

Direct Financial Losses of Small-Scale Swine Farmers & Risk Factors of ASF in Caraga Region, Philippines

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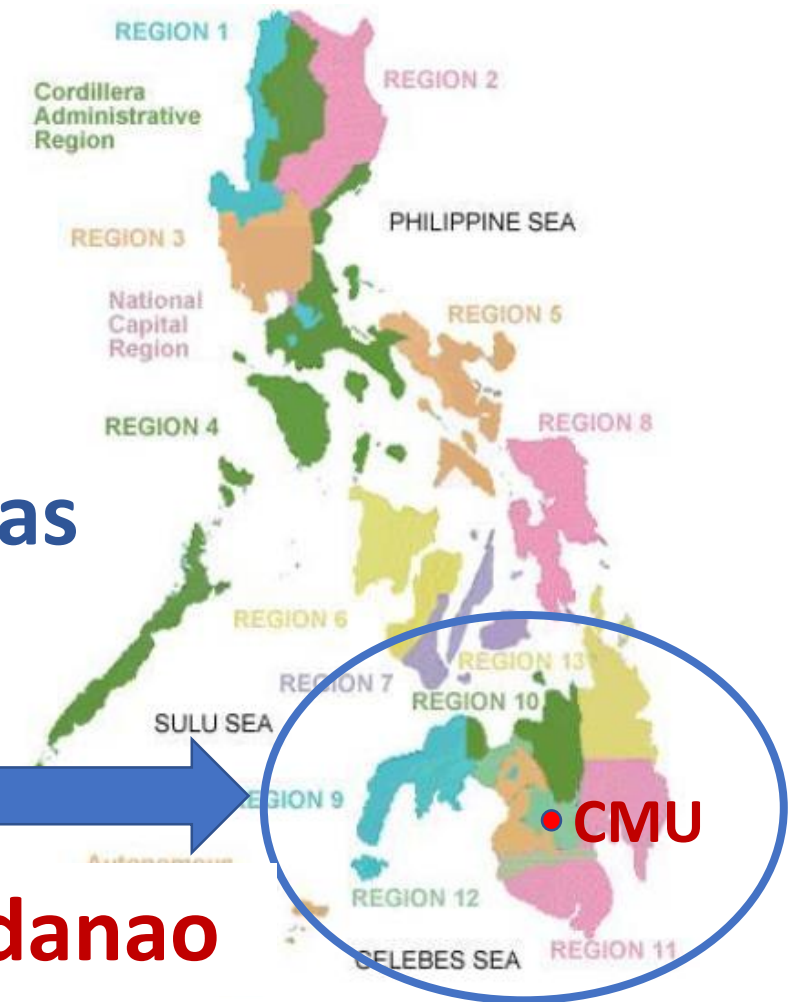
Where is Mindanao?

- **Philippines: SE Asia**
- **Pop: >111M people**
- **Islands: 7,640; 3 big islands**



Visayas

Mindanao



Phil Pig Industry: Status



- Multibillion industry, 2nd to rice
 - **12.7 M** pigs nationwide (2019)
 - **3.6 M pigs in Mindanao**
- 65% in smallholder farms; <20 sows
- ASF entered in 2019
 - decreased >30% of pig population



ASF in the Philippines

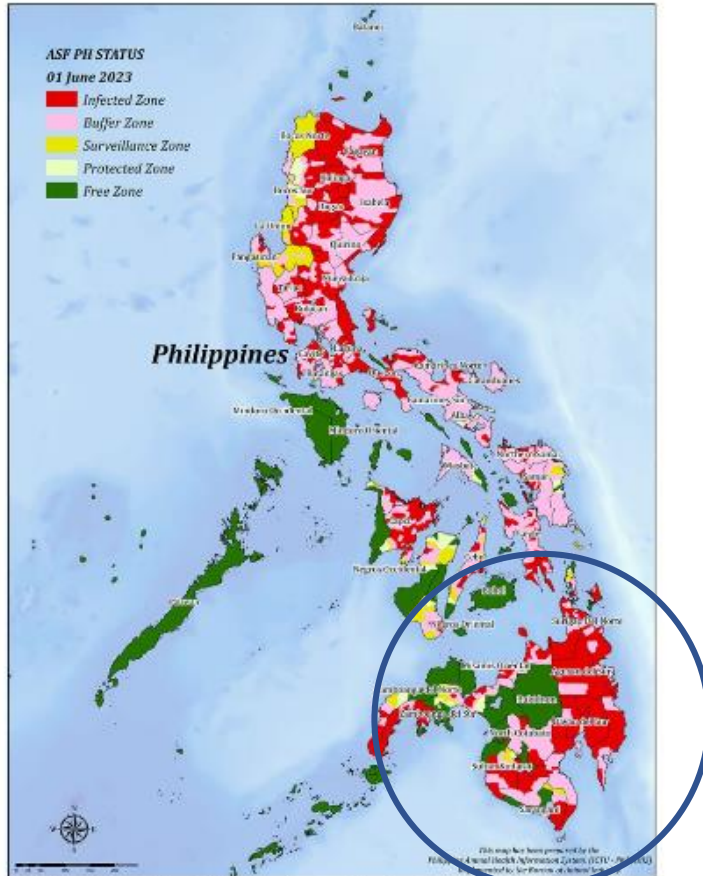


FIGURE 1. Map of the Philippines showing Zoning Status per City / Municipality

ASF Map, June 2023 (DA)

- Almost all provinces have been affected
- Farmers, partially indemnified by government
- Still spreading; remains a big threat
- Priority of government
- Direct financial losses are not estimated
- Risk factors are not fully identified



General Objective



- Estimate the direct financial losses and determine the risk factors of ASF in small-scale swine farming in Caraga Region, Philippines.



Specific Objectives



- Determine the number of small-scale ASF-affected households and pigs in the surveyed areas;
- Estimate the direct financial losses from ASF in selected outbreak areas; and,
- Identify the risk factors for ASF among small-scale pigs.

How it was done?

Permission

- Ethics permit
- From study sites
- From respondents

- Caraga Region, 3 provinces, 3 towns/cities per province; 2 villages per town/city

- Triangulation with local officials

Financial Survey

- 9(+), 9(-) ASF farmers/village

RF Survey

- questionnaire

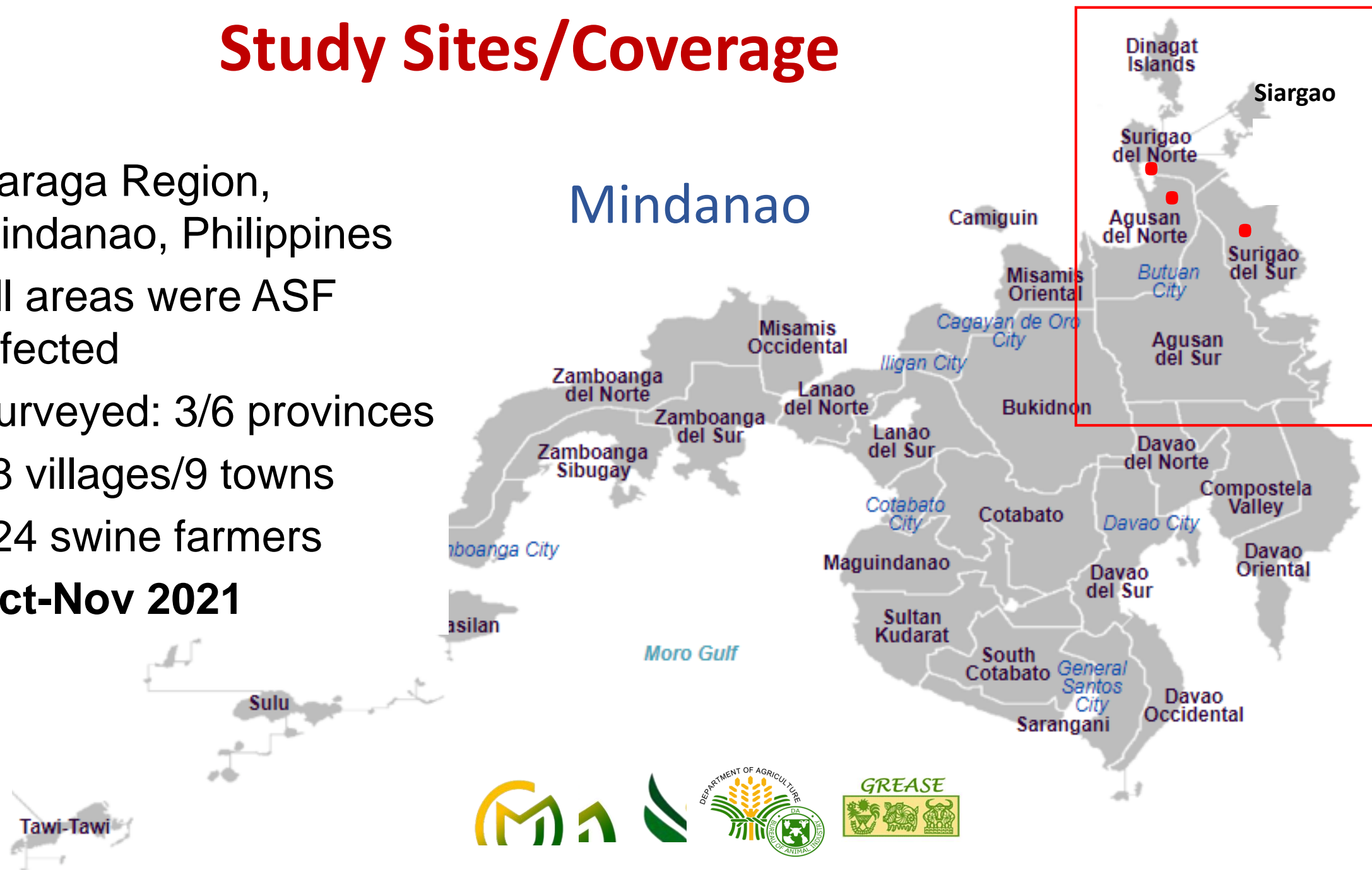
Data Analysis

- Microsoft Excel
- Univariate Chi-square test (SPSS)



Study Sites/Coverage

- Caraga Region, Mindanao, Philippines
- All areas were ASF affected
- Surveyed: 3/6 provinces
- 18 villages/9 towns
- 324 swine farmers
- **Oct-Nov 2021**



Data Collected: FS



- Number culled out
- Number of mortality
- Prices during outbreaks
- Diagnostic expenses
- Culling expenses
- Biosecurity expenses
- Government indemnification fees
- Insurance

Total Direct Losses

- $(\text{Cost of pigs} + \text{Expenses}) - \text{Indemnification/Insurance}$



In Agusan del Norte



With City Vet of Butuan City



Interview with respondents

In Surigao del Sur



With the Provincial Vet of Surigao del Sur

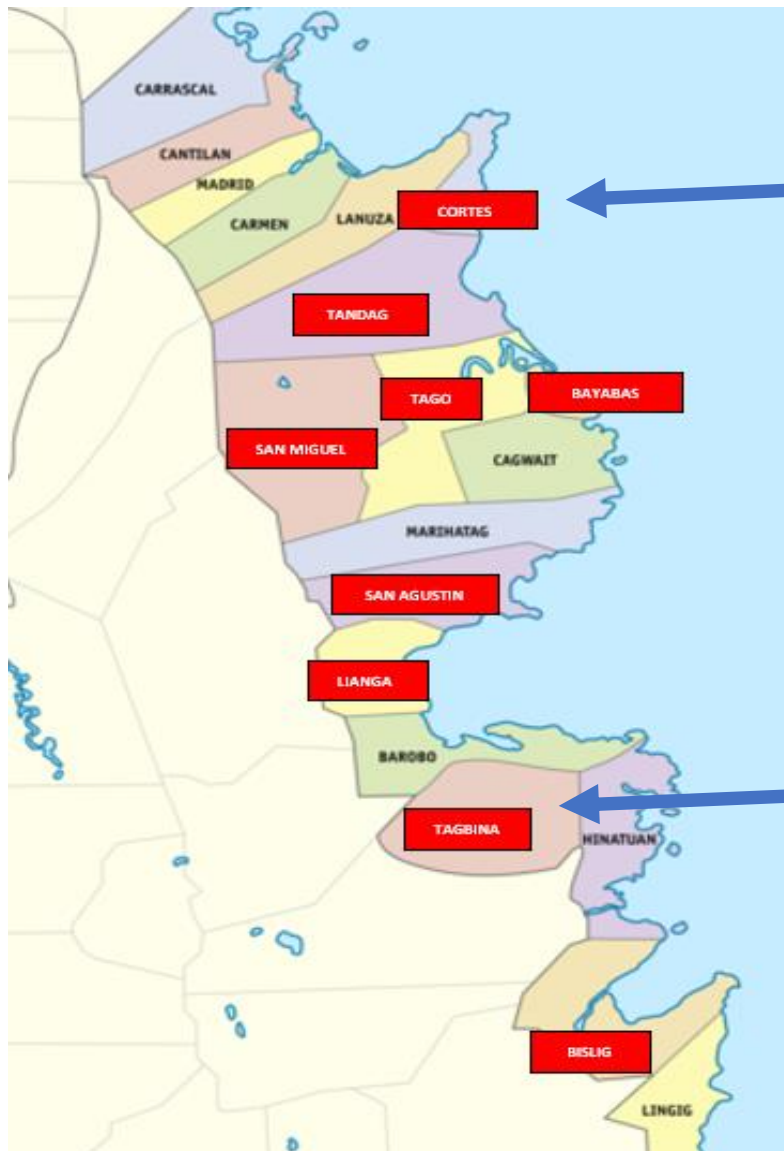


Interview with a respondent

RESULTS



ASF-Affected Areas: Surigao Sur



1st ASF outbreak area in
the Region; **11 Nov 2020**

- 7 towns, 2 cities were
affected by ASF as of
October 2021

My hometown





ASF-Affected Areas: Surigao del Norte

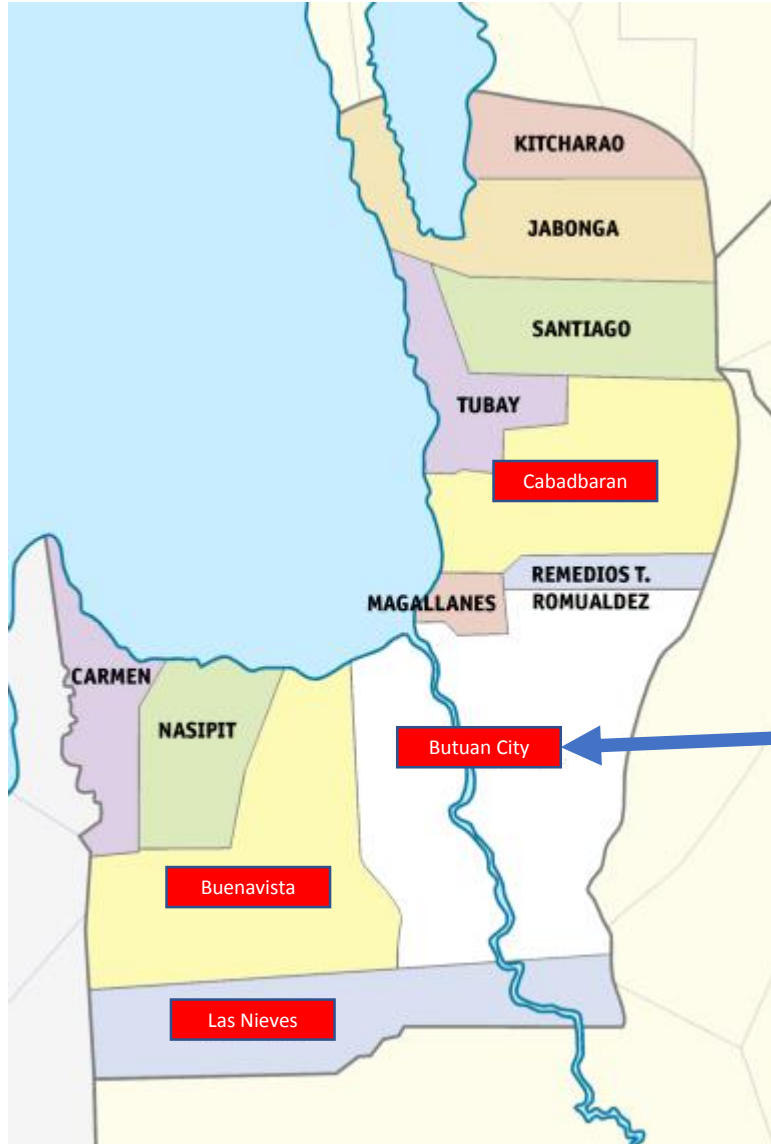


- 5 towns were affected by ASF as of **Oct 2021**

Siargao Island; Surfing Capital of the country

1st ASF outbreak area in the Province; **May 2021**

ASF-Affected Areas: Agusan del Norte

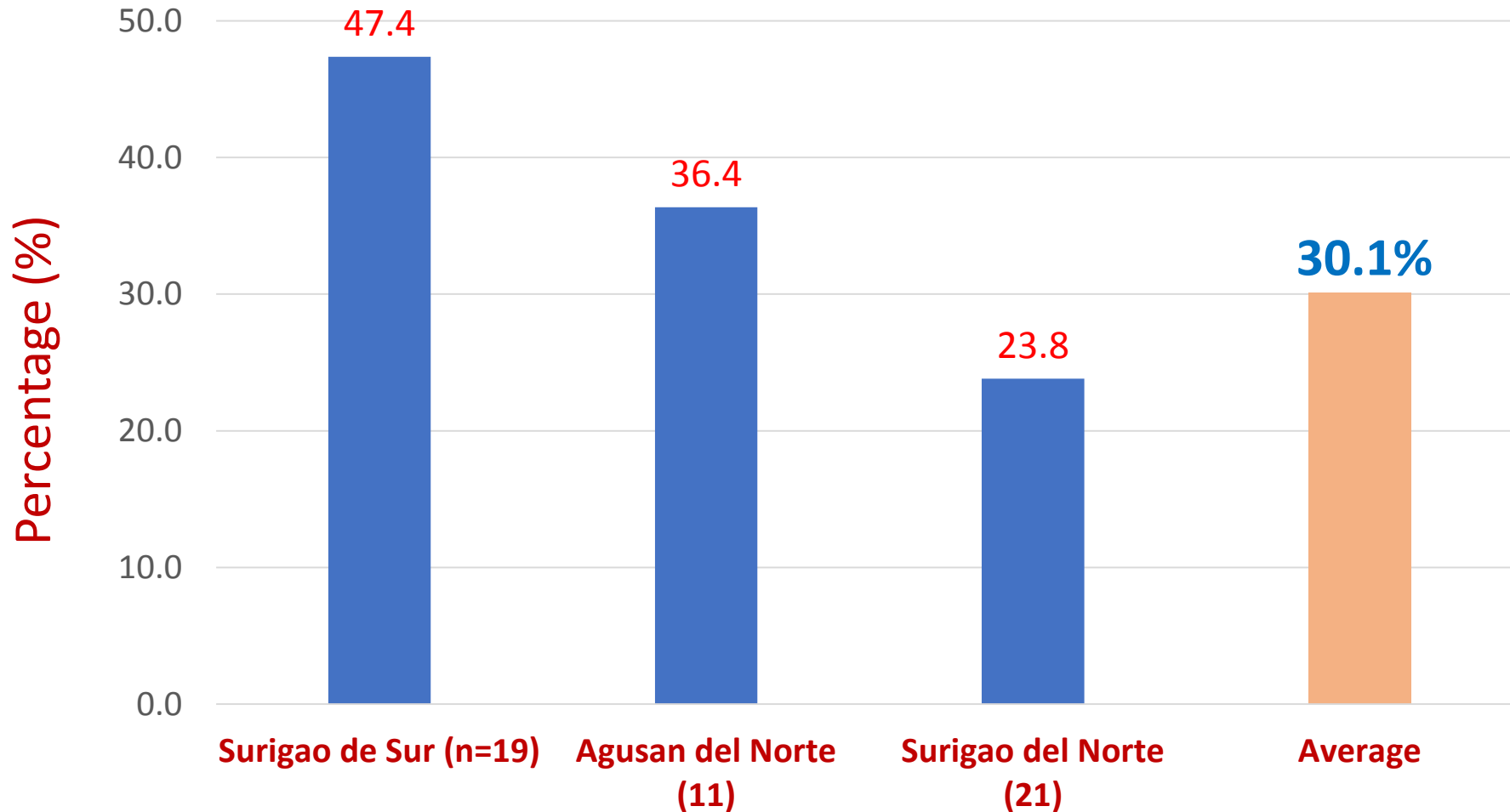


- 3 towns, 1 city were affected by ASF, as of **November 2021**

1st ASF outbreak area in the Province; **June 2021**



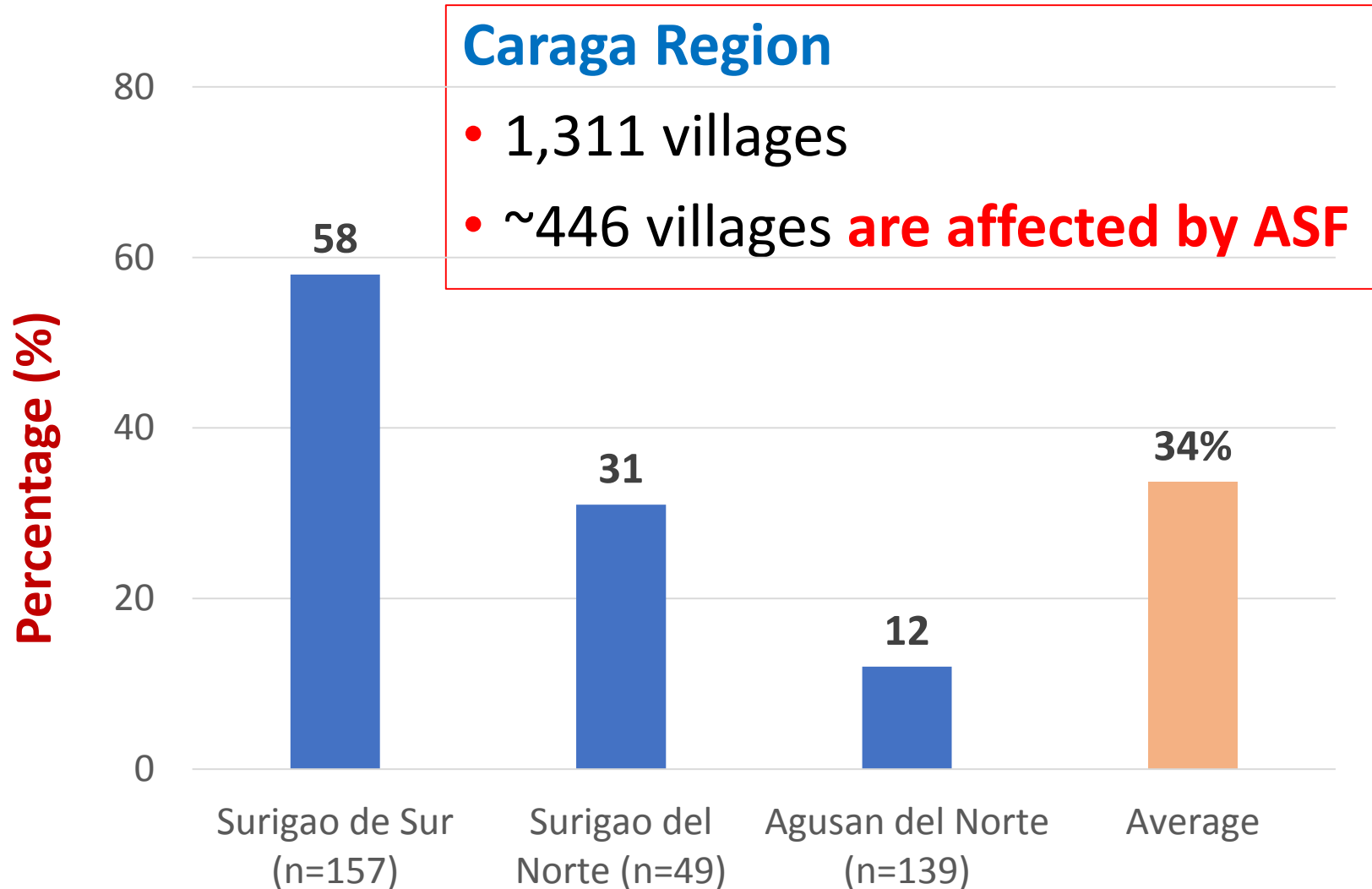
% ASF-Affected Towns/Cities



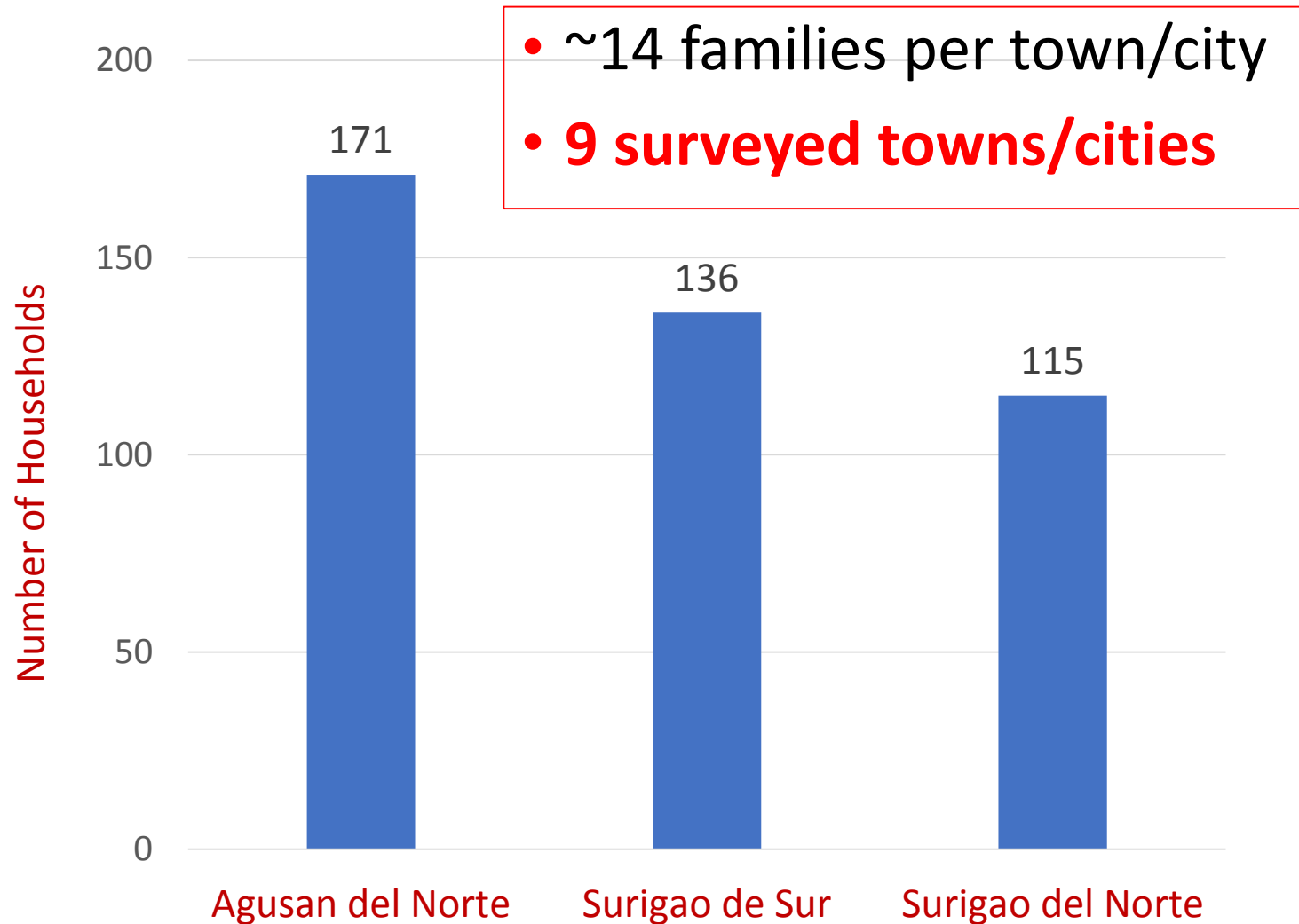
Caraga Region

- 6 provinces; 67 towns/cities,
- **~20 towns/cities are affected by ASF during the survey**

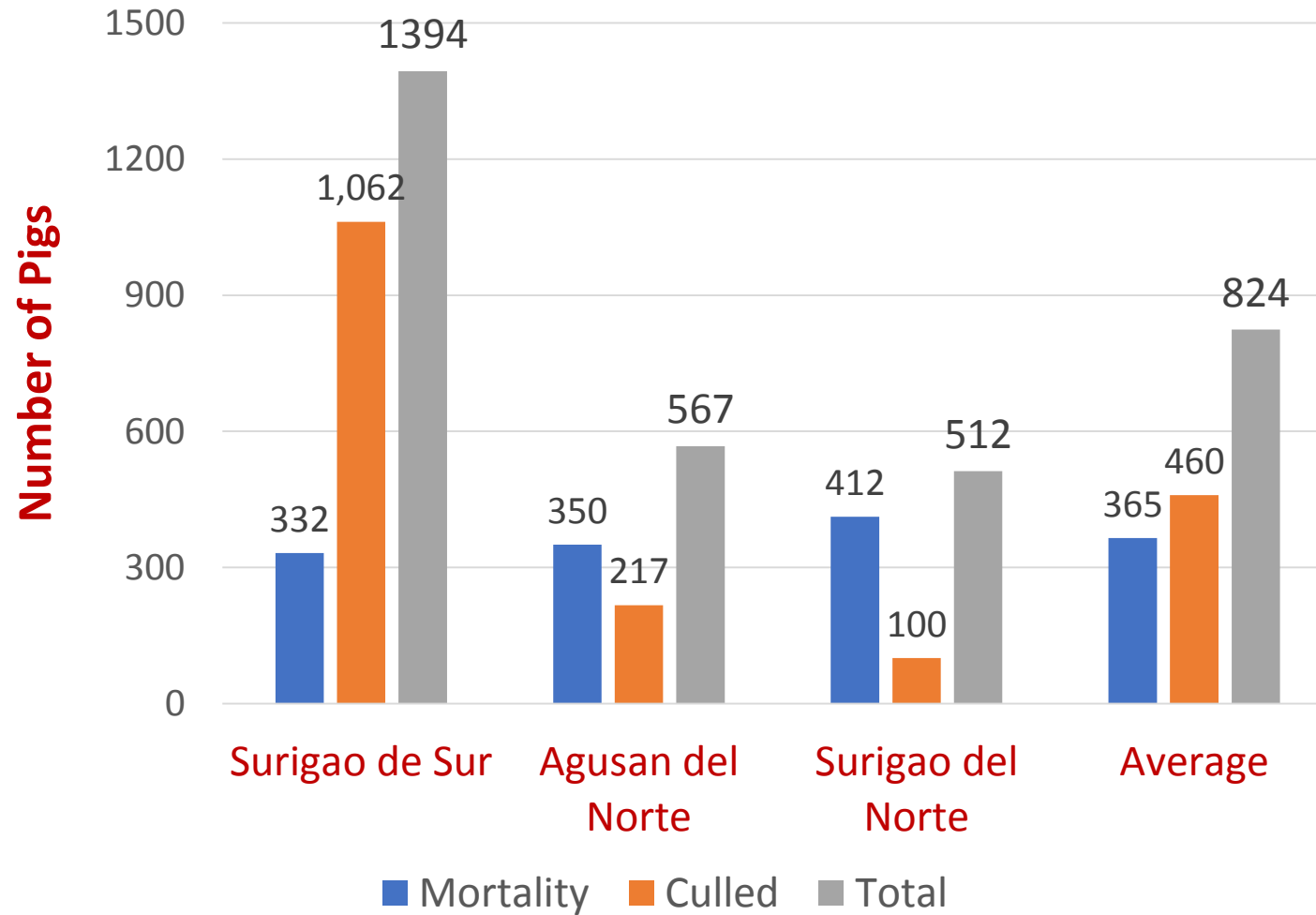
% ASF-Affected Villages



No. of Affected Households



No. of ASF-Affected Pigs



Direct Financial Losses (DFL, US\$)



- DFL among 3 surveyed provinces = 258,900
- Average DFL per province = 86,300
- Average DFL per town = 20,600
- Average DFL per village = 7,037
- Average DFL per farmer = 950
- Total Estimated DFL in Caraga Region = 412,000 (~20 towns affected)



Estimated DFL in Mindanao (DFL)



- Mindanao: 455 towns/cities
- During Survey (~30% Affected)
 - DFL: 2.8 M US\$; **159 M PhP**
- At Present (~80% Affected)
 - DFL: 7.5 M US\$; **423 M PhP**



Risk Factors for ASF



- Swill feeding
- Close contact with other pigs
- Do not practice handwashing
- Do not change clothes
- Do not quarantine new stocks



<https://www.agriculture.com.ph/2018/07/30/food-waste-for-pigs-could-save-threatened-forests-and-savannahs/>



Risk Factors for ASF



- Allowing visitors in the farms
- Selling of pigs through middlemen
 - Facilitate spread of ASF virus



<https://saad.da.gov.ph/from-fishing-to-swine-raising-for-a-better-future>



Hiring Outside Boars



- Hired by pig owners for their sows
- Service several sows in various barangays
- Cause of outbreak in one barangay in Surigao del Norte



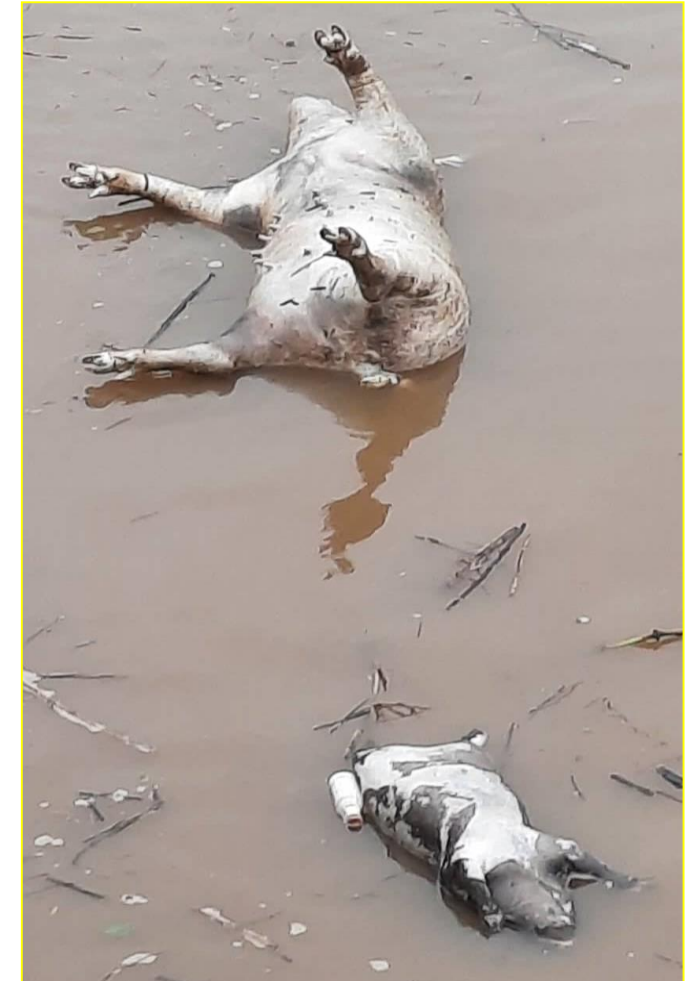
A boar for hire in Butuan City, Mindanao



Improper Carcass Disposal



- Dead pigs thrown to the Agusan River
- Riverside barangays had ASF outbreaks a week later



(Photos courtesy of Dr. E. Nono)

Conclusions



- Number of areas, households and pigs affected by ASF in Caraga Region is significant
- Direct financial losses of small-scale swine farmers are high
- Identified risk factors are important information in enhancing current ASF control strategies



Recommendations



- The government & private groups should assist affected farmers & provide alternative livelihood
- Identified risk factors should be addressed
- Local policies/ordinances to support the control and eradication efforts for ASF in Mindanao should be formulated and strictly implemented



Ways Forward



- Sustain surveillance of ASF and other diseases in abattoirs, wet markets and farms
- Assist in enhancing border control
- Propose for the establishment of **Pig Diseases Research Center** at CMU
- Assist affected farmers in their livelihoods



Moving Forward



- **State-of-the-art mobile diagnostic laboratory for ASF & other animal diseases**
- **First kind in the country**

With Gratitude



- CMU & our **President**; CMU-CVM & **Dean**
- Local Government Offices
- Provincial Municipal /City Vets/Technicians
- Research Students, Staff
- DA-BAI Directors R. Domingo & R. Morales
- Farmer Respondents
- Universitas Gadjah Mada
- **GREASE** Network

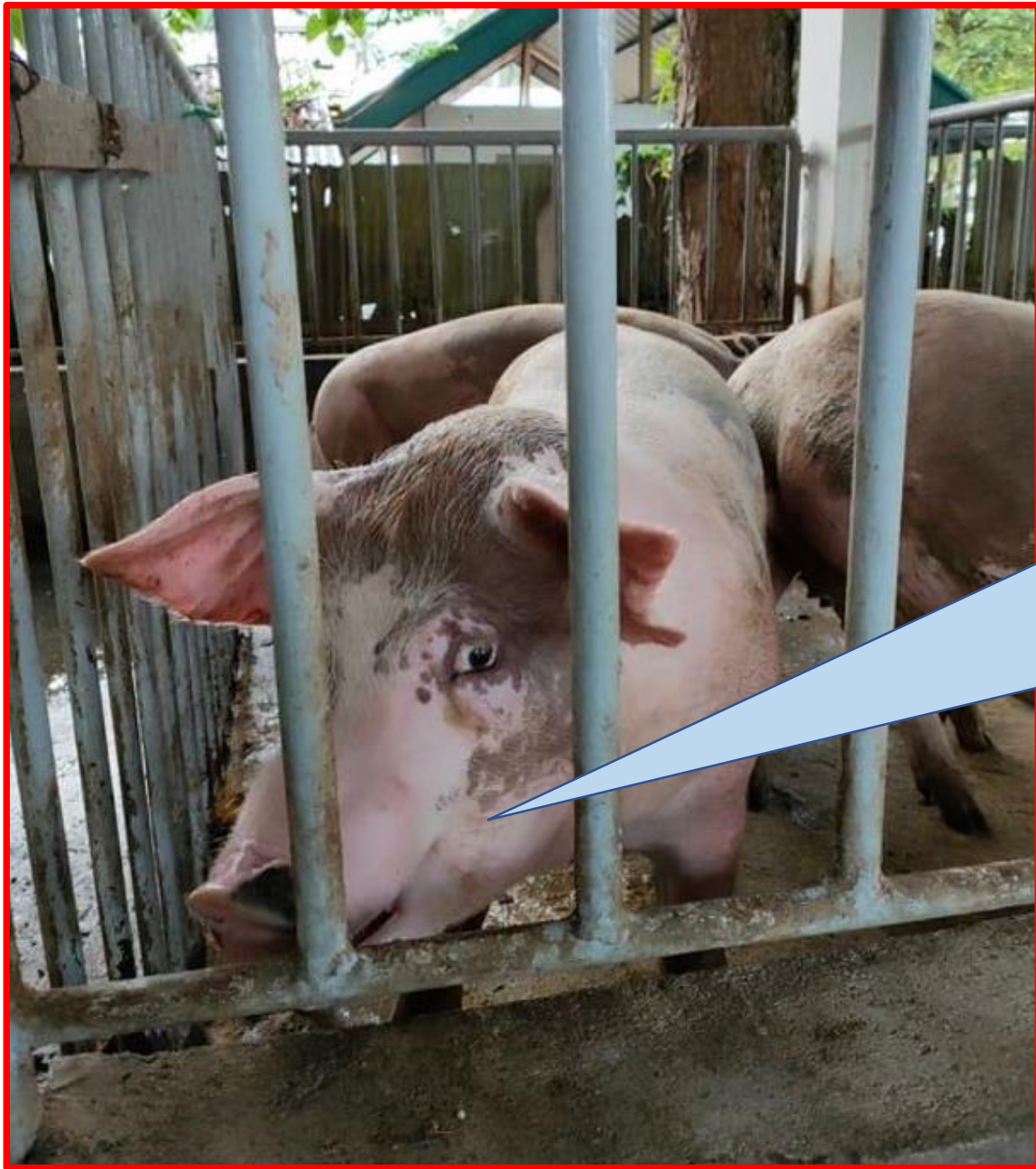


CMU ASF Team



**Thank you for
listening!**





**Please,
SAVE US
from ASF...**

