

# INDONESIA GOVERNMENT POLICY TO OVERCOME THE SITUATION ON MASS MORTALITY OF AQUATIC ANIMALS

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**DIRECTORATE GENERAL OF AQUACULTURE  
MINISTRY OF MARINE AFFAIRS AND FISHERIES  
2019**



# ORGANIZATION STRUCTURE OF COMPETENT AUTHORITY

FISH QUARANTINE AGENCY

DIRECTORATE GENERAL OF  
AQUACULTURE

MARINE AND FISHERIES  
RESEARCH AGENCY

SECRETARIATE  
DIRECTORATE GENERAL

DIVISION OF  
PROGRAM

DIVISION OF  
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AND HUMAN  
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DIVISION OF LAW  
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DIVISION OF FINANCE  
AND GENERAL AFFAIRS

DIRECTORATE OF  
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FISH HEALTH DEVELOPMENT

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DEVELOPMENT

DIRECTORATE OF FISH FEED  
AND FISH MEDICINE  
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AQUACULTURE PRODUCTION  
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SUB DIRECTORATE OF  
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MANAGEMENT

SUB DIRECTORATE OF  
AQUATIC ANIMAL DISEASES

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RESIDUE

SUB DIRECTORATE OF  
BROODSTOCK  
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SUB DIRECTORATE OF  
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SUB DIRECTORATE OF  
BRACKISWATER FISH SEEDS  
DEVELOPMENT

SUB DIRECTORATE OF  
MARINE FISH SEEDS  
DEVELOPMENT

SUB DIRECTORATE OF  
RAW MATERIAL

SUB DIRECTORATE OF  
MANUFACTURED FEED  
MANAGEMENT

SUB DIRECTORATE OF  
FISH FEED DISTRIBUTION

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FISH PRODUCTION

SUB DIRECTORATE OF  
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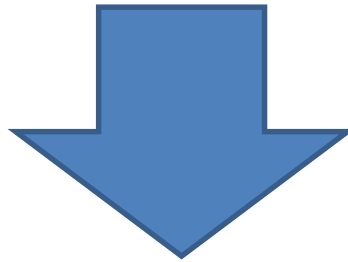
SUB DIRECTORATE OF  
BUSINESS SERVICES

TIU-DGA

# REGULATIONS

- Law No. 31/2004 concerning Fisheries
- Law No. 45/2009 – Amendments to law number 31 of 2004 concerning Fisheries
- Government Regulations No. 28 / 2017 concerning Aquaculture
- Regulation of MMAF No 13 / 2019 concerning Fish Disease Control
- Regulation of MMAF no 1 / 2019 concerning Fish Medicine
- Decree Of The Director General Of Aquaculture No 252 / 2018 Concerning National Working Groups Handling Aquatic Mass Mortality Due To Disease And Environment

# Legal Basis for Fish Disease Control in Indonesia



**Regulation of MMAF No. 13 / 2019 as a platform for:**

- 1. Surveillance and Monitoring of Fish Diseases**
- 2. Risk Analysis**
- 3. Fish Disease Control**
- 4. Emergency Response & Preparedness**

# ***AQUATIC MASS MORTALITY EVENTS (MME)***

- In 1994, Indonesian Vaname Shrimp was attacked by White Spot Syndrome Virus (WSSV) with mortality up to 100%,
- In May 2006, the first outbreak of the Infectious Myonecrosis Virus (IMNV) outbreak in Situbondo, East Java, with a mortality of 60%;
- In 2007, IMNV disease entered Lampung and spread rapidly to shrimp farming centers with 80% mortality;

# THE PROBLEM OF HANDLING AQUATIC MASS MORTALITY EVENTS

- The absence of an effective mass mortality management system;
- The capacity of the testing laboratory is still limited
- The ability of field officers is still low;
- Limited information regarding the causes of aquatic mass mortality events (MME);
- Limited ability of farmers to fish diseases control,
- Knowledge of farmers in managing fish health is still low

# ECONOMIC LOSSES

No	Disease	Main Commodity	Mortality Range (%)	Losses Estimation/Year (million rupiah)
1	White Spot Syndrome Virus (WSSV)	Tiger shrimp and white shrimp	30-100	2.500.000
2	Infectious Myonecrosis Virus (IMNV)	Tiger shrimp and white shrimp	10-80	1.250.000



# FAO – TCP/INS/3402

- In anticipating the occurrence of aquatic mass mortality due to disease, it is necessary to develop a national strategy for fish health and the environment funded by the FAO
- Project FAO - TCP / INS / 3402 on the Development of preventive aquatic animal health protection plans and enhancing emergency response capacities to shrimp disease outbreaks in Indonesia in 2013-2015 by conducting surveillance of IMNV and WSSV diseases in 3 provinces and 3 districts namely Banten Province (Tangerang Districts), Lampung Province (South Lampung Districts) and East Java Province (Banyuwangi Districts).
- The effectiveness of handling aquatic mass mortality is done through the implementation of emergency response which includes: contingency plan, early warning, early detection, and early response.
- The emergency response mechanism involves the District Fisheries Service, the Provincial Fisheries Service, the Technical Implementation Unit (TIU) - DGA, the Fish and Environmental Health Laboratory (Central and Regional) and the Farmers.



# RESPONS ACTION FOR MME

## **Outcome :**

1. *A decrease in fish mortality due to disease (decreased prevalence);*
2. *The amount of floating net cages (KJA) in accordance with the carrying capacity of the reservoir*

## **Findings :**

1. *SOPs for handling fish mass mortality is not yet available;*
2. *The capacity of field officers and laboratories in the regions is still low in handling samples;*
3. *The awareness of farmers is still low on the application of biosecurity (considered expensive and inefficient);*
4. *Limited budget allocation for fish disease control*

## **Conclusions :**

*Handling of aqua mass mortality can be done effectively if supported by SOPs, availability the capacity of the laboratory and field staff to accommodate, awareness of the farmers in conducting Good aquaculture practices (GAP) and the availability of sufficient budget.*

## **Follow up :**

1. *Arranging SOPs for handling aquatic mass mortality is not yet available*
2. *Training of field officers and regional laboratories*
3. *Dissemination to farmers to conduct Good Aquaculture Practice;*
4. *Provision of budget from both the government and private sector.*

## **Implication :**

1. *The division of authority between the Center and the Regions has resulted in a lack of effective handling of aqua tic mass mortality quickly*
2. *Reducing the amount of floating net cage (KJA) in the reservoir according to the carrying capacity of the waters*
3. *Additional costs for farmers to apply biosecurity;*
4. *Increase budget allocation for central and regional governments for activities to handle aquatic mass mortality including compensation*

# LESSONS LEARNED AND IMPROVEMENTS

- The implementation of GAP including biosecurity is an appropriate effort in preventing the aquatic mass mortality so it is necessary to increase the awareness of farmers;
- An early warning system is important to prevent aquatic mass mortality so it is necessary to improve the capabilities and knowledge of farmers, field officers and laboratories;
- Rapid information delivery systems regarding changes in extreme water quality conditions and fish disease symptoms need to be established as an "early warning" so as not to cause aquatic mass mortality;
- Increase surveillance of fish diseases to detect fish diseases early so they can reduce the occurrence of mass mortality;
- Conducting environmental monitoring to determine early changes in the quality of aquaculture

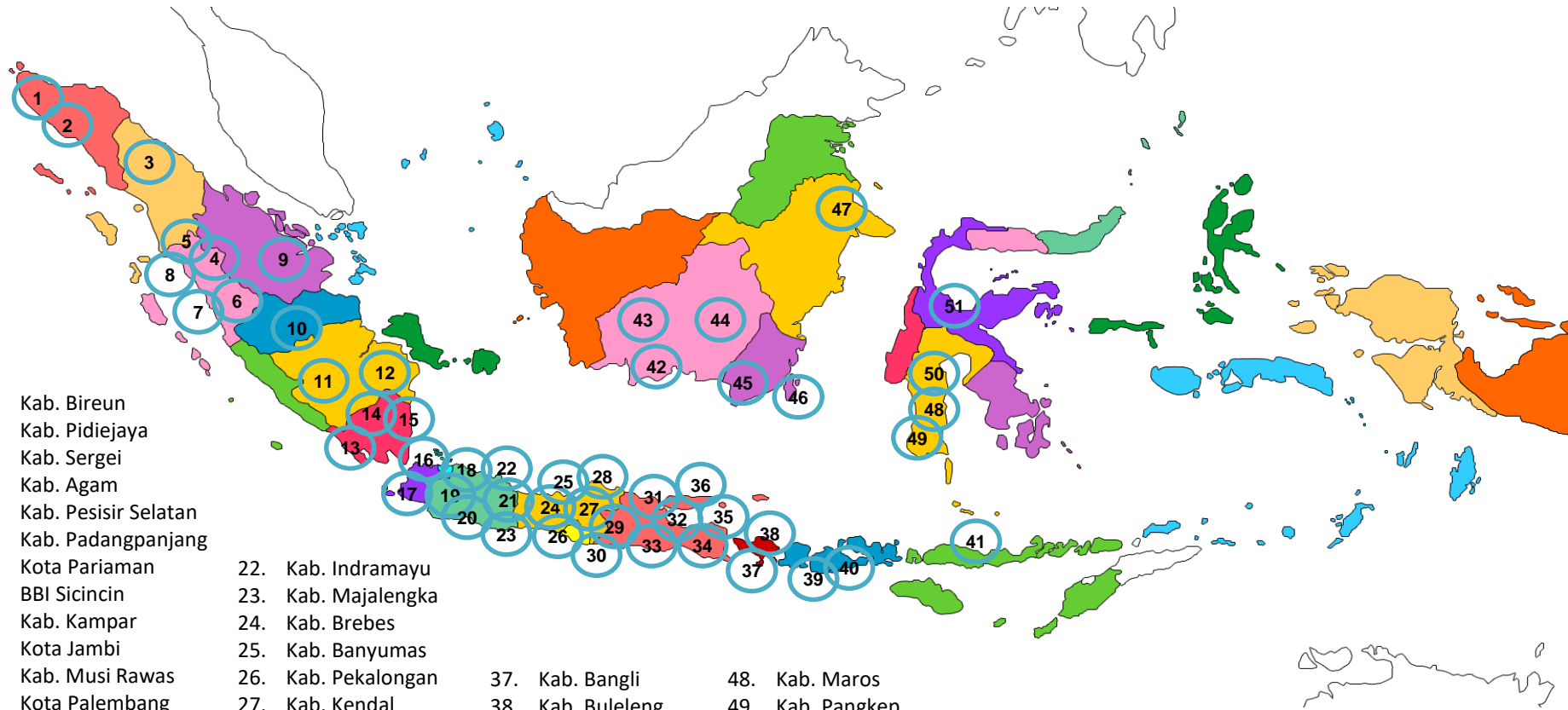
# OPINION CONCERNING EMERGENCY PREPAREDNESS RESPONSES REQUIREMENTS

- Institutional strengthening for emergency response;
- Increased coordination between the government and the private sector;
- Capacity building for field officers and fisheries counselors;
- *Prepare contingency plan documents;*
- Provision of budget;
- Record keeping and documentation at level farm.

# LABORATORY DISTRIBUTION TIU-DGA IN INDONESIA



# FISH HEALTH SERVICES (POSIKANDU) DISTRIBUTION



- |                         |                      |                   |                  |
|-------------------------|----------------------|-------------------|------------------|
| 1. Kab. Bireun          | 22. Kab. Indramayu   | 37. Kab. Bangli   | 48. Kab. Maros   |
| 2. Kab. Pidiejaya       | 23. Kab. Majalengka  | 38. Kab. Buleleng | 49. Kab. Pangkep |
| 3. Kab. Sergei          | 24. Kab. Brebes      | 39. BBI. Eikmal   | 50. Kab. Pinrang |
| 4. Kab. Agam            | 25. Kab. Banyumas    | 40. Kab. Sumbawa  | 51. BBI Mamboro  |
| 5. Kab. Pesisir Selatan | 26. Kab. Pekalongan  | 41. Kab. Ngada    |                  |
| 6. Kab. Padangpanjang   | 27. Kab. Kendal      | 42. Kab. Kapuas   |                  |
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| 8. BBI Sicincin         | 29. Kab. Pati        | 44. Kab. Kotim    |                  |
| 9. Kab. Kampar          | 30. Kab. Bantul      | 45. Kab. Banjar   |                  |
| 10. Kota Jambi          | 31. Kab. Gunungkidul | 46. Kab. Kotabaru |                  |
| 11. Kab. Musi Rawas     | 32. Kab. Gresik      | 47. Kota Tarakan  |                  |
| 12. Kota Palembang      | 33. Kab. Sidoarjo    |                   |                  |
| 13. Kab. Pesawaran      | 34. Kab. Tulungagung |                   |                  |
| 14. Kab. Tulang Bawang  | 35. Kab. Blitar      |                   |                  |
| 15. FKPA Lampung        | 36. SCI Banyuwangi   |                   |                  |
| 16. Kab. Serang         |                      |                   |                  |
| 17. Kab. Tangerang      |                      |                   |                  |
| 18. Kab. Bekasi         |                      |                   |                  |
| 19. Kab. Bogor          |                      |                   |                  |
| 20. Kab. Subang         |                      |                   |                  |
| 21. Kab. Cirebon        |                      |                   |                  |





# THANK YOU

**DIRECTORATE OF AQUACULTURE REGIONAL  
DEVELOPMENT AND FISH HEALTH**

Gedung Mina Bahari IV Lantai 6

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