From Hazard and Risk Assessment to Superior Resiliency

Dr. Patricia Ryan
Director of Aviation
IOS Partners, Inc.

September 27, 2017
Hazards of Greatest Interest for St. Vincent’s Today

- Hurricanes
- Flooding
- Landslides
- Earthquakes
- Volcanic Eruptions/ Ash
- Pandemics and Communicable Diseases
Approach

Planning and Preparedness

• Hazard and Risk Analysis
• Planning for Event
• Resource Mobilization & Budgeting
• Workforce Assignment & Recruitment
• Training, Drilling & Exercising
• Coordination with partners and the community
Approach

Planning and Preparedness continued:

• Response to immediate issues
• Response to long term issues
• Recovery
• Continuous Improvement Process
  • After Action Review and Improvement Plan
  • Track Corrective Actions
Effects of a Natural Disaster

How will the airport be affected directly during a natural disaster?

Location of airport in proximity to the ocean
1. Hurricanes

What will be the limiting factors on airport functionality?
Effects of a Hurricane on the Airport

How can we deal with competing demands on a recovering airport?
2. Flooding

What are likeliest scenarios leading to flooding which may be a direct or indirect impact on the airport?

- Rainstorms
- Hurricanes/ storm surges
- Tsunamis
- Plumbing malfunctions
3. Landslides

The geology of St. Vincent makes it prone to landslides, which can cause human fatalities, infrastructure damage, and significant economic losses for citizens and the country.

How would a landslide directly or indirectly impact the airport operations?
4. Earthquake

Are earthquakes an issue at St. Vincent?

• Why or why not?

• If so, how would an earthquake affect the airport?

The Caribbean Basin has many earthquake-prone regions.

• How can an earthquake in one of them—for example, Haiti or Grenada—affect Argyle International Airport?
5. Volcanic Eruption / Ash

- The Caribbean has several active volcanoes distributed throughout the region.

- La Soufriere Volcano on St. Vincent last erupted in 1979, causing a mass evacuation but no fatalities.

- How would an eruption of La Soufriere Volcano on St. Vincent or another island volcano affect St. Vincent?
  - What measures might an airport have to take in the case of prolonged flight disruptions?
  - How does the airport-airline-community relationship work in such a situation?
6. Pandemics and Communicable Diseases

Are communicable diseases viewed as an emergency or disaster?

• Article 14, Chicago Convention was signed by 191 nations in regard to the prevention of the spread of disease.
  • The purpose is to prevent the spread by means of air navigation; requires close consultation with agencies in regard to international regulations relating to sanitary measures applicable to aircraft.
Effects of Pandemics and Communicable Diseases

ACRP Synthesis 83 – Preparing Airports for Communicable Diseases on Arriving Flights 2017

• Air transportation compresses time and space, connecting nearly all points of the globe to every other point.

• Modern aircraft move faster than the incubation time of many diseases, especially flu variants, and therefore can accelerate disease transmission (Rodrigue et al. 2017).

• The global air transportation system can quickly be shut down in whole or part.
Disease Outbreak Preparedness

Disease outbreak preparedness should address:
• Communication (especially with the public).
• Entry and exit screening should be implemented.
• Logistics including transport of travelers to health facilities.
• Equipment and supplies at the airport.
• Coordination with the Ministry of Health, Wellness & the Environment.

What is regulatory environment in place?
Reducing the Risks

• Why does it matter so much?
  • Regional and national consequences.
  • Economic impacts.
  • Operational impacts at airport.

• What can the airport do?
  • Stay alert on disease control.
  • If known disease needs to be controlled, set up health screening at the airport.
  • Do not unnecessarily require screening.
Threat of Pandemics and Communicable Diseases

*Bill Gates, address to Munich Security Conference, February 18, 2017*

“I view the threat of deadly pandemics right up there with nuclear war and climate change. Innovation, cooperation, and careful planning can dramatically mitigate the risks presented by each of these threats.”
Hurricanes and Diseases

HEALTH TIPS AFTER HURRICANES

Hurricanes bring heavy rains that may potentially increase the risk of diseases such as water-borne diseases, (e.g., typhoid fever, and leptospirosis) and vector-borne diseases (e.g., malaria, dengue, chikungunya).

WATER
Make sure drinking water is from a safe source.

FOOD
Cook food well; dispose food waste properly and keep leftovers covered and away from household pests.

CLOTHING
Keep yourself dry and warm.

SUPERVISION
Do not allow children to play around debris.

PERSONAL HYGIENE
Always wash your hands before eating and after using the toilet.

SAFETY FIRST
Stay away from hanging wires and unstable structures.

TINNED FOOD
Tinned food can be kept for use as long as the tin is not opened, bulging or damaged.

POWER OUTAGE
Consumption of food that have suffered temperature abuse through power outages has the potential to cause illness. Examine and assess whether it is fit for consumption.

Consult a doctor at once if you, or any household member, have any sign or symptom of illness. This will help prevent the spread of infection especially if you are in the evacuation area.
Resources

Airport Cooperative Research Program (ACRP) Reports and Syntheses:

• ACRP Report 73: Airport-to-Airport Mutual Aid
• ACRP Synthesis 50: Effective Cooperation between Airports and Local and Regional Emergency Management Agencies for Disaster Preparedness and Response
• ACRP Synthesis 60: Airport Emergency Post-event Recovery Practices
• ACRP Synthesis 73: Emergency Communications Planning for Airports

Available as free PDFs at: http://www.trb.org/Publications/PubsACRPPublications.aspx
For additional questions, please contact:

Dr. Patricia Ryan
Director of Aviation

Office: +1 305 648 2877
Mobile: +1 305 978 2920
pryan@iospartners.com