Country Report on Spread Prevention and Control of Apple Snail (*Pomacea* spp.) in Rice in Myanmar

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Background of the Union of Myanmar

- One of ASEAN member countries
- Rich natural resources, cultivable land, available water resources and favorable climate
- Agriculture –backbone of its economy
- Contribute :-
  - 30% GDP,
  - 14% total export earnings,
  - 61% labour force

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(Cont'd.)

- Located 9˚58´ to 28 ˚ 31´ N latitude, 92 ˚10 ´ to 101 ˚ 9 ´ E longitudes
- Total land area 676,577 Sq.km,
  - 2,200 km from the North to the south,
  - 950 km from the East to the west



- Bordered with five neighbouring countries,
- Coastal line about 2,234km
  Bay of Bengal, Gulf Mottama & Andaman sea

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Physical Features

- The western mountain ranges
- The Shan (or) Eastern highlands and their continuation into Taninthari
- The central basin – Ayeyarwady basin
- Rakhine coastal strip

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Water Resource

- Four major river systems
  - Ayeyarwady, Chindwin, Sittaung, Thanlwin

  the north to the south into Andaman Sea
- The available water resources in-term of annual discharge rate of four major rivers about-876.73 million acre feet total annual flow

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Climate

- Tropical and subtropical climate
- The raining season (mid-May to mid-October)
- The winter season (mid-October to mid-February)
- The summer season (mid-February to mid-May)

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Agricultural Land

- Cultivable land area - One fourth of total
- Net sown area - 12.02 million hectares
- Fallow land - 0.23 million hectares
- Cultivable waste land - 5.40 million hectares
- Reserve forest - 17.91 million hectares

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Application of Modern Technology

- Crop cultivation practices
- Appropriate cropping pattern provision
- Proper utilization of agricultural inputs
- Systematic plant protection practices
- Post harvest handling technique

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Current Status of *Pomacea canaliculata* in Myanmar

- Rice - staple food of Myanmar
  - grown extensively in almost all of the 14 states and regions.
- Net sown area - 12.02 mil ha (17.9%)
- Total sown area (Paddy) - Monsoon Paddy - 6.8 mil ha
  - Summer Paddy - 1.3 mil ha (2010-2011)
- There are 124 species of insect pests attacking rice.
- Major pests - 20 species

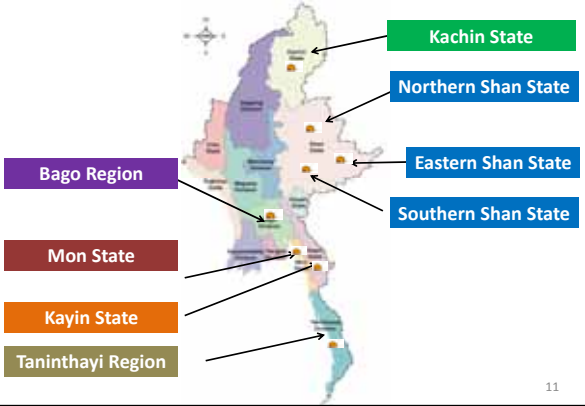
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- Golden Apple Snail (GAS) - from the People's Republic of China to Northern Shan State in 1990s
  - as food for human beings
- After a few years, GAS - accidently changed into pest of rice in Myanmar
  - spreads through irrigated fields, canals, waterlogged areas and river



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Apple Snail Infested Areas in Myanmar



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Infested Areas by GAS in Myanmar

No.	States/ Regions	2011-2012 (ha)	2012-2013(ha)
1.	Kachin State	47.77	68.91
2.	Kayin State	25.91	61.13
3.	Taninthayin Region	4.45	-
4.	Bago Region	12.55	-
5.	Mon State	229.76	-
6.	Shan State (North)	83.81	19.84
	Total	404.25	149.88

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Control Measures

1. Mechanical Control
2. Cultural Control
3. Biological Control
4. Chemical Control







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1. Mechanical Control

1.1. Hand Picking (effective way)

- At land preparation, picked up - small and adult snails - morning and evening - control 80%




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1.2. Trapping

- bamboo or plastic net filled with papaya, banana, eucalyptus leaves, watermelon peel - placed alongside the bunds - attract the snails
- snails can congregate , then easily collected and destroyed



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1.3. Staking

- Place the bamboo stakes in water-logged areas or near the canals of rice field to attract the snails - lay the eggs and collect the egg masses

2. Cultural Controls

- After transplanting, the field - drain and irrigate alternately
- Construct ditches within the field - where snails can congregate
- Set up- screens at water inlets and outlets

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3. Biological Control

- Herd 80 ducks per acre (30 DAT)
- Rice-fish farming system
- Create stakes for bird place in waterlogged area near the bunds of rice field to pick up the snails

4. Chemical Control

- Bayluscide (Niclosamide) 70 WP, 8.75 g/4.5 liters of water and Metaldehyde
- Neem cake, Jatropha cake, Tobacco leaves - broadcast (botanical pesticide)

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Awareness

1. Farmer Meeting




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2. Broadcast on leaflets for farmers



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THANKS FOR ALL!

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