



# County of Kaua'i

## ACTION PLAN for DISASTER MITIGATION



Prepared by the Kaua'i County Housing Agency

August 2021

Submitted to the U.S. Department of Housing and Urban Development in response to the April 2018 Flooding Disaster (FEMA DR-4365-HI) to fulfill requirements related to Community Development Block Grant for Disaster Recovery and Mitigation Funds.

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## I. Authority, Provision of Funds, and Waivers

The Federal Register Notice 86 FR 4681 dated January 27, 2020, allocated \$3,831,428,000 in Community Development Block Grant disaster recovery (CDBG–DR) funds appropriated by the Supplemental Appropriations for Disaster Relief Act, 2018 – Public Law (PL) 115-254, and the Additional Supplemental Appropriations for Disaster Relief Act, 2019 – PL 116-20 for the purpose of assisting in long-term recovery from major disasters that occurred in 2017, 2018, and 2019. The County of Kauaʻi received an allocation of \$9,176,000 under PL 116-20 in response to a disaster following record rainfall that caused severe flooding and landslides in April of 2018. On January 6, 2021, an additional allocation of \$186,781,000 in funds made available under PL 116-20 as Community Development Block Grant for Mitigation (CDBG–MIT) funds to grantees recovering from qualifying 2018 disasters was announced by HUD in the Federal Register 86 FR 561. The County of Kauaʻi received an allocation of \$585,000 of CDBG-MIT funds for activities that increase resilience to disasters and reduce or eliminate the long-term risk of loss of life, injury, damage to and loss of property, and suffering and hardship, by lessening the impact of future disasters.

The three Federal Register Notices that apply to the CDBG-MIT funding allocation received by the County of Kauaʻi are below:

- 84 FR 45838, August 30, 2019 (the Main Notice)
- 85 FR 60821, September 28, 2020 (the Omni Notice)
- 86 FR 561, January 6, 2021

The CDBG-MIT funds are subject to grant requirements and procedures, including waivers and alternative requirements as described in 86 FR 561 dated January 6, 2021. The specific requirements of the CDBG-MIT action plan to be submitted for HUD approval are detailed in the Federal Register Notice 84 FR 45846 dated August 30, 2019.

## II. Executive Summary

The State of Hawaiʻi Emergency Management Agency (HIEMA) and the Federal Emergency Management Agency (FEMA) have responded to disasters involving severe flooding, landslides, and mudslides within the County of Kauaʻi on six different occasions in the past fifteen years. Record rainfall of nearly fifty inches within a twenty-four-hour period inundated communities from the Northshore to Kōloa on April 15, 2018, causing more than \$50m in damages.

Under PL 116-20, a \$9,176,000 allocation of CDBG-DR funds was made available to the County of Kauaʻi to respond to unmet needs related to the flooding disaster. The [Action Plan for Disaster Recovery](#) addresses how CDBG-DR funds will be used to support ongoing recovery needs. The following Action Plan for Disaster Mitigation will discuss the mitigation needs and risk assessment for the County of Kauaʻi and a proposed eligible project to be assisted with \$585,000 of CDBG-MIT funding leveraged by \$38.5m received by the State of Hawaiʻi under Act 35, SLH 2018. The Kauaʻi County Housing Agency (KCHA) is administering both the CDBG-DR and CDBG-MIT programs and coordinating the long-term

planning and recovery support with the Kauaʻi Emergency Management Agency (KEMA), County of Kauaʻi Department of Public Works, Department of Planning, and the Office of the Mayor.

The CDBG-MIT program, in accordance with the Citizen Participation Plan for the County of Kauaʻi and 24 CFR 91.105, requested public participation and stakeholder engagement by announcing two separate virtual public hearings in accordance with 84 FR 45838 and 86 FR 566. The first public hearing covering the available funding and proposed projects was scheduled for July 1, 2021. On November 16, 2021, a second public hearing was scheduled to review the draft Action Plan for Disaster Mitigation. Public notice for public hearings are announced on KCHA's announcement section of its main webpage. The public notice for the second public hearing also included an invitation to be a citizen advisory committee member for the Disaster Mitigation Program in accordance with requirements of the Main Notice. The draft action plan was made available for public comment from August 17, 2021 through October 1, 2021. KCHA did not receive any comments on the proposed plan.

Substantial amendments to the Action Plan for Disaster Mitigation will be available for a 30-day public comment period. An amendment to the plan is considered substantial when proposed activities for funding are added or deleted, there is a change in program beneficiary, or for a revision of program funding of 20% or more of the original funding amount.

The duration of funding for the CDBG-DR program is a 6-year expenditure period. CDBG-MIT funding must be 50% expended (\$292,500) within 6 years and 100% expended (\$585,000) within 12 years starting from the date of the grant agreement.

The Federal Register Notice 84 FR 45856, dated Friday, August 30, 2019, waives the requirements at 42 U.S.C. 5301(c), 42 U.S.C. 5304(b)(3)(A), 24 CFR 570.484, and 570.200(a)(3), that 70 percent of CDBG funds be used for activities that benefit low- and moderate-income persons. Instead, 50 percent of CDBG– MIT funds must benefit low- and moderate-income persons. The reason for the waiver is to make community-wide or regional mitigation measures to protect entire regions or communities possible regardless of income, however, KCHA will prioritize the protection of LMI individuals, and describe further in this action plan how the proposed projects will reflect that priority.

The Action Plan for Disaster Mitigation covers the Mitigation Risk Assessment identifying and analyzing all significant current and future disaster risks for the County of Kauaʻi as required by 84 CFR 45840 and 86 FR 561. The [Kauaʻi Multi-Hazard Mitigation and Resilience Plan 2020 Update](#), consistent with the goals, strategies, and recommendations of the [State of Hawaiʻi Multi-Hazard Mitigation and Resilience Plan 2018](#), describes the detailed data and the qualitative and quantitative methods used to assess risk by identifying hazards prevalent to the island of Kauaʻi, identifying vulnerability by determining the impact of the hazard on people, property, the environment, and the economy, and evaluating costs associated with the potential damage.

Projects selected for CDBG-MIT funding must meet the definition of Mitigation Activities defined by HUD in 84 FR 45856 as those activities that increase resilience to disasters and reduce or eliminate the long-term risk of loss of life, injury, damage to and loss of property, and suffering and hardship, by lessening the impact of future disasters. Additionally, All CDBG–MIT activities must address the current and future risks as identified in the Mitigation Needs Assessment for County of Kauaʻi. CDBG-MIT activities must be CDBG-eligible under title I of the Housing and Community Development Act of 1974 (HCDA) or

otherwise eligible pursuant to a waiver or alternative requirement and must meet a national objective. The Action Plan for Disaster Mitigation further explains how the proposed project(s) meet these definitions and requirements.

### III. Mitigation Risk Assessment

#### A. Background

Hazard mitigation is defined as any action taken to reduce or alleviate the loss of life, personal injury and property damage that can result from a disaster. It involves long- and short-term actions implemented before, during and after disasters. Hazard mitigation activities include planning efforts, policy changes, programs, studies, improvement projects and other steps to reduce the impacts of hazards. The federal Disaster Mitigation Act (DMA) of 2000 emphasizes planning for disasters before they occur. The DMA requires state and local governments to develop hazard mitigation plans as a condition for federal disaster grant assistance. State plans allow access to all non-emergency FEMA assistance, PA (Public Assistance) and HMA (Hazard Mitigation Assistance) grants. Local plans allow access to HMA grants. Regulations developed to fulfill the DMA's requirements are included in Title 44 of the Code of Federal Regulations (44 CFR).

The Main Notice describes the requirement of grantees to develop a Mitigation Needs Assessment that identifies and analyzes all significant current and future disaster risks and provides a substantive basis for the activities proposed. Kaua'i County Housing Agency coordinated with the State of Hawai'i, Kaua'i Emergency Management Agency, County of Kaua'i Public Works, and the Office of the Mayor, and further considered resources available to assist in the development of the Mitigation Needs Assessment and corresponding proposed activities including:

- The FEMA Hazard Mitigation Plan Resources website: <https://www.fema.gov/hazardmitigation-planning-resources>;
- The FEMA State Mitigation Planning Resources website: <https://www.fema.gov/state-mitigationplanning-resources>;
- The FEMA State Mitigation Planning Key Topics Bulletins: <https://www.fema.gov/medialibrary/assets/documents/115780>
- The FEMA Local Mitigation Planning Resources website: <https://www.fema.gov/local-mitigationplanning-resources>;

The County of Kaua'i Multi-Hazard Mitigation and Resilience Plan (HMP Kaua'i) was initially developed in 2005 and updated and approved in May 2021. The Disaster Mitigation Act of 2000 requires that the county plan is updated every five years. The development of local hazard mitigation plans is critical for maintaining eligibility for future Federal Emergency Management Agency (FEMA) mitigation and disaster recovery funding. These include the following grant funding sources:

- Hazard Mitigation Grant Program (HMGP)
- Building Resilient Infrastructure and Communities (BRIC)
- Flood Mitigation Assistance Program (FMA)

The County of Kauaʻi is committed to a long-term strategy for reducing the risks of natural hazards. Kauaʻi has experienced a range of climate and hydrological hazards, geological hazards, and technological hazards that have resulted in great costs to lives, property, and the economy of the County. The hazards identified in the Kauaʻi HMP were chosen for consistency with the State of Hawaiʻi's planning efforts, and include hurricanes, floods, drought, wildfire, erosion, landslides, climate change, earthquakes, tsunami, dam failure, hazardous materials, homeland security threats, and health-related hazards.

#### B. Method

As described in The Main Notice, Grantees that have a FEMA-approved standard State HMP pursuant to 44 CFR 201.4, an enhanced HMP in accordance with 44 CFR 201.5 or other FEMA approved mitigation plan, are required to use those plans and each plan's risk assessment to inform its response to the Action Plan for Disaster Mitigation. The process followed to develop the Kauaʻi HMP 2021 Update had the following primary objectives:

- Form a Core Planning Team to lead the process and write the updated hazard mitigation plan.
- Define the planning area that will be evaluated in the plan and for which hazard-related risks will be assessed.
- Establish a Steering Committee to provide community and stakeholder guidance for development of the plan.
- Coordinate with other agencies on issues of concern for local hazard mitigation planning.
- Review existing programs that are relevant to the updated plan's development.
- Engage the public in providing input needed to ensure that the updated plan addresses local priorities.

The Core Planning Team included staff from Kauaʻi County's Emergency Management Agency and Planning Department, Hawaiʻi Sea Grant, and consulting firm Tetra Tech. The Steering Committee, consisting of 13 members (plus alternates) from County and State of Hawaiʻi departments, private businesses, educational institutions, and community organizations met nine times from May through December 2020. Public engagement activities included the following:

- Identify and involve planning area stakeholders.
- Include members of the public on the Steering Committee.
- Create a hazard mitigation website to inform the public about the development of this plan update.
- Invite public participation at virtual public meetings. Two meetings were held in September 2020, with total attendance by 23 members of the public.
- Use a survey to determine if the public's perception of risk and support of hazard mitigation has changed since the initial planning process. The survey was available through the website. A total of 534 respondents completed the online survey.



- Attempt to reach as many planning area citizens as possible using multiple media. Press releases were distributed over the course of the plan’s development as key milestones were achieved and prior to each public meeting.

The risks identified throughout the process were quantitatively assessed according to their potential impacts on seven critical service areas, also known as the Community Lifelines, identified in V.A.2.a.(1). of the Main Notice:

1. Safety and Security
2. Communications
3. Food, Water, Sheltering
4. Transportation
5. Health and Medical
6. Hazardous Material (Management)
7. Energy (Power and Fuel)

The process culminated in an examination of relative risk to the seven critical service areas by hazard type to prioritize mitigation activities most effectively taking into consideration agency coordination and long-term planning of State mitigation funding made available for activities in the Most Impacted and Distressed Area (MID).

### C. Hazards of Concern for Kaua’i

Presidential disaster declarations are typically issued for hazard events that cause more damage than state and local governments can respond to and recover from without assistance from the federal government, although no specific dollar loss threshold has been established for these declarations. A presidential disaster declaration puts federal response and recovery programs into motion to help disaster victims, businesses, and public entities. Some of the programs are matched by state programs. Kaua’i County has experienced 20 events since 1955 for which presidential disaster declarations were issued. These events, taken from FEMA records, are listed in the table below.

Type of Event	Declaration #	Declaration Date
Tidal Wave <sup>a</sup>	DR-71	3/16/1957
Hurricane Dot <sup>a</sup>	DR-94	8/16/1959
Tidal Waves <sup>a</sup>	DR-101	5/25/1960
Heavy Rains and Flooding <sup>a</sup>	DR-152	4/24/1963
Heavy Rains and Flooding	DR-433	5/7/1974
Hurricane 'Iwa	DR-671	11/27/1982
Hurricane Iniki	DR-961	9/12/1992
Severe Storms, Flooding, Landslides, and Mudslides	DR-1640	5/2/2006
Severe Storms, High Surf, Flooding, and Mudslides	DR-1743	02/6/2008
Severe Storms and Flooding	DR-1814	1/5/2009
Severe Storms, Flooding, and Landslides	DR-4062	4/18/2012
Severe Storms, Flooding, Landslides, and Mudslides	DR-4365	5/8/2018
Hurricane Lane	DR-4395	9/27/2019
COVID-19 Pandemic	DR-4510	4/1/2020
Severe Storms and Flooding	DR-4549	7/9/2020

a. Prior to 1964, federal disaster declarations were not issued specific to counties; pre-1964 declarations listed in this table are for the entire state of Hawai'i, not Kaua'i County specifically

Source: [fema.gov/disasters](https://www.fema.gov/disasters)

#### D. Identifying and Ranking Hazards

For the Kaua'i HMP, the Steering Committee considered the full range of natural hazards that could impact the planning area and then listed hazards that present the greatest concern. The process incorporated review of state and local hazard planning documents, as well as information on the frequency, magnitude and costs associated with hazards that have impacted or could impact the planning area. Anecdotal information regarding natural hazards and the perceived vulnerability of the planning area's assets to them was also used. Based on the review, the plan addresses 10 identified hazards of concern followed by risk assessments for the hazards of concern in order of risk (highest to lowest). The risk assessments provided data that was used to rank the hazards based on probability of occurrence and potential impacts as shown in the table below.

Risk Category	Hazard Event	Risk Score
High	Tropical Cyclone and Other High Winds	54
High	Wildfire	54
High	Climate Change	45
High	Inland Flood	33
High	High Surf, Coastal Flood and Erosion	33
Medium	Tsunami	22
Medium	Landslide	18
Low	Dam Failure	6
Low	Earthquake	6

## 1. Probability of Occurrence

The probability of occurrence of a hazard is indicated by a probability factor based on likelihood of annual occurrence:

- High—Hazard event is likely to occur within 25 years (Probability Factor = 3)
- Medium—Hazard event is likely to occur within 100 years (Probability Factor =2)
- Low—Hazard event is not likely to occur within 100 years (Probability Factor =1)
- No exposure—There is no probability of occurrence (Probability Factor = 0).

The assessment of hazard frequency is generally based on past hazard events in the area. Table below summarizes the probability assessment for each hazard of concern for the Kaua’i County Hazard.

Hazard Event	Probability (high, medium, low)	Probability Factor
Tropical Cyclone and Other High Winds	High	3
Wildfire	High	3
Climate Change	High	3
Inland Flood	High	3
High Surf, Coastal Flood and Erosion	High	3
Tsunami	Medium	2
Landslide	High	3
Dam Failure	Low	1
Earthquake	Low	1

## 2. Impact

Hazard impacts were assessed in three categories: impacts on people, impacts on property, and impacts on the local economy. Numerical impact factors are assigned as follows:

- People—Values are assigned based on the percentage of the total population exposed to the hazard event. The degree of impact on individuals will vary and is not measurable, so the calculation assumes for simplicity and consistency that all people exposed to a hazard because they live in a hazard zone will be equally impacted when a hazard event occurs. It should be noted that planners could use an element of subjectivity when assigning values for impacts on people. Impact factors were assigned as follows:
  - High—30 percent or more of the population is exposed to a hazard (Impact Factor = 3)
  - Medium—15 percent to 29 percent of the population is exposed to a hazard (Impact Factor = 2)
  - Low—14 percent or less of the population is exposed to the hazard (Impact Factor = 1)
  - No impact—None of the population is exposed to a hazard (Impact Factor = 0)
- Property—Values are assigned based on the percentage of the total property value exposed to the hazard event:

- High—25 percent or more of the total assessed property value is exposed to a hazard (Impact Factor = 3)
  - Medium—10 percent to 24 percent of the total assessed property value is exposed to a hazard (Impact Factor = 2)
  - Low—9 percent or less of the total assessed property value is exposed to the hazard (Impact Factor = 1)
  - No impact—None of the total assessed property value is exposed to a hazard (Impact Factor = 0).
- Economy—Values are assigned based on the percentage of the total property value vulnerable to the hazard event. Values represent estimates of the loss from a major event of each hazard in comparison to the total assessed value of the property exposed to the hazard. For some hazards, such as wildfire and landslide, vulnerability is considered to be the same as exposure due to the lack of loss estimation tools specific to those hazards. Loss estimates separate from the exposure estimates will be generated for the earthquake, flood hazards, and tropical cyclones using Hazus.
- High—Estimated loss from the hazard is 15 percent or more of the total exposed property value (Impact Factor = 3)
  - Medium—Estimated loss from the hazard is 5 percent to 14 percent of the total exposed property value (Impact Factor = 2)
  - Low—Estimated loss from the hazard is 4 percent or less of the total exposed property value (Impact Factor = 1)
  - No impact—No loss is estimated from the hazard (Impact Factor = 0).

The impacts of each category are assigned a weighting factor to reflect its significance: impact on people is given a weighting factor of 3; impact on property is given a weighting factor of 2; and impact on the economy is given a weighting factor of 1.

The tables below reflect the hazard impact assessments from the Kaua'i HMP.

Hazard Event	Impact (high, medium, low)	Impact Factor	Multiplied by Weighting Factor (3)
Tropical Cyclone and Other High Winds	High	3	3x3=9
Wildfire	High	3	3x3=9
Climate Change	Medium	2	2x3=6
Inland Flood	Medium	2	2x3=6
High Surf, Coastal Flood and Erosion	Medium	2	2x3=6
Tsunami	Medium	2	2x3=6
Landslide	Low	1	1x3=3
Dam Failure	Low	1	1x3=3
Earthquake	Low	1	1x3=3

Table F-3. Impact on Property from Hazards

Hazard Event	Impact (high, medium, low)	Impact Factor	Multiplied by Weighting Factor (2)
Tropical Cyclone and Other High Winds	High	3	3x2=6
Wildfire	High	3	3x2=6
Climate Change	High	3	3x2=6
Inland Flood	Medium	2	2x2=4
High Surf, Coastal Flood and Erosion	Medium	2	2x2=4
Tsunami	Medium	2	2x2=4
Landslide	Low	1	1x2=2
Dam Failure	Low	1	1x2=2
Earthquake	Low	1	1x2=2

Table F-4. Impact on Economy from Hazards

Hazard Event	Impact (high, medium, low)	Impact Factor	Multiplied by Weighting Factor (1)
Tropical Cyclone and Other High Winds	High	3	3x1=3
Wildfire	High	3	3x1=3
Climate Change	High	3	3x1=3
Inland Flood	Low	1	1x1=1
High Surf, Coastal Flood and Erosion	Low	1	1x1=1
Tsunami	Low	1	1x1=1
Landslide	Low	1	1x1=1
Dam Failure	Low	1	1x1=1
Earthquake	Low	1	1x1=1

#### IV. Risk Assessment

The Kaua'i HMP Risk Assessment starts with a hazard profile to describe each of the 9 hazards of concern for Kaua'i. Each hazard profile is examined through a scenario which models the potential impact to and vulnerability of people, property, critical facilities, and the environment. The risk

assessment takes into consideration development and land use distribution in high-hazard areas. Each hazard profile has unique issues requiring additional analyses as part of the risk assessment including the impacts of climate change, public outreach, and education to augment mitigation practices, suggested studies, data collection, and how local planning and zoning affects risk. The Kaua'i HMP risk assessment specifically addresses inland flooding, the hazard type related to the CDBG-DR and CDBG-MIT funding, and analyses the vulnerability to the risk of inland flooding across the MID specifically assessing the impact to people, property, and the environment in each community of the MID. Inland flooding was ranked fourth in the Kaua'i HMP mitigation needs assessment with a high-risk score of 33.

#### A. Mitigation Goals and Objectives

Hazard mitigation plans must identify goals for reducing long-term vulnerabilities to identified hazards. As part of the plan update process, the Steering Committee reviewed the goals and objectives of the 2015 Kaua'i HMP plan and revised them to align with other community objectives and priorities more fully. The updated Kaua'i HMP listed the current goals and objectives included in the plan.

#### B. Recommended Mitigation Actions

The Kaua'i HMP Steering Committee reviewed the catalogs of hazard mitigation alternatives and selected actions to be included in a hazard mitigation action plan. The selection of actions was based on the risk assessment of identified hazards of concern, the defined hazard mitigation goals and objectives, and considerations of equity in project selection and implementation. Implementing a plan designed by the U.S. Army Corps of Engineers to raise the height of the Waimea and Hanapēpē river levees to re-establish the 100-year flood protection are short-term (to be completed within 5 years) recommended actions relating to inland flooding mitigation and meets the following objectives of the Kaua'i HMP:

- Reduce repetitive property losses due to floods, erosion, high winds, tsunamis, fire, and sea level rise through acquisition, retrofitting, design, and updated construction and land use regulations.
- Incorporate mitigation measures into repairs, major alterations, new development, and redevelopment, especially in areas with substantial hazard risk and those known to have repetitive loss.
- Reduce risk to and increase the resilience of vulnerable infrastructure and community lifelines.
- Prioritize investment and support efforts to improve resilience of community lifelines in socially vulnerable communities.

Additionally, the prioritization of mitigation actions based on a cost/benefit analysis as required by 44 CFR, Section 201.6(c)(3)(iii) resulted in the levee projects being of highest priority for mitigation actions based on the high ratings for cost and benefit of the project. To effectively address risks to indispensable services that enable continuous operations of critical business and government functions

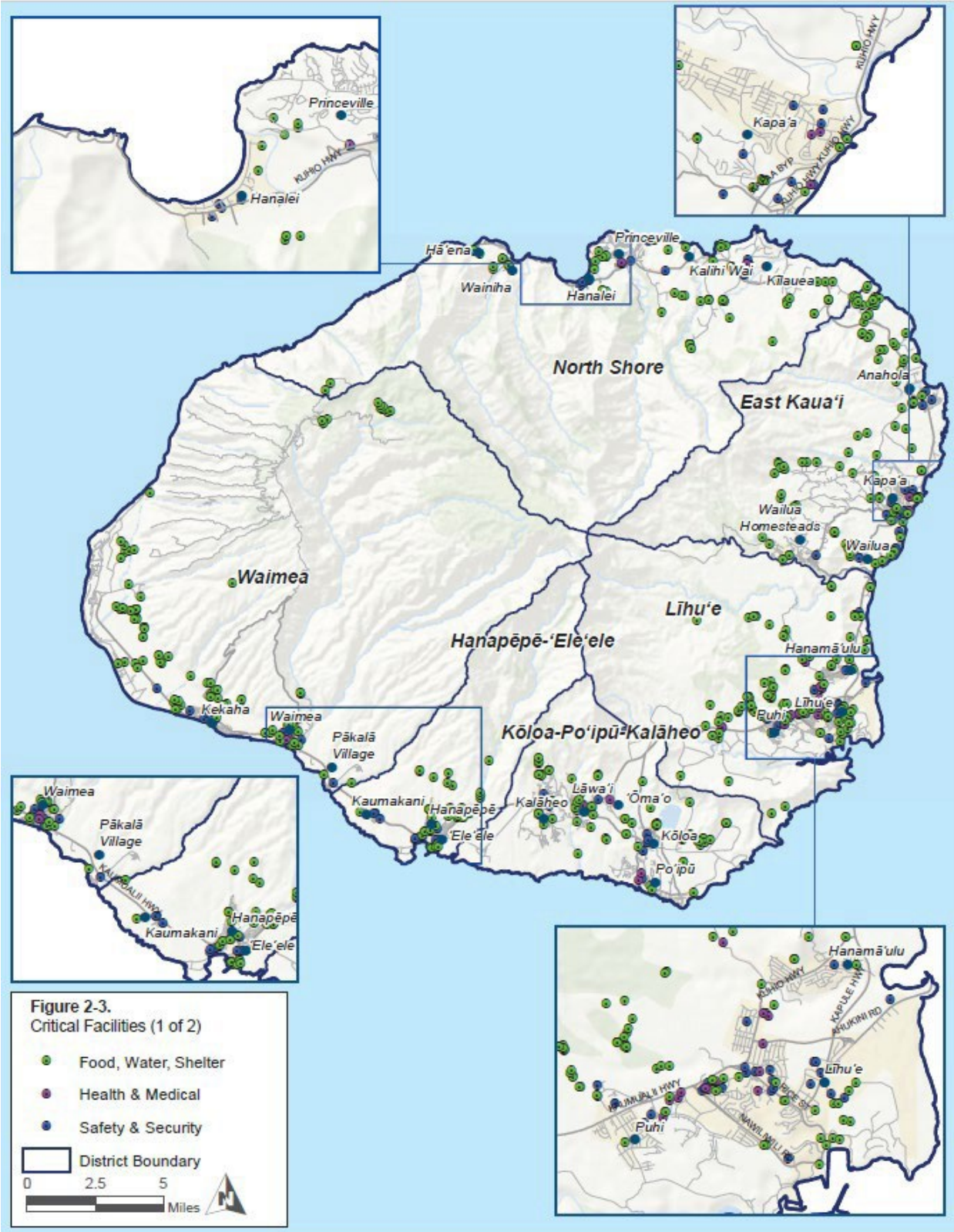
and are critical to human health and safety or economic security, KCHA intends to provide CDBG-MIT funds to the U.S. Army Corps of Engineers for planning and/or project costs related to raising the levees including professional service contracts for required environmental reviews and/or engineering and design work.

Cost estimates and verifications have been completed and updated prior to funding USACE to determine cost reasonableness for each element of the project. The County of Kaua’i Housing Agency CDBG-MIT grant coordinator and accounting team work according to policies and procedures established to uphold grant compliance to process payments in a timely manner and to track monthly expenditures both internally and in the Disaster Recovery Grant Reporting System (DRGR) which will be reflected in Quarterly Performance Reports. All payments are processed on a 30-day pay cycle and monthly reviews of expenditures are conducted by the grant coordinator and accounting team. Entering payments for reimbursement into DRGR is completed by KCHA’s accounting technician upon approval of the grant coordinator. The payment is then finalized and submitted by KCHA’s lead accountant.

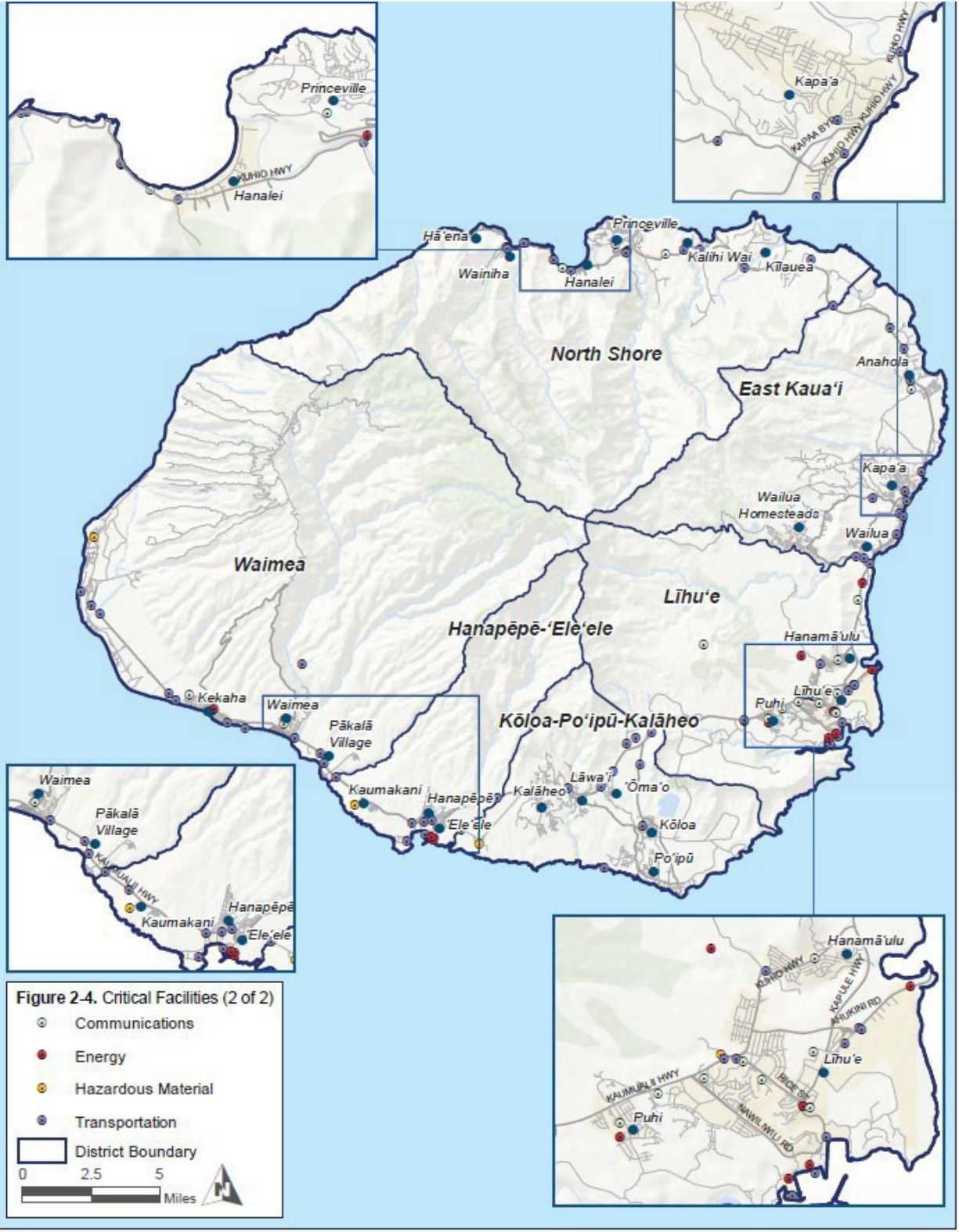
<b>Expense</b>	<b>Amount</b>	<b>Comments</b>
Administration 5% cap	\$29,250	Salaries, supplies, start-up, training
Planning 15% cap	\$87,750	Environmental studies
Raising Waimea & Hanapēpē River Levees	\$468,000	Design & engineering (\$234,000 of the project expense must benefit low- and moderate-income households)
Total CDBG-MIT Grant Award	\$585,000	\$292,500 must be expended in 6 years from the grant agreement date, the remaining \$292,000 must be expended within 12 years of the grant agreement date.

The proposed CDBG-MIT funded project of raising the river levees along the Hanapēpē and Waimea rivers is a CDBG-eligible activity under title I of the Housing and Community Development Act of 1974, and meets the definition of mitigations activities as defined in 84 FR 45840 and 86 FR 561 as activities that increase resilience to disasters and reduce or eliminate the long-term risk of loss of life, injury, damage to and loss of property, and suffering and hardship, by lessening the impact of future disasters. Both levees provide flood damage reduction to the Waimea and Hanapēpē communities from periodic flooding of the Waimea and Hanapēpē Rivers. Approximately 1400 homes and commercial buildings are currently protected by the levees.

The maps below from the Kaua’i HMP show the critical facilities across the MID, the Island of Kaua’i, as well as a focused view within the communities of Waimea and Hanapēpē where there is a concentration of critical facilities vulnerable to inland flooding event.







The County of Kaua'i Department of Public Works will oversee the contract with USACE for the design and engineering phases of the levee improvements which will include cost estimates and analysis and required environmental reviews. This initial phase of the project is expected to begin in 2022 and to be completed by 2025. The construction phase, once contracts are awarded, is anticipated to begin in 2026 and be completed by 2029. The Department of Public Works will oversee ongoing maintenance of the levees which will be funded through the annual budget.

#### V. Low Income Benefit and Protection of Vulnerable Populations

The primary objective of the HCDA is the “development of viable urban communities, by providing decent housing and a suitable living environment and expanding economic opportunities, principally for persons of low and moderate income” (42 U.S.C. 5301(c)). This target may be difficult to reach when pursuing community-wide or regional mitigation measures to protect entire regions or communities regardless of income. Pursuant to 84 FR 45847 the requirements at 42 U.S.C. 5301(c), 42 U.S.C. 5304(b)(3)(A), 24 CFR 570.484, and 570.200(a)(3), that 70 percent of funds be used for activities that benefit low- and moderate-income persons are waived. Instead, 50 percent of CDBG– MIT funds must benefit low- and moderate-income persons however all proposed mitigation programs and projects must prioritize the protection of low-and-moderate income (LMI) individuals.

The service areas selected for the Waimea and Hanapēpē River levee improvement projects are the American Community Survey (ACS) block groups reflected in the maps below which include the residential areas along the rivers in the location of the levees.

Waimea Block Group 2, Census Tract 409, Kaua'i County, Hawai'i



Hanapēpē Block Group 3, Census Tract 408, Kauaʻi County, Hawaiʻi



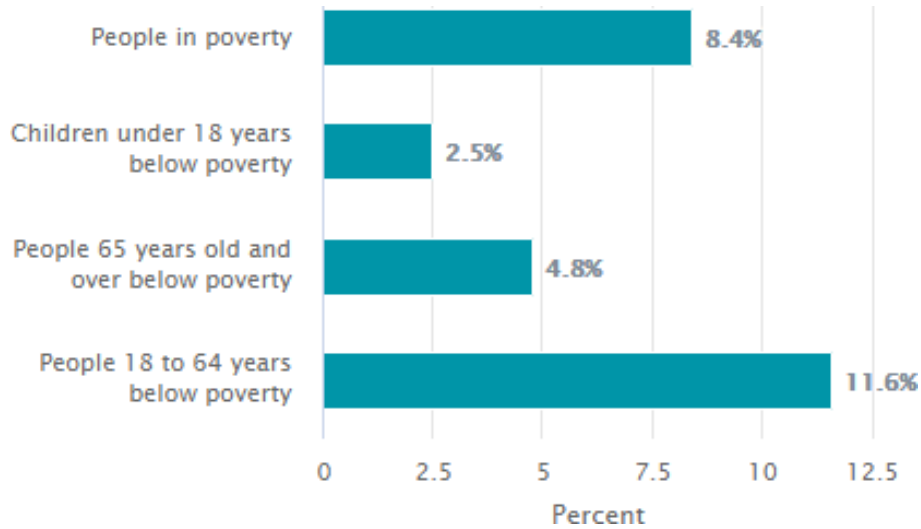
Based on 2019 ACS data shown in the tables below, 227 out of 396 households, or 57% of households in the Waimea River area reported being low-to-moderate income. According to 2019 ACS Data, 60.4% of households reported being low-to-moderate income in the County of Kaua'i.

<b>Waimea</b>	<b>Block Group 2, Census Tract 409, Kaua'i County, Hawai'i</b>	
<b>Label</b>	<b>Estimate</b>	<b>Margin of Error</b>
Total:	396	±84
Less than \$10,000	0	±11
\$10,000 to \$14,999	22	±20
\$15,000 to \$19,999	23	±31
\$20,000 to \$24,999	0	±11
\$25,000 to \$29,999	15	±19
\$30,000 to \$34,999	21	±22
\$35,000 to \$39,999	20	±19
\$40,000 to \$44,999	0	±11
\$45,000 to \$49,999	26	±25
\$50,000 to \$59,999	33	±30
\$60,000 to \$74,999	0	±11
\$75,000 to \$99,999	67	±39
\$100,000 to \$124,999	30	±27
\$125,000 to \$149,999	51	±36
\$150,000 to \$199,999	38	±27
\$200,000 or more	50	±43

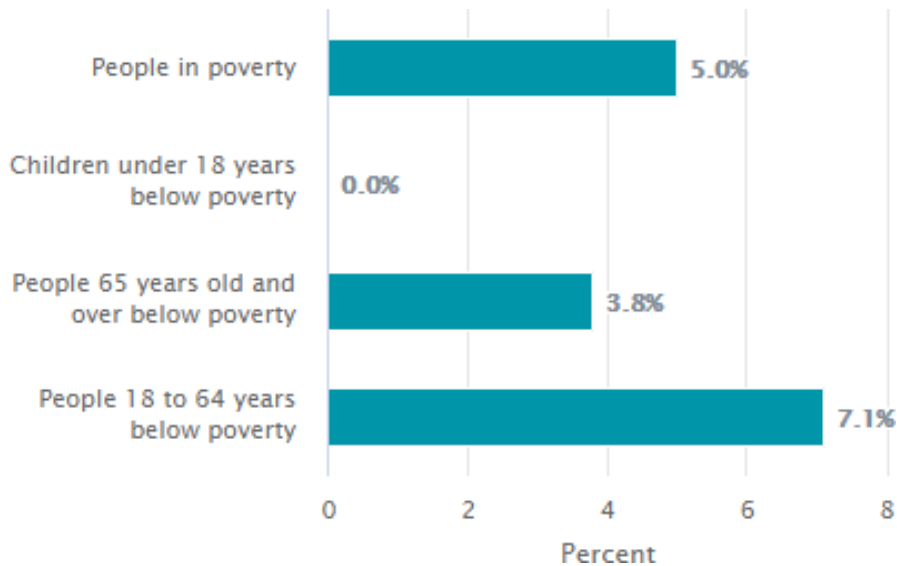
Of the 274 households reported, 202 or 74% of households in the Hanapēpē River area are low-to-moderate income.

<b>Hanapēpē</b>	<b>Block Group 3, Census Tract 408, Kaua'i County, Hawai'i</b>	
<b>Label</b>	<b>Estimate</b>	<b>Margin of Error</b>
Total:	274	±86
Less than \$10,000	0	±11
\$10,000 to \$14,999	20	±32
\$15,000 to \$19,999	24	±35
\$20,000 to \$24,999	22	±31
\$25,000 to \$29,999	0	±11
\$30,000 to \$34,999	0	±11
\$35,000 to \$39,999	49	±40
\$40,000 to \$44,999	0	±11
\$45,000 to \$49,999	0	±11
\$50,000 to \$59,999	18	±27
\$60,000 to \$74,999	39	±42
\$75,000 to \$99,999	30	±36
\$100,000 to \$124,999	17	±26
\$125,000 to \$149,999	20	±23
\$150,000 to \$199,999	17	±27
\$200,000 or more	18	±25

According to the American Community Survey 2015-2019 ACS 5-year Narrative Profile, 6.6% of the Waimea community reported having a disability as compared to 9.7% county wide. The median income reported in Waimea was \$52,422, 51% of the median income for the County of Kaua'i. The table below shows poverty rates for Waimea by age group. The total number of people living in poverty county wide was reported at 8.1%.



According to the American Community Survey 2015-2019 ACS 5-year Narrative Profile, 9.1% of the Hanapēpē community reported having a disability. The median income reported was \$75,952, 75% of the median income for the County of Kaua'i. The table below shows poverty rates for Hanapēpē by age group.



Special accommodations for the persons with a disability, including those who are visually and/or audibly impaired (i.e., Braille, large print, taped materials, sign language, interpreters for non-English speaking residents), will be available at no charge upon written request to the Kaua'i County Housing

Agency. All KCHA disaster recovery and mitigation materials, including this action plan will be made available in alternate formats upon request whether electronic or hard copy. All CoK-sponsored public events including meetings, hearings, and workshops shall be located in buildings that afford accessibility by persons with disabilities.

[Title VI of the Civil Rights Act of 1964, 42 U.S.C. 2000\(d\)](#), and [Executive Order 13166](#)

require that recipients of federal funds take reasonable steps to ensure meaningful access by persons with Limited English Proficiency (LEP persons). The CoK is a recipient of federal funds and therefore obligated to reduce language barriers that can preclude meaningful access to county programs by LEP persons. The County of Kaua'i has prepared a Language Access Plan (LAP), that defines the actions to be taken to ensure meaningful access to agency services, programs, and activities by persons who have limited English proficiency.

The racial demographics of Waimea according to the 2015-2019 ACS 5-year Narrative include 41.9% Asian, 26.1% White, 15.8% Native Hawai'i an, and 0.3% Black or African American. The racial demographics for Hanapēpē include 42.4% Asian, 20.3% Native Hawai'i an, 15.5% White, and 0.2% Black or African American.

According to the [Point in Time Count for 2020](#), the West side of Kaua'i reported 115 individuals to be experiencing homelessness, 50% of which were families with children. A high concentration of the houseless community representing the total count for the West side have historically camped at Lucy Wright Park along the Waimea River, an area impacted by flooding when the river supersedes the levee and during high surf.

The improvements to the Waimea and Hanapēpē River levees will not result in displacement of persons or entities.

## VI. Long-Term Planning and hazard Mitigation Considerations

This part of the Action Plan provides an overview of broad planning initiatives and elements of building codes, land use, and flood risk protection that support mitigation efforts particularly as it pertains to flooding risk.

### A. Building Code Standards

The State of Hawai'i Building Code is included in HAR §3-180 and incorporates the 2012 International Building Code (IBC); Counties may make local amendments. County of Kaua'i adopted the 2012 IBC in 2018 which includes Building Electrical, Plumbing Codes, and a Sign Ordinance. It should also be noted that the County of Kaua'i implemented a HMGP 5% initiative project to develop and adopt local wind amendments.

All future development in the County will be affected by high windstorms. The ability to withstand impacts lies in sound land use practices and consistent enforcement of current codes and regulations for



new construction. The State of Hawai'i design wind pressures have changed over the years with different editions of the Uniform Building Code (UBC) and International Building Code (IBC). Design wind pressures, typical construction type (single or double wall), and use of hurricane uplift resistance can all be determined by the year built based on the corresponding version of the UBC or IBC in effect at the time.

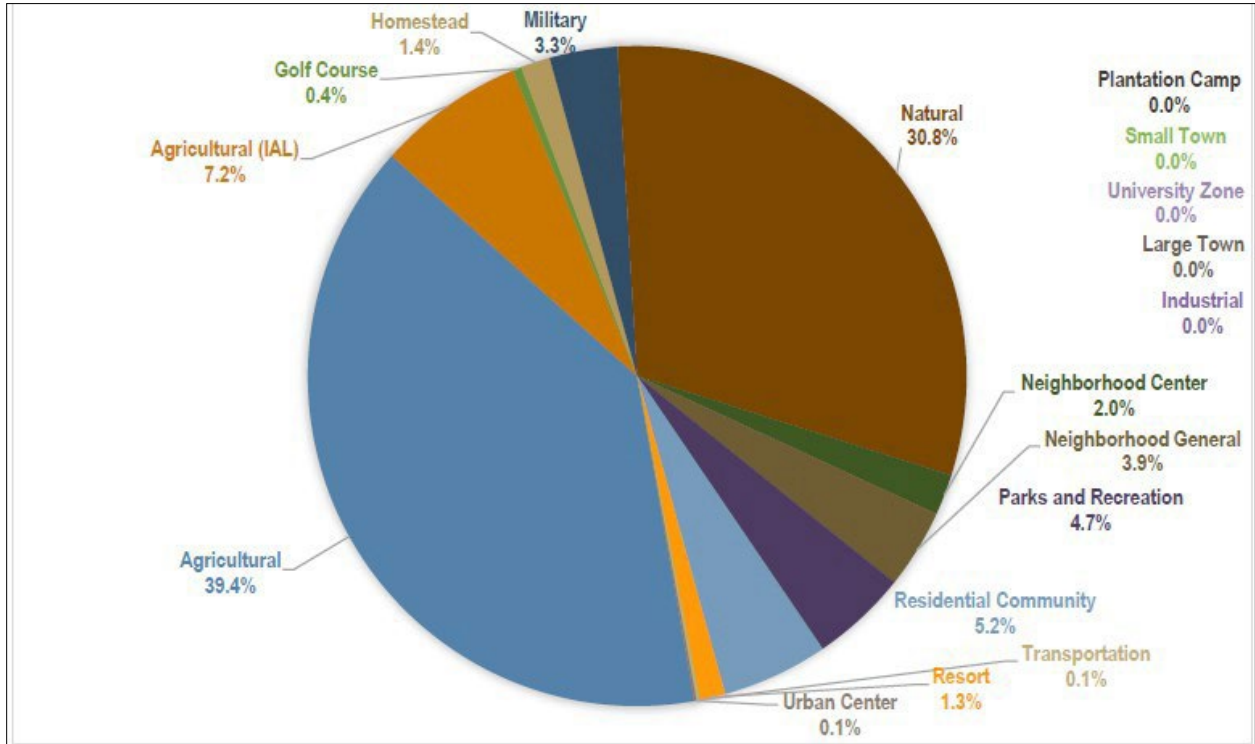
The current Kaua'i County building code includes specific provisions for current and future development regarding hurricane-resistant construction. Kaua'i County also has adopted the IBC and has developed county specific wind load requirements. These codes are equipped to deal with the impacts of high windstorms. Land use policies identified in general plans within the planning area also address secondary impacts of high windstorms. With these tools, Kaua'i County is well-equipped to deal with future growth and the associated impacts of high windstorms.

### 1. Land Use and Zoning Policies

Land Use Planning and Zoning Policies are classified as preventive mitigation actions. Government, administrative or regulatory actions that influence the way land and buildings are developed to reduce hazard losses. Includes planning and zoning, floodplain laws, capital improvement programs, open space preservation, and stormwater management regulations.

Land use is determined by the County's zoning code and zoning map, also known as the Comprehensive Zoning Ordinance. The General Plan and community plans establish policies to protect communities from hazards. Development in the planning area is also regulated by building standards and performance measures.

The distribution of general land use types in the hazard areas is shown in the Kaua'i HMP with an example of land use types in inland flood hazard areas shown below:



Relevant Local Programs and Regulations:

Agency, Program or Regulation	Relevance
Kaua'i Kākou—Kaua'i County General Plan	The hazard mitigation plan will work together with programs established under the General Plan to support wise land use with vital information on the risk associated with natural hazards in the planning area.
Community Plans	Community plans serve as a forum for community input into land-use, delivery of government services, and any other matters relating to the planning area.
Kaua'i County Code	The County Code establishes existing County capabilities and restrictions that can impact implementation of hazard mitigation actions.
Zoning Code	The zoning code draws upon information regarding location-specific hazards to establish guidelines for wise land use in the county.
Kaua'i County Capital Improvement Program	The 2018 Kaua'i County General Plan calls for hazard mitigation projects to be prioritized in the County's capital improvement program.

Summary of Relevant State Agencies, Programs, and Regulations:

Agency, Program or Regulation	Relevance
Hawai'i Coastal Zone Management Program	Mitigation actions need to conform to the goals and policies of this plan
Hawai'i Hazards Awareness and Resilience Program	Provides a resource for hazard education measures
Hawai'i State Plan	Mitigation actions need to conform to the goals and policies of this plan
Hawai'i State Grants-in-Aid Capital Improvement Projects Program	This program provides a potential source of funding for implementing mitigation actions
Ocean Resources Management Plan	Mitigation actions need to conform to the goals and policies of this plan
State Building Code and Design Standards	Mitigation actions need to comply with all state building code requirements
State General Flood Control Plan	Mitigation actions need to conform to the goals and policies of this plan
State of Hawai'i Hazard Mitigation Plan	The state hazard mitigation plan provides information that is useful in developing local hazard mitigation plans
State of Hawai'i Land Use Law	Mitigation actions need to comply with all state land use requirements

B. USACE Planning and Flood MIT efforts

The County of Kaua'i participates in the U.S. Army Corps of Engineers Flood Hazard Management program. The Corps of Engineers offers multiple funding and technical assistance programs available for flood hazard mitigation actions Regulatory oversight for dam safety includes the following:

U.S. Army Corps of Engineers—Safety inspections of some federal and non-federal dams in the United States that meet the size and storage limitations specified in the National Dam Safety Act.

The following issues have been identified in the Kaua'i HMP related to the flood hazard in the planning area:

- Visitor Awareness for Flooding—Visitors are often unaware of the flooding dangers in the areas of their accommodations and activities. Public awareness campaigns could target visitor accommodations to inform visitors of the flood risks.
- Hiker Outreach for Flash Flooding—Tourists hiking Kaua'i County's numerous trails are not always cognizant of issues associated with flash flooding. The County could develop a tourism outreach program specifically designed to inform hikers about the danger and potential for flash flooding.
- Climate Change Future Impacts—Climate change has the potential to drastically alter the severity, location, and extent of flooding in Kaua'i County. The County must remain vigilant and be prepared to address anticipated and new issues as they occur as a direct result of climate change.
- Levee Renovation—Older levees are subject to failure or do not meet current building practices for flood protection. The County should discuss and investigate the resources needed to bring these levees up to date and reaccredited.
- Multi-hazard Mitigation Techniques—The risk associated with the flood hazard overlaps the risk associated with other hazards such as hurricane and landslide. This provides an opportunity to seek mitigation alternatives with multiple objectives that can reduce risk for multiple hazards.
- Risk Based Analysis—Collect more information on flood risk to support the concept of risk-based analysis of capital projects.

- Historical Data Collection—There needs to be a sustained effort to gather historical damage data, such as high-water marks on structures and damage reports, to measure the effectiveness of future mitigation.
- Funding Identification—Ongoing flood hazard mitigation will require funding from multiple sources.
- Resident Education—Floodplain residents need to continue to be educated about flood preparedness and the resources available during and after floods.
- Residual Risk—Residual risk (the risk that remains after all mitigation actions and risk reduction actions have been completed) associated with the flooding hazard is high due to the topography and nature of flooding in Kauaʻi County. The concept of residual risk should be considered in the design of future capital flood control projects and should be communicated with residents living in the floodplain.
- Continue Emphasizing the Value of Flood Insurance—As a flood-prone area, Kauaʻi County understands the importance and power of educated residents. The County should continue the promotion of flood insurance as a means of protecting private property owners from the economic impacts of frequent flood events.
- Upholding Land-Use Regulations—Existing floodplain-compatible uses such as agricultural and open space need to be maintained. There is constant pressure to convert these existing uses to more intense uses within the planning area during times of moderate to high growth.
- Proactive Floodplain Management—The economy affects a jurisdiction’s ability to manage its floodplains. Budget cuts and personnel losses can strain resources needed to support floodplain management. The County should proactively manage current and future floodplains during affluent times to ensure self-sustainment of floodplains during budget cuts and personal losses.
- Repetitive Loss Properties—Several repetitive loss properties are located outside of FEMA mapped flood zones. Additional investigation and outreach should be conducted to determine likely sources of flood damage for these properties.

### C. Local and Regional Planning Coordination

Planning for use of CDBG-MIT funds involved coordination among KCHA, Office of the Mayor, Kauaʻi Emergency Management Agency, and County of Kauaʻi Department of Public Works.

Following the April 2018 rain event resulting in a Presidentially declared disaster, the County of Kauaʻi received an \$100m allocation of funding from the State of Hawaiʻi SB192 (Act12) for flood recovery and mitigation activities. A budget of \$20m to raise the Waimea and Hanapēpē River levees, a high priority mitigation action according to the Kauaʻi HMP, will be funded with the State mitigation allocation and \$555,750 of CDBG-MIT funds are proposed to cover part of the design and engineering costs for the project. The State allocated mitigation funds include \$2.2m to construct a community resiliency center and \$2.5m for hydraulic and hydrological studies of the watersheds in the specific areas where the flooding took place during the April 2018 event.

#### D. Flood Insurance Coverage

Kaua'i County participates in the National Flood Insurance Program and is in good standing with NFIP.

#### Flood Insurance Statistics

Date of Entry Initial FIRM Effective Date	11/04/1981
# of Flood Insurance Policies as of 07/21/2020	4,792
Insurance In Force	\$1,019,373,800
Total Annual Premium	\$4,387,457
Claims, as of February 29, 2020	1,312
Value of Claims Paid, as of February 29, 2020	\$38,416,601
Average Payment per Claim, as of February 29, 2020	\$29,281

Section 582 of the National Flood Insurance Reform Act of 1994, as amended, (42 U.S.C. 5154a) prohibits flood disaster assistance in certain circumstances. In general, it provides that no Federal disaster relief assistance made available in a flood disaster area may be used to make a payment (including any loan assistance payment) to a person for "repair, replacement, or restoration" for damage to any personal, residential, or commercial property if that person at any time has received Federal flood disaster assistance that was conditioned on the person first having obtained flood insurance under applicable Federal law and the person has subsequently failed to obtain and maintain flood insurance as required under applicable Federal law on such property. This means that CDBG-MIT assistance may not be provided for the repair, replacement, or restoration of a property to a person who has failed to meet this requirement.

#### VII. Citizen Participation

The CDBG-MIT program, in accordance with the Citizen Participation Plan for the County of Kaua'i and 24 CFR 91.105, requested public participation and stakeholder engagement by announcing two separate virtual public hearings in accordance with 84 FR 45838 and 86 FR 566. The first public hearing covering the available funding and proposed projects was scheduled for July 1, 2021. On November 16, 2021, a second public hearing was scheduled to review the draft Action Plan for Disaster Mitigation. Public notice for public hearings are announced on KCHA's announcement section of its main webpage. The public notice for the second public hearing also included an invitation to be a citizen advisory committee member for the Disaster Mitigation Program in accordance with requirements of the Main Notice.

The draft Disaster Mitigation Action Plan was made available for public comment from August 17, 2021 through October 1, 2021. KCHA did not receive any comments on the proposed plan.

Substantial amendments to the Action Plan for Disaster Mitigation will be available for a 30-day public comment period. An amendment to the plan is considered substantial when proposed activities for funding are added or deleted, there is a change in program beneficiary, or for a revision of program funding of 20% or more of the original funding amount.

Ongoing efforts to promote citizen participation in the disaster mitigation program will include developing a stakeholder list of housing and service providers in the Hanapēpē and Waimea communities for expanding outreach to provide information about the levee projects and extending invitations to participate in the citizen advisory committee.