

# Global Outbreak Solutions - Project Case Studies

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## Depopulation, Disinfection, and Disposal Training

### February 2025 | Senegal

In February 2025, Global Outbreak Solutions conducted a specialized Depopulation, Disinfection, and Disposal (3D) training program in Dakar, Senegal. This initiative aimed to enhance the country's capacity for carcass disposal and disease containment.

Participants engaged in lectures, group discussions, hands-on field exercises, and scenario-based activities covering biosecurity measures, depopulation strategies, carcass disposal methods, and decontamination procedures.

#### Key achievements:

- Trained 25 participants in practical 3D field techniques.
- Improved median participant knowledge from 54% pre-test to 73% post-test scores.
- Strengthened operational preparedness for safe carcass disposal and outbreak response.

## Highly Pathogenic Avian Influenza Outbreak Response

### February 2022 – January 2025 | Ohio, Indiana, Iowa, Pennsylvania, California, and Tennessee, United States

During the 2022–2025 outbreak of Highly Pathogenic Avian Influenza (HPAI) across the United States, Global Outbreak Solutions deployed to six affected states to support poultry producers and government agencies with carcass disposal efforts.

Working closely with USDA-APHIS and state animal health officials, the team helped manage the disposal of infected carcasses, feed, and poultry litter on over a dozen farms, enabling producers to return to operation as quickly and safely as possible.

#### Impact highlights:

- Supported safe, biosecure disposal on commercial turkey, chicken, and duck operations.
- Minimized environmental and public health risks during outbreaks.
- Enabled rapid recovery and repopulation for impacted farms.

## African Swine Fever Preparedness Exercise for the Caribbean

**July 2024 | Puerto Rico**

In July 2024, Global Outbreak Solutions served as a trainer and facilitator for a regional African Swine Fever (ASF) exercise hosted by the Inter-American Institute for Cooperation on Agriculture (IICA) and the United States Department of Agriculture (USDA). The event gathered animal health officials from 20 Caribbean countries to strengthen regional ASF preparedness and response capabilities.

Through a combination of scenario-based exercises and practical discussions, participants worked together to enhance communication, carcass management, and outbreak containment strategies.

Key achievements:

- Strengthened multi-country collaboration and information sharing.
- Increased technical capacity for ASF outbreak response across the Caribbean.
- Identified regional priorities for improving surveillance and rapid response.

## Mortality Management Training Schools

**2023–Present | United States: Multiple States**

Global Outbreak Solutions conducted a series of Mortality Management Training Schools across Montana, Missouri, Georgia, California, Alabama, Minnesota, Michigan, and Florida. Each three- to four-day school combined classroom learning with extensive field training, producing USDA-APHIS approved Composting Subject Matter Experts.

Participants gained critical skills in biosecure composting and Shallow Burial with Carbon (SBC) to manage carcasses during animal disease outbreaks, helping build national response capacity.

Impact highlights:

- Trained hundreds of veterinary and emergency response personnel.
- Expanded the national network of qualified Composting Subject Matter Experts.
- Supported faster, safer outbreak mortality management.

## Biosecurity and Emergency Response Capacity Building in Guatemala

**November 2023 | Guatemala**

In November 2023, Global Outbreak Solutions led a three-day workshop followed by a featured presentation at the Guatemala National Poultry Congress. The initiative was conducted in collaboration with the Government of Guatemala, Ministry of Agriculture, Livestock, and Food (MAGA), the Food and Agriculture Organization (FAO), and USAID.

The workshop focused on enhancing the capacity of Guatemala's veterinary services to prepare for and respond to highly pathogenic avian influenza (HPAI) outbreaks and other agricultural emergencies. Topics included biosecurity, depopulation, carcass disposal, and decontamination — critical components for safeguarding the poultry sector.

**Impact highlights:**

- Delivered intensive training to veterinary service professionals.
- Engaged poultry industry leaders in sustainable and secure disease prevention practices.
- Strengthened collaboration between government, industry, and international organizations.

## **Workshop on Wildlife Carcass Management**

**August 2023 | Côte d'Ivoire**

In support of the United States Agency for International Development (USAID), Global Outbreak Solutions led a workshop in Côte d'Ivoire to build national capacity for wildlife carcass management. The training focused on reducing disease transmission risks from improperly managed wildlife carcasses, especially for zoonotic diseases like Ebola and anthrax.

In addition to classroom training, hands-on fieldwork was conducted with government veterinary and environmental services personnel, culminating in the development of new national guidelines for wildlife carcass management.

Results delivered:

- Trained central and regional government personnel in best practices.
- Developed Côte d'Ivoire's first national guidelines for wildlife carcass management.
- Strengthened environmental and public health protection systems.

## **Highly Pathogenic Avian Influenza Response Consultations**

**December 2022 – August 2023 | Ecuador, Peru, Brazil, Uruguay, Bolivia**

At the request of the Pan-American Health Organization (PAHO), Global Outbreak Solutions conducted individual consultations with the Ministries of Agriculture in five South American countries to support their response to outbreaks of Highly Pathogenic Avian Influenza (HPAI).

Following virtual consultations tailored to each country's needs, a regional workshop was held in Brazil, gathering veterinary officials from twelve Latin American nations for intensive training on depopulation and disposal methods for HPAI-infected poultry.

Key outcomes:

- Provided strategic technical support to five national governments.
- Trained 100+ veterinary service professionals in best practices for HPAI response.
- Strengthened regional readiness to manage future avian influenza outbreaks.

## Development of Animal Disease Management Plans

**May 2022 – January 2024 | Pennsylvania, United States**

Global Outbreak Solutions partnered with the Commonwealth of Pennsylvania to update existing animal disease response plans and develop new strategies to prepare for outbreaks of African Swine Fever, Foot and Mouth Disease, Classical Swine Fever, and Highly Pathogenic Avian Influenza.

Working closely with state agencies, the project ensured that response protocols incorporated the latest scientific best practices for biosecurity, depopulation, carcass disposal, and environmental protection.

Project achievements:

- Updated and modernized disease management plans for multiple priority diseases.
- Strengthened Pennsylvania's emergency preparedness and outbreak response capacity.
- Enhanced coordination among state animal health and environmental agencies.

## One Health Strategy Development Workshop

**May 2022 | Cambodia**

Global Outbreak Solutions led a week-long One Health Strategy Development Workshop for Heifer International, bringing together country office teams from Cambodia, India, Bangladesh, and Nepal. The goal: embed One Health principles into core program activities to better address human, animal, and environmental health risks.

Through participatory exercises and action planning, each country team developed its own tailored One Health Action Plan with concrete steps for implementation.

Workshop outcomes:

- Developed four actionable One Health Action Plans.
- Strengthened integration of human, animal, and environmental health across regional programs.
- Built organizational leadership capacity in One Health concepts.

## Feasibility Study for Safe and Effective Carcass Disposal

**March 2021 – Present | Brunei, Indonesia, Malaysia, Timor Leste, Philippines, Papua New Guinea**

Under contract with the World Organization for Animal Health (OIE), Global Outbreak Solutions led a multi-country feasibility study on safe carcass disposal methods. The project assessed technical options and stakeholder readiness across six countries in Southeast Asia and the Pacific.

Engaging government agencies, industry representatives, and NGOs, the study produced country-specific recommendations for improving carcass disposal capacity in both routine and emergency scenarios.

Key achievements:

- Developed detailed feasibility reports for six countries.
- Identified priority areas for capacity building and technology adoption.
- Strengthened regional collaboration on safe carcass disposal solutions.

## Depopulation, Disposal, and Decontamination (3D) Training Series

**July 2020 – March 2022 | Philippines**

In response to ongoing African Swine Fever (ASF) outbreaks and the restrictions of the COVID-19 pandemic, Global Outbreak Solutions conducted a virtual training series on depopulation, disposal, and decontamination (3D) for government and industry personnel in the Philippines.

Sponsored by the Defense Threat Reduction Agency's Biological Threat Reduction Program (DTRA-BTRP), the series provided practical guidance on biosecurity, carcass management, and outbreak containment through remote webinars and online simulations.

Program impacts:

- Trained hundreds of participants on best practices for ASF response.
- Improved biosecurity and carcass disposal readiness at backyard and commercial farms.
- Provided critical training continuity despite pandemic-related travel restrictions.

## **African Swine Fever Virus Inactivation Research in Vietnam**

**August 2020 – Present | Vietnam**

Partnering with the Vietnam National University of Agriculture and funded by the National Pork Board, Global Outbreak Solutions has led a series of research projects to better understand African Swine Fever Virus (ASFv) inactivation.

The studies evaluated the effectiveness of carcass composting and Shallow Burial with Carbon for inactivating ASFv, and assessed the virus's survival in deep burial environments, swine slurry, and surface water.

Research highlights:

- Generated critical field data supporting ASFv inactivation methods.
- Strengthened outbreak response strategies for U.S. and Vietnamese pork producers.
- Advanced scientific understanding of ASF environmental persistence.

## **ASF Consultation: Depopulation, Disposal, and Decontamination for India**

**May 2020 | India**

When India reported its first-ever cases of African Swine Fever (ASF) in 2020, Global Outbreak Solutions was called upon to support animal health officials managing outbreaks in Assam and Arunachal Pradesh.

Through targeted virtual consultations, the team provided immediate guidance on humane depopulation, environmentally sound carcass disposal, and effective facility decontamination practices to contain the disease.

Key impacts:

- Delivered actionable recommendations for urgent outbreak control.
- Strengthened India's capacity for humane and biosecure ASF response.
- Supported environmental protection efforts during carcass disposal operations.

## Managing Carcasses During COVID-19 Supply Chain Disruption

**December 2018 – September 2019 | United States**

Global Outbreak Solutions participated in a groundbreaking project to develop and demonstrate new methods for managing swine carcasses during animal health emergencies. The project's lessons became critically important when the 2020 COVID-19 pandemic caused massive supply chain disruptions.

Working across Virginia and North Carolina, the team tested composting whole carcasses, grinding and composting, and Above Ground Burial methods. A four-day industry training session shared results and prepared producers for future emergencies.

Project outcomes:

- Validated multiple carcass disposal methods under operational conditions.
- Provided practical tools for rapid mortality management during crises.
- Informed national strategies during COVID-19-related supply chain disruptions.

## ASF Train-the-Trainer and 3D Response Training in Vietnam

**July 2019 | Vietnam**

To support Vietnam's response to escalating African Swine Fever outbreaks, Global Outbreak Solutions led a specialized team delivering Phase I of a national training program focused on Depopulation, Disposal, and Decontamination (3D).

Following extensive field visits and consultations with national, provincial, and district-level animal health officials, the team presented a comprehensive strategy for scaling up outbreak response capacity across the country.

Key achievements:

- Conducted field assessments of outbreak response challenges.
- Delivered a national seminar outlining 3D best practices.
- Developed a roadmap for Phase II of Vietnam's ASF outbreak response training.

## FAO Emergency Alert Mission for ASF in Lao People's Democratic Republic

**June 2019 | Lao People's Democratic Republic**

At the request of the FAO Emergency Management Centre for Animal Health (EMC-AH), Global Outbreak Solutions deployed to Laos as the carcass disposal and decontamination Subject Matter Expert during an emergency alert mission for African Swine Fever.

The mission aimed to boost operational readiness, improve early detection, and strengthen the country's ability to contain ASF outbreaks through better mortality management and biosecurity practices.

Mission results:

- Conducted rapid field assessments and technical consultations.
- Strengthened national carcass management protocols for ASF.
- Enhanced coordination among veterinary and public health sectors.

## **FAO Emergency Response Mission for ASF in Cambodia**

**May–June 2019 | Cambodia**

Responding to African Swine Fever outbreaks in Cambodia, Global Outbreak Solutions joined the FAO Emergency Management Centre team to provide urgent technical support for depopulation, carcass disposal, and decontamination efforts.

Collaborating with national and provincial authorities, the mission provided on-the-ground guidance to improve biosecurity, humane depopulation, and environmentally safe carcass disposal in high-risk areas.

Mission highlights:

- Supported outbreak control efforts at critical sites.
- Trained government responders on safe and effective mortality management.
- Strengthened Cambodia's capacity for future transboundary animal disease responses.

## **FAO Emergency Response Mission for ASF in Vietnam**

**March 2019 | Vietnam**

As African Swine Fever (ASF) outbreaks escalated in Vietnam, Global Outbreak Solutions was deployed by the FAO Emergency Management Centre for Animal Health to provide technical support for outbreak control.

Serving as the depopulation, disposal, and decontamination (3D) Subject Matter Expert, the team worked with national and local authorities to strengthen emergency response practices and improve carcass disposal operations across affected areas.



Key achievements:

- Supported rapid depopulation and disposal efforts in high-risk provinces.
- Strengthened national 3D outbreak response capacity.
- Built local veterinary teams' skills in safe, biosecure mortality management.

## 2nd Biorisk Management Symposium of the MENA Regional Network

**March–April 2019 | Tunisia**

At the 2nd Biorisk Management Symposium for the Middle East and North Africa (MENA) Regional Network, Global Outbreak Solutions delivered a two-day workshop on agroterrorism and zoonotic disease emergency response, and gave a plenary presentation to the broader symposium audience.

Held in Tunis, Tunisia, the event focused on enhancing regional capabilities in managing biological threats, with active participation from veterinary, agricultural, and public health sectors.

Workshop impacts:

- Strengthened regional understanding of agroterrorism risks and response strategies.
- Built cross-sector skills in zoonotic disease management.
- Promoted the adoption of One Health approaches across MENA countries.

## Emergency Composting Support for Avian Influenza Outbreak

**January–February 2019 | Dominican Republic**

In early 2019, Global Outbreak Solutions returned to the Dominican Republic to provide emergency carcass composting support during another avian influenza outbreak.

Building on previous interventions, the team provided technical assistance with compost pile construction, temperature monitoring, and troubleshooting, helping stabilize outbreak sites and further strengthen local composting capacity.

Key results:

- Stabilized infected farms quickly using biosecure composting methods.
- Reinforced national capacity for emergency carcass management.
- Reduced environmental contamination risks during poultry mortality events.

## African Swine Fever Workshop for Eastern Europe

**October 2018 | Ukraine**

Global Outbreak Solutions served as an animal mortality management expert at an African Swine Fever (ASF) workshop in Lviv, Ukraine, organized by the U.S. Defense Threat Reduction Agency. The event brought together veterinarians, farmers, and government officials from Ukraine, Romania, Moldova, and Lithuania.

The workshop focused on improving depopulation and disposal practices, strengthening farm biosecurity, and facilitating regional coordination for ASF control.

Workshop outcomes:

- Enhanced technical capacity for ASF response across multiple countries.
- Promoted biosecurity improvements at both farm and national levels.
- Strengthened Eastern Europe's regional cooperation on transboundary disease management.

## Animal Mortality Management Consultation in South Korea

**June 2018 | South Korea**

In response to concerns about groundwater contamination from past livestock disease outbreaks, Global Outbreak Solutions conducted a seminar for staff at the Korean National Institute of Environmental Research.

Presentations covered sustainable animal mortality management practices, including composting and Above Ground Burial (AGB), with additional technical discussions delivered at the 2nd International Conference on Bioresources, Energy, Environment, and Materials Technology.

Consultation achievements:

- Increased national understanding of environmentally sustainable carcass disposal.
- Shared international best practices for outbreak mortality management.
- Supported Korea's efforts to protect groundwater and public health during future outbreaks.

## Avian Influenza Emergency Composting Support

**January 2018 | Dominican Republic**

In early 2018, Global Outbreak Solutions deployed to the Dominican Republic at the request of the Dominican Poultry Association and Ministry of Agriculture to provide urgent composting support during an avian influenza outbreak.

The team worked closely with farmers, industry representatives, and government officials, delivering hands-on training in compost pile construction, temperature management, and troubleshooting, while stabilizing active outbreak sites.

Results achieved:

- Successfully stabilized poultry mortality sites through composting.
- Built local capacity for managing future outbreaks.
- Reduced environmental and public health risks associated with poultry carcass disposal.

## Azerbaijan Avian Influenza Tabletop Exercise

### May 2016 | Azerbaijan

In May 2016, Global Outbreak Solutions served as a technical advisor for a national tabletop exercise in Azerbaijan sponsored by the U.S. Defense Threat Reduction Agency. The exercise focused on strengthening the country's ability to prepare for and respond to avian influenza and other zoonotic disease outbreaks.

Working across agriculture, health, and environmental agencies, the event emphasized cross-sector collaboration and rapid decision-making under realistic outbreak scenarios.

Impact highlights:

- Improved interagency coordination for biological emergencies.
- Identified actionable gaps in national outbreak response plans.
- Strengthened adoption of One Health principles within government agencies.