Ministery of Agriculture, Livestock and Irrigation

Department of Agriculture, Bago Region

Tharrawaddy District, Letpadan Township

# Presentation on the result of rice–fish system research demonstration plot in 2018–19

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# Rice–fish demonstration in wet season 2018–19

## ❑ Objective

- ❖ To increase family income by practicing rice–fish system
- ❖ To improve the livelihood of the farmers
- ❖ To increase more income and produce more safety and nutritious food from rice–fish system than mono rice cultivation system
- ❖ To reduce the cost for less pesticide application as fish eat pest, weed
- ❖ To redues environmental pollution, less need for pesticides and weedicides





# Rice–fish demonstration in wet season 2018–19

## ❑ Activity

❖ Rice–fish system demonstration farm was implemented in one acre field of farmer–U San Win in which 15% of fish refuge area and 85% of rice growing area, in Theik Wah Chaung village tract, Gayan San Pya village, Field no (1161–104).

# Rice–fish demonstration in wet season 2018–19

| No | Title | Rice (1 ac) | Rice (0.85)+ Fish (0.15) ac |
|---|---|---|---|
| 1 | Rice variety | Shwe Ayeyar | Shwe Ayeyar |
| 2 | Crop establishment method | Direct sowing using drum seeder | Direct sowing using drum seeder |
| 3 | Date of sowing | 24 June 2019 | 24 June 2019 |
| 4 | Numer of fish | - | 1000 |
| 5 | Fish species | - | Gagata (Nga Tan) - 400<br>Rohu - 400<br>Tilapia - 200 |

# Rice–fish demonstration in wet season 2018–19

| No | Title | Rice (1 ac) | Rice (0.85)+ Fish (0.15) ac |
|---|---|---|---|
| 6 | Fish stocking date | - | 30 June 2019 |
| 7 | Crop management | | |
| | -Manual weeding by intercultivator | 29 July 2019 | 29 July 2019 |
| 8 | Fertilizer application | | |
| | Basal fertilizer | Compound - 15:15:15 ( 25 ) Kg | Compound - 15:15:15 ( 25 ) Kg |
| | Acitve tillering stage (25 days after sowing) | Urea (17) Kg | Urea (17) Kg |

# Rice–fish demonstration in wet season 2018–19

| No | Title | Rice (1 ac) | Rice (0.85)+ Fish (0.15) ac |
|---|---|---|---|
| | Booting stage<br>(80 days after sowing) | Urea (16) Kg<br>Potash (12.5) Kg | Urea (16) Kg<br>Potash (12.5) Kg |
| | Panicle initiation stage<br>(92 days after sowing) | Urea (17) Kg | Urea (17) Kg |

# Cost comparison between rice (1ac) and rice (85%)+fish (15%) (1ac) farm

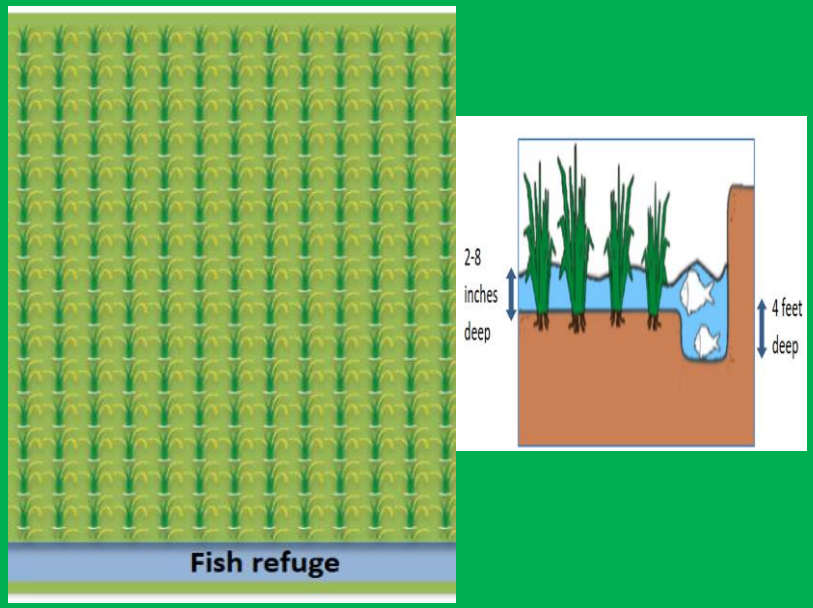
| No | Title | Cost (MMK) | |
|---|---|---|---|
| | | Rice farm | Rice-Fish farm |
| 1 | Land preparation | 50,000 | 42,500 |
| 2 | Sowing (drum-seeder) | 2,500 | 2,000 |
| 3 | Crop management | 53,500 | 45,475 |
| 4 | Harvesting | 45,000 | 38,250 |

# Cost comparison between rice (1ac) and rice (85%)+fish (15%) (1ac) farm

| No | Title | Cost (MMK) | |
|---|---|---|---|
| | | Rice farm | Rice-Fish farm |
| 5 | Input cost | 66,500 | 56,525 |
| | -Rice variety<br>-Compound<br>-Urea<br>-Potash | 12,000<br>19,000<br>29,000<br>6,500 | 10,200<br>16,150<br>24,650<br>5,525 |
| 6 | Fish variety | - | 150,000 |
| | -Fish feed (Rice bran) | - | 192,000 |
| | Total cost | 217,500 | 526,750 |

# Rice–fish demonstration in wet season 2018–19

## Excavating 1 ac rice–fish farm




## Fish stocking

# Rice–fish demonstration in wet season 2018–19

**Field day in rice-fish demonstration farm**

# Rice–fish demonstration in wet season 2018–19

Drum-seeding

Rice seedlings

# Rice–fish demonstration in wet season 2018–19

**Different stages of crop**

# Rice and rice–fish demonstration in wet season 2018–19

| No | Title | Rice farm (1ac) | Rice-Fish farm (0.85+0.15 = 1ac) |
|---|---|---|---|
| | Crop cut harvesting (6.6x6.6)ft | | |
| | -Number of plant | 1031332 | 1152000 |
| | -Grain per panicle | 104.9 | 104.7 |
| | -Filled grained % | 79.3 | 76 |
| | -1000 grain weight | 20.1 | 20.1 |
| | -Yield (basket) | 82.30 | 88.00 |
| | -Dry yield (basket / ac) | 82.50 | 87.89 |
| | Yield of fish form 1000 fishes (viss) | - | 250 viss |
| | (G.gagata – 400 x 38 tackle) ( Rohu-400 x 15 tackle) (Tilapia-200 x 19 tackle) | | |

# Cost and benefit

| No. | Rice farm (1ac) | | Rice-Fish farm (0.85+0.15 = 1ac) | |
|---|---|---|---|---|
| | Title | MMK | Title | MMK |
| 1 | Income from 82 baskets of rice | 410,000 | Income from 75 baskets of rice<br>Income from 250 visses of fish<br><br>**Total income** | 375,000<br>500,000<br><br>**875,000** |
| 2 | Cost | 217,500 | Cost | 526,750 |
| 3 | Benefit | 192,500 | Benefit | 348,250 |
| 4 | Additional income in wet season | - | Additional income in wet season | 155,750 |
| | In the second season of dry season, the estimated benefit form rice-fish farm will be 300,000 MMK as it will not be necessary to stock fish again. | | | |

# Rice–Fish demonstration field day, 2018–19 wet season


# Rice–fish demonstration in wet season 2018–19

## ❑ Conclusions

- ❖ Farmer can earn more money from rice–fish system than mono rice cultivation system.
- ❖ Farmer can have more improved healthy and happy livelihood by adopting rice–fish system.
- ❖ Farmer's family can have more job opportunities and can produce more nourishing food for Myanmar.
- ❖ No loss in total rice production ( even though less land planted)
- ❖ Fish refuge approximately 10% of total field area.

# Rice–fish demonstration in wet season 2018–19

## ❑ Discussion

The excavation cost for fish refuge will be covered after (4 – 5) years and fish refuge can be used for long time with proper maintenance.

## ❑ References

2018 and 2019 – 2 summer + 2 monsoon seasons (2–years) rice fish productions data of Letpadan.(International Rice Research Institute )

# Future plan

- ✓ Rice–fish farming will continue in dry season. Fish will be harvested and sold after dry season.
- ✓ The cost and benefit of rice only one acre farm and rice–fish one acre farm will be compared for the whole year (2 seasons).
- ✓ Field day and farmer field visits will be conducted in demo farm by inviting local farmers who are interested in rice–fish system to be able to learn about this system.


Thank You
Letpadan township