

**Ministry of Agriculture, Livestock and Irrigation**

**Department of Agriculture**

**Monywa Township**



***Selection of Locally Adaptable Chickpea Varieties  
in Monywa Township***

**Presented by**

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# Location, Area and Borders of Monywa

## (1) Location

### Coordinates

- 22°6' 30''N

- 95°8'30''E

## (2) Area

- Width - 266 Sq.miles

## (3) Border Townships

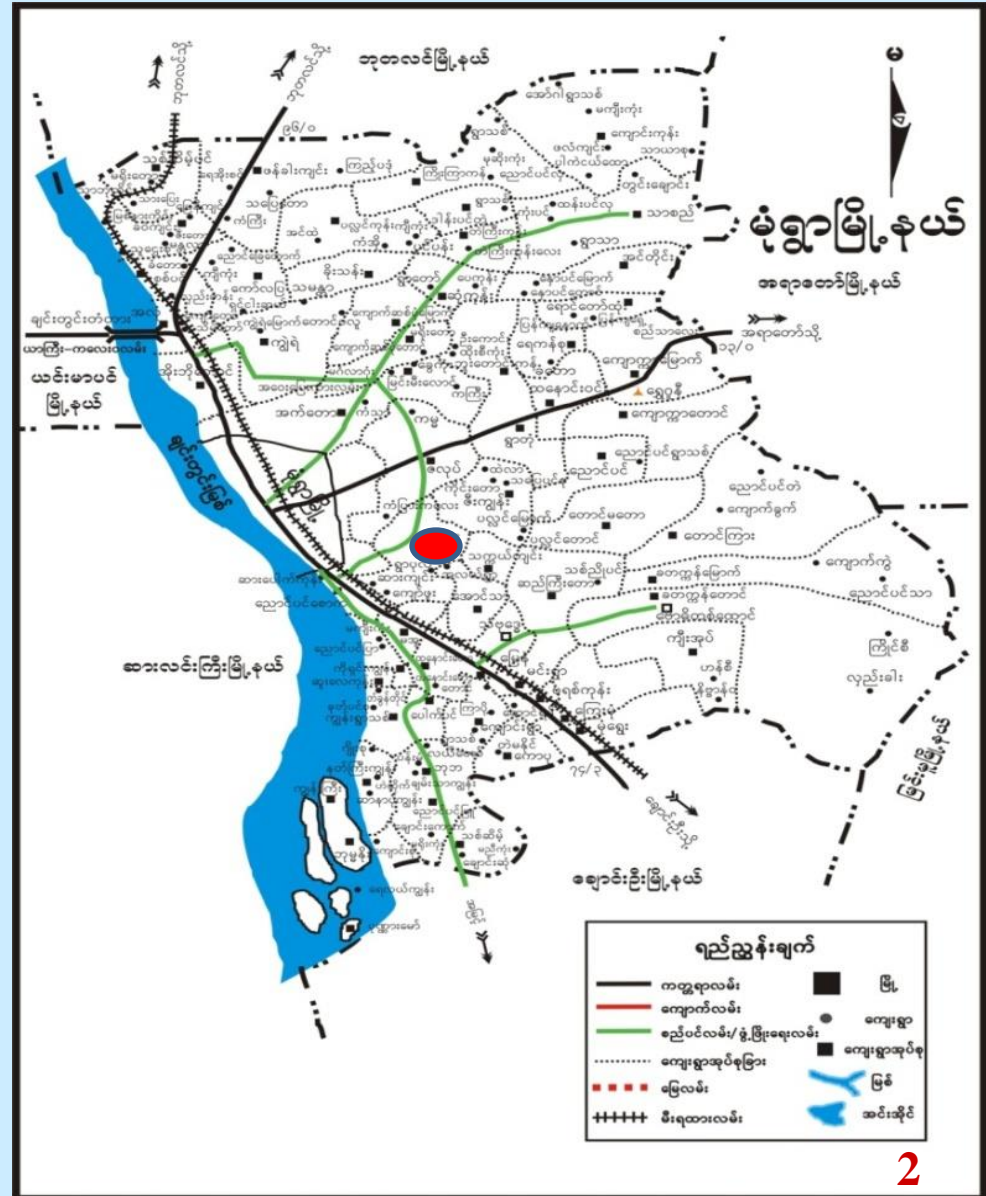
- Ayadaw (E), Salingyi and Yinmabin (W), Chaung U (S) and Budalin (N)

## (4) Village Tracts and Household

- Quarter - 31
- Village Tracts - 54
- Villages - 171
- Households - 69523
- Human Population- 372963

## (5) Location of Demonstration Plot

-  Leizin Village



# Land Utilization of Monywa Township

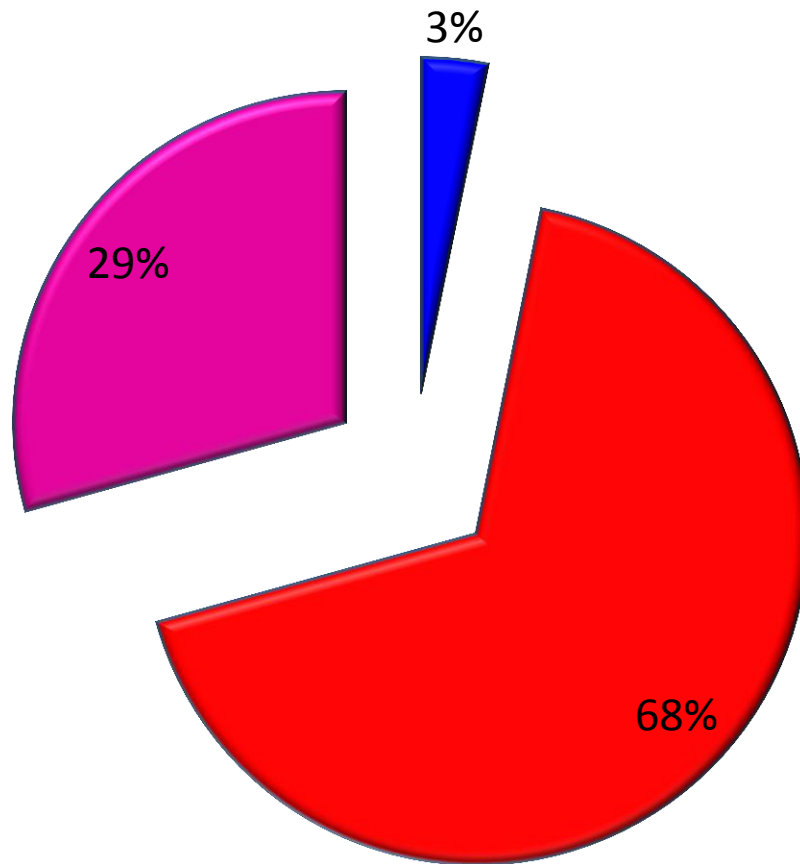
No	Content	2017 year (Acres)	2018 year	
			Areas (Acres)	Content %
1	Cultivated Area	103710	103710	61
i	Net sown area	103618	103618	61
	- Low land area	9113	9113	5
	- Upland area	85725	85725	50
	- Silty land area	8839	8839	5
	- Orchard land area	33	33	0.02
ii	Fallow land area	92	92	0.05
2	Virgin land area	8291	8291	5
3	Urban, village and other land	58239	58239	34
	<b>Total</b>	<b>17024</b>	<b>17024</b>	<b>61</b>

# Introduction

- ➔ **Pulses are the secondary important crop in Myanmar after rice**
- ➔ **Being more upland area in Monywa, most of farmers rely on upland crops especially on pulses.**
- ➔ **Among the cultivated crops throughout the year, chickpea is the largest area and market demand crop**
- ➔ **Monywa is mostly suffered from effects of climate change**
- ➔ **Variety trial is necessary in this dry zone to prevent the decreasing yield by climate effect**

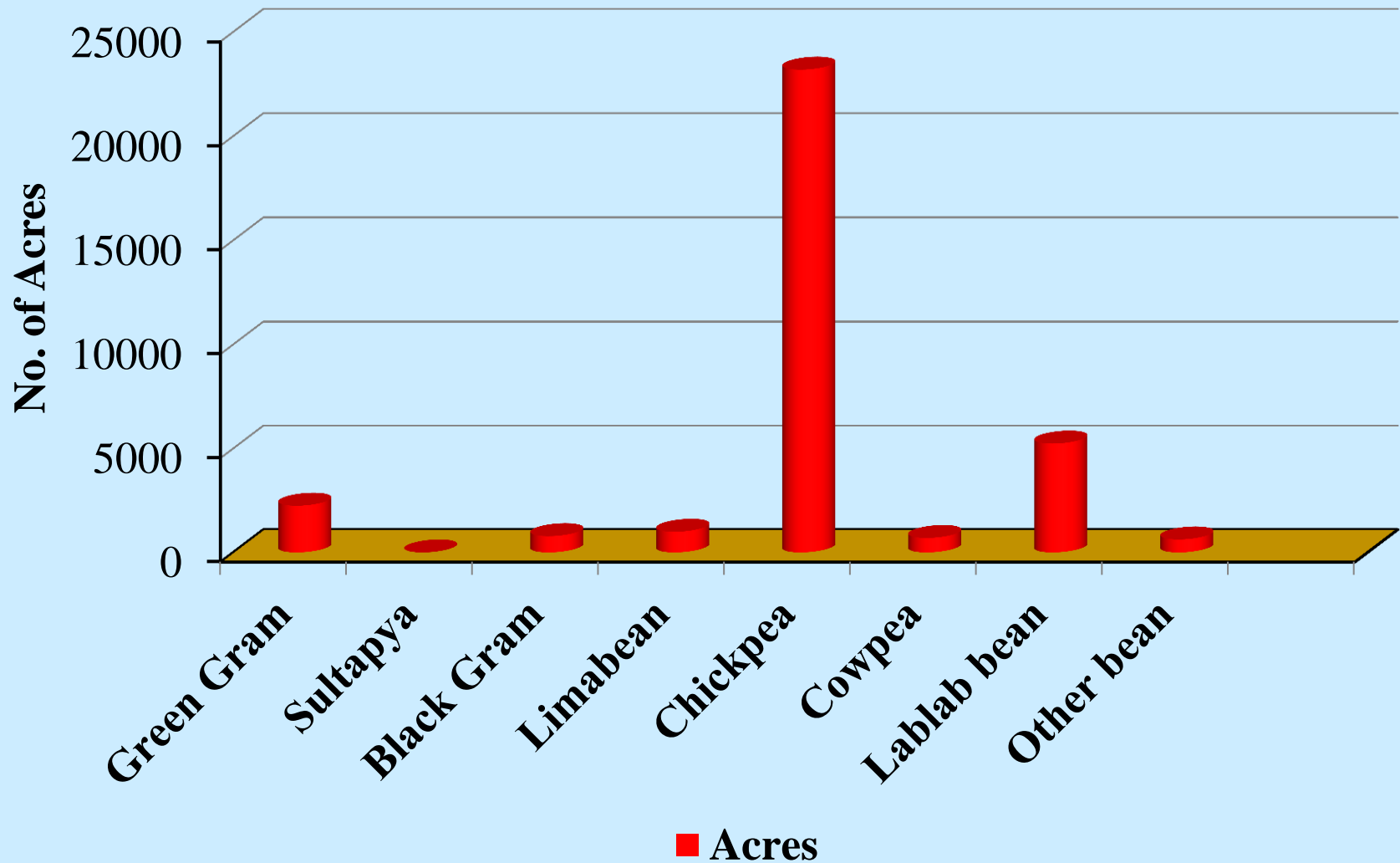


# Three Major Field Crop Production



■ Paddy ■ Pulses ■ Oil Seed crop

# Pulses crop production in post monsoon



# Rainfall situation of Monywa Township

No	Month	Normal		2015		2016		2017		2018	
		Day	Inch	Day	Inch	Day	Inch	Day	Inch	Day	Inch
1	Jan	-	-	-	-	-	-	-	-	2	1.10
2	Feb	-	0.08	-	-	-	-	2	0.20	-	-
3	Mar	-	0.14	1	0.16	-	-	-	-	1	0.47
4	April	3	1.6	3	1.02	4	5.51	2	0.27	2	0.32
5	May	6	4.17	4	0.59	5	2.80	15	13.27	5	5.79
6	June	6	3.49	6	4.77	7	4.45	7	3.23	5	1.77
7	July	4	1.54	4	0.70	4	1.81	4	0.80	4	1.85
8	Aug	9	5.39	5	4.80	14	9.33	7	4.28	9	4.80
9	Set	9	6.22	13	9.30	15	11.89	8	4.60	3	0.79
10	Oct	8	5.37	7	3.10	6	3.04	8	3.30	8	3.30
11	Nov	2	0.91	2	0.32	1	1.41	2	0.71	9	4.80
12	Dec	1	0.21	4	1.18	-	-	-	-	-	-
	Total	48	29.12	49	25.94	56	40.24	55	30.66	48	24.99

# Objectives

- ➔ **To select the suitable variety which is locally adapted to Monywa Township**
- ➔ **To select the less-water requirement and short-term variety which is suitable for Dry zone area**
- ➔ **To find out the variety which is the most preferable in the sustainable market area**
- ➔ **To overcome the adverse effect of climate change**
- ➔ **To increase income per individual farmer and also to raise the livelihood by using this selected variety**



# Yearly chickpea grown area in Monywa

No	Name of Varieties	Yearly grown area (Acres)				
		2014-15	2015-16	2016-17	2017-18	2018-19
1	Yezin-3	7279	6390	6850	6120	3720
2	Yezin-6	10072	10993	11281	11179	11212
3	Yezin-8	5020	4942	3975	5708	9382
4	Yezin-11	-	-	-	152	3550
5	Yezin-12	-	-	-	26	170
	Total	22371	22325	22106	23185	20594

# Experimental Site selection

<b>Region</b>	-	<b>Sagaing</b>
<b>District</b>	-	<b>Monywa</b>
<b>Township</b>	-	<b>Monywa</b>
<b>Village</b>	-	<b>Leizin</b>
<b>Farmer name</b>	-	<b>U Soe Tint</b>
<b>Field No:</b>	-	<b>655</b>
<b>Soil Type</b>	-	<b>Deep (or) Silty clay loam</b>

# Implementation status

<b>Plot size</b>	-	<b>0.75 acres, each 0.25 ac</b>
<b>Sowing time</b>	-	<b>post-monsoon</b>
<b>Type of plot</b>	-	<b>simple trial with three varieties (Yezin- 3, Yezin-11, Yezin-13) (Yezin-3, (Check Variety))</b>
<b>Sowing method</b>	-	<b>seed driller with 1 ft between rows</b>
<b>Seed treatment</b>	-	<b>Homai fungicide</b>
<b>Sowing date</b>	-	<b>14.11.17</b>
<b>Seed rate</b>	-	<b>4 pyi / each variety</b>
<b>Disease Infection</b>	-	<b>Fusarium wilt (a little)</b>
<b>Harvesting date</b>	-	<b>8.2.2018(Yezin-3) 13.2.2018 (Yezin-11) 23.2.2018 (Yezin-13)</b>

# Germination result of chickpea varieties



Yezin-11- 99%



Yezin-3 90%



Yezin-13 -82%



# Vegetative stage of tested varieties

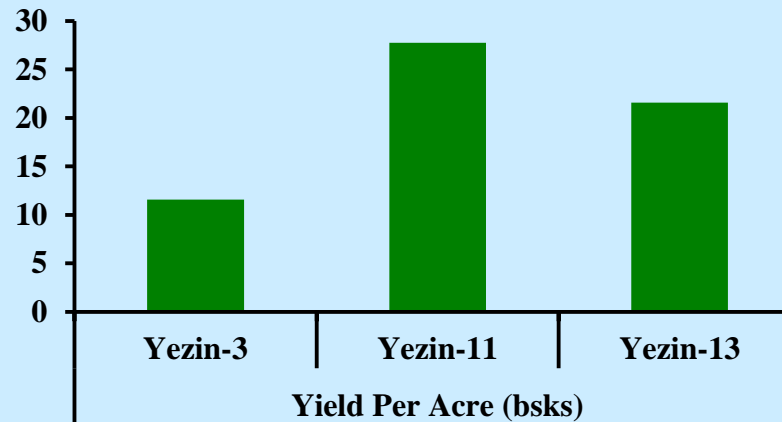
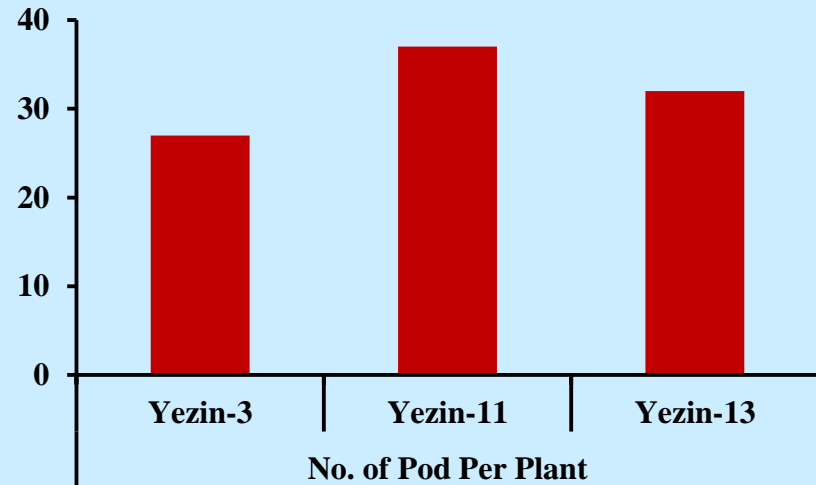
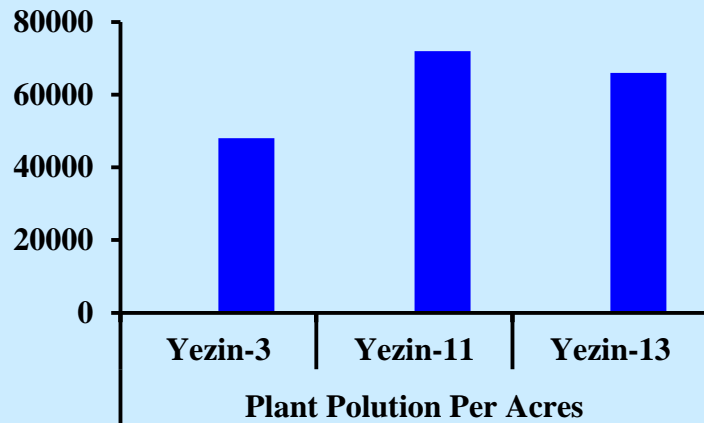


# Yield and yield components of the tested varieties

No	Yield components	Yezin-3	Yezin-11	Yezin-13
1	No: of branches per plant	2	3	3
2	No: of pods per plant	27	37	32
3	No: of seed per pod	1	1.02	1
4	Seed color	White	Creamy white	White
5	100 grain weight(gm)	28	32	32
6	Plant population	48000	72000	66000
7	Yield per plot(bsks)	2.90	6.94	5.40
8	Yield per acre(bsks)	11.58	27.76	21.57
9	Sample plot yield (tin)	1.25	3.5	2.75



# Yield and yield components of the tested varieties



# Field day and discussion with the farmers







# Harvesting to estimate yield and yield components



# Conclusion

- **Plant population at harvesting time , Yezin-11 – 72000 plants per acre, nearly recommended population**
- **Yezin-3 – 48000 plants per acre**
- **Yezin-11 – drought resistance, good plant performance, good pod formation and good branching**
- **Yezin-11- farmers choice from field day due to high yield**
- **Yezin-11- one of the traders' choices for export**

# Suggestion

-  **Yezin-11 variety is mostly adaptable to Monywa which is less rainfall and has adverse climate condition**
-  **It is resistant to drought, diseases and pests**
-  **It has high yield and market demand crop**
-  **So the farmers should grow and multiply this variety in the coming year**

*Thank You!*