

2019/EPWG/DIA/003 Agenda Item: 4

APEC Resilience and Smart Agriculture

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APEC RESILIENCE AND SMART AGRICULTURE

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May a rainbow of hope Shine over our conference

And inspiration fall like rain On everyone here

Who are we?

Why are we here?

Farmers Are Used to Ups and Downs

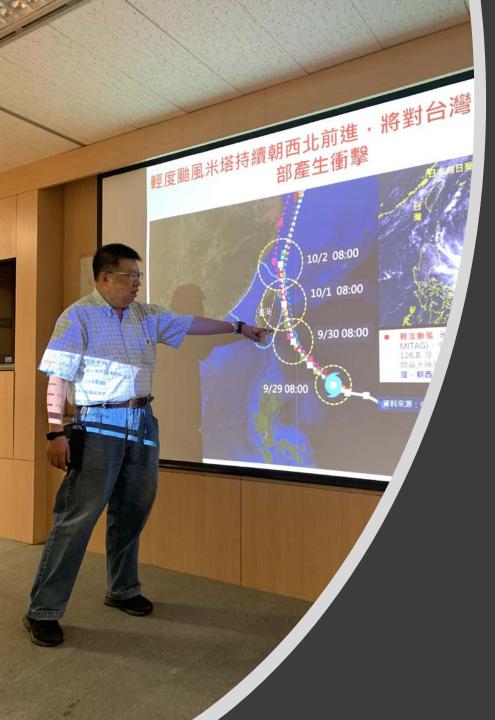
• If it's not floods...

It's drought



And sometimes in the same season!





Emergency Managers are always alert



Disasters in the APEC Region

- APEC represents about **10%** of the countries/economies worldwide
- APEC experiences about **35%** of the world's **disasters**
- Economic damage of disasters worldwide (over 10 year period) = \$2.5 trillion
- In APEC economies = or \$1.8 trillion or **75.6%**

Source: Centre for Research on the Epidemiology of Disasters, 2016



Learning About Resilience

Robustness

Ability of the supply chain to withstand incidents

- Building bridges that don't collapse in an earthquake
- Planting crops that are suitable for our area at the right time in the growing season
- Making sure our software and cyber systems are not vulnerable to hacking

Redundancy

More than one route to deliver goods from Point A to Point B

We must be creative in finding alternatives

Alternate modes

Our industry partners are leaders in this area, and government needs to learn from them.

Resourcefulness

- Beyond "thinking outside the box"
- How can we put our collective heads together to develop new ideas to solve emerging problems?



Rapid Restoration

How can we learn to restore our supply chain systems quickly when incidents occur?

- Parts that are more standardized
- Pre-staging repair materials near vulnerable areas
- Using not only our workforce but our entire citizenry in ways we may not have thought of before

APEC Seven Principles of Supply Chain Resilience

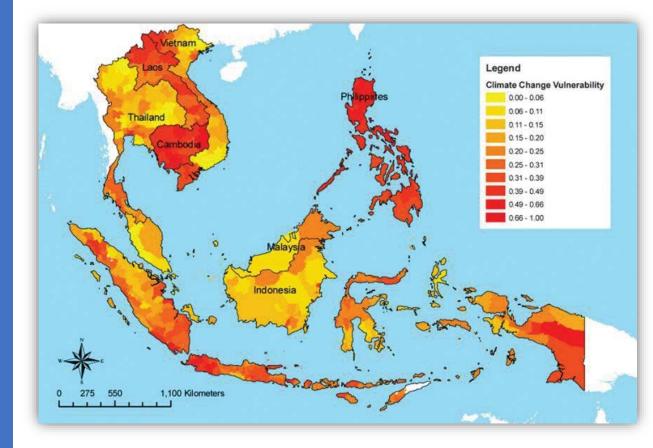
- Share information and knowledge to promote supply chain resilience.
- Promote disaster risk management and hazard mapping to better understand potential risks.
- Support planning and business continuity management to improve global supply chain resilience.
- Promote best practice policy, regulations, and flexibility to enable global supply chain resilience.
- Solution to support the supply chain.
- Promote critical infrastructure protection and inter-modalism as a key component of supply chain
 resilience.
- Recognize and promote best practice in human resource and capacity management in the context of supply chain resilience.

APEC Seven Principles of Supply Chain Resilience



Information Sharing

Risk Management and Hazard Mapping



Planning and Business Continuity Management



Flexible Policies and Regulations



US/Canada Border Agreement

 Utility trucks from Canada can cross border to work on power lines in the US

Flexible Trucking Rules During Emergencies

Increase weight and load limits Modify hours of service rules



Regional Cooperation

Critical Infrastructure Protection

All are interdependent



Human Resilience

My barn having burned down, I can now see the moon.

– Mizuta Masahide (17th century Japanese poet and samurai)

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Not only Property and Crops are Impacted by Disasters – People are, Too





Normal Reactions to an Abnormal Situation

- Mild to moderate stress reactions are highly prevalent because survivors (and their families, community members and rescue workers) accurately recognize the grave danger in disaster
- Most people recover fully from even moderate stress reactions within 6 to 16 months. In fact, resilience is probably the most common observation after all disasters.
- Although many survivors experienced psychological distress, the majority described positive outcomes: they learned that they could handle crises effectively and felt that they were better off for having met this type of challenge.
- This concept has been referred to as **'posttraumatic growth'** by some authors
- But, about 10 25% of people develop Post Traumatic Stress Disorder a serious condition with long-term impacts

http://www.ptsd.va.gov/professional/trauma/disaster-terrorism/stress-mv-t-dhtml.asp

What are our challenges for Sustainable Agriculture?

How can we make progress?

Our Challenges



Agriculture is always vulnerable to external factors



Climate change increases variability



Agriculture depends on a robust and timely supply chain



Sustainable agriculture requires creative thought and experimentation

Keys to Success



Listen to and learn from each other



Work with other groups and interests

Stay flexible

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Questions or Comments?

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Dr. Resilience

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