FARM DISASTER SURVEY RESULTS
KILAUEA EAST RIFT ZONE ERUPTIONS, 2018

Matthew K. Loke, Ph.D.
UH-CTAHR/NREM & HDOA-ADD
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Event Background

- Kilauea East Rift Zone eruptions began from new fissures on May 3, 2018.
- Lava sent flowing over streets in the Leilani subdivision in lower Puna.
- Lava channels began flowing toward Kapoho Bay on June 2, 2018.
- In the aftermath of disaster, many local farms paved with lava, resulting in losses to crops, inventory, equipment, structures, and land.

Farm Disaster Survey

- Initial request from HFNA in late June.
- Survey instrument completed in early July and fielded by UH-CTAHR extension agents in early August.
- Survey designed to gauge losses sustained by producers arising from the eruptions.
- Survey participation voluntary and 46 responses received by mail/email.
- Survey results not “all inclusive” but provide a “convenient” sampling of farm losses arising from the disaster.
- Total farm losses reported -- $27.9 million.
Reported Losses From Farm Disaster Survey in Kilauea East Rift Eruptions, 2018

- **Crops**: $17,099,667.00 (61%)
- **Land**: $4,170,620.00 (15%)
- **Building Structure**: $3,379,426.00 (12%)
- **Inventory**: $3,034,864.00 (11%)
- **Equipment**: $228,287.50 (1%)

Pie chart showing the distribution of losses.
Reported Losses by Select Industry

Floriculture & Nursery

- Crops: $13.3 mil.
- Land: $-
- Building Structure: $1,000,000
- Inventory: $2,000,000
- Equipment: $3,000,000

Papayas

- Crops: $6.5 mil.
- Land: $-
- Building Structure: $1,500,000
- Inventory: $2,500,000
- Equipment: $3,000,000
Reported Losses by Select Industry

Macadamia Nuts

- Crops: $2.5 mil.
- Land
- Building Structure
- Inventory
- Equipment

Others

- Crops: $5.7 mil.
- Land
- Building Structure
- Inventory
- Equipment
Survey respondents reported 1,337 acres affected in the disaster.

Most respondents (52%) reported owning their farm lands.

A little over two-fifths of them indicated leasing land to farm.
Planning Assessment

- Most survey respondents live off-farm.
- Most producers do not plan to replant or put affected acreage to other use.
- The majority of producers with farms destroyed are willing to start over and to relocate (87%).
- A minority proportion of producers have crop insurance.
Planning Assessment

- HPIA members responded the most to this disaster survey.
- HFNA and OGOH members followed closely behind.
- Others* comprised members of HTFC, Ulu Cooperative and Cacao Associations (East Hawaii and Kona).
Immediate Need Assessment

- Majority of producers have access to housing, food, water, clothing and toiletries after the disaster.
- One-fifth (20%) contacted the American Red Cross.
- Few needed assistance with pet shelter (2%).
- Most producers (63%) needed help to apply for public assistance.
Immediate Need Assessment

- DUA and health care (QUEST) attracted the most interests among different categories of public assistance.
- This was followed by financial assistance, the food stamp program (SNAP), and legal assistance.
Future Farming Plan

- Most inundated farmers and those who lost farms were willing to start over by leasing or buying new lands.

- Not many respondents were willing to expand the size of their previous farms.
Conclusion

• Kilauea East Rift Zone eruptions, beginning in May 2018, affected at least 46 farms and displaced over 1,337 acres of arable land on the Island of Hawaii.

• Total losses reported in the farm disaster survey was $27.9 million.

• Distribution of overall losses by category were as follows:
  o Crops – 61%
  o Land – 15%
  o Building Structure – 12%
  o Inventory – 11%
  o Equipment – 1%

• Ag industries with the highest reported losses: floriculture & nurseries ($13.3 mil.) and papayas ($6.5 mil.).
# CONFIDENTIAL FARM DISASTER SURVEY, KILAUEA ERUPTION 2018

**Producer Name & Address:**

**Mobile Phone:**

Is your farm property owned, leased or rented?

<table>
<thead>
<tr>
<th>Option</th>
<th>Survey Path</th>
<th>Survey Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owned</td>
<td>Go to I</td>
<td>Go to I</td>
</tr>
<tr>
<td>Leased</td>
<td>Go to II</td>
<td></td>
</tr>
<tr>
<td>Rented</td>
<td></td>
<td>Go to III</td>
</tr>
</tbody>
</table>

## Property Assessment

**Size of Farm Property Displaced (acres):**

**Location:**

**TMK Number:**

## Land (use one survey per TMK)

<table>
<thead>
<tr>
<th>Survey Path</th>
<th>Survey Path</th>
<th>Survey Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessed Value ($)</td>
<td>% Damaged</td>
<td>Estimated Damage</td>
</tr>
<tr>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>

## Legal building structure (specify type)

<table>
<thead>
<tr>
<th>Survey Path</th>
<th>Survey Path</th>
<th>Survey Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessed Value ($)</td>
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<td>Estimated Damage</td>
</tr>
<tr>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>

## Equipment Assessment

<table>
<thead>
<tr>
<th>Equipment Type</th>
<th>Survey Path</th>
<th>Survey Path</th>
<th>Survey Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tractor</td>
<td>Estimated Value ($)</td>
<td>% Damaged</td>
<td>Estimated Damage</td>
</tr>
<tr>
<td>$</td>
<td>$</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>Forklift/Lift Truck</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>ATV</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Refrigerator</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Roaster</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Generator</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Other (list)</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>

## Crop Assessment

<table>
<thead>
<tr>
<th>Crop Name</th>
<th>Survey Path</th>
<th>Survey Path</th>
<th>Survey Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crop Type</td>
<td>Estimated Value of Planted Crop ($)</td>
<td>% Damaged</td>
<td>Estimated Damage ($)</td>
</tr>
<tr>
<td>(e.g. Flowers)</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>(e.g. Dendrobium)</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Crop Loss Date</td>
<td>Estimated Value of Planted Tree/Shrub ($)</td>
<td>% Damaged</td>
<td>Estimated Damage ($)</td>
</tr>
<tr>
<td>(e.g. 05-14-2018)</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Planted Acreage (e.g. 0.5 acre)</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Disaster Affected Acreage (e.g. 0.5 acre)</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>

## Crop Loss

<table>
<thead>
<tr>
<th>Crop Name</th>
<th>Survey Path</th>
<th>Survey Path</th>
<th>Survey Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crop Type</td>
<td>Estimated Value of Planted Crop ($)</td>
<td>% Damaged</td>
<td>Estimated Damage ($)</td>
</tr>
<tr>
<td>(e.g. Flowers)</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>(e.g. Dendrobium)</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Crop Loss Date</td>
<td>Estimated Value of Planted Tree/Shrub ($)</td>
<td>% Damaged</td>
<td>Estimated Damage ($)</td>
</tr>
<tr>
<td>(e.g. 05-14-2018)</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Planted Acreage (e.g. 0.5 acre)</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Disaster Affected Acreage (e.g. 0.5 acre)</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>
### III. Crop Assessment (continue)

<table>
<thead>
<tr>
<th>Crop Name (e.g. Flowers)</th>
<th>Crop Type (e.g. Dendrobium)</th>
<th>Crop Loss Date (e.g. 05-11-2018)</th>
<th>Planted Acreage (e.g. 0.5 acre)</th>
<th>Disaster Affected Acreage (e.g. 0.5 acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Estimated Value of Planned Crop ($)</td>
<td>Proportion Damaged (%)</td>
<td>Estimated Damage ($)</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>B Estimated Value of Planned Tree/Shrub ($)</td>
<td>Proportion Damaged (%)</td>
<td>Estimated Damage ($)</td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>

Sub-Total

### IV. Inventory Assessment

<table>
<thead>
<tr>
<th>Products ready for market</th>
<th>Seed/seedling</th>
<th>Fertilizer</th>
<th>Herbicide</th>
<th>Pesticide</th>
<th>Packing material</th>
<th>Cinder block</th>
<th>Other (list)</th>
<th>Sub-Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Value ($)</td>
<td>% Damaged</td>
<td>Estimated Damage ($)</td>
<td>$</td>
<td>$</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

### V. Planning Assessment (Check option)

- Do you live on your farm?
- Will disaster affected acreage be replanted?
- Will disaster affected acreage be put to other use?
- If farm is destroyed, willingness to start over?
- If farm is destroyed, willingness to relocate?
- Do you have crop insurance?
- Do you have access to NAF Insurance?

### VI. Immediate Need Assessment (Check option)

- Do you have access to housing/accommodation?
- Do you have access to food and water?
- Do you have access to clothing and toiletries?
- Have you contacted the American Red Cross?
- Do you need assistance with pet shelter?
- Do you need help to apply for public assistance?
- Food Stamp Program (SNAP)
- Health Care (QUEST)
- Disaster Unemployment Assistance (DUAs)
- Financial Assistance
- Legal Assistance

### VII. Future Farming Plan (Check option(s))

- Inundated Farmer. Willingness to acquire new land
- Farmer who lost farm. Willingness to acquire new land
- Farmer unaffected directly. Willingness to acquire new land

*Indicate your membership in agriculture organization (Please check all that apply)

- Hawaii Floriculture & Nursery Association (HFNA)
- Orchid Growers of Hawaii (OGOH)
- Hawaii Export Nursery Association (HENAA)
- Hawaii Papaya Industry Association (HIPIA)
- Hawaii Tropical Fruit Growers Association (HTFGA)
- Hawaii Farm Bureau Federation (HFBF)
- Hawaii Farmers Union United (HFUU)
- Hawaii Macadamia Nut Association (HMACNA)
- Other (list)

Completed survey form(s) due in by M. Loke at luke@hawaii.edu (scanned attachment) or mailing address at M. Loke, 10th NRES, Univ. of Hawaii, 1410 East-West Road, Sherman 101, Honolulu, HI 96822 by August 31, 2018. Thank you!
Mahalo Nui for your Attention!

Acknowledgements:

• Kelvin Sewake, Interim Assoc. Dean & Assoc. Director for Cooperative Extension Service, UH-CTAHR
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