



**Ministry of Agriculture, Livestock and  
Irrigation**

**Department of Agriculture  
Nyaung Shwe Township**



**SAVE THE INLAY LAKE**

**Daw War War Khaing  
Assistant Staff Officer  
Nyaung Shwe Township**

# ❖ INTRODUCTION

- ❖ The region where famous **PHAUNG DAW OO** pagoda located , the majority of population is Innthar
  - ❖ Main Career –Farmers grow tomatoes and other horticultural crops on Floating Gardens
  - ❖ There are 29 streams flowing into Inlay Lake ,the main 4 streams are B lue stream,Than Htaung stream,Nant Latt stream and Tar Yaw stream.
  - ❖ Inlay lake has beautiful landscape, and is also home to Various Biodiversity and it became Myanmar's first designated place of World Network of Biosphere Reserves
- \* Ref; (GAD)General Administration Department of Nyaung Shwe

## ❖ INTRODUCTION(Cont;)

❖ Inlay is one of Myanmar's **most popular destinations for travellers** by so many facts ; Beautiful landscapes , the traditions of various ethnic groups , the famous pagoda (**Phaung Daw Oo**) and temples

❖ Inlay is also an important region for Myanmar because it is the water source for **Law Pi Ta Hydropower**

❖ Inlay is the natural inland freshwater lake regarded as one of the **ASEAN CULTURAL HERITAGE** and it was declared as Myanmar's first designated place of World Network of Biosphere Reserves in **June**

**2015** at the Unesco's 27th Man and the Biosphere (MAB) International Coordinating Council (ICC) meeting

\* Ref; (GAD)General Administration Department of Nyaung Shwe, [www.unesco.org](http://www.unesco.org)

# ❖ GOALS

The Ministry of Agriculture, Livestock and Irrigation do following facts for the sustainable resource management and environmental sustainability of inlay lake

❑ **To become Permanent Cultivation instead of Shift Cultivation around Inlay Region**

❑ **To prevent Deforestation by Cultivating perennial Plants**

❑ **To develop soil conservation and to prevent soil erosion in slopping lands**

❑ **To use the chemical fertilizer reduce cultivating technique for the sustainable cultivation and production of crops**

# ❖ Geographical Data of Inlay Lake

- Present Surface Area – 63 Square miles
- Original Surface Area – **104 Square miles ( 66967 ) Acres**
- South-North length = **Origin ( 36 ) miles** , **Present ( 11 ) miles**
- East –west width = **Origin ( 8 ) miles** , **Present (4) miles**
- **Present water surface area = ( 24 ) Square miles ( 15669) Acres**
- Total number villages / village groups around inlay lake =  
**( 136 ) villages / (22) village groups**

\* Ref; (GAD)General Administration Department of Nyaung Shwe

# ❖ Geographical Data of Inlay

## Lake(Cont;)

- Total number of villages / village groups in Nyaung Shwe township = ( 446 ) villages / (35) village groups
- Numbers of floating gardeners in inlay lake = ( 3985 ) persons
- Total Acres of Floating Gardens = ( Rainy Season 4800+ Winter - 1300 )

**Total Acres = 6100 Acres**

- Local units of Floating Islands = 1200 Lan per Acres
- PH of Inlay Lake = 7.5-8

\* Ref: Department of Agricultural and Land Management Statistics

# ❖ Current Situations For the Sustainability and Environmental management of Inlay Lake

(1) Education and Practical Demonstration for the farmers to reduce excessive uses of Chemical Fertilizers ,Pesticides and to improve uses of Organic fertilizers ,Organic pesticides and organic fungicides of their owns

(2) Education and Demonstration of how to use Chemical Pesticides Systemically

(3) Education about Growing Tomatoes by Good Agricultural Practice (GAP)

(4) Seedling and Distribution of Perennial crops and Education of Slopping Agricultural Land Technology (SALT) to the farmers



# ❖ Causes of Changes In Inlay Lake

**Shallow depth of lake** Because of

- Deforestation
- Area of Floating islands
- Silt sedimentations

**Low water quality** Because of

- Over uses of chemical inputs
- Non-systematically produces feaces and other rubbish



# ❖ Seedling and Distribution of Perennial Crops for the Sustainable and Environmental Reservation of Inlay Lake

NO	Crop	Total			
		2016-17	2017-18	2018-19	Total
1	Dragon Fruit	9500	2500	1000	13000
2	Mango	270	-	-	270
3	Avocado	600	1200	2200	4000
4	Tea Leaf	4500	-	-	4500
	<b>Total</b>	<b>14870</b>	<b>3700</b>	<b>3200</b>	<b>21770</b>



# Stopping Agricultural Land Technology Extension & Demonstration



# Slopping Agricultural Land Technology Demonstration

NO	Village Group	Sloping Agriculture Acres	Note
1	2	100 Acres	



# ❖ Actions by Department of Agriculture according to Laws

Records of Notice boards to reduce usage of Chemical Fertilizers and Pesticides in Floating Gardens



Notice board at Win Quarter ,Nyaung Shwe

Notice board at Nga Phe Chaung Village Group

Notice board at Phaung Daw Oo pagoda ,Thar Lay Village Group ,Nyaung Shwe

# ❖ Actions by Department of Agriculture according to Laws

## Statistics of Education about Fertilizer Law , Seed Law ,Pesticide Law in Nyaung Shwe Township

N O	Locations	Time	Attendants		
			Staffs	Retailers& Farmers	Total
1.	Ti Law Village Group	1	30	100	130
2.	Nyaung Shwe City Hall	1	35	450	485
3.	Nyaung Shwe Administrative Office Hall	2	45	148	163
4.	Innthar Literature and Cultural Hall	1	5	80	85
		<b>5</b>	<b>115</b>	<b>778</b>	<b>894</b>



# ❖ Actions by Department of Agriculture according to Laws

## 2017-2018, Inspection of Distributors about Pesticides and Fertilizers in Nyaung Shwe Township

NO	Township	No of Distributors		
		Pesticides	Fertilizers	Seedlings
1	Nyaung Shwe	48	35	10



# ❖ Agricultural Education , Discussion and Distribution pamphlets to Farmers

No	Village group	No.of education	No of farmers	Remark
1	35 groups	136	10545	



## ❖ Demonstration of Using Natural Fertilizers instead of Chemical Fertilizer for the sustainability and Environmental Reserve of Inlay Lake

No.	No. of Village	No. of Compose
1	184	1099



## ❖ Education and Demonstration of Vermiculture and using Vermicompost as Natural Fertilizer in order to reduce the Usage of Chemical Fertilizer for the Sustainability and Environmental Reserve of Inlay Lake

No.	Village Group	Farmers	No. of Education	Demonstration	No. of Vermiculture	Note
1	35	1065	42	15	90	



# Training & Education to promote Myanmar GAP program and Local Development



# Applying Good Agricultural Practice (GAP) in Inlay Region ,Nyaung Shwe for Local Agricultural Development



Year	Villages	Cooperated Company	Farmers	Growing acres
2017	Kyay Sar	UNA	54	50
	ZayatGyi			
	Pay Pin			
	Kay Lar			
	Nga Phe Chaung			
2018	Kyay Sar Myauk	MANDA	71	90
	ZayatGyi			
	Nwar Da Ma			
	Kay Lar			
	Nga Phe Chaung			
2018	Kyay Sar Taung	-	10	16
	total		81	106

# Applying Good Agricultural Practice (GAP) in Inlay Region ,Nyaung Shwe for Local Agricultural Development



Sampling



Seedling



Soil Preparation



Transplanting



Mulching with Sea weeds



Making plant frames and support



Recording and inspection of the progress of project

# Applying Good Agricultural Practice (GAP) in Inlay Region ,Nyaung Shwe for Local Agricultural Development



## Fields Inspection of Staffs



## GAP Inspection



# Applying Good Agricultural Practice (GAP) in Inlay Region ,Nyaung Shwe for Local Agricultural Development



**Harvesting**



**Testing for  
Chemical residues**



**Transporting**



**Import sample of Natural Fertilizer and Pesticide  
by Partnership companies**



# Giving GAP Certificate to Local Farmers

## Myanmar GAP (မြန်မာ GAP)



### (GAP)အသိအမှတ်ပြုလက်မှတ်

(မူပိုင်ခွင့် - )

မြန်မာနိုင်ငံတော် အစိုးရအဖွဲ့  
ပြည်ထောင်စုဝန်ကြီးဌာန  
မြန်မာနိုင်ငံတော် အစိုးရအဖွဲ့  
မြန်မာနိုင်ငံတော် အစိုးရအဖွဲ့  
မြန်မာနိုင်ငံတော် အစိုးရအဖွဲ့

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မြန်မာနိုင်ငံတော် အစိုးရအဖွဲ့

## Myanmar GAP Certificate

## Myanmar GAP Logo



ပြည်ထောင်စုဝန်ကြီးဌာန  
မြန်မာနိုင်ငံတော် အစိုးရအဖွဲ့  
မြန်မာနိုင်ငံတော် အစိုးရအဖွဲ့  
GAP အသိအမှတ်ပြုလက်မှတ်ထုတ်ပေးရေးအဖွဲ့



### မြန်မာ (GAP) အသိအမှတ်ပြုလက်မှတ်

(မူပိုင်ခွင့်အမှတ် - ၀၁-၀၆၇)

ရက်စွဲ: ၂၀၁၉-၂၀၂၀ ခုနှစ် သဘာဝ  
ကျေးဇူးတင်အတွက် ကျေးဇူး မှ တောင်းသည့် (၁၂) ဦး ၏ ၁၀.၀၀ စက မှ ထွက်ရှိလာသော  
စရမ်းချဉ် သီးနှံအား စိုက်ပျိုးရေးဆိုင်ရာနည်းစနစ်ကောင်းမွန်ဖြင့် စနစ်တကျစိုက်ပျိုး  
ထုတ်လုပ်ထားသည်မှာ မှန်ကန်ပါသည်။ GAP အသိအမှတ်ပြုလက်မှတ် ထုတ်ပေး  
လိုက်သည်။

ထောက်ခံချက်အမှတ်: ၀၂၇  
ကုန်ဆုံးသည့်နေ့: ၃၀.၁၂.၂၀၁၇  
ထုတ်ပေးသည့်နေ့: ၁၈.၅.၂၀၁၇



(ဥက္ကဋ္ဌ)  
GAP အသိအမှတ်ပြုလက်မှတ်ထုတ်ပေးရေးအဖွဲ့  
စိုက်ပျိုးရေးဦးစီးဌာန

# ❖ Commercial of Tomato Grown By GAP

✓ **2000 MMK per Tin(30 Viss)** than Normally Grown tomato



▶ Transporting to Yangon

▶ Transporting to Mandalay



**Happy Café**

**City Mart**



**Kyi Kyi Mya**

**(GAP,safety food)**



\*Ref: Aung Myanmar tomatoes merchant of Nyaung Shwe



# ❖ 2019, DOA, MANDA and GIZ (SAFI project) cooperate to promote GAP Program

No	Village Group	Village	Farmers	Total Acres	Note
1	Min Chaung	Min Chaung East	17	41	
2	Min Chaung	Kyae Sar Kone (North)	93	125	
3	Min Chaung	Pwe Sar Kone	27	47.5	
4	Min Chaung	Nwar Da Ma	21	21	
5	Min Chaung	Yay Thar	10	22	
6	Min Chaung	Kyae Sar Kone (South)	32	59	
7	Nga Phe Chaung	Nga Phe Chaung	35	35	
8	Kay Lar	Kay Lar	29	33	
9	Kay Lar	Za Yat Gyi	20	20	
10	Main Thouk	Pay Pin Inn	9	9	
	<b>Total</b>		<b>293</b>	<b>412.5</b>	

# Results

- GAP tomatoes are more safety and longer shelf-life than normal tomatoes
- Farmers are more interested to do
- GAP tomato production can conserve Inlay Lake by both directly and indirectly
- Only one broker for GAP tomato so weak in market
- Abnormal condition of Market (Sometimes the price are too high and sometimes too low)
- Farmers want to produce more quantity more than quality
- \* Ref; GAP Tomato Farmers from Nyaung Shwe

# Suggestions

- Need to produce new varieties which are adaptable to local conditions.
- To give information about Value added products.
- to do more Extension by short movies , posters and pamphlets.
- Need to reduce market fluctuations.
- all the public and private team , local farmers and every person should involve in Implementation of GAP tomato production around Inlay Lake.



# Suggestions

- ❖ Over Uses Of Chemical Inputs in Inlay Lake
  - Environmental pollutions
  - Low water quality
  - workers' health and safety is decrease
  - produce quality is down

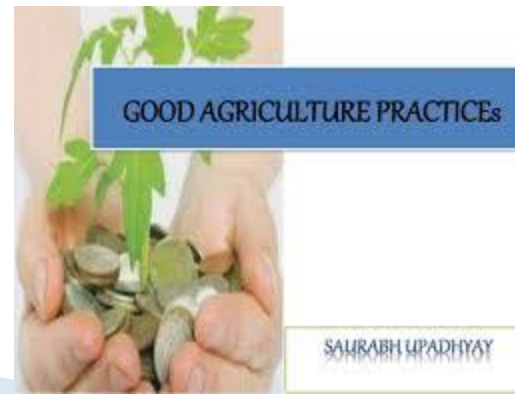
So, Need to access Good Agricultural Practices.



Unhygienic  
Farming  
Practices



Good  
Agricultural  
Practices



# CONCLUSION

To improve the Water Quality of inlay lake and to restore the Nature of the lake for the maintenance of Environmental Reserve and Sustainability of Inlay Lake





**Thank You for Your Kind  
Attention**