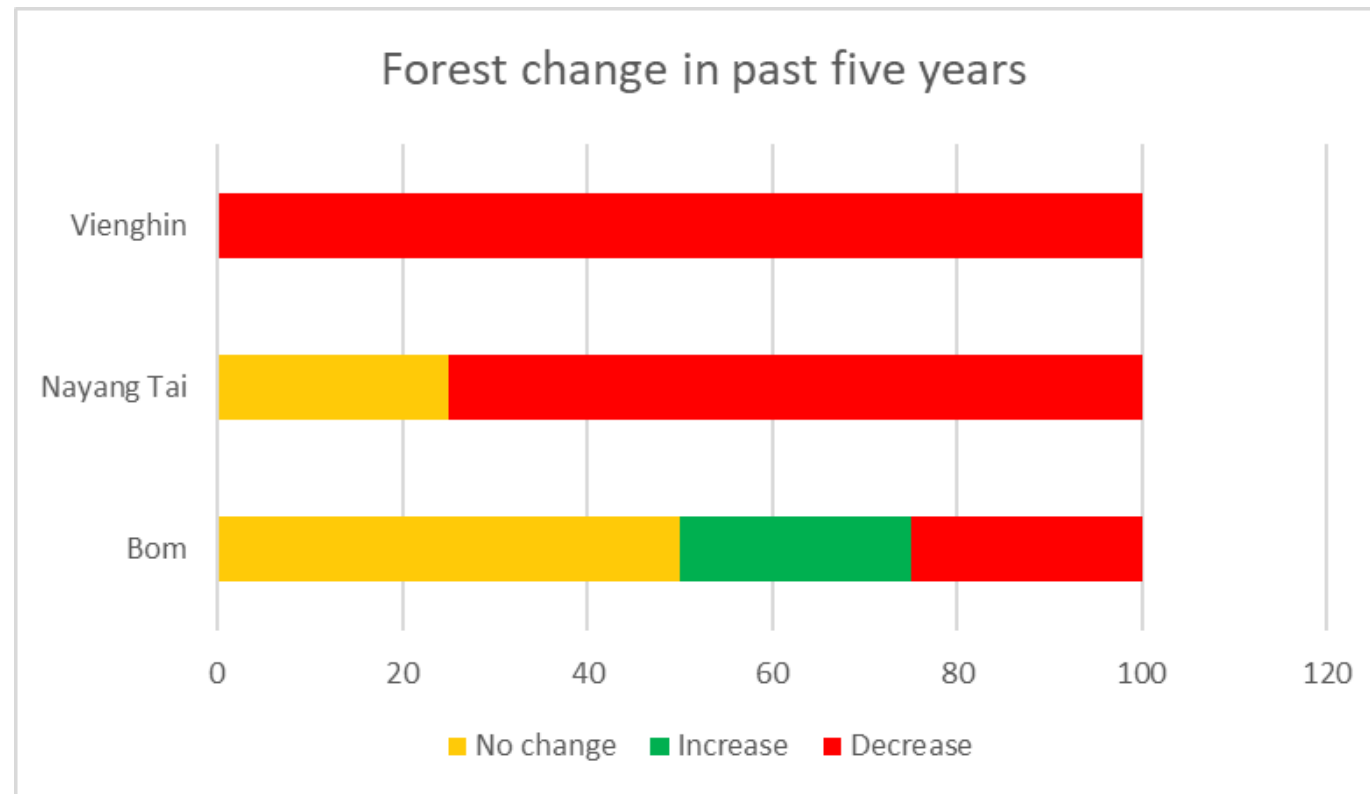


5-30 Million Kips per HH  
per Year from Job's Tears



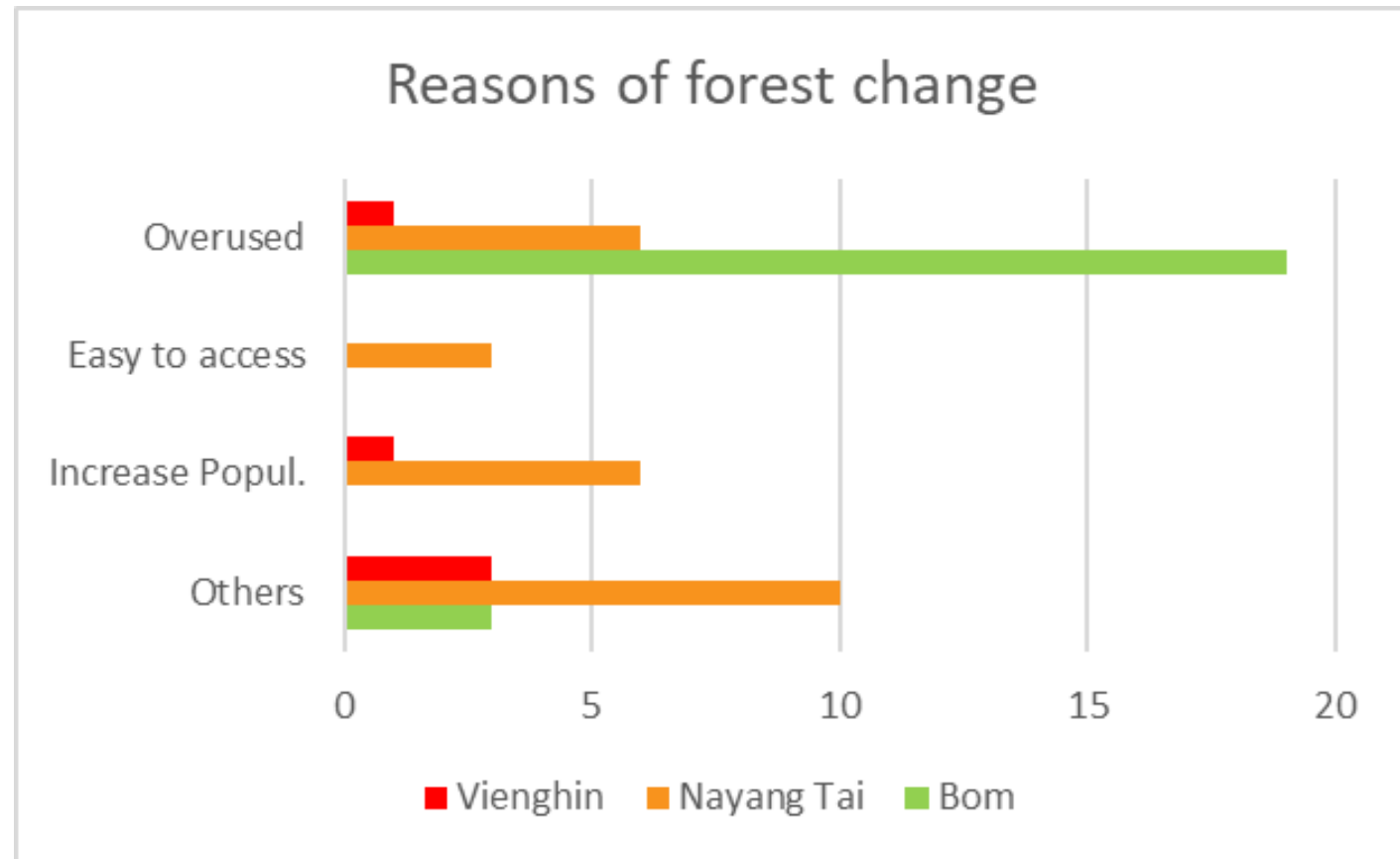
# Forest change

1. Has there been any change in areas of natural forest cover in your village in the past five years?



# Forest change

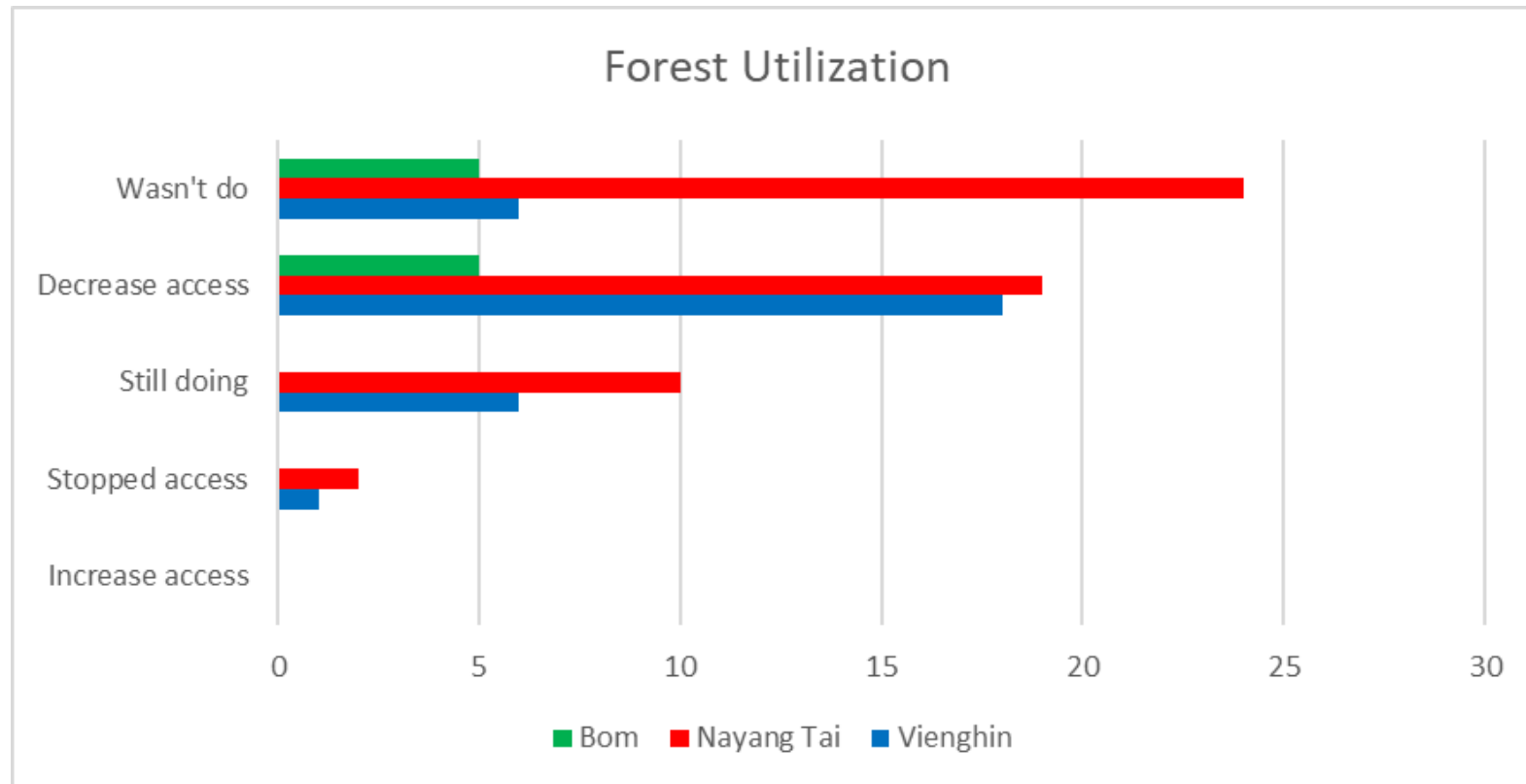
## 2. What was the reason?





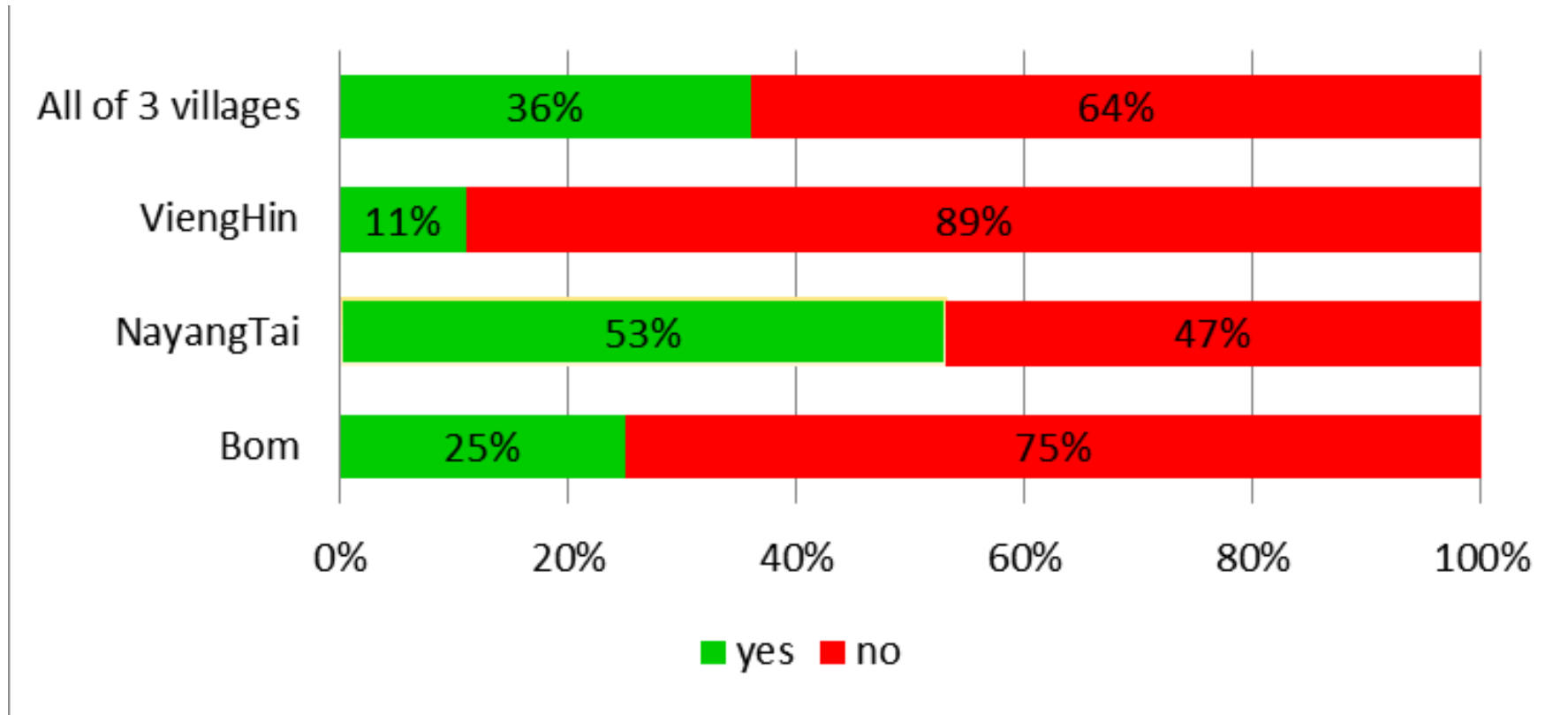
# Forest Change

3. Has your household increased, decreased or stopped any of the following activities in the last 5 years?



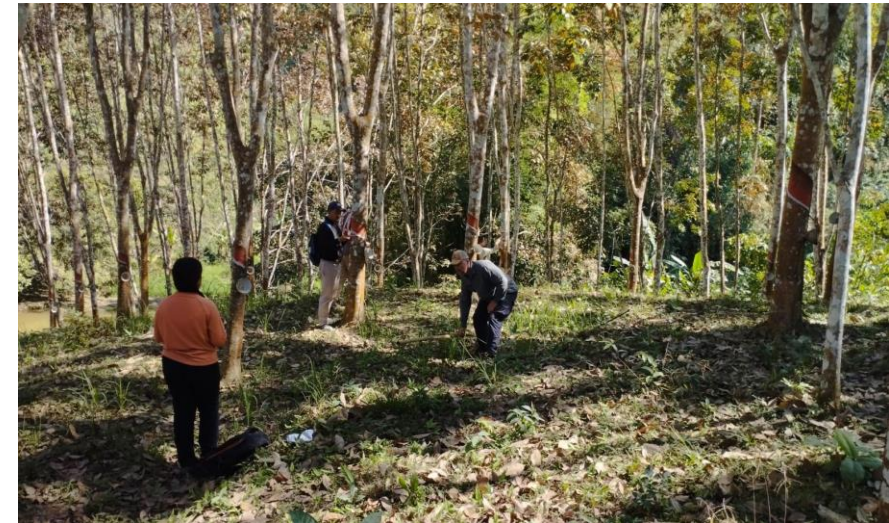
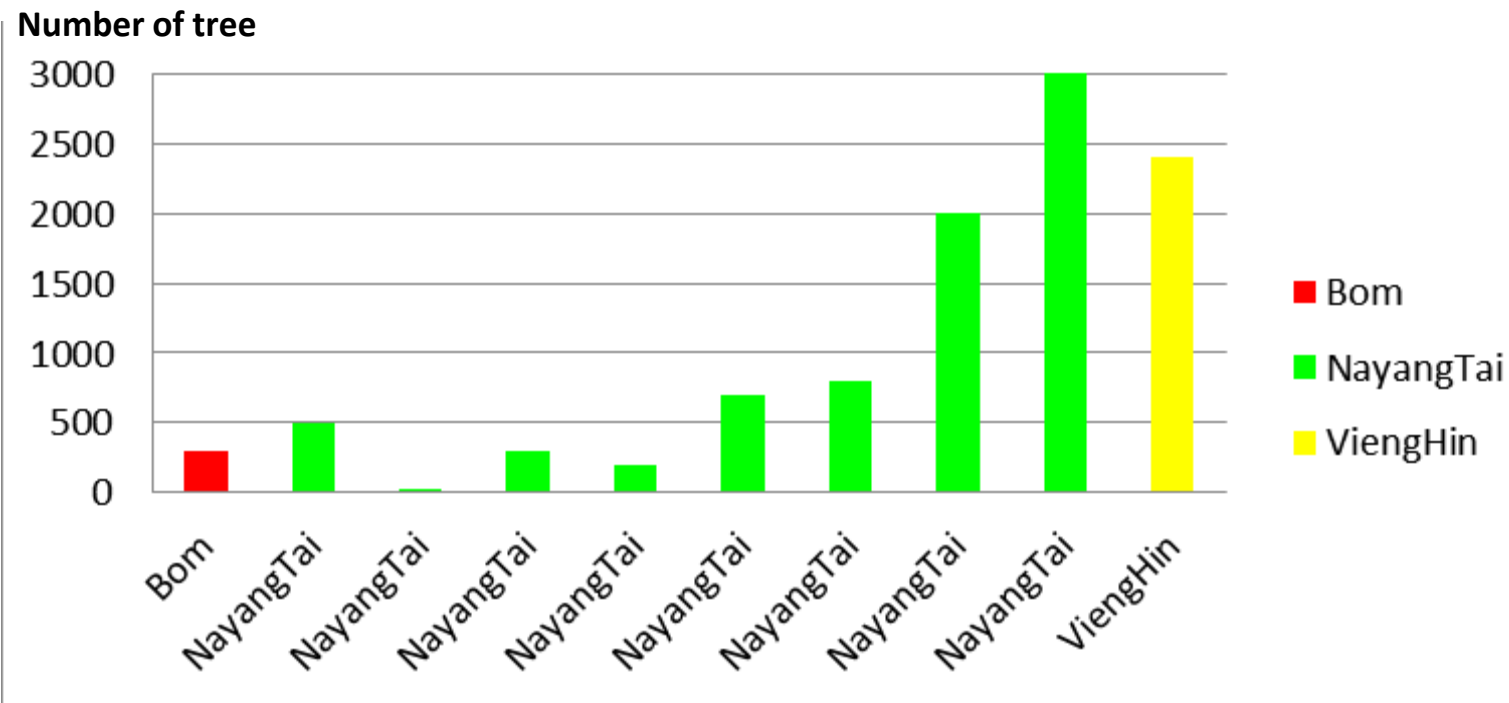
# Tree planting

## 8.1. Has your household planted any trees over the past five years?



# Tree planting

8.2. Over the past five years, how many trees (including trees on farm) have been planted by the Household?

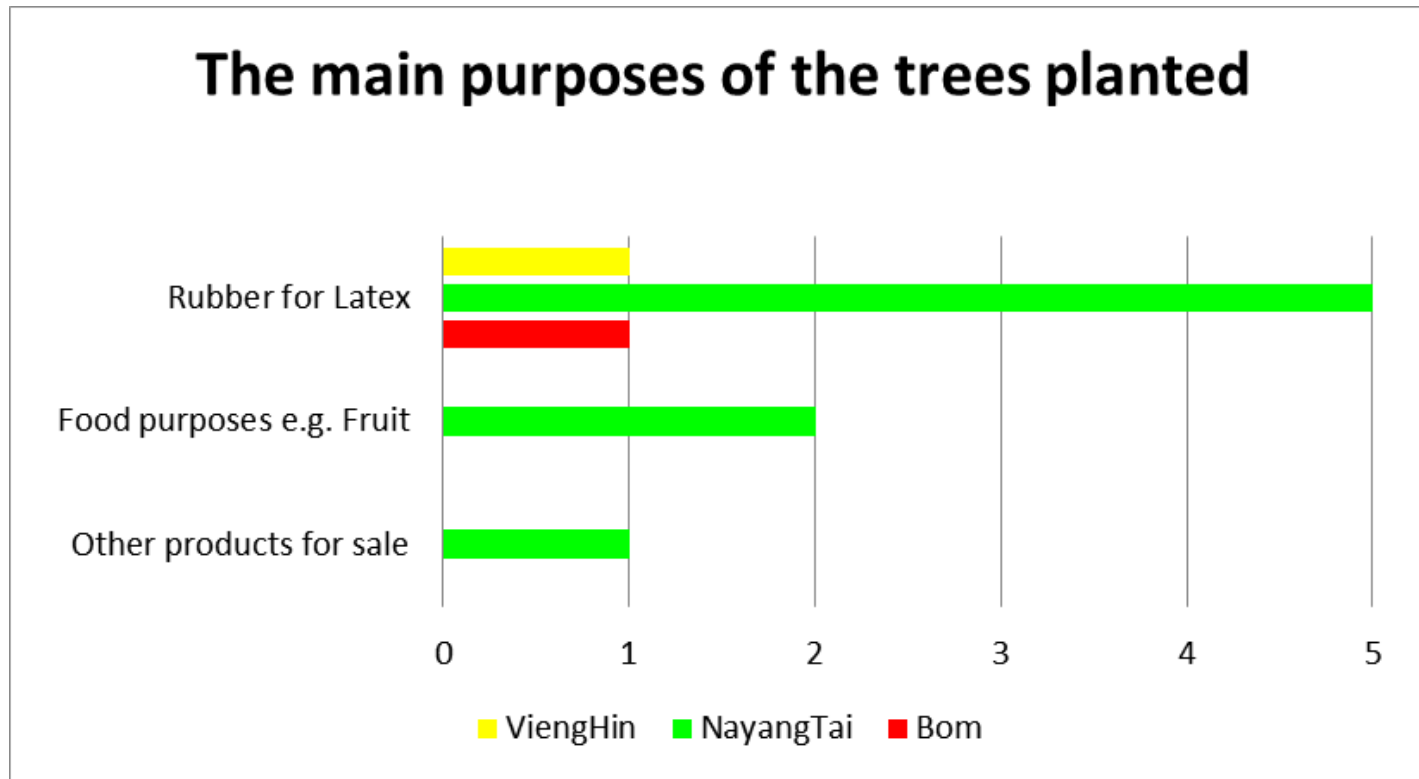


**Over the past five years,  
They have been planted only Rubber tree  
average 400trees/ha**



# Tree planting

## 8.3 What are the main purpose(s) of the trees planted?



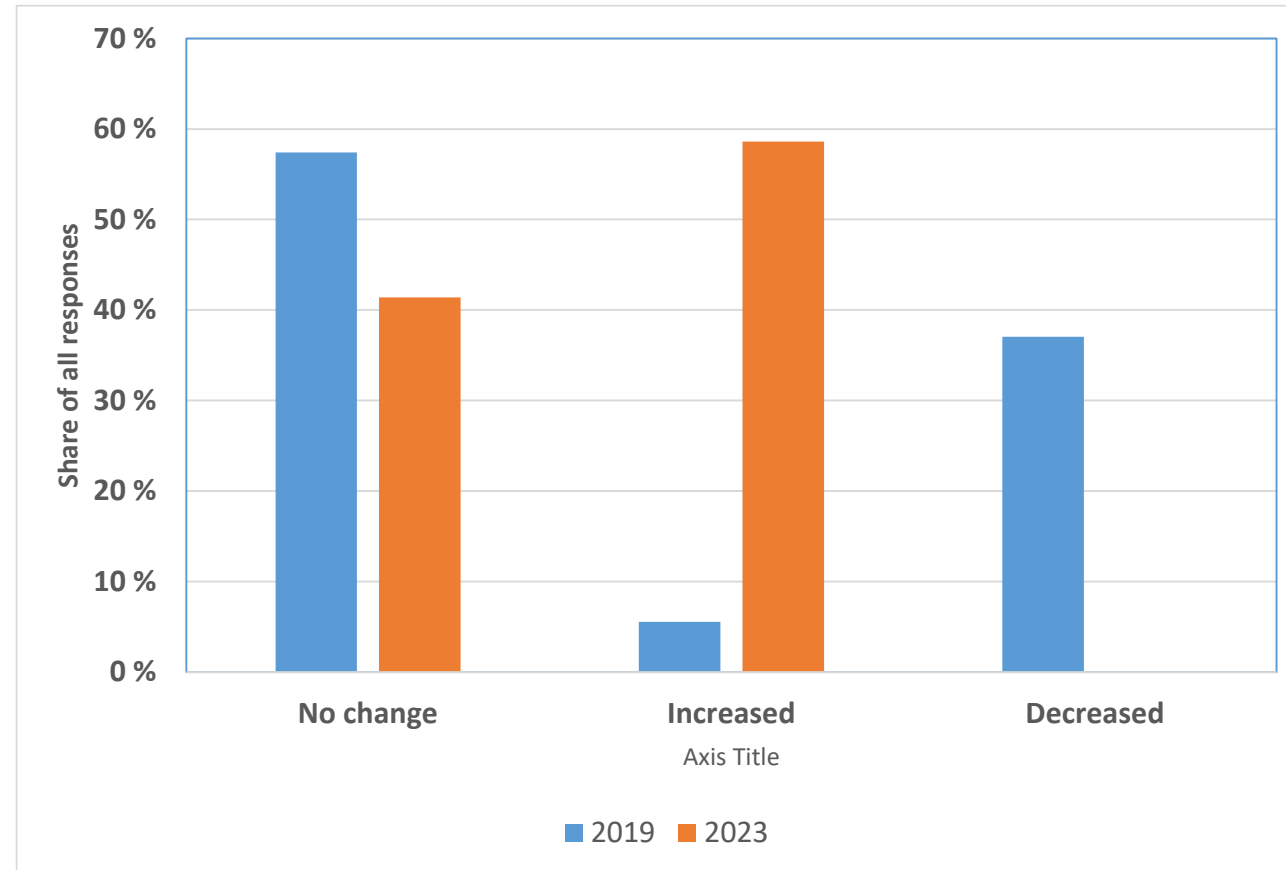
**Nayang Tai village found three main purposes, but Bom and ViengHin village found small number from Rubber plantation**

# Climate variability and change:

## In the past five years, have you observed any changes in temperature in your village?

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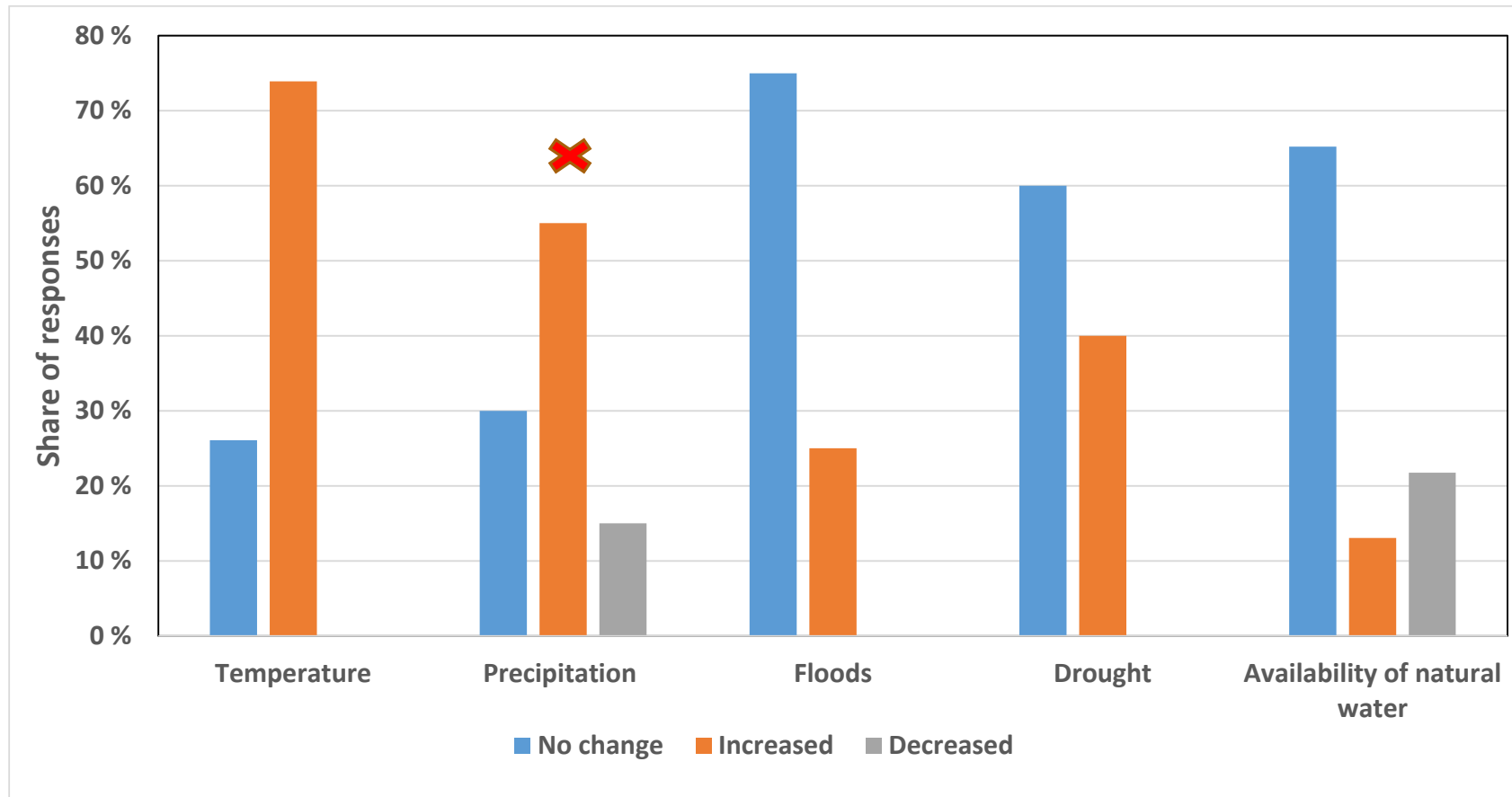
Comparing results  
from 2019 with  
results from 2023



# Climate variability and change:

In the past five years, have you observed any changes in climate-related phenomena or events your village?

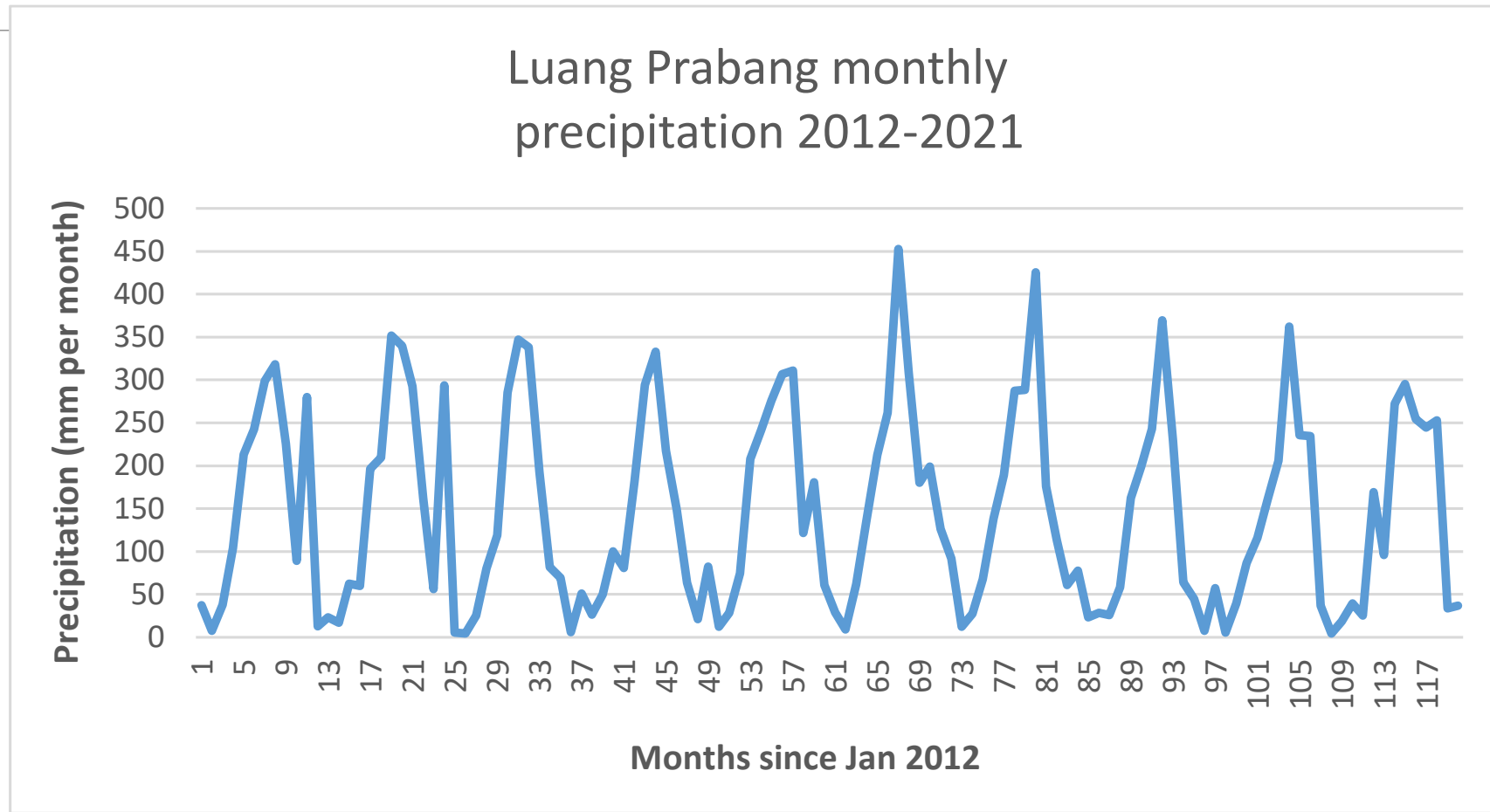
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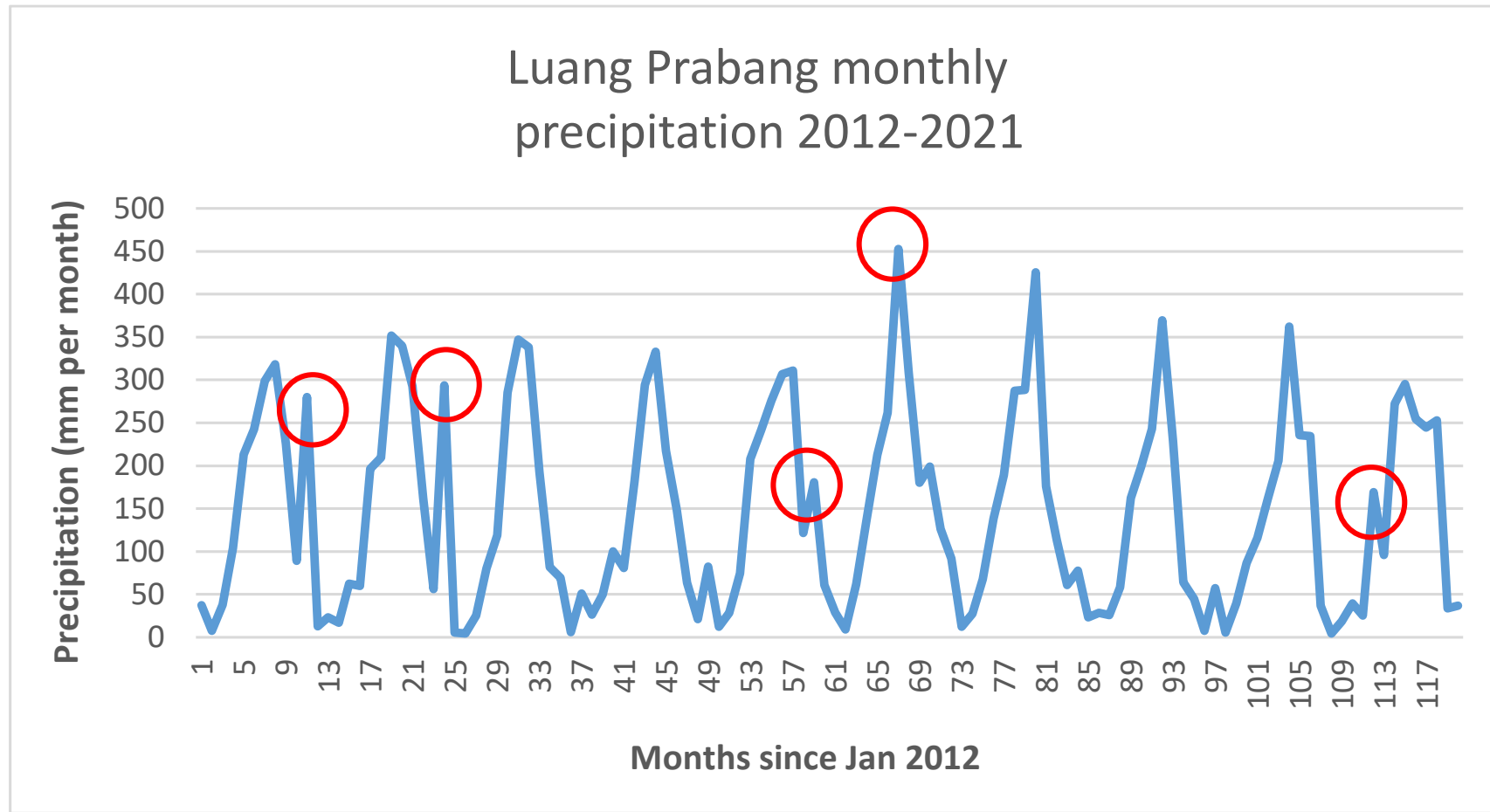
In addition, about 25% of respondents said “seasonal pattern of rains has changed”



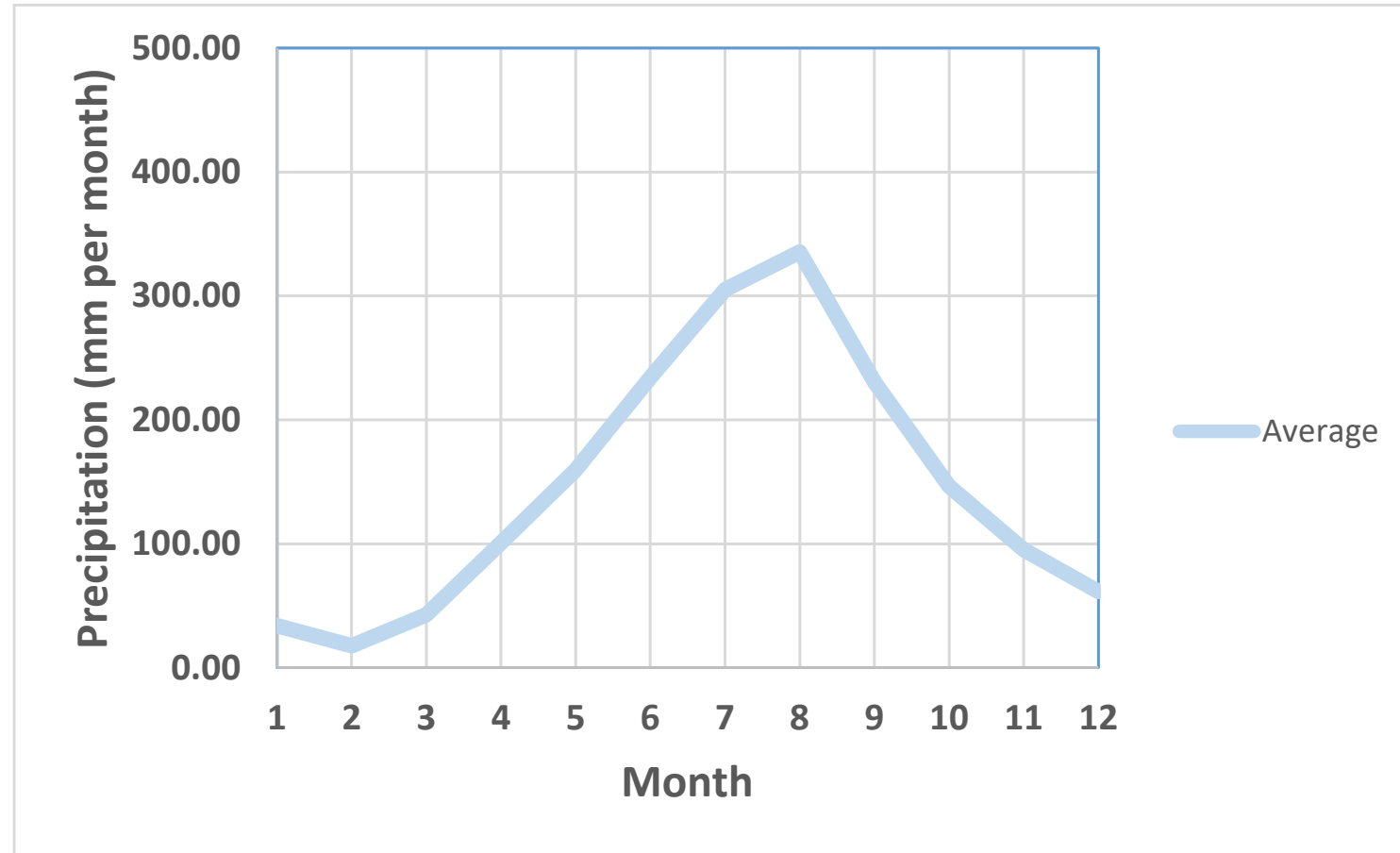
# Monthly precipitation 2012-2021



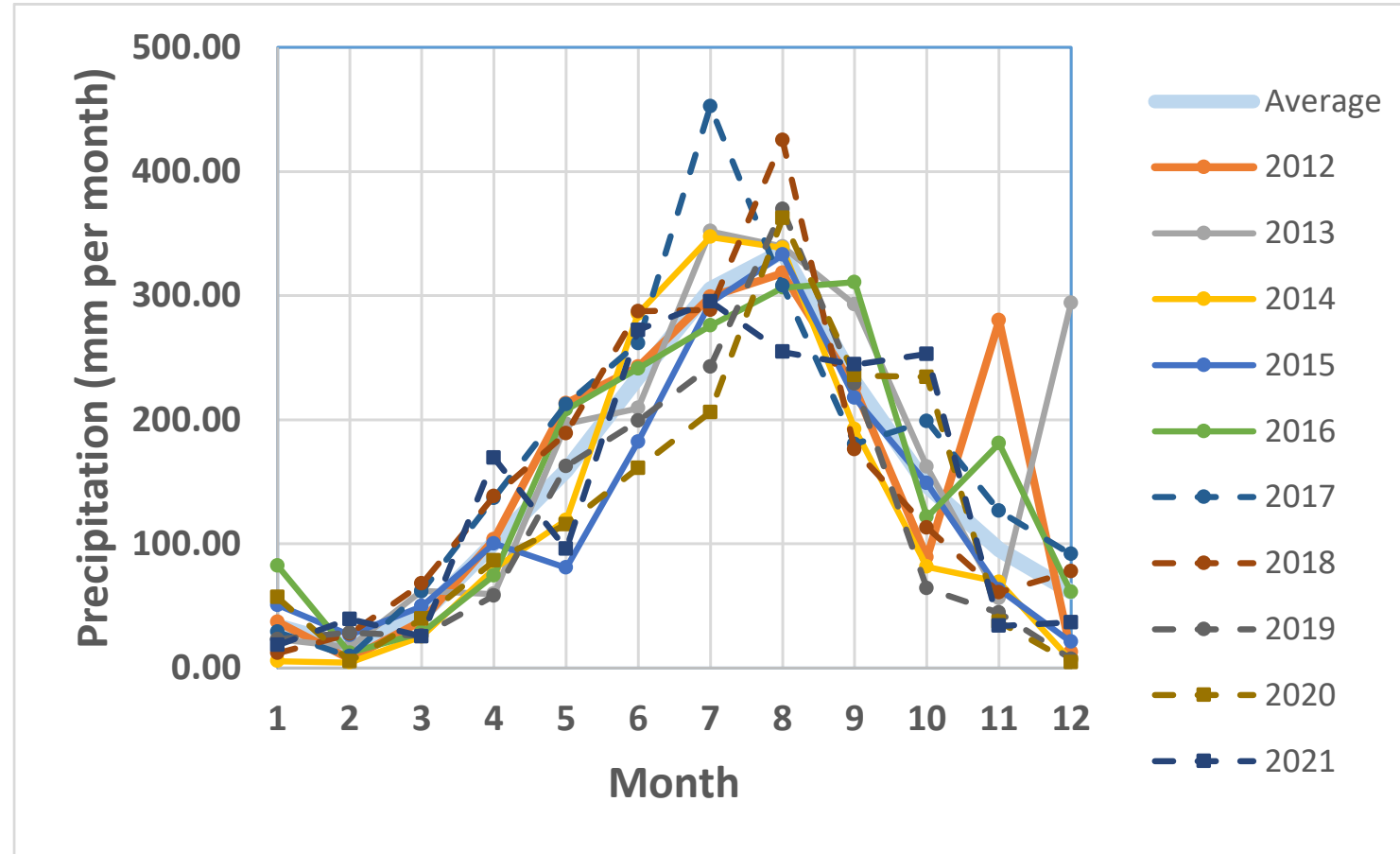
# Monthly precipitation 2012-2021



# Mean monthly precipitation 2012-2021

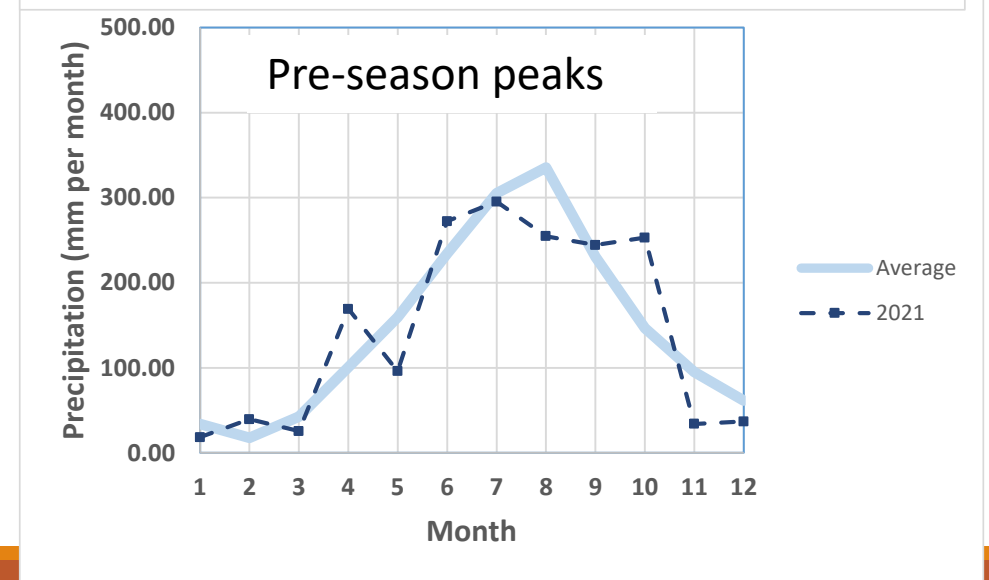
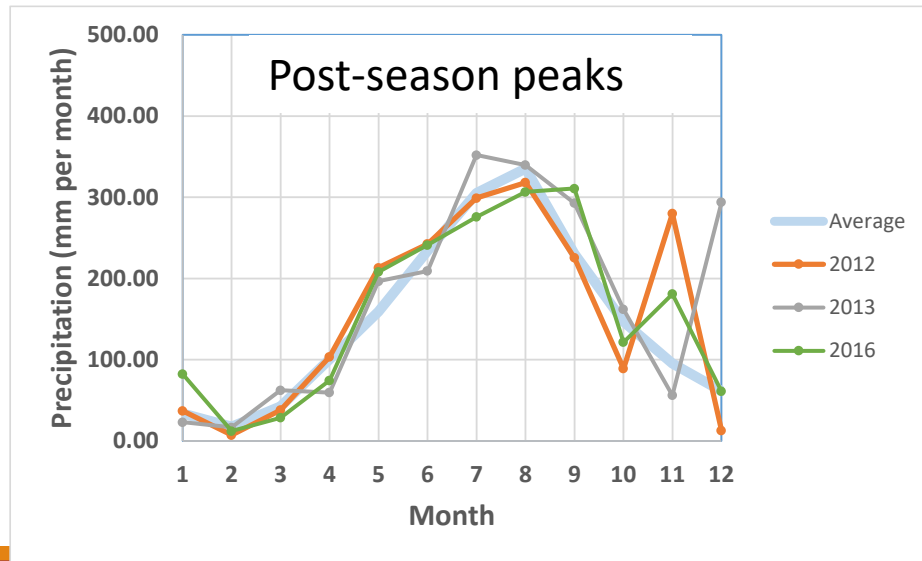
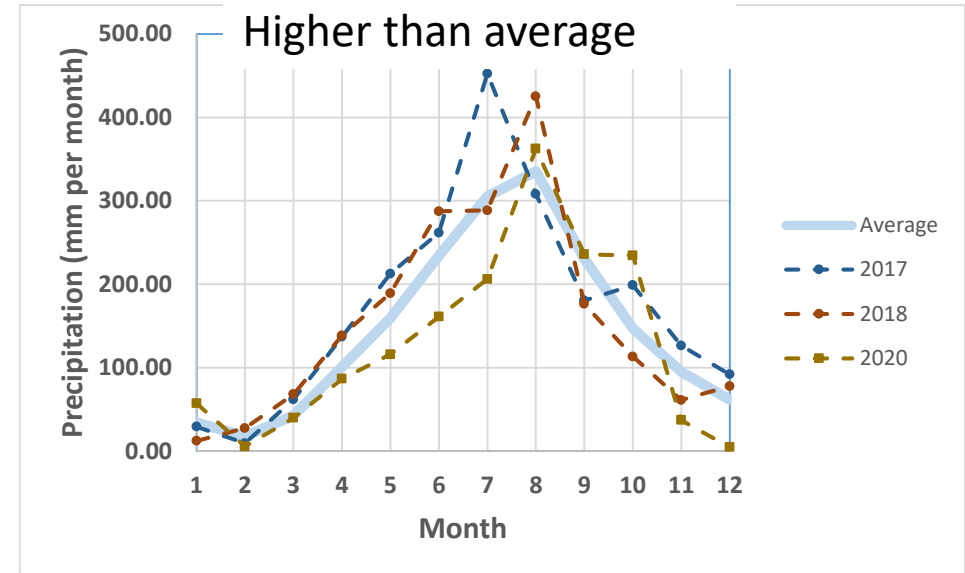
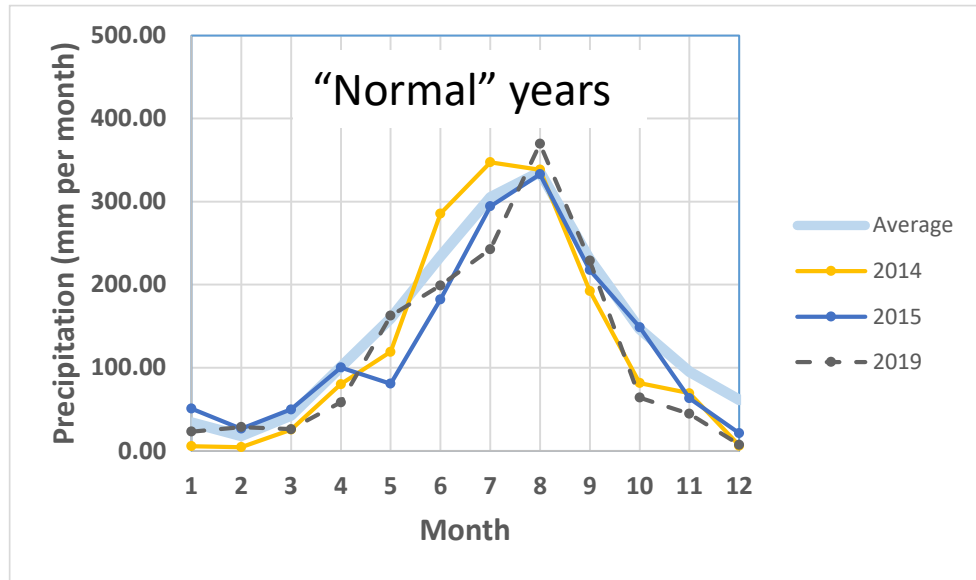


# Monthly precipitation 2012-2021 per year





# Monthly precipitation 2012-2021 in groups



# Conclusions

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- Food security has improved in Bom and Vienghin, but in Nayang Tai it has gotten slightly worse .
- Households are turning into monetary economies from traditional agriculture and they seem to have more purchasing power than before.
- Households use less forest products from forests in Bom and Vienghin, but more in Nayang than before.
- In recent years, shocks and crises are subjected to market prices rather than natural/ social shocks
- Household's perception on the natural forest cover is that it is decreasing
- Rubber plantations are increasing, and they are changing the landscape and household economies.
- Price of rubber is very volatile, and monoplantations are vulnerable to diseases -> Will this affecting resilience of livelihoods negatively in the long run?



# THANK YOU!

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