



**BERKELEY CITY COUNCIL HEALTH, LIFE ENRICHMENT, EQUITY &  
COMMUNITY COMMITTEE  
REGULAR MEETING**

**Monday, May 8, 2023  
10:00 AM**

**2180 Milvia Street, 6th Floor - Redwood Room**

Committee Members:

Councilmembers Ben Bartlett, Sophie Hahn, and Mark Humbert  
Alternate: Councilmember Terry Taplin

This meeting will be conducted in a hybrid model with both in-person attendance and virtual participation. For in-person attendees, face coverings or masks that cover both the nose and the mouth are encouraged. If you are feeling sick, please do not attend the meeting in person.

Remote participation by the public is available through Zoom. To access the meeting remotely using the internet: Join from a PC, Mac, iPad, iPhone, or Android device: Use URL - <https://cityofberkeley-info.zoomgov.com/j/1601472164>. If you do not wish for your name to appear on the screen, then use the drop down menu and click on "rename" to rename yourself to be anonymous. To request to speak, use the "raise hand" icon on the screen. To join by phone: Dial **1-669-254-5252** or **1-833-568-8864 (Toll Free)** and Enter **Meeting ID: 160 147 2164**. If you wish to comment during the public comment portion of the agenda, press \*9 and wait to be recognized by the Chair.

To submit a written communication for the Committee's consideration and inclusion in the public record, email [policycommittee@cityofberkeley.info](mailto:policycommittee@cityofberkeley.info).

Written communications submitted by mail or e-mail to the Health, Life Enrichment, Equity, & Community Committee by 5:00 p.m. the Friday before the Committee meeting will be distributed to the members of the Committee in advance of the meeting and retained as part of the official record.

# AGENDA

## Roll Call

## Public Comment on Non-Agenda Matters

## Minutes for Approval

*Draft minutes for the Committee's consideration and approval.*

### 1. Minutes - March 13, 2022

## Committee Action Items

*The public may comment on each item listed on the agenda for action as the item is taken up. The Chair will determine the number of persons interested in speaking on each item. Up to ten (10) speakers may speak for two minutes. If there are more than ten persons interested in speaking, the Chair may limit the public comment for all speakers to one minute per speaker.*

*Following review and discussion of the items listed below, the Committee may continue an item to a future committee meeting, or refer the item to the City Council.*

### 2. **Berkeley Food Utility and Access Resilience Measure (FARM)** **From: Vice Mayor Bartlett (Author), Mayor Arreguin (Co-Sponsor),** **Councilmember Harrison (Co-Sponsor), Councilmember Hahn (Co-Sponsor)**

*(Item contains revised material)*

**Referred: January 17, 2023**

**Due: June 7, 2023**

**Recommendation:** 1. Refer to the City Manager to protect the City's food supply from natural disasters and economic disruptions by facilitating and chartering a community-based non-profit organization charged with designing and implementing an integrated local food production and distribution system for Berkeley.

2. Refer to the City Manager and the Office of Economic Development to design and offer economic incentives for non-profits, agricultural producers, and small businesses to partner with the City of Berkeley in support of the FARM.

**Financial Implications:** See report

Contact: Ben Bartlett, Councilmember, District 3, (510) 981-7130

## Committee Action Items

### 3. Referral Response: Responsible Psychedelic Drug Policy Reform in Berkeley From: Community Health Commission

Referred: April 10, 2023

Due Date: September 28, 2023

**Recommendation:** Adopt a Resolution that refers to the City Manager a program to:  
a) work with external organizations providing psychedelic harm reduction, education, and support resources to the Berkeley Community, b) work with City Departments and external organizations to create, and return to the City Council with a policy for collecting public health data on psychedelic drug use in the City, and c) deprioritizes the enforcement of laws that impose criminal penalties for the possession of psychedelic drugs for personal use (with the exception of Peyote), and laws that impose criminal penalties for the cultivation, processing, and preparation of psychedelic-containing plants and fungi for personal use (with the exception of Peyote).

**Financial Implications:** See report

Contact: Roberto Terrones, Commission Secretary, (510) 981-5400

## Unscheduled Items

*These items are not scheduled for discussion or action at this meeting. The Committee may schedule these items to the Action Calendar of a future Committee meeting.*

None

## Items for Future Agendas

- Requests by Committee Members to add items to future agendas
- Discussion of future hearings and open forums

## Adjournment

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*Written communications addressed to the Health, Life Enrichment, Equity & Community Committee and submitted to the City Clerk Department will be distributed to the Committee prior to the meeting.*

*This meeting will be conducted in accordance with the Brown Act, Government Code Section 54953 and applicable Executive Orders as issued by the Governor that are currently in effect. Members of the City Council who are not members of the standing committee may attend a standing committee meeting even if it results in a quorum being present, provided that the non-members only act as observers and do not participate in the meeting. If only one member of the Council who is not a member of the committee is present for the meeting, the member may participate in the meeting because less than a quorum of the full Council is present. Any member of the public may attend this meeting. Questions regarding this matter may be addressed to Mark Numainville, City Clerk, (510) 981-6900.*



### COMMUNICATION ACCESS INFORMATION:

This meeting is being held in a wheelchair accessible location. To request a disability-related accommodation(s) to participate in the meeting, including auxiliary aids or services, please contact the Disability Services specialist at (510) 981-6418 (V) or (510) 981-6347 (TDD) at least three business days before the meeting date. Attendees at public meetings are reminded that other attendees may be sensitive to various scents, whether natural or manufactured, in products and materials. Please help the City respect these needs.

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I hereby certify that the agenda for this meeting of the Standing Committee of the Berkeley City Council was posted at the display case located near the walkway in front of the Maudelle Shirek Building, 2134 Martin Luther King Jr. Way, as well as on the City's website, on May 4, 2023.



Mark Numainville, City Clerk

## **Communications**

*Communications submitted to City Council Policy Committees are on file in the City Clerk Department at 2180 Milvia Street, 1st Floor, Berkeley, CA, and are available upon request by contacting the City Clerk Department at (510) 981-6908 or [policycommittee@cityofberkeley.info](mailto:policycommittee@cityofberkeley.info).*

**BERKELEY CITY COUNCIL HEALTH, LIFE ENRICHMENT, EQUITY &  
COMMUNITY COMMITTEE  
REGULAR MEETING MINUTES**

**Monday, March 13, 2023  
10:00 AM**

**2180 Milvia Street, 6th Floor - Redwood Room**

Committee Members:

Councilmembers Ben Bartlett, Sophie Hahn, and Mark Humbert  
Alternate: Councilmember Terry Taplin

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# MINUTES

**Roll Call:** 10:06 a.m.

**Present:** Bartlett, Humbert, Hahn

**Public Comment on Non-Agenda Matters:** 1 Speaker

## Minutes for Approval

*Draft minutes for the Committee's consideration and approval.*

- 1. Minutes - December 12, 2022**  
**Action:** M/S/C (Bartlett/Humbert) to approve the December 12, 2022 minutes.  
**Vote:** All Ayes.

## Committee Action Items

*The public may comment on each item listed on the agenda for action as the item is taken up. The Chair will determine the number of persons interested in speaking on each item. Up to ten (10) speakers may speak for two minutes. If there are more than ten persons interested in speaking, the Chair may limit the public comment for all speakers to one minute per speaker.*

*Following review and discussion of the items listed below, the Committee may continue an item to a future committee meeting, or refer the item to the City Council.*

- 2. Election of Chair**  
**Action:** M/S/C (Bartlett/Humbert) to elect Councilmember Hahn as Chairperson of the Health, Life Enrichment, Equity & Community Committee.  
**Vote:** All Ayes.

3. **Berkeley Food Utility and Access Resilience Measure (FARM)**  
**From: Vice Mayor Bartlett (Author), Mayor Arreguin (Co-Sponsor), Councilmember Harrison (Co-Sponsor), Councilmember Hahn (Co-Sponsor)**  
**Referred: January 17, 2023**  
**Due: June 7, 2023**

**Recommendation:** 1. Refer to the City Manager to protect the City's food supply from natural disasters and economic disruptions by facilitating and chartering a community-based non-profit organization charged with designing and implementing an integrated local food production and distribution system for Berkeley.  
2. Refer to the City Manager and the Office of Economic Development to design and offer economic incentives for non-profits, agricultural producers, and small businesses to partner with the City of Berkeley in support of the FARM.

**Financial Implications:** See report

Contact: Ben Bartlett, Councilmember, District 3, (510) 981-7130

Councilmember Hahn exited the meeting for the consideration of Item 3 at 10:17 a.m. due to Brown Act participation rules.

**Action:** 4 speakers. Discussion held. Item continued to the Health, Life Enrichment, Equity & Community Committee's next regular meeting.

## Unscheduled Items

*These items are not scheduled for discussion or action at this meeting. The Committee may schedule these items to the Action Calendar of a future Committee meeting.*

**None**

## Items for Future Agendas

**None**

## Adjournment

**Action:** M/S/C (Bartlett/Humbert) to adjourn the meeting.

**Vote:** Ayes – Bartlett, Humbert; Noes – None; Abstain – None; Absent – Hahn.

Adjourned at 10:58 a.m.

I hereby certify that the foregoing is a true and correct record of the Health, Life Enrichment, Equity & Community Committee meeting held on March 13, 2023.

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Neetu Salwan, Assistant City Clerk

## Communications

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ACTION CALENDAR

May 8, 2023

To: Honorable Mayor and Members of the City Council  
 From: Vice Mayor Ben Bartlett (Author), Mayor Jesse Arreguin, Councilmember Kate Harrison, and Councilmember Sophie Hahn (Co-Sponsors)  
 Subject: Berkeley Food Utility and Access Resilience Measure (FARM)

RECOMMENDATION

1. Refer to the City Manager to protect the City's food supply from natural disasters and economic disruptions by facilitating and chartering a community-based non-profit organization charged with designing and implementing an integrated local food production and distribution system for Berkeley.
2. Refer to the City Manager and the Office of Economic Development to design and offer economic incentives for non-profits, agricultural producers, and small businesses to partner with the City of Berkeley in support of the FARM.

BACKGROUND & CURRENT SITUATION

To support food resilience for the residents of the City of Berkeley, we must take not only a local food approach, but a hyper-local approach. Food labeled as "local" receives its definition from a provision of the Farm Act from 2008, that states that for a food item to be labeled local, it must be produced "so that the total distance that the product is transported is less than 400 miles from the origin or the product."<sup>1</sup> Hence, under this definition, fruits and vegetables sourced from Southern California are still considered "local" to the City of Berkeley. Given the recent floods that have destroyed many homes, lands, and crops, there is an urgent need to develop a program for stronger food resilience in California.<sup>2</sup>

The FARM initiative on the other hand supports the development of *hyperlocal* urban Production to support the resilience of the residents of Berkeley. Hyper-local produce is food grown right in a communities' backyard, and available for purchase at a market or consumption at local restaurants. The benefit of being a hyperlocal food supplier is that produce can be harvested and delivered on the same day and can remain fresh longer than produce delivered from long distances. Looking at an example of a successful hyperlocal initiative, Gotham Greens in New York highlights emerging trends with urban rooftop gardens focused on the commercial production of greens. Opportunities for hyperlocal and building "Agri-hoods" (urban neighborhoods focused on local food production) continue to grow. This includes neighborhoods that integrate food production into their design and office structure designs that integrate hyperlocal methods of urban agriculture including SPIN Farming (small plot intensive) vertical farming and rooftop growing. According to Curtis Stone, author of the Urban

<sup>1</sup> Food, Conservation, and Energy Act of 2008 (June 18, 2008)  
<https://www.govinfo.gov/content/pkg/PLAW-110publ246/pdf/PLAW-110publ246.pdf>

<sup>2</sup> Staff, RICH RODRIGUEZ | . KMPH. "It's Just a Mess': California Farmers Growing Concerned over Lingering Flood Waters." *KRCR*, 27 Mar. 2023, <https://krcrtv.com/news/videos/its-just-a-mess-california-farmers-growing-concerned-over-lingering-flood-waters-pistachio-trees-kings-county-farm-breckenridge-corcoran-tule-river-deer-creek-cal-fire>.

Farmer and SPIN farming expert, Urban Farmers can earn \$75,000 on 15,000 Square Feet and can grow between 6,000 to 7,000 pounds of food on 1/10th of an acre. The city of Berkeley is 17 square miles, or approximately 11,000 acres.<sup>3</sup> If we cultivated 5% of the total acreage of Berkeley, leveraging the concept of distributed local production with SPIN Farming under the assumption that we can yield 7,000 pounds of produce per 1/10<sup>th</sup> of an acre, that would provide 38 Million pounds of fresh produce a year. While this is not enough to fully support the entire city, it is a significant step forward to food resilience for the city, and specifically for the 20,000 low-income individuals in the community.

By March of 2023, the emergency allotment of these low income individuals and households enrolled in the Federal Supplemental Nutrition Assistance Program (SNAP) will end.<sup>4</sup> This change comes when food prices increase by 10% over the same month last year. According to<sup>5</sup> Cal Policy Research, 10% of students in the UC System access SNAP Benefits, which helps students make ends meet while attending school. The FARM Initiative sets the framework to not only increase the production and supply of fresh produce in Berkeley, but also to create a framework to structure group buying power for SNAP participants in Berkeley, to help lower the cost, support local growers and help the community eat healthier.

Berkeley is home to the local foods revolution, yet thousands of Berkeley residents are food insecure. Natural disasters and economic downturns exacerbate this insecurity and climate change increases the likelihood and severity of food supply interruption.

Berkeley has the framework for food resiliency through its successful farmers' market; service providers who have been providing meals to homeless individuals since the early 1970s; community groups like Consider the Homeless and Food Not Bombs, which distribute food to homeless populations; and the Berkeley Food Network (BFN). Founded in 2016 in collaboration with community organizations, BFN promotes access to nutritional food by using "innovative, community-centered solutions to build a more sustainable, resilient, and equitable food system."<sup>6</sup>

The City should preemptively safeguard its residents from a food supply interruption through a Food Utility and Access Resilience Measure (FARM). A FARM initiative achieves food resilience by (1) developing local food production sources; (2) connecting these sources to each other and local community hubs, including food banks, grocery stores, restaurants, and local schools; and (3) powering local food production sources using renewable energy with battery backup storage that can operate despite disruptions to the main power grid. These efforts will be

<sup>3</sup> Maki, Olivia, How Urban Farmers Can Earn \$75,000 on 15,000 Square Feet (February 29, 2016)

<https://civileats.com/2016/02/29/how-urban-farmers-curtis-stone-earns-75000-on-15000-square-feet/>

<sup>4</sup> "MoCorvey, J., and Rob Wile. ""With Foods Stamp Cuts just Days Away, Millions of Americans Brace for Tougher Times In The Grocery Aisle" Feb 26, 2023 [https://www.nbcrightnow.com/national/with-food-stamp-cuts-just-days-away-millions-of-americans-brace-for-tougher-times-in/article\\_3e070c3e-b616-11ed-a950-0f3c90f9985b.html](https://www.nbcrightnow.com/national/with-food-stamp-cuts-just-days-away-millions-of-americans-brace-for-tougher-times-in/article_3e070c3e-b616-11ed-a950-0f3c90f9985b.html)

<sup>5</sup> California Community College and University of California student participation in CalFresh food benefits (February 23, 2022) <https://www.capolicylab.org/california-community-college-and-university-of-california-student-participation-in-calfresh-food-benefits/>

<sup>6</sup> Berkeley Food Network, *About BFN*, (last accessed Jan. 5, 2023), <https://berkeleyfoodnetwork.org/who-we-are/about/>.  
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assisted by the requirements under SB 1383, which requires restaurants and grocery stores to compost left-over food. These businesses would benefit from having a lower cost method of disposing of still fresh but excess food.

### 1. Community resilience

Government planners are faced with an emergent set of existential threats to populations and infrastructure. Many threats stem from the rapid advancement of climate change, with the increasing frequency of extreme weather events, such as hurricanes, tornadoes, floods, droughts, and fires. In addition to climate disasters, disaster preparedness must brace for pandemics, electrical failure, targeted violence, and cyber attacks, water and energy infrastructure failure, sea level rise, supply chain breakdown, and food insecurity. These threats arise from a variety of sources and therefore require a systems-level approach that addresses all the possible points of failure in an urban food supply chain.

Accordingly, policymakers are embracing new emergency preparedness and disaster mitigation models centered on equity and resilience at the community level (community resilience). Community resilience refers to the ability of a community to withstand and recover from disruptions, such as natural disasters, economic downturns, or health crises. Community resilience leverages local community networks; local knowledge; local communication channels; local resources; and local bodies of governance and leadership.

### 2. Food resilience

One component of community resilience is food resilience, which refers to the ways in which a community can ensure its members have access to healthy and nutritious food, even during times of crisis. This can involve a variety of strategies, such as growing food locally, supporting local agriculture, building community gardens, developing food storage and preservation facilities, and forming relationships with local food producers. By building a resilient local food system, communities can reduce their reliance on remote sources of food and ensure that they are able to continue providing sustenance for residents, even during challenging times.

FARM's development of a local, resilient food system empowers the City of Berkeley to achieve one of its key Climate Action Plan goals. Adopted in 2009, the Climate Action Plan calls for the "majority of food consumed in Berkeley" to be produced locally.<sup>7</sup> By creating a network of local food production, FARM lays the foundation for local, higher yield production of nutritious food that the City can scale up to meet its goal. This environmental objective is intertwined with resilience. Lowering

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<sup>7</sup> City of Berkeley, *Berkeley Climate Action Plan*, (June 2, 2009), <https://berkeleyca.gov/your-government/our-work/adopted-plans/berkeley-climate-action-plan>.

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the distance between the location of production and consumption improves the ability to supply food to the people of Berkeley despite disruptions to transportation.

The State of California and the US Federal Government are increasingly incorporating food resilience in disaster planning and view food security as foundational to any resilience effort. For example, California’s budget for fiscal year 2022-23 allocates \$477 million toward agricultural resilience measures, including climate-friendly agriculture, soil health, water efficiency, and wildfire prevention.<sup>8</sup>

Additionally, California’s Strategic Growth Council (SGC) has called for local-level resilience through its Community Resilience Centers (CRC) program. The CRC program will “fund new construction and upgrades of neighborhood-level resilience centers to provide shelter and resources during climate and other emergencies . . . .”<sup>9</sup>

At the federal level, President Joe Biden signed National Security Memorandum-16 (NSM-16) in November 2022 “to strengthen the security and resilience of United States food and agriculture.” NSM-16 provides a process for identifying and assessing threats to food security, strengthens relationships with the private sector, and promotes systems that respond to disruptions in the food sector.<sup>10</sup>

### 3. Food is a fundamental human right.

It has been often said, “There are only nine meals between mankind and anarchy.” And Vladimir Lenin said, “Every society is three meals away from chaos.” Like air and water, food is essential for survival and the only commodity that cannot be postponed. When social, economic, or ecological barriers block access to nutritious food, people suffer. Food-insecure individuals have higher rates of mental health issues, and hungry children attain lower academic achievement than their peers.<sup>11</sup>

The United Nations recognizes the fundamental right to food for all. At its core, this right is the right to “all nutritional elements” necessary to live a “healthy and active life” and to the means to access these elements.<sup>12</sup> The access portion of this right focuses on physical and economic access.<sup>13</sup>

<sup>8</sup> Arohi Sharma, *FY22 California Budget Invests in Agricultural Resilience*, NRDC (Sep. 21, 2022), <https://www.nrdc.org/experts/arohi-sharma/fy22-california-budget-invests-food-farm-resilience>.

<sup>9</sup> Cal. Strategic Growth Council, *SGC Launches Development of Community Resilience Centers (CRC) Program*, (July 5, 2022), <https://sgc.ca.gov/news/2022/07-05.html>.

<sup>10</sup> See National Security Memorandum on Strengthening the Security and Resilience of United States Food and Agriculture, (Nov. 10, 2022), <https://www.whitehouse.gov/briefing-room/presidential-actions/2022/11/10/national-security-memorandum-on-on-strengthening-the-security-and-resilience-of-united-states-food-and-agriculture/>.

<sup>11</sup> Arohi Pathak, Ryan Richards & Marc Jarsulic, *The United States Can End Hunger and Food Insecurity for Millions of People*, Center for American Progress Action Fund (Aug. 11, 2022), <https://www.americanprogress.org/article/the-united-states-can-end-hunger-and-food-insecurity-for-millions-of-people/>.

<sup>12</sup> Off. of the High Comm’r for Hum. Rts., *The Right to Adequate Food*, Fact Sheet No. 34 (Apr. 2010), <https://www.ohchr.org/sites/default/files/Documents/Publications/FactSheet34en.pdf>.

<sup>13</sup> *Id.*

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The US federal government has failed to legally recognize such a right, but some states have made progress. In 2021, the State of Maine recognized the right to food in its constitution.<sup>14</sup> The amendment declares that “all individuals have the right to grow, raise, harvest, produce and consume the food of their own choosing for their own nourishment, sustenance, bodily health, and well-being.”<sup>15</sup> This amendment follows Maine’s 2017 Food Sovereignty Act, which built a food sovereignty foundation by permitting municipal governments to regulate local food systems with the guarantee of state recognition.<sup>16</sup>

#### 4. Food insecurity rates are rising in the Bay Area.

Food insecurity is a growing crisis throughout the US. The US Department of Agriculture (USDA) defines food insecurity as “a household-level economic and social condition of limited or uncertain access to adequate food.”<sup>17</sup> The USDA found that in 2020, almost 14 million households (10.5% of the population) did not have enough food to meet their needs. In California alone, more than 4 million people were reported to be food insecure in May 2022,<sup>18</sup> and in the Bay Area, food insecurity is increasing. In 2018, the San Francisco Chronicle reported that 11.5% of Bay Area residents, 870,000 people, were food insecure.<sup>19</sup> The economic and public health impacts of COVID-19 exacerbated food insecurity. A 2021 study by San Jose State University found that Bay Area food insecurity rates spiked from 20% to 33% from the beginning of the COVID-19 pandemic to March 2021.<sup>20</sup>

In Berkeley and Albany pre-pandemic, an estimated 24,000 individuals were food insecure.<sup>21</sup> The demand for food aid in Berkeley increased sharply during the pandemic, forcing the Berkeley Food Network (BFN) to *triple* its operations in the first half of 2020.<sup>22</sup>

Although many households are still bearing the economic impacts of COVID-19, the USDA is cutting SNAP benefits (CalFresh) to pre-pandemic levels after the February

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<sup>14</sup> Tess Brennan, *Maine Becomes the First US State to Recognize the Right to Food in a Constitutional Amendment*, Universal Rts. Grp. Geneva (Jan. 19, 2022), <https://www.universal-rights.org/blog/maine-becomes-the-first-us-state-to-recognise-the-right-to-food-in-a-constitutional-amendment/>.

<sup>15</sup> *Id.*

<sup>16</sup> *See id.*

<sup>17</sup> USDA, *Definitions of Food Security*, <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/definitions-of-food-security/>.

<sup>18</sup> Toni Koraza, *California to Face a Devastating Crisis*, NewsBreak (May 5, 2022), <https://original.newsbreak.com/@toni-koraza-561162/2590989189701-california-to-face-a-devastating-crisis>.

<sup>19</sup> Tara Duggan, *How Families Slip Through*, San Francisco Chronicle (Nov. 18, 2018), <https://www.sfchronicle.com/food/article/The-hidden-hungryA-Bay-Area-paradox-13379274.php>.

<sup>20</sup> Giselle Pignotti et al., *Food Insecurity and Food Access during COVID-19 in the San Francisco Bay Area*, San Jose State Univ. (Mar. 2021).

<sup>21</sup> Berkeley Food Network, *Programs*, (last accessed Dec. 20, 2022), <https://berkeleyfoodnetwork.org/what-we-do/programs/>.

<sup>22</sup> Berkeley Food Network, *Major Hunger-Relief Investment Will Help Alleviate Growing Food Insecurity in Berkeley*, (May 19, 2020), <https://berkeleyfoodnetwork.org/major-hunger-relief-investment-will-help-alleviate-growing-food-insecurity-in-berkeley/>.  
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2023 issuance.<sup>23</sup> This deduction comes at a time of record-high food inflation; the US Bureau of Labor statistics reported that prices for food at home increased by 13.5% in the 12 months ending in August 2022.<sup>24</sup> This spike is “the largest 12-month percentage increase since the period ending in March 1979.”<sup>25</sup>

The growing demand for food aid in Berkeley, coupled with recent reductions in government food benefits, highlights the fragility of the degree of food accessibility at any given time. If there is a disruption in the food supply chain, households that are already food insecure will face even greater barriers to food access. Further, the COVID-19 pandemic demonstrated that disruption would drastically increase the number of households that are food insecure. Without a safety net to insulate our community from these devastating supply chain shocks, a large proportion of households would find themselves in a struggle to survive.

5. Natural disasters, climate change, and foreign conflicts further threaten food access.

Climate change, natural disasters, and increasing global conflict jeopardize the world’s food security. The market for food spans internationally, so disruptions in one region send ripple effects, in the form of food scarcity or price shocks, throughout the rest of the food supply chain. The supply chain is fragile; it only takes a disruption in one of the chain’s many links for consumers to lose access to healthy food.<sup>26</sup> Recognizing the supply chain’s vulnerability, the USDA built a Food System Transformation framework to create a more resilient food network.<sup>27</sup> Climate change reduces food availability and is exacerbated by transporting food long distances that could be grown locally.

The COVID-19 pandemic disrupted “all segments of food supply chains,” including farming, food processing, transportation, and final demand.<sup>28</sup> At the farming level, labor-intensive farms—those producing crops like fruits and vegetables—suffered from production shortages when their sick workers were unable to work.<sup>29</sup> Labor shortages also inhibited food processing facilities, with many reporting high rates of worker absences during the pandemic.<sup>30</sup> Necessary pandemic measures severely impacted the transportation of fruits and vegetables. Fruits and vegetables are

<sup>23</sup> USDA, *Changes to SNAP Benefit Amounts - 2023*, (updated on Feb. 17, 2023), <https://www.fns.usda.gov/snap/changes-2023-benefit-amounts>.

<sup>24</sup> Bureau of Labor Statistics, *Prices for Food at Home Up 13.5 Percent for Year Ended August 2022*, The Economics Daily (Sep. 15, 2022), <https://www.bls.gov/opub/ted/2022/prices-for-food-at-home-up-13-5-percent-for-year-ended-august-2022.htm>.

<sup>25</sup> *Id.*

<sup>26</sup> Mario Lubetkin, *2021 Revealed the Fragility of Food Systems*, ReliefWeb (Dec. 16, 2021), <https://reliefweb.int/report/world/2021-revealed-fragility-food-systems>.

<sup>27</sup> USDA, *USDA Announces Framework for Shoring Up the Food Supply Chain and Transforming the Food System to Be Fairer, More Competitive, More Resilient*, (June 1, 2022), <https://www.usda.gov/media/press-releases/2022/06/01/usda-announces-framework-shoring-food-supply-chain-and-transforming>.

<sup>28</sup> OECD, *Food Supply Chains and COVID-19: Impacts and Policy Lessons*, (June 2, 2020), <https://www.oecd.org/coronavirus/policy-responses/food-supply-chains-and-covid-19-impacts-and-policy-lessons-71b57aea/>.

<sup>29</sup> *Id.*

<sup>30</sup> *Id.*

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perishable foods with a “high value-to-weight ratio,” so they are transported on passenger planes. Declines in passenger air travel thus caused bottlenecks in fruit and vegetable transportation.<sup>31</sup> The last step in the supply chain is getting food to consumers. When consumers lost their jobs due to the initial economic downturn in 2020, they lost economic access to food, endangering those without social safety nets.

Like the COVID-19 pandemic, other natural disasters threaten global food security by disrupting agriculture production, food availability, and food accessibility. A survey on natural disasters between 2003 and 2013 by the Food and Agriculture Organization of the United Nations “showed 25% of disaster-related losses are in agriculture sectors . . .”<sup>32</sup> The impact of a natural disaster depends on the type of natural disaster that occurs. For example, researchers report that droughts in China cut wheat yields by 5.8% over 30 years.<sup>33</sup>

These dangers hit close to home. A report by leading conservation research group NatureServe found that California, Texas, and the southeastern United States are where the highest percentages of plants, animals, and ecosystems are at risk.<sup>34</sup> Droughts are a growing danger in California that reduces usable farmland. In 2022, California’s irrigated farmland shrank by 752,000 acres (nearly 10%) compared with 2019, the year before the drought.<sup>35</sup> The amount of fallowed farmland in 2022 surpassed the peak during California’s last drought, which lasted from 2012 to 2016.<sup>36</sup>

While droughts are long-term natural disasters with creeping effects, wildfires can impact the supply chain immediately. During the 2020 California wildfires, the intense smoke made it unsafe for farm workers and livestock to be outdoors.<sup>37</sup> Without workers, farms had to plow under many crops, meaning these crops never reached consumers. Additionally, the wildfires destroyed vital land where farmers grew food; the fires destroyed the existing crops and contaminated the soil, jeopardizing future harvests.<sup>38</sup>

War can also disrupt the food supply chain. The Russian invasion of Ukraine, one of the world's biggest wheat and corn producers, caused many countries to skyrocket

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<sup>31</sup> *Id.*

<sup>32</sup> James Ducker, *Investigating the Impact of Disasters on Food and Agriculture*, AZO Life Sciences (last updated Nov. 26, 2021), <https://www.azolifesciences.com/article/Investigating-the-Impact-of-Disasters-on-Food-and-Agriculture.aspx>.

<sup>33</sup> Shi et al., *Crop Yield and Production Responses to Climate Disasters in China*, 750 *Science of the Total Environment* (2021).

<sup>34</sup> Brad Brooks, *Huge Chunk of Plants, Animals in U.S. at Risk of Extinction - Report*, Yahoo!News (Feb. 6, 2023), <https://news.yahoo.com/exclusive-huge-chunk-plants-animals-090952175.html>.

<sup>35</sup> Ian James, ‘It’s a Disaster.’ *Drought Dramatically Shrinking California Farmland, Costing \$1.7 Billion*, Los Angeles Times (Nov. 23, 2022), <https://www.latimes.com/environment/story/2022-11-23/drought-cost-california-agriculture-1-7-billion-this-year>.

<sup>36</sup> *Id.*

<sup>37</sup> Phil Lempert, *California Wildfires: The Enormous Effect on Our Food Supply*, Retail Dietitians Bus. Alliance (Dec. 9, 2020), <https://www.retaildietitians.com/articles/california-wildfires-the-enormous-effect-on-our-food-supply/>.

<sup>38</sup> *Id.*

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food prices.<sup>39</sup> The invasion halted Ukrainian exports and damaged Ukraine’s rail infrastructure. As a result, large quantities of grain were trapped in Ukraine, preventing the entire 2022 harvest from having adequate storage space.<sup>40</sup> This supply shock affected countries throughout the world, including India, Egypt, and South Korea. Further, Russia was one of the top exporters of fertilizers before the invasion. Stricter controls on Russian exports caused the price of fertilizer to spike worldwide, leading farmers to reduce their planned harvests.<sup>41</sup>

## 6. Food Citizenship

“Food citizenship” describes the rights and responsibilities that individuals have in relation to the food they eat and produce. Food citizenship can include making informed choices about food purchases and consumption, supporting sustainable and ethical food systems, and advocating for food policies that prioritize the health and well-being of individuals and the environment. Food citizenship can also involve taking action to address issues such as food waste, hunger, and access to healthy food in underserved communities. Essentially, being a food citizen means actively engaging in the food system and working towards creating a more sustainable and equitable food system for all.

Food citizenship can play an important role in promoting community resilience by supporting local food systems and promoting food security. When communities have access to healthy and sustainable food sources, they are better able to withstand and recover from disruptions, such as natural disasters or economic downturns.

If a community is able to grow or produce its own food, it is less dependent on outside sources and can continue to provide for itself in the event of a supply chain disruption. Additionally, supporting local food systems can help to boost the local economy and create jobs, which can increase the overall resilience of the community.

Further, food citizenship can promote food justice and equity within a community, ensuring that all members have access to healthy and affordable food. This can reduce food insecurity and prevent vulnerable populations from being disproportionately affected by disruptions to the food system.

## 7. A food resilience system could insure Berkeley against disruptions in the food supply chain.

Building a food resilience system *before* a supply chain disruption protects food-insecure households and prevents more households from becoming food insecure. Food

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<sup>39</sup> Rob Garver, *Global Food Prices Rise with Ukraine-Russia Agreement in Doubt*, VOA News (Oct. 31, 2022), <https://www.voanews.com/a/global-food-prices-rise-with-ukraine-russia-agreement-in-doubt-/6813606.html>.

<sup>40</sup> Dea Bankova, Prasanta Kumar Dutta & Michael Ovaska, *The War in Ukraine is Fuelling a Global Food Crisis*, Reuters (May 30, 2022), <https://graphics.reuters.com/UKRAINE-CRISIS/FOOD/zjvqkgomjvx/>.

<sup>41</sup> *Id.*

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resilience is the ability to withstand and recover from disruptions to food access in a way that ensures a sufficient supply of acceptable and accessible food for all<sup>42</sup>.

#### 8. FARM as a Community Food Utility: Overview<sup>43</sup>

The mission of FARM is to foster a resilient food system that can withstand supply chain shocks and ensure all people in the community have access to adequate amounts of wholesome, nutritious foods produced by ecologically sound and socially responsible means. FARM would be a chartered public utility based on the concept of food citizenship, similar to the existing utilities for energy and water systems. FARM would have three major components: a) Community Layer, b) Food Production Layer, and c) Energy Resilience.

##### a. Community Layer

Growing food locally promotes physical access to food in times of crisis. To ensure that enough food is locally grown, it is critical to connecting community gardens, backyard gardens, and other urban farms into a production network with delivery centers.

##### i. Community Gardens and Backyard Gardens

The FARM should create a network of community gardens and backyard gardens in order to support community resilience by providing local food sources, fostering social connections, and promoting environmental sustainability.

Community gardens and backyard gardens can provide communities with a local source of fresh, healthy, and affordable produce. This can help to increase food security and reduce dependency on outside sources, making communities more resilient in the face of disruptions to the food supply chain. One backyard garden can provide food for up to six families.

Community gardens can also provide a space for community members to come together and engage in productive, healthy activities. This can help to build social connections and a sense of community, which are important for promoting resilience in the face of challenges.

Furthermore, community gardens and backyard gardens help to promote environmental sustainability and resilience by providing a space for growing food using sustainable and environmentally-friendly practices. This can help to reduce the community's overall ecological footprint and make it more resilient in the face of environmental challenges.

<sup>42</sup> Johns Hopkins Center for a Livable Future, *Food System Resilience*, <https://clf.jhsph.edu/projects/food-system-resilience>.

<sup>43</sup> Ikerd, J. (n.d.). *Enough Good Food For All; A Community Food Utility*. Communityfoodutility. Retrieved January 4, 2023, from <https://sites.google.com/site/communityfoodutility?pli=1>

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ii. Synchronizing Local Food Production with Food Banks, Restaurants, Schools, and Grocery Stores

Yields from local food production can be distributed to local food banks, restaurants, schools, and grocery stores. This omnichannel production and distribution model has two key benefits. First, it ensures that locally produced food is not wasted. Second, it provides a source of feedback for FARM because restaurants, schools, and grocery stores can provide guidance to FARM for improvements in usability, quantity, and quality.

iii. Supplemental Nutrition Assistance Program (SNAP)

The community layer should incorporate a SNAP group-buying mechanism whereby SNAP recipients can deposit assistance funds into a FARM account. In return, the FARM would ensure that each recipient received enough good food to meet their basic needs, regardless of the amount of their individual SNAP payment. Some non-profit organizations are currently operating in this manner.<sup>44</sup>

b. Production Layer

Additionally, FARM would partner with urban agriculture companies and nonprofits with experience and expertise in producing high crop yields with accelerated harvest velocity in urban settings. The yields from these producers could supplement yields from existing community gardens while minimizing seasonal fluctuations and other disruptions in the supply chain.

To increase local food production, the City would offer certain economic incentives to urban agriculture companies to co-locate within the City of Berkeley. In exchange for these incentives, companies would agree to give the City Most Favored Nation (“MFN”) status, with the right of first refusal and right of first offer on the companies’ food items in the event of a local food supply chain disruption event (food shock). As discussed below, the FARM board will institute policies that define a food shock that triggers the MFN agreement. For example, the board may define a food shock to include a week-long interruption of certain food staples at two grocery stores.

Recent innovations continue to mitigate the historical limitations of urban agriculture: land, labor, and potential yield. A study on urban farms in New York City found that the crops in urban farms produced higher yields than their conventional farm counterparts, thus making up for the spatial limitations that urban farms may face.<sup>45</sup> Additionally, peri-urban farming, which produces

<sup>44</sup> See e.g., *Community Resilience Centers*, CA.gov (last accessed Nov. 30, 2022), <https://sgc.ca.gov/programs/community-resilience-centers/>.

<sup>45</sup> Mara Gittleman et al., *Using Citizen Science to Quantify Community Garden Crop Yields*, 5 *Cities and the Environment* (2012), <https://digitalcommons.lmu.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1095&context=cate>.  
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substantial amounts of food on a relatively small amount of land on the fringes of a city, has emerged as a space-efficient form of urban agriculture.<sup>46</sup> Gotham Greens addresses the yield limit issue by growing crops inside greenhouses with hydroponic technology. Gotham Greens' greenhouses are located near cities, allowing for proximity to communities while avoiding real estate constraints.<sup>47</sup> Closer to home, Upside Foods has opened a production facility to produce high-quality laboratory-grown meat at scale.<sup>48</sup>

i. Controlled Environment Agriculture (CEA)

CEA is an indoor food production method that uses stacked shelves, modular rack systems, or tower gardens to increase crop yields using less surface area significantly.<sup>49</sup> Technologies such as ultra-efficient LED lighting, automated environmental control systems, and dehumidification recapture loops can dramatically reduce resource consumption, including consumption of energy, water, and nutrients. Photographs of such technologies are included in Attachment 1.

Exceptional yields and multiple harvests per year make indoor farming economically viable and sustainable over time. These two factors are possible because indoor farming creates an environment for resource-efficient methods like aeroponics<sup>50</sup> (i.e., spraying nutrient-rich mist on root zones that are suspended in the air) and aquaponics.

Aquaponics is a sustainable farming method that combines traditional aquaculture (raising fish) with hydroponics (growing plants in water without soil). In an aquaponic system, fish produce waste that is converted into plant nutrients. The plants, in turn, help to purify the water for the fish. This closed-loop system can be highly efficient, as it reduces the need for external inputs such as synthetic fertilizers and pesticides, and it allows for year-round production in a controlled environment. Aquaponics can be used to grow various vegetables, herbs, and other plants, as well as raise fish such as tilapia, trout, and bass. It can be a great option for urban farming, as it requires less space and water than traditional farming methods.

<sup>46</sup> Ina Optiz et al., *Contributing to Food Security in Urban Areas: Differences Between Urban Agriculture and Peri-Urban Agriculture in the Global North*, 33 *Agriculture and Human Values* (2016), <https://link.springer.com/article/10.1007/s10460-015-9610-2>.

<sup>47</sup> Gotham Greens, *Our Story*, <https://www.gothamgreens.com/our-story/>.

<sup>48</sup> Katie Spalding, *World's Most Advanced Lab-Grown Meat Facility Opens in California*, IFL Science (Nov. 8, 2021), <https://www.iflscience.com/worlds-most-advanced-labgrown-meat-facility-opens-in-california-61548>.

<sup>49</sup> Sarah Federman, *Vertical Farming for the Future*, USDA (Oct. 25, 2021), <https://www.usda.gov/media/blog/2018/08/14/vertical-farming-future>; see e.g., Gardyn, *How It Works*, (last accessed Mar. 3, 2023), <https://mygardyn.com/how-it-works/>.

<sup>50</sup> See e.g., Rouses Markets, *Rouses Markets Creates Sustainable Aeroponic Rooftop Garden Above Downtown New Orleans Store*, Cision (May 17, 2012), <https://www.prnewswire.com/news-releases/rouses-markets-creates-sustainable-aeroponic-rooftop-garden-above-downtown-new-orleans-store-151890995.html>; *Rouses Roots on the Rooftop*, Tower Farms (last accessed Mar. 3, 2023), <https://www.towerfarms.com/us/en/possibilities/rooftop-farming/rouses-rooftop-farm>.

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Compared to traditional farming techniques, aeroponics and aquaponics dramatically increase yields and quality while reducing water consumption by as much as 90%.<sup>51</sup>

ii. Repurposing Empty Commercial Space

Indoor farms can be developed in underutilized warehouses, shuttered big boxes retail locations such as the vacant CVS on Shattuck and Bancroft, and the vacant Walgreens on Ashby and San Pablo, or under freeway overpasses such as Gilman and I-80. To create dual-purpose land-use throughout the city, advanced greenhouses could be elevated above existing ground-level parking lots at locations such as Whole Foods in North Berkeley.

c. Energy Resilience

The food production network should integrate renewable energy systems that can remain resilient in the event of a disruption to the energy grid. Such a system could employ local micro-grids with solar and storage to provide power to local food production facilities. Additionally, a renewable energy system could help limit environmental impact and reduce long-term costs.<sup>52</sup>

This renewable energy system would combine various methods of production to maximize redundancies and extend grid independence of the food resilience program in the event of a major energy crisis. Existing technologies such as rooftop solar arrays and onsite battery storage systems can be combined with emerging technologies such as urban wind turbines,<sup>53</sup> transparent solar panels that allow crops below to absorb energy,<sup>54</sup> and biofuel co-generators<sup>55</sup> for use when other means of production are not available. These emerging technologies should be considered and planned for when developing the energy independence component of FARM, placing Berkeley at the forefront of sustainability in urban farming.

## 9. FARM: Organization

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<sup>51</sup> Michelle Keller, *Aeroponics - What Is It & Why Is It Important?*, Living Greens Farm (Aug. 4, 2020), <https://www.livinggreensfarm.com/blog/what-is-aeroponics>.

<sup>52</sup> US Department of Agriculture, *Rural Energy for America Program Renewable Energy Systems & Energy Efficiency Improvement Guaranteed Loans & Grants*, <https://www.rd.usda.gov/programs-services/energy-programs/rural-energy-america-program-renewable-energy-systems-energy-efficiency-improvement-guaranteed-loans>.

<sup>53</sup> IBIS Power, *Easily Upgrade Your Building to Renewable Energy*, (last accessed Dec. 20, 2022), <https://ibispower.eu/powernest/>.

<sup>54</sup> Anthony Cuthbertson, *Record-Breaking Transparent Solar Panels Pave Way for Electricity-Generating Windows*, Independent (Oct. 28, 2022), <https://www.independent.co.uk/tech/solar-panel-world-record-window-b2211057.html>.

<sup>55</sup> Diego Perrone et al., *Energy and Economic Investigation of a Biodiesel-Fired Engine for Micro-Scale Cogeneration*, 14 *Energies* (2021), [https://www.researchgate.net/publication/348594263\\_Energy\\_and\\_Economic\\_Investigation\\_of\\_a\\_Biodiesel-Fired\\_Engine\\_for\\_Micro-Scale\\_Cogeneration](https://www.researchgate.net/publication/348594263_Energy_and_Economic_Investigation_of_a_Biodiesel-Fired_Engine_for_Micro-Scale_Cogeneration).

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The FARM will be a self-funded non-profit chartered by the City of Berkeley, with a self-appointed Board of Directors, approved by the City Council, with duties and administrative powers also approved by the City Council.

The FARM could be organized as a “vertical cooperative.”<sup>56</sup> A cooperative is a user-owned and controlled entity from which benefits are distributed equitably.<sup>57</sup> As a vertical cooperative, the FARM would operate on all levels of the vertical food system—linking producers, processors, distributors, retailers, and consumers. The system as a whole must be sustainable if the FARM continues to provide food security for the community. All recipients and participants in the vertical system would be members of the FARM cooperative.

**10. FARM: Governance**

The FARM will begin with a volunteer, skills-based governing board, named the Food Security Council, with the City acting as a facilitator. Once the FARM has achieved grant funding, the Food Security Council members will be compensated. The Food Security Council should consist of community members, grant writers, SNAP recipients, food producers, an organized labor representative, and experts in resilience, logistics, renewable energy, and public health. All members would be appointed by the non-profit. The Food Security Council will have six core responsibilities:

1. Form the FARM as a non-profit organization;
2. Apply for grant funding;
3. Seek external partnerships;
4. Manage the FARM’s efforts to develop and maintain food production and distribution processes;
5. Determine the caloric needs of residents based on empirical evidence to set food production goals for the FARM; and
6. Define food shock events (e.g., how many days without staples constitute a food shock).

**11. FARM: Potential Funding Sources**

Funding sources include fees for administering government food assistance programs and grants from California, the USDA, and the Department of Energy (DOE) are available.

**a. Federal and State Food Insecurity Related Grants and Programs**

| Grant or | Amount | Source/ | Eligible Projects |
|----------|--------|---------|-------------------|
|----------|--------|---------|-------------------|

<sup>56</sup> John Ikerd, *The Economic Pamphleteer: Reflections on Cooperation*, Journal of Agriculture, Food Systems, and Community Development (2013), <https://doi.org/10.5304/jafscd.2013.032.001>.

<sup>57</sup> USDA, *Understanding Cooperatives: Cooperative Business Principles*, (Revised Apr. 2011), [https://www.rd.usda.gov/sites/default/files/publications/CIR\\_45-2.pdf](https://www.rd.usda.gov/sites/default/files/publications/CIR_45-2.pdf).  
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| Program                                                                     |                                                                   | Sponsor      |                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------|-------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">Local Foods, Local Places</a>                                   | -                                                                 | USDA and EPA | Developing the local food economy. Examples: community gardens, kitchens, farmer's markets, and other food-related enterprises that can create new businesses and revitalize main streets, improve access to fresh, local food, and protect the environment.                              |
| <a href="#">Community Food Projects Competitive Grants Program (CFPCGP)</a> | \$25K-35K in planning; Up to \$125K per year for up to four years | USDA         | Planning toward the improvement of community food security in accordance with the goals of CFPCGP.                                                                                                                                                                                        |
| <a href="#">The GusNIP - Nutrition Incentive Program</a>                    | -                                                                 | USDA         | Projects intended to increase the purchase of fruits and vegetables by providing incentives at the point of purchase among income-eligible consumers participating in the USDA Supplemental Nutrition Assistance Program (SNAP)                                                           |
| <a href="#">Farm to School Grant</a>                                        | Up to \$500K                                                      | USDA         | Linking local producers with schools and other organizations participating in child nutrition programs working to purchase and include locally grown fruits, vegetables, grains, meat, dairy, and seafood in program meals.                                                               |
| <a href="#">Conservation Innovation Grants</a>                              | -                                                                 | USDA         | Projects supporting the development of farming technology to efficiently increase agricultural production through the conservation of natural resources, such as water and soil.                                                                                                          |
| <a href="#">The Farmers Market Promotion Program (FMPP)</a>                 | -                                                                 |              | Projects that develop, coordinate, and expand direct producer-to-consumer markets to help increase access to and availability of locally and regionally produced agricultural products by developing, coordinating, expanding, and providing outreach, training, and technical assistance |

|                                                               |                                                                                                                                |      |                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                               |                                                                                                                                |      | to domestic farmers markets, roadside stands, community-supported agriculture programs, agritourism activities, online sales or other direct producer-to-consumer (including direct producer-to-retail, direct producer-to-restaurant, and direct producer-to-institutional marketing) market opportunities.                                                 |
| <a href="#">Local Food Promotion Program</a>                  | \$25,000 to \$100,000 (for Planning projects) and \$100,000 to \$500,000 (for Implementation and Farm to Institution projects) | USDA | Grants for Planning projects help food businesses to develop and test services. Grants for Implementation projects fund the creation of food businesses like community kitchens. Grants for Farm to Institution projects support institutional food services like schools with linkage to farms.                                                             |
| <a href="#">Food and Agriculture Service Learning Program</a> | -                                                                                                                              | USDA | For private organizations or non-profits to increase the capacity for food, garden, and nutrition education within host organizations or entities, such as school cafeterias and classrooms while fostering higher levels of community engagement between farms and school systems by bringing together stakeholders from distinct parts of the food system. |

b. Federal and State Resilience Grants and Programs

| Grant or Program                                                                        | Amount | Source/Sponsor                      | Eligible Projects                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------|--------|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">CA Community Resilience Centers</a><br>(anticipated release in spring 2023) | -      | California Strategic Growth Council | New construction and upgrades of neighborhood-level resilience centers to provide shelter and resources during climate and other emergencies. The program will also fund year-round services and ongoing programming that build overall community resilience. |

|                                                                                |   |                                            |                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------|---|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">Building Resilient Infrastructure and Communities (BRIC) Grant</a> | - | FEMA                                       | Hazard mitigation projects, reducing the risks they face from disasters and natural hazards.                                                                                                                       |
| <a href="#">Hazard Mitigation Grant Program (HMGP)</a>                         | - | FEMA/ OEM                                  | Developing hazard mitigation plans and rebuilding in a way that reduces, or mitigates, future disaster losses in local communities.                                                                                |
| <a href="#">Regional Resilience Planning and Implementation Grant Program</a>  | - | Governor's Office of Planning and Research | Advancing resilience and responding to their greatest climate risks through three major activities: capacity building, planning (including identifying climate resilience priorities), and project implementation. |
| <a href="#">CA Transformative Climate Communities</a>                          | - | California Strategic Growth Council        | Development and infrastructure projects that achieve major environmental, health, and economic benefits in California's most disadvantaged communities.                                                            |

c. Federal and State Renewable Energy Grants and Programs

| Grant or Program                                                               | Amount        | Source/ Sponsor                     | Eligible Projects                                                                                                                                                   |
|--------------------------------------------------------------------------------|---------------|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">Energy Efficiency and Conservation Block Grant (EECBG) Program</a> | \$500,000,000 | Department of Energy                | Development and implementation of an energy efficiency and conservation strategy; establishment of financial incentive programs for energy efficiency improvements. |
| <a href="#">CA Transformative Climate Communities</a>                          | -             | California Strategic Growth Council | Development and infrastructure projects that achieve major environmental, health, and economic benefits in California's most disadvantaged communities.             |
| <a href="#">CA Distributed Electricity</a>                                     | -             | California                          | Construction of cleaner and more efficient distributed energy assets that would serve as on-call emergency supply or load                                           |

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|                                                                  |   |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------|---|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">Backup Assets Program</a>                            |   |                                                         | reduction for the state's electrical grid during extreme events.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <a href="#">CA Climate Catalyst Revolving Loan Fund</a>          | - | California Infrastructure and Economic Development Bank | <p>Projects that promote climate-smart technologies and practices across the agricultural value chain</p> <p>Projects may include (but are not limited to):</p> <ul style="list-style-type: none"> <li>● On-farm and food processing renewable energy, including electricity, fuels, and bioenergy</li> <li>● Energy, water, and materials efficiency</li> <li>● Methane reduction projects that use best practice approaches consistent with state policy goals</li> <li>● Energy storage or microgrids</li> <li>● Equipment replacements</li> </ul> |
| <a href="#">Renewable Energy For Agricultural Program (REAP)</a> | - | California Energy Commission                            | Installation of renewable energy technologies serving agricultural operations to reduce greenhouse gas emissions.                                                                                                                                                                                                                                                                                                                                                                                                                                     |

**12. Berkeley is well positioned for a food resilience program.**

The City of Berkeley has already taken steps that facilitate a food resilience program. In 2018, the City updated its Urban Agriculture Ordinance, lowering barriers to urban farming in Berkeley.<sup>58</sup> The update reduced the permit costs for larger-scale farming projects to \$1000 and removed requirements that restricted farming to select city-owned properties.<sup>59</sup>

**ENVIRONMENTAL SUSTAINABILITY**

A food resilience program that involves urban agriculture is expected to reduce pollution from food transportation. Urban agriculture shortens the supply chain, truncating the journey from farm to table.

**REVIEW OF EXISTING PLANS, PROGRAMS, POLICIES, AND LAWS**

Adopted in 2009, Berkeley's Climate Action Plan outlines a vision for a more sustainable city. One

<sup>58</sup> Stuart Luman, *Berkeley's New Urban Agriculture Ordinance Encourages Residents to Grow Their Own Food*, Berkeleyside (Aug. 27, 2018), <https://www.berkeleyside.org/2018/08/27/berkeley-urban-agriculture-law>.

<sup>59</sup> *Id.*

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key goal in the Plan is for the “majority of food consumed in Berkeley” be produced locally.<sup>60</sup> FARM advances this goal by bringing food production and individuals closer together.

On July 24, 2022, the City of Berkeley adopted an ordinance that updated the municipal code on urban agriculture as follows<sup>61</sup>:

#### Purpose (23.318.010)

The purpose of the Urban Agriculture related regulations contained in this chapter is to provide the following community benefits:

- A. Support the local economy and increase access to fresh local produce.
- B. Strengthen the health and social fabric of communities by encouraging and supporting community gardens.
- C. Accomplish the Berkeley Climate Action Plan goal of supporting efforts to build more complete and sustainable local food production and distribution systems

#### Applicability (23.318.020)

These regulations supersede definitions of incidental or ancillary uses.

#### Urban Agriculture Uses and Levels of Discretion (23.318.030)

- A. Zoning Certificate. When all of the thresholds in Section [23.318.040](#) (Thresholds) are met, the use is considered Low-Impact Urban Agriculture (LIUA) and is allowed by right with a Zoning Certificate.
- B. Administrative Use Permit. When one or more of the thresholds in Section [23.318.040](#) (Thresholds) are not met, the use is considered High-Impact Urban Agriculture (HIUA) requires an AUP. (Ord. 7787-NS § 2 (Exh. A), 2021)

#### Thresholds (23.318.040)

The levels of discretion for urban agriculture are based on the following thresholds:

- A. Maximum parcel size of 7,500 square feet.
- B. Maximum lot coverage of 20 percent for accessory structures and buildings.
- C. Maximum group classes and workshops of 20 participants per class conducted no more than three times per week.
- D. Hours of operation from 8:00 a.m. to 8:00 p.m., including but not limited to activities related to gardening and planting of horticultural crops, group classes, and sales.
- E. Use of organic pesticides. (Ord. 7787-NS § 2 (Exh. A), 2021)

#### Operation Standards (23.318.050)

- Performance Standards. The growing, production, or sale of urban agricultural products may not involve hazardous materials or processes or create offensive or objectionable noise, vibration, odors, heat, dirt, or electrical disturbance perceptible by a person beyond the lot line of the subject lot.

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<sup>60</sup> City of Berkeley, *Berkeley Climate Action Plan*, (June 2, 2009), <https://berkeleyca.gov/your-government/our-work/adopted-plans/berkeley-climate-action-plan>.

<sup>61</sup> Berkeley Municipal Code 23.318.050.  
2180 Milvia Street, Berkeley, Floor 5, CA 94704 • Tel: (510) 981-7130 • E-Mail: [bbartlett@cityofberkeley.info](mailto:bbartlett@cityofberkeley.info)

- Sales and Donations.
  - Sales and/or donations of urban agricultural products grown and produced on-site are permitted.
  - If selling or donating urban agricultural products to the public, the urban agriculture use shall comply with all applicable food safety laws, including the California Health and Safety Code.
- Garbage and Compost.
  - Garbage and compost receptacles must be screened from the street and adjacent properties by utilizing landscaping, fencing, or storage structures and all garbage shall be removed from the site weekly.
  - Compost piles and containers must be set back at least 10 feet from residential buildings when an urban agriculture use abuts a residential use.
- Farm Equipment. Use of mechanized farm equipment is not permitted in Residential Districts and when the urban agriculture use abuts a residential use, with the following exceptions:
  - Heavy equipment may be used initially to prepare the land for agriculture use.
  - Landscaping equipment designed for household use is permitted.
  - Equipment when not in use must be enclosed or otherwise screened from sight. (Ord. 7787-NS § 2 (Exh. A), 2021)

#### FISCAL IMPACTS OF RECOMMENDATION

Fiscal impacts include staff time for analysis.

#### RATIONALE FOR RECOMMENDATION

Food insecurity rates in the Bay Area are worrying. Food shortages, natural disasters, and global conflicts further threaten the availability and economic accessibility of healthy food. The increasingly intense impacts of climate change create heightened cause for concern. Therefore, to create a food safety net in the City of Berkeley, it is necessary to implement FARM.

While FARM is not intended to replace conventional food retailing, it should produce enough food to supplement the normal food supply during times of distress. Reaching this quantity requires a coordinated effort and collaboration with experts in the field of urban agriculture, including small businesses and nonprofit organizations. Therefore, the Office of Economic Development should research incentives for these entities to partner with the City of Berkeley to design and implement a food utility pilot.

#### OUTCOMES AND EVALUATION

This food resilience initiative is expected to address food insecurity for the City's population and maintain that security in the event of environmental and economic shocks.

#### Contributors

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John Ikerd, Professor Emeritus of Agricultural Economics

Ben Cadranel, Development Officer

2180 Milvia Street, Berkeley, Floor 5, CA 94704 • Tel: (510) 981-7130 • E-Mail: [bbartlett@cityofberkeley.info](mailto:bbartlett@cityofberkeley.info)

Ian Richards, Agricultural Technology Consultant

CONTACT PERSON

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James Chang

[bbartlett@cityofberkeley.info](mailto:bbartlett@cityofberkeley.info)

[jchang@cityofberkeley.info](mailto:jchang@cityofberkeley.info)

Dafne Cruz Rodriguez

510-981-7130

Nina Li

510-981-7131

ATTACHMENTS

1. The Lorin Business Association Letter of Support
2. Alameda County Democratic Central Committee Letter of Support
3. United Food & Commercial Workers 5 (UFCW 5) Letter of Support
4. Building and Construction Trades Council of Alameda County, AFL-CIO Letter of Support
5. IBEW Local Union 595 Letter of Support
6. NECA Letter of Support
7. Photographs of Urban Farming Installations

## Attachment 1



3/17/2023

Berkeley Mayor and City Council  
City of Berkeley  
2180 Milvia Street  
Berkeley, California 94704

**RE: Support for Berkeley Food Utility and Access Resilience Measure (FARM)**

Dear Honorable Mayor and City Council:

On behalf of the Lorin **Business Association**, we are writing to express our support for the Berkeley Food Utility and Access Resilience Measure (FARM). This council item is intended to protect food access for the people of Berkeley in times of natural and economic disaster.

Thousands of people in Berkeley are food insecure, and many more are on the threshold of food insecurity. Berkeley is already in a precarious position, and natural disasters and economic downturns threaten to thrust even more households into food insecurity. The COVID-19 pandemic brought to light the fragility of our food supply. In 2020, the pandemic caused worker shortages and layoffs across industries, increasing the prices of staple foods, reducing the availability of staple foods, and reducing consumers' budgets to afford these foods. The combination of these factors caused the demand for food aid in Berkeley to increase sharply. To meet demand, the Berkeley Food Network, a local organization that supplies food to those in need, was forced to *triple* its operations in the first half of 2020 alone. Because threats to food access are growing increasingly common due to climate change, it is vital to safeguard our community *before* a disruption to our food supply occurs.

FARM is a preemptive initiative that mitigates the danger of food disruption at multiple levels of the supply chain. At its core, FARM creates a local food production network to supplement the existing supply chain. This network creates and connects local food sources, including community farms and urban agriculture facilities. Further, FARM protects this network from disasters by integrating a renewable energy system that can operate despite disruptions to the main power grid. FARM aligns with the State of California's emergency preparedness vision and federal agencies' disaster preparedness initiatives.

We strongly support this item and respectfully request the Mayor and City Council favorably consider the Berkeley Food Utility Access and Resilience Measure.

Sincerely,

Liz Lisle, YaVette Holts, and KC Cavanagh  
Board Member of the Lorin Business Association



## Attachment 2



April 8, 2023

### SUPPORT FOR BERKELEY FOOD UTILITY AND ACCESS RESILIENCE MEASURE

Mayor and City Council  
City of Berkeley  
2180 Milvia Street  
Berkeley, CA 94704

Dear Honorable Mayor and City Council:

On behalf of the Alameda County Democratic Party, I am writing to express our support for the Berkeley Food Utility and Access Resilience Measure (FARM). This council item is intended to protect food access for the people of Berkeley in times of natural and economic disaster.

Thousands of people in Berkeley are food insecure, and many more are on the threshold of food insecurity. Berkeley is already in a precarious position, and natural disasters and economic downturns threaten to thrust even more households into food insecurity. The COVID-19 pandemic brought to light the fragility of our food supply. In 2020, the pandemic caused worker shortages and layoffs across industries, increasing the prices of staple foods, reducing the availability of staple foods, and reducing consumers' budgets to afford these foods. The combination of these factors caused the demand for food aid in Berkeley to increase sharply. To meet demand, the Berkeley Food Network, a local organization that supplies food to those in need, was forced to *triple* its operations in the first half of 2020 alone. Because threats to food access are growing increasingly common due to climate change, it is vital to safeguard our community *before* a disruption to our food supply occurs.

FARM is a preemptive initiative that mitigates the danger of food disruption at multiple levels of the supply chain. At its core, FARM creates a local food production network to supplement the existing supply chain. This network creates and connects local food sources, including community farms and urban agriculture facilities. Further, FARM protects this network from disasters by integrating a renewable energy system that can operate despite disruptions to the main power grid. FARM aligns with the State of California's emergency preparedness vision and federal agencies' disaster preparedness initiatives.

We strongly support this item and respectfully request the Mayor and City Council favorably consider the Berkeley Food Utility Access and Resilience Measure.

Sincerely,

A handwritten signature in black ink, appearing to read "Igor A. Tregub".

Igor A. Tregub  
Chair, Alameda County  
Democratic Party

## Attachment 3



**John Nunes**  
President

**Jack Landes**  
Secretary - Treasurer

**Main Office:**

**United Food & Commercial  
Workers Union, Local 5**  
28870 Mission Boulevard  
Hayward, CA 94544-5510  
(510) 889-0870  
Fax: (510) 889-6415  
Toll Free: (877) 655-FIVE  
[www.ufcw5.org](http://www.ufcw5.org)

240 South Market Street  
San Jose, CA 95113-2310  
(408) 998-0428  
Fax: (408) 971-8355

323 Miller Avenue  
So. San Francisco, CA 94080  
(650) 871-5730  
Fax: (650) 871-3504

4121 Alhambra Avenue  
Martinez, CA 94553-3823  
(925) 228-8800  
Fax: (925) 228-8355

1145 North Main Street  
Salinas, CA 93906-3614  
(831) 757-3094  
Fax: (831) 757-9115

323 Geary Street, Room 709  
San Francisco, CA 94102  
(415) 693-0143  
Fax: (415) 675-7645

85 Galli Drive, Suite H  
Novato, CA 94949-5716  
(415) 883-6833  
Fax: (415) 883-1043

840 E Street, Suite 8  
Eureka, CA 95501-6804  
(707) 442-1751  
Fax: (707) 442-9572

April 25, 2023  
Berkeley Mayor and City Council  
City of Berkeley  
2180 Milvia Street  
Berkeley, California 94704

**RE: Support for Berkeley Food Utility and Access Resilience Measure (FARM)**

Dear Honorable Mayor and City Council:

On behalf of UFCW Local 5, we are writing to express our support for the Berkeley Food Utility and Access Resilience Measure (FARM). This council item is intended to protect food access for the people of Berkeley in times of natural and economic disaster.

Thousands of people in Berkeley are food insecure, and many more are on the threshold of food insecurity. Berkeley is already in a precarious position, and natural disasters and economic downturns threaten to thrust even more households into food insecurity. The COVID-19 pandemic brought to light the fragility of our food supply. In 2020, the pandemic caused worker shortages and layoffs across industries, increasing the prices of staple foods, reducing the availability of staple foods, and reducing consumers' budgets to afford these foods. The combination of these factors caused the demand for food aid in Berkeley to increase sharply. To meet demand, the Berkeley Food Network, a local organization that supplies food to those in need, was forced to *triple* its operations in the first half of 2020 alone. Because threats to food access are growing increasingly common due to climate change, it is vital to safeguard our community *before* a disruption to our food supply occurs.

FARM is a preemptive initiative that mitigates the danger of food disruption at multiple levels of the supply chain. At its core, FARM creates a local food production network to supplement the existing supply chain. This network creates and connects local food sources, including community farms and urban agriculture facilities. Further, FARM protects this network from disasters by integrating a renewable energy system that can operate despite disruptions to the main power grid. FARM aligns with the State of California's emergency preparedness vision and federal agencies' disaster preparedness initiatives.

We strongly support this item and respectfully request the Mayor and City Council favorably consider the Berkeley Food Utility Access and Resilience Measure.

Sincerely,  


James Araby  
Director of Strategic Campaigns



## Attachment 4

# ***Building and Construction Trades Council of Alameda County, AFL-CIO***

7750 Pardee Lane, Suite 100  
Oakland, CA 94621

[btca@btcalameda.org](mailto:btca@btcalameda.org) | (510) 430-8664

Andreas Cluver  
Secretary-Treasurer

Rob Stoker  
President

Rafael Gonzalez  
Vice President

Chuck Leonard  
Sergeant in Arms

Auto & Marine Painters, #1176  
Boilermakers, #549  
Brick & Tile Layers, #3  
Carpet & Linoleum, #12  
Cement Masons, #300  
Electrical Workers, #595  
Elevator Constructors #8  
Glaziers #169  
Insulators & Asbestos Workers, #16  
Iron Workers, #378  
Laborers, #67  
Laborers, #304  
Operating Engineers, #3  
Painters, #3  
Plasterers, #66  
Plumbers & Steamfitters, #342  
Roofers, #81  
Sheet Metal Workers, #104  
Sign & Display, #510  
Sprinkler Fitters, #483  
Teamsters, #853  
U.A., Utilities / Landscape, #355

April 11, 2023

Berkeley Mayor and City Council  
City of Berkeley  
2180 Milvia Street  
Berkeley, California 94704

**RE: Support for Berkeley Food Utility and Access Resilience Measure (FARM)**

Dear Honorable Mayor and City Council:

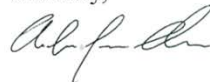
On behalf of the Alameda County Building & Construction Trades Council, we are writing to express our support for the Berkeley Food Utility and Access Resilience Measure (FARM). This council item is intended to protect food access for the people of Berkeley in times of natural and economic disaster.

Thousands of people in Berkeley are food insecure, and many more are on the threshold of food insecurity. Berkeley is already in a precarious position, and natural disasters and economic downturns threaten to thrust even more households into food insecurity. The COVID-19 pandemic brought to light the fragility of our food supply. In 2020, the pandemic caused worker shortages and layoffs across industries, increasing the prices of staple foods, reducing the availability of staple foods, and reducing consumers' budgets to afford these foods. The combination of these factors caused the demand for food aid in Berkeley to increase sharply. To meet demand, the Berkeley Food Network, a local organization that supplies food to those in need, was forced to *triple* its operations in the first half of 2020 alone. Because threats to food access are growing increasingly common due to climate change, it is vital to safeguard our community *before* a disruption to our food supply occurs.

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We strongly support this item and respectfully request the Mayor and City Council favorably consider the Berkeley Food Utility Access and Resilience Measure.

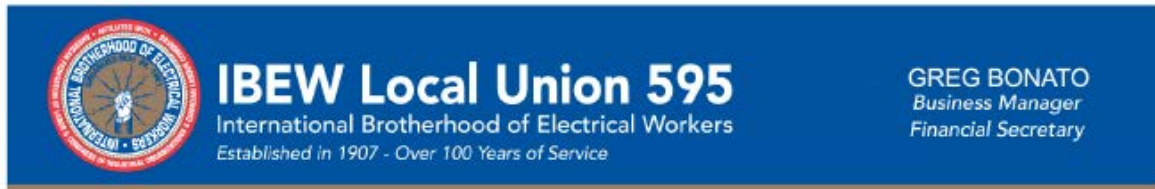
Sincerely,



Andreas Cluver, Secretary-Treasurer  
Building & Construction Trades Council of Alameda County



## Attachment 5



March 8, 2023

Berkeley Mayor and City Council  
City of Berkeley  
2180 Milvia Street  
Berkeley, California 94704

**RE: Support for Berkeley Food Utility and Access Resilience Measure (FARM)**

Dear Honorable Mayor and City Council:

On behalf of IBEW Local Union 595, we are writing to express our support for the Berkeley Food Utility and Access Resilience Measure (FARM). This council item is intended to protect food access for the people of Berkeley in times of natural and economic disaster.

Thousands of people in Berkeley are food insecure, and many more are on the threshold of food insecurity. Berkeley is already in a precarious position, and natural disasters and economic downturns threaten to thrust even more households into food insecurity. The COVID-19 pandemic brought to light the fragility of our food supply. In 2020, the pandemic caused worker shortages and layoffs across industries, increasing the prices of staple foods, reducing the availability of staple foods, and reducing consumers' budgets to afford these foods. The combination of these factors caused the demand for food aid in Berkeley to increase sharply. To meet demand, the Berkeley Food Network, a local organization that supplies food to those in need, was forced to *triple* its operations in the first half of 2020 alone. Because threats to food access are growing increasingly common due to climate change, it is vital to safeguard our community *before* a disruption to our food supply occurs.

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We strongly support this item and respectfully request the Mayor and City Council favorably consider the Berkeley Food Utility Access and Resilience Measure.

Respectfully,

A handwritten signature in black ink, appearing to read 'Greg Bonato', is written over a light blue horizontal line.

Greg Bonato  
Business Manager-Financial Secretary

GB:klp/opeiu#29/afl-cio

925.556.0595 • 925.556.0600 fax • [www.ibew595.org](http://www.ibew595.org) • 6250 Village Parkway, Dublin, CA 94568

## Attachment 6



*National Electrical Contractors Association*

March 9, 2023

Berkeley Mayor and City Council  
City of Berkeley  
2180 Milvia Street  
Berkeley, California 94704

**RE: Support for Berkeley Food Utility and Access Resilience Measure (FARM)**

Dear Honorable Mayor and City Council:

On behalf of the Northern California Chapter of the National Electrical Contractors Association (NECA), we are writing to express our support for the Berkeley Food Utility and Access Resilience Measure (FARM). This council item is intended to protect food access for the people of Berkeley in times of natural and economic disaster.

Thousands of people in Berkeley are food insecure, and many more are on the threshold of food insecurity. Berkeley is already in a precarious position, and natural disasters and economic downturns threaten to thrust even more households into food insecurity. The COVID-19 pandemic brought to light the fragility of our food supply. In 2020, the pandemic caused worker shortages and layoffs across industries, increasing the prices of staple foods, reducing the availability of staple foods, and reducing consumers' budgets to afford these foods. The combination of these factors caused the demand for food aid in Berkeley to increase sharply. To meet demand, the Berkeley Food Network, a local organization that supplies food to those in need, was forced to *triple* its operations in the first half of 2020 alone. Because threats to food access are growing increasingly common due to climate change, it is vital to safeguard our community *before* a disruption to our food supply occurs.

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We strongly support this item and respectfully request the Mayor and City Council favorably consider the Berkeley Food Utility Access and Resilience Measure.

Sincerely,

Greg E. Armstrong  
Executive Director  
Northern California Chapter, NECA





## Attachment 7



ACTION CALENDAR

March 13, 2023

To: Honorable Mayor and Members of the City Council  
 From: Vice Mayor Ben Bartlett (Author), Mayor Jesse Arreguin, Councilmember Kate Harrison, and Councilmember Sophie Hahn (Co-Sponsors)  
 Subject: Berkeley Food Utility and Access Resilience Measure (FARM)

RECOMMENDATION

1. Refer to the City Manager to protect the City's food supply from natural disasters and economic disruptions by facilitating and chartering a community-based non-profit organization charged with designing and implementing an integrated local food production and distribution system for Berkeley.
2. Refer to the City Manager and the Office of Economic Development to design and offer economic incentives for non-profits, agricultural producers, and small businesses to partner with the City of Berkeley in support of the FARM.

BACKGROUND & CURRENT SITUATION

Berkeley is home to the local foods revolution, yet thousands of Berkeley residents are food insecure. Natural disasters and economic downturns exacerbate this insecurity and climate change increases the likelihood and severity of food supply interruption.

Berkeley has the framework for food resiliency through its successful farmers' market; service providers who have been providing meals to homeless individuals since the early 1970s; community groups like Consider the Homeless and Food Not Bombs, which distribute food to homeless populations; and the Berkeley Food Network (BFN). Founded in 2016 in collaboration with community organizations, BFN promotes access to nutritional food by using "innovative, community-centered solutions to build a more sustainable, resilient, and equitable food system."<sup>1</sup>

The City should preemptively safeguard its residents from a food supply interruption through a Food Utility and Access Resilience Measure (FARM). A FARM initiative achieves food resilience by (1) developing local food production sources; (2) connecting these sources to each other and local community hubs, including food banks, grocery stores, restaurants, and local schools; and (3) powering local food production sources using renewable energy with battery backup storage that can operate despite disruptions to the main power grid. These efforts will be assisted by the requirements under SB 1383, which requires restaurants and grocery stores to compost left-over food. These businesses would benefit from having a lower cost method of disposing of still fresh but excess food.

1. Community resilience

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<sup>1</sup> Berkeley Food Network, *About BFN*, (last accessed Jan. 5, 2023), <https://berkeleyfoodnetwork.org/who-we-are/about/>.

Government planners are faced with an emergent set of existential threats to populations and infrastructure. Many threats stem from the rapid advancement of climate change, with the increasing frequency of extreme weather events, such as hurricanes, tornadoes, floods, droughts, and fires. In addition to climate disasters, disaster preparedness must brace for pandemics, electrical failure, targeted violence, and cyber attacks, water and energy infrastructure failure, sea level rise, supply chain breakdown, and food insecurity. These threats arise from a variety of sources and therefore require a systems-level approach that addresses all the possible points of failure in an urban food supply chain.

Accordingly, policymakers are embracing new emergency preparedness and disaster mitigation models centered on equity and resilience at the community level (community resilience). Community resilience refers to the ability of a community to withstand and recover from disruptions, such as natural disasters, economic downturns, or health crises. Community resilience leverages local community networks; local knowledge; local communication channels; local resources; and local bodies of governance and leadership.

## 2. Food resilience

One component of community resilience is food resilience, which refers to the ways in which a community can ensure its members have access to healthy and nutritious food, even during times of crisis. This can involve a variety of strategies, such as growing food locally, supporting local agriculture, building community gardens, developing food storage and preservation facilities, and forming relationships with local food producers. By building a resilient local food system, communities can reduce their reliance on remote sources of food and ensure that they are able to continue providing sustenance for residents, even during challenging times.

FARM's development of a local, resilient food system empowers the City of Berkeley to achieve one of its key Climate Action Plan goals. Adopted in 2009, the Climate Action Plan calls for the "majority of food consumed in Berkeley" to be produced locally.<sup>2</sup> By creating a network of local food production, FARM lays the foundation for local, higher yield production of nutritious food that the City can scale up to meet its goal. This environmental objective is intertwined with resilience. Lowering the distance between the location of production and consumption improves the ability to supply food to the people of Berkeley despite disruptions to transportation.

The State of California and the US Federal Government are increasingly incorporating food resilience in disaster planning and view food security as foundational to any resilience effort. For example, California's budget for fiscal year 2022-23 allocates

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<sup>2</sup> City of Berkeley, *Berkeley Climate Action Plan*, (June 2, 2009), <https://berkeleyca.gov/your-government/our-work/adopted-plans/berkeley-climate-action-plan>.

\$477 million toward agricultural resilience measures, including climate-friendly agriculture, soil health, water efficiency, and wildfire prevention.<sup>3</sup>

Additionally, California’s Strategic Growth Council (SGC) has called for local-level resilience through its Community Resilience Centers (CRC) program. The CRC program will “fund new construction and upgrades of neighborhood-level resilience centers to provide shelter and resources during climate and other emergencies . . .”<sup>4</sup>

At the federal level, President Joe Biden signed National Security Memorandum-16 (NSM-16) in November 2022 “to strengthen the security and resilience of United States food and agriculture.” NSM-16 provides a process for identifying and assessing threats to food security, strengthens relationships with the private sector, and promotes systems that respond to disruptions in the food sector.<sup>5</sup>

### 3. *Food is a fundamental human right.*

It has been often said, “There are only nine meals between mankind and anarchy.” And Vladimir Lenin said, “Every society is three meals away from chaos.” Like air and water, food is essential for survival and the only commodity that cannot be postponed. When social, economic, or ecological barriers block access to nutritious food, people suffer. Food-insecure individuals have higher rates of mental health issues, and hungry children attain lower academic achievement than their peers.<sup>6</sup>

The United Nations recognizes the fundamental right to food for all. At its core, this right is the right to “all nutritional elements” necessary to live a “healthy and active life” and to the means to access these elements.<sup>7</sup> The access portion of this right focuses on physical and economic access.<sup>8</sup>

The US federal government has failed to legally recognize such a right, but some states have made progress. In 2021, the State of Maine recognized the right to food in its constitution.<sup>9</sup> The amendment declares that “all individuals have the right to grow,

<sup>3</sup> Arohi Sharma, *FY22 California Budget Invests in Agricultural Resilience*, NRDC (Sep. 21, 2022), <https://www.nrdc.org/experts/arohi-sharma/fy22-california-budget-invests-food-farm-resilience>.

<sup>4</sup> Cal. Strategic Growth Council, *SGC Launches Development of Community Resilience Centers (CRC) Program*, (July 5, 2022), <https://sgc.ca.gov/news/2022/07-05.html>.

<sup>5</sup> See National Security Memorandum on Strengthening the Security and Resilience of United States Food and Agriculture, (Nov. 10, 2022), <https://www.whitehouse.gov/briefing-room/presidential-actions/2022/11/10/national-security-memorandum-on-on-strengthening-the-security-and-resilience-of-united-states-food-and-agriculture/>.

<sup>6</sup> Arohi Pathak, Ryan Richards & Marc Jarsulic, *The United States Can End Hunger and Food Insecurity for Millions of People*, Center for American Progress Action Fund (Aug. 11, 2022), <https://www.americanprogress.org/article/the-united-states-can-end-hunger-and-food-insecurity-for-millions-of-people/>.

<sup>7</sup> Off. of the High Comm’r for Hum. Rts., *The Right to Adequate Food*, Fact Sheet No. 34 (Apr. 2010), <https://www.ohchr.org/sites/default/files/Documents/Publications/FactSheet34en.pdf>.

<sup>8</sup> *Id.*

<sup>9</sup> Tess Brennan, *Maine Becomes the First US State to Recognize the Right to Food in a Constitutional Amendment*, Universal Rts. Grp. Geneva (Jan. 19, 2022), <https://www.universal-rights.org/blog/maine-becomes-the-first-us-state-to-recognise-the-right-to-food-in-a-constitutional-amendment/>.

raise, harvest, produce and consume the food of their own choosing for their own nourishment, sustenance, bodily health, and well-being.”<sup>10</sup> This amendment follows Maine’s 2017 Food Sovereignty Act, which built a food sovereignty foundation by permitting municipal governments to regulate local food systems with the guarantee of state recognition.<sup>11</sup>

4. *Food insecurity rates are rising in the Bay Area.*

Food insecurity is a growing crisis throughout the US. The US Department of Agriculture (USDA) defines food insecurity as “a household-level economic and social condition of limited or uncertain access to adequate food.”<sup>12</sup> The USDA found that in 2020, almost 14 million households (10.5% of the population) did not have enough food to meet their needs. In California alone, more than 4 million people were reported to be food insecure in May 2022,<sup>13</sup> and in the Bay Area, food insecurity is increasing. In 2018, the San Francisco Chronicle reported that 11.5% of Bay Area residents, 870,000 people, were food insecure.<sup>14</sup> The economic and public health impacts of COVID-19 exacerbated food insecurity. A 2021 study by San Jose State University found that Bay Area food insecurity rates spiked from 20% to 33% from the beginning of the COVID-19 pandemic to March 2021.<sup>15</sup>

In Berkeley and Albany pre-pandemic, an estimated 24,000 individuals were food insecure.<sup>16</sup> The demand for food aid in Berkeley increased sharply during the pandemic, forcing the Berkeley Food Network (BFN) to *triple* its operations in the first half of 2020.<sup>17</sup>

Although many households are still bearing the economic impacts of COVID-19, the USDA is cutting SNAP benefits (CalFresh) to pre-pandemic levels after the February 2023 issuance.<sup>18</sup> This deduction comes at a time of record-high food inflation; the US Bureau of Labor statistics reported that prices for food at home increased by 13.5% in

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<sup>10</sup> *Id.*

<sup>11</sup> *See id.*

<sup>12</sup> USDA, *Definitions of Food Security*, <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/definitions-of-food-security/>.

<sup>13</sup> Toni Koraza, *California to Face a Devastating Crisis*, NewsBreak (May 5, 2022), <https://original.newsbreak.com/@toni-koraza-561162/2590989189701-california-to-face-a-devastating-crisis>.

<sup>14</sup> Tara Duggan, *How Families Slip Through*, San Francisco Chronicle (Nov. 18, 2018), <https://www.sfchronicle.com/food/article/The-hidden-hungryA-Bay-Area-paradox-13379274.php>.

<sup>15</sup> Giselle Pignotti et al., *Food Insecurity and Food Access during COVID-19 in the San Francisco Bay Area*, San Jose State Univ. (Mar. 2021).

<sup>16</sup> Berkeley Food Network, *Programs*, (last accessed Dec. 20, 2022), <https://berkeleyfoodnetwork.org/what-we-do/programs/>.

<sup>17</sup> Berkeley Food Network, *Major Hunger-Relief Investment Will Help Alleviate Growing Food Insecurity in Berkeley*, (May 19, 2020), <https://berkeleyfoodnetwork.org/major-hunger-relief-investment-will-help-alleviate-growing-food-insecurity-in-berkeley/>.

<sup>18</sup> USDA, *Changes to SNAP Benefit Amounts - 2023*, (updated on Feb. 17, 2023), <https://www.fns.usda.gov/snap/changes-2023-benefit-amounts>.



the 12 months ending in August 2022.<sup>19</sup> This spike is “the largest 12-month percentage increase since the period ending in March 1979.”<sup>20</sup>

The growing demand for food aid in Berkeley, coupled with recent reductions in government food benefits, highlights the fragility of the degree of food accessibility at any given time. If there is a disruption in the food supply chain, households that are already food insecure will face even greater barriers to food access. Further, the COVID-19 pandemic demonstrated that disruption would drastically increase the number of households that are food insecure. Without a safety net to insulate our community from these devastating supply chain shocks, a large proportion of households would find themselves in a struggle to survive.

5. *Natural disasters, climate change, and foreign conflicts further threaten food access.*

Climate change, natural disasters, and increasing global conflict jeopardize the world’s food security. The market for food spans internationally, so disruptions in one region send ripple effects, in the form of food scarcity or price shocks, throughout the rest of the food supply chain. The supply chain is fragile; it only takes a disruption in one of the chain’s many links for consumers to lose access to healthy food.<sup>21</sup> Recognizing the supply chain’s vulnerability, the USDA built a Food System Transformation framework to create a more resilient food network.<sup>22</sup> Climate change reduces food availability and is exacerbated by transporting food long distances that could be grown locally.

The COVID-19 pandemic disrupted “all segments of food supply chains,” including farming, food processing, transportation, and final demand.<sup>23</sup> At the farming level, labor-intensive farms—those producing crops like fruits and vegetables—suffered from production shortages when their sick workers were unable to work.<sup>24</sup> Labor shortages also inhibited food processing facilities, with many reporting high rates of worker absences during the pandemic.<sup>25</sup> Necessary pandemic measures severely impacted the transportation of fruits and vegetables. Fruits and vegetables are perishable foods with a “high value-to-weight ratio,” so they are transported on passenger planes. Declines in passenger air travel thus caused bottlenecks in fruit and vegetable transportation.<sup>26</sup> The last step in the supply chain is getting food to

<sup>19</sup> Bureau of Labor Statistics, *Prices for Food at Home Up 13.5 Percent for Year Ended August 2022*, The Economics Daily (Sep. 15, 2022), <https://www.bls.gov/opub/ted/2022/prices-for-food-at-home-up-13-5-percent-for-year-ended-august-2022.htm>.

<sup>20</sup> *Id.*

<sup>21</sup> Mario Lubetkin, *2021 Revealed the Fragility of Food Systems*, ReliefWeb (Dec. 16, 2021), <https://reliefweb.int/report/world/2021-revealed-fragility-food-systems>.

<sup>22</sup> USDA, *USDA Announces Framework for Shoring Up the Food Supply Chain and Transforming the Food System to Be Fairer, More Competitive, More Resilient*, (June 1, 2022), <https://www.usda.gov/media/press-releases/2022/06/01/usda-announces-framework-shoring-food-supply-chain-and-transforming>.

<sup>23</sup> OECD, *Food Supply Chains and COVID-19: Impacts and Policy Lessons*, (June 2, 2020), <https://www.oecd.org/coronavirus/policy-responses/food-supply-chains-and-covid-19-impacts-and-policy-lessons-71b57aea/>.

<sup>24</sup> *Id.*

<sup>25</sup> *Id.*

<sup>26</sup> *Id.*



consumers. When consumers lost their jobs due to the initial economic downturn in 2020, they lost economic access to food, endangering those without social safety nets.

Like the COVID-19 pandemic, other natural disasters threaten global food security by disrupting agriculture production, food availability, and food accessibility. A survey on natural disasters between 2003 and 2013 by the Food and Agriculture Organization of the United Nations “showed 25% of disaster-related losses are in agriculture sectors . . .”<sup>27</sup> The impact of a natural disaster depends on the type of natural disaster that occurs. For example, researchers report that droughts in China cut wheat yields by 5.8% over 30 years.<sup>28</sup>

These dangers hit close to home. A report by leading conservation research group NatureServe found that California, Texas, and the southeastern United States are where the highest percentages of plants, animals, and ecosystems are at risk.<sup>29</sup> Droughts are a growing danger in California that reduces usable farmland. In 2022, California’s irrigated farmland shrank by 752,000 acres (nearly 10%) compared with 2019, the year before the drought.<sup>30</sup> The amount of fallowed farmland in 2022 surpassed the peak during California’s last drought, which lasted from 2012 to 2016.<sup>31</sup>

While droughts are long-term natural disasters with creeping effects, wildfires can impact the supply chain immediately. During the 2020 California wildfires, the intense smoke made it unsafe for farm workers and livestock to be outdoors.<sup>32</sup> Without workers, farms had to plow under many crops, meaning these crops never reached consumers. Additionally, the wildfires destroyed vital land where farmers grew food; the fires destroyed the existing crops and contaminated the soil, jeopardizing future harvests.<sup>33</sup>

War can also disrupt the food supply chain. The Russian invasion of Ukraine, one of the world's biggest wheat and corn producers, caused many countries to skyrocket food prices.<sup>34</sup> The invasion halted Ukrainian exports and damaged Ukraine’s rail infrastructure. As a result, large quantities of grain were trapped in Ukraine, preventing

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<sup>27</sup> James Ducker, *Investigating the Impact of Disasters on Food and Agriculture*, AZO Life Sciences (last updated Nov. 26, 2021), <https://www.azolifesciences.com/article/Investigating-the-Impact-of-Disasters-on-Food-and-Agriculture.aspx>.

<sup>28</sup> Shi et al., *Crop Yield and Production Responses to Climate Disasters in China*, 750 *Science of the Total Environment* (2021).

<sup>29</sup> Brad Brooks, *Huge Chunk of Plants, Animals in U.S. at Risk of Extinction - Report*, Yahoo!News (Feb. 6, 2023), <https://news.yahoo.com/exclusive-huge-chunk-plants-animals-090952175.html>.

<sup>30</sup> Ian James, ‘It’s a Disaster.’ *Drought Dramatically Shrinking California Farmland, Costing \$1.7 Billion*, Los Angeles Times (Nov. 23, 2022), <https://www.latimes.com/environment/story/2022-11-23/drought-cost-california-agriculture-1-7-billion-this-year>.

<sup>31</sup> *Id.*

<sup>32</sup> Phil Lempert, *California Wildfires: The Enormous Effect on Our Food Supply*, Retail Dietitians Bus. Alliance (Dec. 9, 2020), <https://www.retaildietitians.com/articles/california-wildfires-the-enormous-effect-on-our-food-supply/>.

<sup>33</sup> *Id.*

<sup>34</sup> Rob Garver, *Global Food Prices Rise with Ukraine-Russia Agreement in Doubt*, VOA News (Oct. 31, 2022), <https://www.voanews.com/a/global-food-prices-rise-with-ukraine-russia-agreement-in-doubt-/6813606.html>.

the entire 2022 harvest from having adequate storage space.<sup>35</sup> This supply shock affected countries throughout the world, including India, Egypt, and South Korea. Further, Russia was one of the top exporters of fertilizers before the invasion. Stricter controls on Russian exports caused the price of fertilizer to spike worldwide, leading farmers to reduce their planned harvests.<sup>36</sup>

## 6. Food Citizenship

“Food citizenship” describes the rights and responsibilities that individuals have in relation to the food they eat and produce. Food citizenship can include making informed choices about food purchases and consumption, supporting sustainable and ethical food systems, and advocating for food policies that prioritize the health and well-being of individuals and the environment. Food citizenship can also involve taking action to address issues such as food waste, hunger, and access to healthy food in underserved communities. Essentially, being a food citizen means actively engaging in the food system and working towards creating a more sustainable and equitable food system for all.

Food citizenship can play an important role in promoting community resilience by supporting local food systems and promoting food security. When communities have access to healthy and sustainable food sources, they are better able to withstand and recover from disruptions, such as natural disasters or economic downturns.

If a community is able to grow or produce its own food, it is less dependent on outside sources and can continue to provide for itself in the event of a supply chain disruption. Additionally, supporting local food systems can help to boost the local economy and create jobs, which can increase the overall resilience of the community.

Further, food citizenship can promote food justice and equity within a community, ensuring that all members have access to healthy and affordable food. This can reduce food insecurity and prevent vulnerable populations from being disproportionately affected by disruptions to the food system.

## 7. A food resilience system could insure Berkeley against disruptions in the food supply chain.

Building a food resilience system *before* a supply chain disruption protects food-insecure households and prevents more households from becoming food insecure. Food resilience is the ability to withstand and recover from disruptions to food access in a way that ensures a sufficient supply of acceptable and accessible food for all<sup>37</sup>.

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<sup>35</sup> Dea Bankova, Prasanta Kumar Dutta & Michael Ovaska, *The War in Ukraine is Fuelling a Global Food Crisis*, Reuters (May 30, 2022), <https://graphics.reuters.com/UKRAINE-CRISIS/FOOD/zjvqkgomjvx/>.

<sup>36</sup> *Id.*

<sup>37</sup> Johns Hopkins Center for a Livable Future, *Food System Resilience*, <https://clf.jhsph.edu/projects/food-system-resilience>.

## 8. FARM as a Community Food Utility: Overview<sup>38</sup>

The mission of FARM is to foster a resilient food system that can withstand supply chain shocks and ensure all people in the community have access to adequate amounts of wholesome, nutritious foods produced by ecologically sound and socially responsible means. FARM would be a chartered public utility based on the concept of food citizenship, similar to the existing utilities for energy and water systems. FARM would have three major components: a) Community Layer, b) Food Production Layer, and c) Energy Resilience.

### a. Community Layer

Growing food locally promotes physical access to food in times of crisis. To ensure that enough food is locally grown, it is critical to connecting community gardens, backyard gardens, and other urban farms into a production network with delivery centers.

#### i. Community Gardens and Backyard Gardens

The FARM should create a network of community gardens and backyard gardens in order to support community resilience by providing local food sources, fostering social connections, and promoting environmental sustainability.

Community gardens and backyard gardens can provide communities with a local source of fresh, healthy, and affordable produce. This can help to increase food security and reduce dependency on outside sources, making communities more resilient in the face of disruptions to the food supply chain. One backyard garden can provide food for up to six families.

Community gardens can also provide a space for community members to come together and engage in productive, healthy activities. This can help to build social connections and a sense of community, which are important for promoting resilience in the face of challenges.

Furthermore, community gardens and backyard gardens help to promote environmental sustainability and resilience by providing a space for growing food using sustainable and environmentally-friendly practices. This can help to reduce the community's overall ecological footprint and make it more resilient in the face of environmental challenges.

#### ii. Synchronizing Local Food Production with Food Banks, Restaurants, Schools, and Grocery Stores

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<sup>38</sup> Ikard, J. (n.d.). *Enough Good Food For All; A Community Food Utility*. Communityfoodutility. Retrieved January 4, 2023, from <https://sites.google.com/site/communityfoodutility?pli=1>

Yields from local food production can be distributed to local food banks, restaurants, schools, and grocery stores. This omnichannel production and distribution model has two key benefits. First, it ensures that locally produced food is not wasted. Second, it provides a source of feedback for FARM because restaurants, schools, and grocery stores can provide guidance to FARM for improvements in usability, quantity, and quality.

iii. Supplemental Nutrition Assistance Program (SNAP)

The community layer should incorporate a SNAP group-buying mechanism whereby SNAP recipients can deposit assistance funds into a FARM account. In return, the FARM would ensure that each recipient received enough good food to meet their basic needs, regardless of the amount of their individual SNAP payment. Some non-profit organizations are currently operating in this manner.<sup>39</sup>

b. Production Layer

Additionally, FARM would partner with urban agriculture companies and nonprofits with experience and expertise in producing high crop yields with accelerated harvest velocity in urban settings. The yields from these producers could supplement yields from existing community gardens while minimizing seasonal fluctuations and other disruptions in the supply chain.

To increase local food production, the City would offer certain economic incentives to urban agriculture companies to co-locate within the City of Berkeley. In exchange for these incentives, companies would agree to give the City Most Favored Nation (“MFN”) status, with the right of first refusal and right of first offer on the companies’ food items in the event of a local food supply chain disruption event (food shock). As discussed below, the FARM board will institute policies that define a food shock that triggers the MFN agreement. For example, the board may define a food shock to include a week-long interruption of certain food staples at two grocery stores.

Recent innovations continue to mitigate the historical limitations of urban agriculture: land, labor, and potential yield. A study on urban farms in New York City found that the crops in urban farms produced higher yields than their conventional farm counterparts, thus making up for the spatial limitations that urban farms may face.<sup>40</sup> Additionally, peri-urban farming, which produces substantial amounts of food on a relatively small amount of land on the fringes

<sup>39</sup> See e.g., *Community Resilience Centers*, CA.gov (last accessed Nov. 30, 2022), <https://sgc.ca.gov/programs/community-resilience-centers/>.

<sup>40</sup> Mara Gittleman et al., *Using Citizen Science to Quantify Community Garden Crop Yields*, 5 *Cities and the Environment* (2012), <https://digitalcommons.lmu.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1095&context=cate>.

of a city, has emerged as a space-efficient form of urban agriculture.<sup>41</sup> Gotham Greens addresses the yield limit issue by growing crops inside greenhouses with hydroponic technology. Gotham Greens' greenhouses are located near cities, allowing for proximity to communities while avoiding real estate constraints.<sup>42</sup> Closer to home, Upside Foods has opened a production facility to produce high-quality laboratory-grown meat at scale.<sup>43</sup>

i. Controlled Environment Agriculture (CEA)

CEA is an indoor food production method that uses stacked shelves, modular rack systems, or tower gardens to increase crop yields using less surface area significantly.<sup>44</sup> Technologies such as ultra-efficient LED lighting, automated environmental control systems, and dehumidification recapture loops can dramatically reduce resource consumption, including consumption of energy, water, and nutrients. Photographs of such technologies are included in Attachment 1.

Exceptional yields and multiple harvests per year make indoor farming economically viable and sustainable over time. These two factors are possible because indoor farming creates an environment for resource-efficient methods like aeroponics<sup>45</sup> (i.e., spraying nutrient-rich mist on root zones that are suspended in the air) and aquaponics.

Aquaponics is a sustainable farming method that combines traditional aquaculture (raising fish) with hydroponics (growing plants in water without soil). In an aquaponic system, fish produce waste that is converted into plant nutrients. The plants, in turn, help to purify the water for the fish. This closed-loop system can be highly efficient, as it reduces the need for external inputs such as synthetic fertilizers and pesticides, and it allows for year-round production in a controlled environment. Aquaponics can be used to grow various vegetables, herbs, and other plants, as well as raise fish such as tilapia, trout, and bass. It can be a great option for urban farming, as it requires less space and water than traditional farming methods.

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<sup>41</sup> Ina Optiz et al., *Contributing to Food Security in Urban Areas: Differences Between Urban Agriculture and Peri-Urban Agriculture in the Global North*, 33 *Agriculture and Human Values* (2016), <https://link.springer.com/article/10.1007/s10460-015-9610-2>.

<sup>42</sup> Gotham Greens, *Our Story*, <https://www.gothamgreens.com/our-story/>.

<sup>43</sup> Katie Spalding, *World's Most Advanced Lab-Grown Meat Facility Opens in California*, IFL Science (Nov. 8, 2021), <https://www.iflscience.com/worlds-most-advanced-labgrown-meat-facility-opens-in-california-61548>.

<sup>44</sup> Sarah Federman, *Vertical Farming for the Future*, USDA (Oct. 25, 2021), <https://www.usda.gov/media/blog/2018/08/14/vertical-farming-future>; see e.g., Gardyn, *How It Works*, (last accessed Mar. 3, 2023), <https://mygardyn.com/how-it-works/>.

<sup>45</sup> See e.g., Rouses Markets, *Rouses Markets Creates Sustainable Aeroponic Rooftop Garden Above Downtown New Orleans Store*, Cision (May 17, 2012), <https://www.prnewswire.com/news-releases/rouses-markets-creates-sustainable-aeroponic-rooftop-garden-above-downtown-new-orleans-store-151890995.html>; *Rouses Roots on the Rooftop*, Tower Farms (last accessed Mar. 3, 2023), <https://www.towerfarms.com/us/en/possibilities/rooftop-farming/rouses-rooftop-farm>.

Compared to traditional farming techniques, aeroponics and aquaponics dramatically increase yields and quality while reducing water consumption by as much as 90%.<sup>46</sup>

ii. Repurposing Empty Commercial Space

Indoor farms can be developed in underutilized warehouses, shuttered big boxes retail locations such as the vacant CVS on Shattuck and Bancroft, and the vacant Walgreens on Ashby and San Pablo, or under freeway overpasses such as Gilman and I-80. To create dual-purpose land-use throughout the city, advanced greenhouses could be elevated above existing ground-level parking lots at locations such as Whole Foods in North Berkeley.

c. Energy Resilience

The food production network should integrate renewable energy systems that can remain resilient in the event of a disruption to the energy grid. Such a system could employ local micro-grids with solar and storage to provide power to local food production facilities. Additionally, a renewable energy system could help limit environmental impact and reduce long-term costs.<sup>47</sup>

This renewable energy system would combine various methods of production to maximize redundancies and extend grid independence of the food resilience program in the event of a major energy crisis. Existing technologies such as rooftop solar arrays and onsite battery storage systems can be combined with emerging technologies such as urban wind turbines,<sup>48</sup> transparent solar panels that allow crops below to absorb energy,<sup>49</sup> and biofuel co-generators<sup>50</sup> for use when other means of production are not available. These emerging technologies should be considered and planned for when developing the energy independence component of FARM, placing Berkeley at the forefront of sustainability in urban farming.

## 9. FARM: Organization

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<sup>46</sup> Michelle Keller, *Aeroponics - What Is It & Why Is It Important?*, Living Greens Farm (Aug. 4, 2020), <https://www.livinggreensfarm.com/blog/what-is-aeroponics>.

<sup>47</sup> US Department of Agriculture, *Rural Energy for America Program Renewable Energy Systems & Energy Efficiency Improvement Guaranteed Loans & Grants*, <https://www.rd.usda.gov/programs-services/energy-programs/rural-energy-america-program-renewable-energy-systems-energy-efficiency-improvement-guaranteed-loans>.

<sup>48</sup> IBIS Power, *Easily Upgrade Your Building to Renewable Energy*, (last accessed Dec. 20, 2022), <https://ibispower.eu/powernest/>.

<sup>49</sup> Anthony Cuthbertson, *Record-Breaking Transparent Solar Panels Pave Way for Electricity-Generating Windows*, Independent (Oct. 28, 2022), <https://www.independent.co.uk/tech/solar-panel-world-record-window-b2211057.html>.

<sup>50</sup> Diego Perrone et al., *Energy and Economic Investigation of a Biodiesel-Fired Engine for Micro-Scale Cogeneration*, 14 *Energies* (2021), [https://www.researchgate.net/publication/348594263\\_Energy\\_and\\_Economic\\_Investigation\\_of\\_a\\_Biodiesel-Fired\\_Engine\\_for\\_Micro-Scale\\_Cogeneration](https://www.researchgate.net/publication/348594263_Energy_and_Economic_Investigation_of_a_Biodiesel-Fired_Engine_for_Micro-Scale_Cogeneration).



The FARM will be a self-funded non-profit chartered by the City of Berkeley, with a self-appointed Board of Directors, approved by the City Council, with duties and administrative powers also approved by the City Council.

The FARM could be organized as a “vertical cooperative.”<sup>51</sup> A cooperative is a user-owned and controlled entity from which benefits are distributed equitably.<sup>52</sup> As a vertical cooperative, the FARM would operate on all levels of the vertical food system—linking producers, processors, distributors, retailers, and consumers. The system as a whole must be sustainable if the FARM continues to provide food security for the community. All recipients and participants in the vertical system would be members of the FARM cooperative.

**10. FARM: Governance**

The FARM will begin with a volunteer, skills-based governing board, named the Food Security Council, with the City acting as a facilitator. Once the FARM has achieved grant funding, the Food Security Council members will be compensated. The Food Security Council should consist of community members, grant writers, SNAP recipients, food producers, an organized labor representative, and experts in resilience, logistics, renewable energy, and public health. All members would be appointed by the Berkeley City Council. The Food Security Council will have six core responsibilities:

1. Form the FARM as a non-profit organization;
2. Apply for grant funding;
3. Seek external partnerships;
4. Manage the FARM’s efforts to develop and maintain food production and distribution processes;
5. Determine the caloric needs of residents based on empirical evidence to set food production goals for the FARM; and
6. Define food shock events (e.g., how many days without staples constitute a food shock).

**11. FARM: Potential Funding Sources**

Funding sources include fees for administering government food assistance programs and grants from California, the USDA, and the Department of Energy (DOE) are available.

**a. Federal and State Food Insecurity Related Grants and Programs**

| Grant or | Amount | Source/ | Eligible Projects |
|----------|--------|---------|-------------------|
|----------|--------|---------|-------------------|

<sup>51</sup> John Ikerd, *The Economic Pamphleteer: Reflections on Cooperation*, Journal of Agriculture, Food Systems, and Community Development (2013), <https://doi.org/10.5304/jafscd.2013.032.001>.

<sup>52</sup> USDA, *Understanding Cooperatives: Cooperative Business Principles*, (Revised Apr. 2011), [https://www.rd.usda.gov/sites/default/files/publications/CIR\\_45-2.pdf](https://www.rd.usda.gov/sites/default/files/publications/CIR_45-2.pdf).

| Program                                                                     |                                                                   | Sponsor      |                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------|-------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">Local Foods, Local Places</a>                                   | -                                                                 | USDA and EPA | Developing the local food economy. Examples: community gardens, kitchens, farmer's markets, and other food-related enterprises that can create new businesses and revitalize main streets, improve access to fresh, local food, and protect the environment.                              |
| <a href="#">Community Food Projects Competitive Grants Program (CFPCGP)</a> | \$25K-35K in planning; Up to \$125K per year for up to four years | USDA         | Planning toward the improvement of community food security in accordance with the goals of CFPCGP.                                                                                                                                                                                        |
| <a href="#">The GusNIP - Nutrition Incentive Program</a>                    | -                                                                 | USDA         | Projects intended to increase the purchase of fruits and vegetables by providing incentives at the point of purchase among income-eligible consumers participating in the USDA Supplemental Nutrition Assistance Program (SNAP)                                                           |
| <a href="#">Farm to School Grant</a>                                        | Up to \$500K                                                      | USDA         | Linking local producers with schools and other organizations participating in child nutrition programs working to purchase and include locally grown fruits, vegetables, grains, meat, dairy, and seafood in program meals.                                                               |
| <a href="#">Conservation Innovation Grants</a>                              | -                                                                 | USDA         | Projects supporting the development of farming technology to efficiently increase agricultural production through the conservation of natural resources, such as water and soil.                                                                                                          |
| <a href="#">The Farmers Market Promotion Program (FMPP)</a>                 | -                                                                 |              | Projects that develop, coordinate, and expand direct producer-to-consumer markets to help increase access to and availability of locally and regionally produced agricultural products by developing, coordinating, expanding, and providing outreach, training, and technical assistance |

|                                                               |                                                                                                                                |      |                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                               |                                                                                                                                |      | to domestic farmers markets, roadside stands, community-supported agriculture programs, agritourism activities, online sales or other direct producer-to-consumer (including direct producer-to-retail, direct producer-to-restaurant, and direct producer-to-institutional marketing) market opportunities.                                                 |
| <a href="#">Local Food Promotion Program</a>                  | \$25,000 to \$100,000 (for Planning projects) and \$100,000 to \$500,000 (for Implementation and Farm to Institution projects) | USDA | Grants for Planning projects help food businesses to develop and test services. Grants for Implementation projects fund the creation of food businesses like community kitchens. Grants for Farm to Institution projects support institutional food services like schools with linkage to farms.                                                             |
| <a href="#">Food and Agriculture Service Learning Program</a> | -                                                                                                                              | USDA | For private organizations or non-profits to increase the capacity for food, garden, and nutrition education within host organizations or entities, such as school cafeterias and classrooms while fostering higher levels of community engagement between farms and school systems by bringing together stakeholders from distinct parts of the food system. |

b. Federal and State Resilience Grants and Programs

| Grant or Program                                                                        | Amount | Source/Sponsor                      | Eligible Projects                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------|--------|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">CA Community Resilience Centers</a><br>(anticipated release in spring 2023) | -      | California Strategic Growth Council | New construction and upgrades of neighborhood-level resilience centers to provide shelter and resources during climate and other emergencies. The program will also fund year-round services and ongoing programming that build overall community resilience. |

|                                                                                |   |                                            |                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------|---|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">Building Resilient Infrastructure and Communities (BRIC) Grant</a> | - | FEMA                                       | Hazard mitigation projects, reducing the risks they face from disasters and natural hazards.                                                                                                                       |
| <a href="#">Hazard Mitigation Grant Program (HMGP)</a>                         | - | FEMA/ OEM                                  | Developing hazard mitigation plans and rebuilding in a way that reduces, or mitigates, future disaster losses in local communities.                                                                                |
| <a href="#">Regional Resilience Planning and Implementation Grant Program</a>  | - | Governor's Office of Planning and Research | Advancing resilience and responding to their greatest climate risks through three major activities: capacity building, planning (including identifying climate resilience priorities), and project implementation. |
| <a href="#">CA Transformative Climate Communities</a>                          | - | California Strategic Growth Council        | Development and infrastructure projects that achieve major environmental, health, and economic benefits in California's most disadvantaged communities.                                                            |

c. Federal and State Renewable Energy Grants and Programs

| Grant or Program                                                               | Amount        | Source/ Sponsor                     | Eligible Projects                                                                                                                                                   |
|--------------------------------------------------------------------------------|---------------|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">Energy Efficiency and Conservation Block Grant (EECBG) Program</a> | \$500,000,000 | Department of Energy                | Development and implementation of an energy efficiency and conservation strategy; establishment of financial incentive programs for energy efficiency improvements. |
| <a href="#">CA Transformative Climate Communities</a>                          | -             | California Strategic Growth Council | Development and infrastructure projects that achieve major environmental, health, and economic benefits in California's most disadvantaged communities.             |
| <a href="#">CA Distributed Electricity</a>                                     | -             | California                          | Construction of cleaner and more efficient distributed energy assets that would serve as on-call emergency supply or load                                           |

|                                                                  |   |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------|---|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">Backup Assets Program</a>                            |   |                                                         | reduction for the state's electrical grid during extreme events.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <a href="#">CA Climate Catalyst Revolving Loan Fund</a>          | - | California Infrastructure and Economic Development Bank | <p>Projects that promote climate-smart technologies and practices across the agricultural value chain</p> <p>Projects may include (but are not limited to):</p> <ul style="list-style-type: none"> <li>● On-farm and food processing renewable energy, including electricity, fuels, and bioenergy</li> <li>● Energy, water, and materials efficiency</li> <li>● Methane reduction projects that use best practice approaches consistent with state policy goals</li> <li>● Energy storage or microgrids</li> <li>● Equipment replacements</li> </ul> |
| <a href="#">Renewable Energy For Agricultural Program (REAP)</a> | - | California Energy Commission                            | Installation of renewable energy technologies serving agricultural operations to reduce greenhouse gas emissions.                                                                                                                                                                                                                                                                                                                                                                                                                                     |

**12. Berkeley is well positioned for a food resilience program.**

The City of Berkeley has already taken steps that facilitate a food resilience program. In 2018, the City updated its Urban Agriculture Ordinance, lowering barriers to urban farming in Berkeley.<sup>53</sup> The update reduced the permit costs for larger-scale farming projects to \$1000 and removed requirements that restricted farming to select city-owned properties.<sup>54</sup>

**ENVIRONMENTAL SUSTAINABILITY**

A food resilience program that involves urban agriculture is expected to reduce pollution from food transportation. Urban agriculture shortens the supply chain, truncating the journey from farm to table.

**REVIEW OF EXISTING PLANS, PROGRAMS, POLICIES, AND LAWS**

Adopted in 2009, Berkeley's Climate Action Plan outlines a vision for a more sustainable city. One

<sup>53</sup> Stuart Luman, *Berkeley's New Urban Agriculture Ordinance Encourages Residents to Grow Their Own Food*, Berkeleyside (Aug. 27, 2018), <https://www.berkeleyside.org/2018/08/27/berkeley-urban-agriculture-law>.

<sup>54</sup> *Id.*

key goal in the Plan is for the “majority of food consumed in Berkeley” be produced locally.<sup>55</sup> FARM advances this goal by bringing food production and individuals closer together.

On July 24, 2022, the City of Berkeley adopted an ordinance that updated the municipal code on urban agriculture as follows<sup>56</sup>:

#### Purpose (23.318.010)

The purpose of the Urban Agriculture related regulations contained in this chapter is to provide the following community benefits:

- A. Support the local economy and increase access to fresh local produce.
- B. Strengthen the health and social fabric of communities by encouraging and supporting community gardens.
- C. Accomplish the Berkeley Climate Action Plan goal of supporting efforts to build more complete and sustainable local food production and distribution systems

#### Applicability (23.318.020)

These regulations supersede definitions of incidental or ancillary uses.

#### Urban Agriculture Uses and Levels of Discretion (23.318.030)

- A. Zoning Certificate. When all of the thresholds in Section [23.318.040](#) (Thresholds) are met, the use is considered Low-Impact Urban Agriculture (LIUA) and is allowed by right with a Zoning Certificate.
- B. Administrative Use Permit. When one or more of the thresholds in Section [23.318.040](#) (Thresholds) are not met, the use is considered High-Impact Urban Agriculture (HIUA) requires an AUP. (Ord. 7787-NS § 2 (Exh. A), 2021)

#### Thresholds (23.318.040)

The levels of discretion for urban agriculture are based on the following thresholds:

- A. Maximum parcel size of 7,500 square feet.
- B. Maximum lot coverage of 20 percent for accessory structures and buildings.
- C. Maximum group classes and workshops of 20 participants per class conducted no more than three times per week.
- D. Hours of operation from 8:00 a.m. to 8:00 p.m., including but not limited to activities related to gardening and planting of horticultural crops, group classes, and sales.
- E. Use of organic pesticides. (Ord. 7787-NS § 2 (Exh. A), 2021)

#### Operation Standards (23.318.050)

- Performance Standards. The growing, production, or sale of urban agricultural products may not involve hazardous materials or processes or create offensive or objectionable noise, vibration, odors, heat, dirt, or electrical disturbance perceptible by a person beyond the lot line of the subject lot.

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<sup>55</sup> City of Berkeley, *Berkeley Climate Action Plan*, (June 2, 2009), <https://berkeleyca.gov/your-government/our-work/adopted-plans/berkeley-climate-action-plan>.

<sup>56</sup> Berkeley Municipal Code 23.318.050.



- Sales and Donations.
  - Sales and/or donations of urban agricultural products grown and produced on-site are permitted.
  - If selling or donating urban agricultural products to the public, the urban agriculture use shall comply with all applicable food safety laws, including the California Health and Safety Code.
- Garbage and Compost.
  - Garbage and compost receptacles must be screened from the street and adjacent properties by utilizing landscaping, fencing, or storage structures and all garbage shall be removed from the site weekly.
  - Compost piles and containers must be set back at least 10 feet from residential buildings when an urban agriculture use abuts a residential use.
- Farm Equipment. Use of mechanized farm equipment is not permitted in Residential Districts and when the urban agriculture use abuts a residential use, with the following exceptions:
  - Heavy equipment may be used initially to prepare the land for agriculture use.
  - Landscaping equipment designed for household use is permitted.
  - Equipment when not in use must be enclosed or otherwise screened from sight. (Ord. 7787-NS § 2 (Exh. A), 2021)

#### FISCAL IMPACTS OF RECOMMENDATION

Fiscal impacts include staff time for analysis.

#### RATIONALE FOR RECOMMENDATION

Food insecurity rates in the Bay Area are worrying. Food shortages, natural disasters, and global conflicts further threaten the availability and economic accessibility of healthy food. The increasingly intense impacts of climate change create heightened cause for concern. Therefore, to create a food safety net in the City of Berkeley, it is necessary to implement FARM.

While FARM is not intended to replace conventional food retailing, it should produce enough food to supplement the normal food supply during times of distress. Reaching this quantity requires a coordinated effort and collaboration with experts in the field of urban agriculture, including small businesses and nonprofit organizations. Therefore, the Office of Economic Development should research incentives for these entities to partner with the City of Berkeley to design and implement a food utility pilot.

#### OUTCOMES AND EVALUATION

This food resilience initiative is expected to address food insecurity for the City's population and maintain that security in the event of environmental and economic shocks.

#### Contributors

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ATTACHMENTS

1. Photographs of Urban Farming Installations
2. IBEW Local Union 595 Letter of Support
3. NECA Letter of Support

# Attachment 1





# Attachment 2



**IBEW Local Union 595**  
International Brotherhood of Electrical Workers  
Established in 1907 - Over 100 Years of Service

**GREG BONATO**  
Business Manager  
Financial Secretary

March 8, 2023

Berkeley Mayor and City Council  
City of Berkeley  
2180 Milvia Street  
Berkeley, California 94704

**RE: Support for Berkeley Food Utility and Access Resilience Measure (FARM)**

Dear Honorable Mayor and City Council:

On behalf of IBEW Local Union 595, we are writing to express our support for the Berkeley Food Utility and Access Resilience Measure (FARM). This council item is intended to protect food access for the people of Berkeley in times of natural and economic disaster.

Thousands of people in Berkeley are food insecure, and many more are on the threshold of food insecurity. Berkeley is already in a precarious position, and natural disasters and economic downturns threaten to thrust even more households into food insecurity. The COVID-19 pandemic brought to light the fragility of our food supply. In 2020, the pandemic caused worker shortages and layoffs across industries, increasing the prices of staple foods, reducing the availability of staple foods, and reducing consumers' budgets to afford these foods. The combination of these factors caused the demand for food aid in Berkeley to increase sharply. To meet demand, the Berkeley Food Network, a local organization that supplies food to those in need, was forced to *triple* its operations in the first half of 2020 alone. Because threats to food access are growing increasingly common due to climate change, it is vital to safeguard our community *before* a disruption to our food supply occurs.

FARM is a preemptive initiative that mitigates the danger of food disruption at multiple levels of the supply chain. At its core, FARM creates a local food production network to supplement the existing supply chain. This network creates and connects local food sources, including community farms and urban agriculture facilities. Further, FARM protects this network from disasters by integrating a renewable energy system that can operate despite disruptions to the main power grid. FARM aligns with the State of California's emergency preparedness vision and federal agencies' disaster preparedness initiatives.

We strongly support this item and respectfully request the Mayor and City Council favorably consider the Berkeley Food Utility Access and Resilience Measure.

Respectfully,

A handwritten signature in black ink that reads "Greg Bonato".

Greg Bonato  
Business Manager-Financial Secretary

GB:klp/opeiu#29/afl-cio

925.556.0595 • 925.556.0600 fax • [www.ibew595.org](http://www.ibew595.org) • 6250 Village Parkway, Dublin, CA 94568

# Attachment 3



*National Electrical Contractors Association*

March 9, 2023

Berkeley Mayor and City Council  
City of Berkeley  
2180 Milvia Street  
Berkeley, California 94704

**RE: Support for Berkeley Food Utility and Access Resilience Measure (FARM)**

Dear Honorable Mayor and City Council:

On behalf of the Northern California Chapter of the National Electrical Contractors Association (NECA), we are writing to express our support for the Berkeley Food Utility and Access Resilience Measure (FARM). This council item is intended to protect food access for the people of Berkeley in times of natural and economic disaster.

Thousands of people in Berkeley are food insecure, and many more are on the threshold of food insecurity. Berkeley is already in a precarious position, and natural disasters and economic downturns threaten to thrust even more households into food insecurity. The COVID-19 pandemic brought to light the fragility of our food supply. In 2020, the pandemic caused worker shortages and layoffs across industries, increasing the prices of staple foods, reducing the availability of staple foods, and reducing consumers' budgets to afford these foods. The combination of these factors caused the demand for food aid in Berkeley to increase sharply. To meet demand, the Berkeley Food Network, a local organization that supplies food to those in need, was forced to *triple* its operations in the first half of 2020 alone. Because threats to food access are growing increasingly common due to climate change, it is vital to safeguard our community *before* a disruption to our food supply occurs.

FARM is a preemptive initiative that mitigates the danger of food disruption at multiple levels of the supply chain. At its core, FARM creates a local food production network to supplement the existing supply chain. This network creates and connects local food sources, including community farms and urban agriculture facilities. Further, FARM protects this network from disasters by integrating a renewable energy system that can operate despite disruptions to the main power grid. FARM aligns with the State of California's emergency preparedness vision and federal agencies' disaster preparedness initiatives.

We strongly support this item and respectfully request the Mayor and City Council favorably consider the Berkeley Food Utility Access and Resilience Measure.

Sincerely,

Greg E. Armstrong  
Executive Director  
Northern California Chapter, NECA



ACTION CALENDAR

January 31, 2023

To: Honorable Mayor and Members of the City Council  
 From: Vice Mayor Ben Bartlett (Author), Mayor Jesse Arreguin, Councilmember Kate Harrison, and Councilmember Sophie Hahn (Co-Sponsors)  
 Subject: Berkeley Food Utility and Access Resilience Measure (FARM)

RECOMMENDATION

1. Refer to the City Manager to protect the City's food supply from natural disasters and economic disruptions by facilitating and chartering a community-based non-profit organization charged with designing and implementing an integrated local food production and distribution system for Berkeley.
2. Refer to the City Manager and the Office of Economic Development to design and offer economic incentives for non-profits, agricultural producers, and small businesses to partner with the City of Berkeley in support of the FARM.

BACKGROUND & CURRENT SITUATION

Berkeley is home to the local foods revolution, yet thousands of Berkeley residents are food insecure. Natural disasters and economic downturns exacerbate this insecurity and climate change increases the likelihood and severity of food supply interruption.

Berkeley has the framework for food resiliency through its successful farmers' market; service providers who have been providing meals to homeless individuals since the early 1970s; community groups like Consider the Homeless and Food Not Bombs, which distribute food to homeless populations; and the Berkeley Food Network (BFN). Founded in 2016 in collaboration with community organizations, BFN promotes access to nutritional food by using "innovative, community-centered solutions to build a more sustainable, resilient, and equitable food system."<sup>1</sup>

The City should preemptively safeguard its residents from a food supply interruption through a Food Utility and Access Resilience Measure (FARM). A FARM initiative achieves food resilience by (1) developing local food production sources; (2) connecting these sources to each other and local community hubs, including food banks, grocery stores, restaurants, and local schools; and (3) powering local food production sources using renewable energy with battery backup storage that can operate despite disruptions to the main power grid. These efforts will be assisted by the requirements under SB 1383, which requires restaurants and grocery stores to compost left-over food. These businesses would benefit from having a lower cost method of disposing of still fresh but excess food.

1. Community resilience

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<sup>1</sup> Berkeley Food Network, *About BFN*, (last accessed Jan. 5, 2023), <https://berkeleyfoodnetwork.org/who-we-are/about/>.



Government planners are faced with an emergent set of existential threats to populations and infrastructure. Many threats stem from the rapid advancement of climate change, with the increasing frequency of extreme weather events, such as hurricanes, tornadoes, floods, droughts, and fires. In addition to climate disasters, disaster preparedness must brace for pandemics, electrical failure, targeted violence, and cyber attacks, water and energy infrastructure failure, sea level rise, supply chain breakdown, and food insecurity. These threats arise from a variety of sources and therefore require a systems-level approach that addresses all the possible points of failure in an urban food supply chain.

Accordingly, policymakers are embracing new emergency preparedness and disaster mitigation models centered on equity and resilience at the community level (community resilience). Community resilience refers to the ability of a community to withstand and recover from disruptions, such as natural disasters, economic downturns, or health crises. Community resilience leverages local community networks; local knowledge; local communication channels; local resources; and local bodies of governance and leadership.

## 2. Food resilience

One component of community resilience is food resilience, which refers to the ways in which a community can ensure its members have access to healthy and nutritious food, even during times of crisis. This can involve a variety of strategies, such as growing food locally, supporting local agriculture, building community gardens, developing food storage and preservation facilities, and forming relationships with local food producers. By building a resilient local food system, communities can reduce their reliance on remote sources of food and ensure that they are able to continue providing sustenance for residents, even during challenging times.

The State of California and the US Federal Government are increasingly incorporating food resilience in disaster planning and view food security as foundational to any resilience effort. For example, California’s budget for fiscal year 2022-23 allocates \$477 million toward agricultural resilience measures, including climate-friendly agriculture, soil health, water efficiency, and wildfire prevention.<sup>2</sup>

Additionally, California’s Strategic Growth Council (SGC) has called for local-level resilience through its Community Resilience Centers (CRC) program. The CRC program will “fund new construction and upgrades of neighborhood-level resilience centers to provide shelter and resources during climate and other emergencies . . .”<sup>3</sup>

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<sup>2</sup> Arohi Sharma, *FY22 California Budget Invests in Agricultural Resilience*, NRDC (Sep. 21, 2022), <https://www.nrdc.org/experts/arohi-sharma/fy22-california-budget-invests-food-farm-resilience>.

<sup>3</sup> Cal. Strategic Growth Council, *SGC Launches Development of Community Resilience Centers (CRC) Program*, (July 5, 2022), <https://sgc.ca.gov/news/2022/07-05.html>.

At the federal level, President Joe Biden signed National Security Memorandum-16 (NSM-16) in November 2022 “to strengthen the security and resilience of United States food and agriculture.” NSM-16 provides a process for identifying and assessing threats to food security, strengthens relationships with the private sector, and promotes systems that respond to disruptions in the food sector.<sup>4</sup>

3. *Food is a fundamental human right.*

It has been often said, “There are only nine meals between mankind and anarchy.” And Vladimir Lenin said, “Every society is three meals away from chaos.” Like air and water, food is essential for survival and the only commodity that cannot be postponed. When social, economic, or ecological barriers block access to nutritious food, people suffer. Food-insecure individuals have higher rates of mental health issues, and hungry children attain lower academic achievement than their peers.<sup>5</sup>

The United Nations recognizes the fundamental right to food for all. At its core, this right is the right to “all nutritional elements” necessary to live a “healthy and active life” and to the means to access these elements.<sup>6</sup> The access portion of this right focuses on physical and economic access.<sup>7</sup>

The US federal government has failed to legally recognize such a right, but some states have made progress. In 2021, the State of Maine recognized the right to food in its constitution.<sup>8</sup> The amendment declares that “all individuals have the right to grow, raise, harvest, produce and consume the food of their own choosing for their own nourishment, sustenance, bodily health, and well-being.”<sup>9</sup> This amendment follows Maine’s 2017 Food Sovereignty Act, which built a food sovereignty foundation by permitting municipal governments to regulate local food systems with the guarantee of state recognition.<sup>10</sup>

4. *Food insecurity rates are rising in the Bay Area.*

Food insecurity is a growing crisis throughout the US. The US Department of Agriculture (USDA) defines food insecurity as “a household-level economic and social

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<sup>4</sup> See National Security Memorandum on Strengthening the Security and Resilience of United States Food and Agriculture, (Nov. 10, 2022), <https://www.whitehouse.gov/briefing-room/presidential-actions/2022/11/10/national-security-memorandum-on-on-strengthening-the-security-and-resilience-of-united-states-food-and-agriculture/>.

<sup>5</sup> Arohi Pathak, Ryan Richards & Marc Jarsulic, *The United States Can End Hunger and Food Insecurity for Millions of People*, Center for American Progress Action Fund (Aug. 11, 2022), <https://www.americanprogress.org/article/the-united-states-can-end-hunger-and-food-insecurity-for-millions-of-people/>.

<sup>6</sup> Off. of the High Comm’r for Hum. Rts., *The Right to Adequate Food*, Fact Sheet No. 34 (Apr. 2010), <https://www.ohchr.org/sites/default/files/Documents/Publications/FactSheet34en.pdf>.

<sup>7</sup> *Id.*

<sup>8</sup> Tess Brennan, *Maine Becomes the First US State to Recognize the Right to Food in a Constitutional Amendment*, Universal Rts. Grp. Geneva (Jan. 19, 2022), <https://www.universal-rights.org/blog/maine-becomes-the-first-us-state-to-recognise-the-right-to-food-in-a-constitutional-amendment/>.

<sup>9</sup> *Id.*

<sup>10</sup> *See id.*

condition of limited or uncertain access to adequate food.”<sup>11</sup> The USDA found that in 2020, almost 14 million households (10.5% of the population) did not have enough food to meet their needs. In California alone, more than 4 million people were reported to be food insecure in May 2022,<sup>12</sup> and In the Bay Area, food insecurity is increasing. In 2018, the San Francisco Chronicle reported that 11.5% of Bay Area residents, 870,000 people, were food insecure.<sup>13</sup> The economic and public health impacts of COVID-19 exacerbated food insecurity. A 2021 study by San Jose State University found that Bay Area food insecurity rates spiked from 20% to 33% from the beginning of the COVID-19 pandemic to March 2021.<sup>14</sup>

In Berkeley and Albany pre-pandemic, an estimated 24,000 individuals were food insecure.<sup>15</sup> The demand for food aid in Berkeley increased sharply during the pandemic, forcing the Berkeley Food Network (BFN) to *triple* its operations in the first half of 2020.<sup>16</sup>

The growing need for food aid in Berkeley highlights the fragility of the degree of food accessibility at any given time. If there is a disruption in the food supply chain, households that are already food insecure will face even greater barriers to food access. Further, the COVID-19 pandemic demonstrated that disruption would drastically increase the number of households that are food insecure. Without a safety net to insulate our community from these devastating supply chain shocks, a large proportion of households would find themselves in a struggle to survive.

5. *Natural disasters, climate change, and foreign conflicts further threaten food access.*

Climate change, natural disasters, and increasing global conflict jeopardize the world’s food security. The market for food spans internationally, so disruptions in one region send ripple effects, in the form of food scarcity or price shocks, throughout the rest of the food supply chain. The supply chain is fragile; it only takes a disruption in one of the chain’s many links for consumers to lose access to healthy food.<sup>17</sup> Recognizing the supply chain's vulnerability, the USDA built a Food System Transformation framework to

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<sup>11</sup> USDA, *Definitions of Food Security*, <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/definitions-of-food-security/>.

<sup>12</sup> Toni Koraza, *California to Face a Devastating Crisis*, NewsBreak (May 5, 2022), <https://original.newsbreak.com/@toni-koraza-561162/2590989189701-california-to-face-a-devastating-crisis>.

<sup>13</sup> Tara Duggan, *How Families Slip Through*, San Francisco Chronicle (Nov. 18, 2018), <https://www.sfchronicle.com/food/article/The-hidden-hungryA-Bay-Area-paradox-13379274.php>.

<sup>14</sup> Giselle Pignotti et al., *Food Insecurity and Food Access during COVID-19 in the San Francisco Bay Area*, San Jose State Univ. (Mar. 2021).

<sup>15</sup> Berkeley Food Network, *Programs*, (last accessed Dec. 20, 2022), <https://berkeleyfoodnetwork.org/what-we-do/programs/>.

<sup>16</sup> Berkeley Food Network, *Major Hunger-Relief Investment Will Help Alleviate Growing Food Insecurity in Berkeley*, (May 19, 2020), <https://berkeleyfoodnetwork.org/major-hunger-relief-investment-will-help-alleviate-growing-food-insecurity-in-berkeley/>.

<sup>17</sup> Mario Lubetkin, *2021 Revealed the Fragility of Food Systems*, ReliefWeb (Dec. 16, 2021), <https://reliefweb.int/report/world/2021-revealed-fragility-food-systems>.

create a more resilient food network.<sup>18</sup> Climate change reduces food availability and is exacerbated by transporting food long distances that could be grown locally.

The COVID-19 pandemic disrupted “all segments of food supply chains,” including farming, food processing, transportation, and final demand.<sup>19</sup> At the farming level, labor-intensive farms—those producing crops like fruits and vegetables—suffered from production shortages when their sick workers were unable to work.<sup>20</sup> Labor shortages also inhibited food processing facilities, with many reporting high rates of worker absences during the pandemic.<sup>21</sup> Necessary pandemic measures severely impacted the transportation of fruits and vegetables. Fruits and vegetables are perishable foods with a “high value-to-weight ratio,” so they are transported on passenger planes. Declines in passenger air travel thus caused bottlenecks in fruit and vegetable transportation.<sup>22</sup> The last step in the supply chain is getting food to consumers. When consumers lost their jobs due to the initial economic downturn in 2020, they lost economic access to food, endangering those without social safety nets.

Like the COVID-19 pandemic, other natural disasters threaten global food security by disrupting agriculture production, food availability, and food accessibility. A survey on natural disasters between 2003 and 2013 by the Food and Agriculture Organization of the United Nations “showed 25% of disaster-related losses are in agriculture sectors . . .”<sup>23</sup> The impact of a natural disaster depends on the type of natural disaster that occurs. For example, researchers report that droughts in China cut wheat yields by 5.8% over 30 years.<sup>24</sup> Droughts are a growing danger in California that reduces usable farmland. In 2022, California’s irrigated farmland shrank by 752,000 acres (nearly 10%) compared with 2019, the year before the drought.<sup>25</sup> The amount of fallowed farmland in 2022 surpassed the peak during California’s last drought, which lasted from 2012 to 2016.<sup>26</sup>

While droughts are long-term natural disasters with creeping effects, wildfires can impact the supply chain immediately. During the 2020 California wildfires, the

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<sup>18</sup> USDA, *USDA Announces Framework for Shoring Up the Food Supply Chain and Transforming the Food System to Be Fairer, More Competitive, More Resilient*, (June 1, 2022), <https://www.usda.gov/media/press-releases/2022/06/01/usda-announces-framework-shoring-food-supply-chain-and-transforming>.

<sup>19</sup> OECD, *Food Supply Chains and COVID-19: Impacts and Policy Lessons*, (June 2, 2020), <https://www.oecd.org/coronavirus/policy-responses/food-supply-chains-and-covid-19-impacts-and-policy-lessons-71b57aea/>.

<sup>20</sup> *Id.*

<sup>21</sup> *Id.*

<sup>22</sup> *Id.*

<sup>23</sup> James Ducker, *Investigating the Impact of Disasters on Food and Agriculture*, AZO Life Sciences (last updated Nov. 26, 2021), <https://www.azolifesciences.com/article/Investigating-the-Impact-of-Disasters-on-Food-and-Agriculture.aspx>.

<sup>24</sup> Shi et al., *Crop Yield and Production Responses to Climate Disasters in China*, 750 *Science of the Total Environment* (2021).

<sup>25</sup> Ian James, ‘It’s a Disaster.’ Drought Dramatically Shrinking California Farmland, Costing \$1.7 Billion, *Los Angeles Times* (Nov. 23, 2022), <https://www.latimes.com/environment/story/2022-11-23/drought-cost-california-agriculture-1-7-billion-this-year>.

<sup>26</sup> *Id.*

intense smoke made it unsafe for farm workers and livestock to be outdoors.<sup>27</sup> Without workers, farms had to plow under many crops, meaning these crops never reached consumers. Additionally, the wildfires destroyed vital land where farmers grew food; the fires destroyed the existing crops and contaminated the soil, jeopardizing future harvests.<sup>28</sup>

War can also disrupt the food supply chain. The Russian invasion of Ukraine, one of the world's biggest wheat and corn producers, caused many countries to skyrocket food prices.<sup>29</sup> The invasion halted Ukrainian exports and damaged Ukraine's rail infrastructure. As a result, large quantities of grain were trapped in Ukraine, preventing the entire 2022 harvest from having adequate storage space.<sup>30</sup> This supply shock affected countries throughout the world, including India, Egypt, and South Korea. Further, Russia was one of the top exporters of fertilizers before the invasion. Stricter controls on Russian exports caused the price of fertilizer to spike worldwide, leading farmers to reduce their planned harvests.<sup>31</sup>

## 6. Food Citizenship

“Food citizenship” describes the rights and responsibilities that individuals have in relation to the food they eat and produce. Food citizenship can include making informed choices about food purchases and consumption, supporting sustainable and ethical food systems, and advocating for food policies that prioritize the health and well-being of individuals and the environment. Food citizenship can also involve taking action to address issues such as food waste, hunger, and access to healthy food in underserved communities. Essentially, being a food citizen means actively engaging in the food system and working towards creating a more sustainable and equitable food system for all.

Food citizenship can play an important role in promoting community resilience by supporting local food systems and promoting food security. When communities have access to healthy and sustainable food sources, they are better able to withstand and recover from disruptions, such as natural disasters or economic downturns.

If a community is able to grow or produce its own food, it is less dependent on outside sources and can continue to provide for itself in the event of a supply chain disruption. Additionally, supporting local food systems can help to boost the local economy and create jobs, which can increase the overall resilience of the community.

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<sup>27</sup> Phil Lempert, *California Wildfires: The Enormous Effect on Our Food Supply*, Retail Dietitians Bus. Alliance (Dec. 9, 2020), <https://www.retaildietitians.com/articles/california-wildfires-the-enormous-effect-on-our-food-supply/>.

<sup>28</sup> *Id.*

<sup>29</sup> Rob Garver, *Global Food Prices Rise with Ukraine-Russia Agreement in Doubt*, VOA News (Oct. 31, 2022), <https://www.voanews.com/a/global-food-prices-rise-with-ukraine-russia-agreement-in-doubt-/6813606.html>.

<sup>30</sup> Dea Bankova, Prasanta Kumar Dutta & Michael Ovaska, *The War in Ukraine is Fuelling a Global Food Crisis*, Reuters (May 30, 2022), <https://graphics.reuters.com/UKRAINE-CRISIS/FOOD/zjvqkgomjvx/>.

<sup>31</sup> *Id.*

Further, food citizenship can promote food justice and equity within a community, ensuring that all members have access to healthy and affordable food. This can reduce food insecurity and prevent vulnerable populations from being disproportionately affected by disruptions to the food system.

7. *A food resilience system could insure Berkeley against disruptions in the food supply chain.*

Building a food resilience system *before* a supply chain disruption protects food-insecure households and prevents more households from becoming food insecure. Food resilience is the ability to withstand and recover from disruptions to food access in a way that ensures a sufficient supply of acceptable and accessible food for all<sup>32</sup>.

8. *FARM as a Community Food Utility: Overview*<sup>33</sup>

The mission of FARM is to foster a resilient food system that can withstand supply chain shocks and ensure all people in the community have access to adequate amounts of wholesome, nutritious foods produced by ecologically sound and socially responsible means. FARM would be a chartered public utility based on the concept of food citizenship, similar to the existing utilities for energy and water systems. FARM would have three major components: a) Community Layer, b) Food Production Layer, and c) Energy Resilience.

a. Community Layer

Growing food locally promotes physical access to food in times of crisis. To ensure that enough food is locally grown, it is critical to connecting community gardens, backyard gardens, and other urban farms into a production network with delivery centers.

i. Community Gardens and Backyard Gardens

The FARM should create a network of community gardens and backyard gardens in order to support community resilience by providing local food sources, fostering social connections, and promoting environmental sustainability.

Community gardens and backyard gardens can provide communities with a local source of fresh, healthy, and affordable produce. This can help to increase food security and reduce dependency on outside sources, making communities more resilient in the face of disruptions to the food supply chain. One backyard garden can provide food for up to six families.

<sup>32</sup> Johns Hopkins Center for a Livable Future, *Food System Resilience*, <https://clf.jhsph.edu/projects/food-system-resilience>.

<sup>33</sup> Ikerd, J. (n.d.). *Enough Good Food For All; A Community Food Utility*. Communityfoodutility. Retrieved January 4, 2023, from <https://sites.google.com/site/communityfoodutility?pli=1>



Community gardens can also provide a space for community members to come together and engage in productive, healthy activities. This can help to build social connections and a sense of community, which are important for promoting resilience in the face of challenges.

Furthermore, community gardens and backyard gardens help to promote environmental sustainability and resilience by providing a space for growing food using sustainable and environmentally-friendly practices. This can help to reduce the community's overall ecological footprint and make it more resilient in the face of environmental challenges.

ii. Synchronizing Local Food Production with Food Banks, Restaurants, Schools, and Grocery Stores

Yields from local food production can be distributed to local food banks, restaurants, schools, and grocery stores. This omnichannel production and distribution model has two key benefits. First, it ensures that locally produced food is not wasted. Second, it provides a source of feedback for FARM because restaurants, schools, and grocery stores can provide guidance to FARM for improvements in usability, quantity, and quality.

iii. Supplemental Nutrition Assistance Program (SNAP)

The community layer should incorporate a SNAP group-buying mechanism whereby SNAP recipients can deposit assistance funds into a FARM account. In return, the FARM would ensure that each recipient received enough good food to meet their basic needs, regardless of the amount of their individual SNAP payment. Some non-profit organizations are currently operating in this manner.<sup>34</sup>

b. Production Layer

Additionally, FARM would partner with urban agriculture companies and nonprofits with experience and expertise in producing high crop yields with accelerated harvest velocity in urban settings. The yields from these producers could supplement yields from existing community gardens while minimizing seasonal fluctuations and other disruptions in the supply chain.

To increase local food production, the City would offer certain economic incentives to urban agriculture companies to co-locate within the City of Berkeley. In exchange for these incentives, companies would agree to give the City Most Favored Nation (“MFN”) status, with the right of first refusal and right of first offer on the companies’ food items in the event of a local food supply chain disruption event (food shock). As discussed below, the FARM board will

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<sup>34</sup> See e.g., *Community Resilience Centers*, CA.gov (last accessed Nov. 30, 2022), <https://sgc.ca.gov/programs/community-resilience-centers/>.

institute policies that define a food shock that triggers the MFN agreement. For example, the board may define a food shock to include a week-long interruption of certain food staples at two grocery stores.

Recent innovations continue to mitigate the historical limitations of urban agriculture: land, labor, and potential yield. A study on urban farms in New York City found that the crops in urban farms produced higher yields than their conventional farm counterparts, thus making up for the spatial limitations that urban farms may face.<sup>35</sup> Additionally, peri-urban farming, which produces substantial amounts of food on a relatively small amount of land on the fringes of a city, has emerged as a space-efficient form of urban agriculture.<sup>36</sup> Gotham Greens addresses the yield limit issue by growing crops inside greenhouses with hydroponic technology. Gotham Greens' greenhouses are located near cities, allowing for proximity to communities while avoiding real estate constraints.<sup>37</sup> Closer to home, Upside Foods has opened a production facility to produce high-quality laboratory-grown meat at scale.<sup>38</sup>

i. Controlled Environment Agriculture (CEA)

CEA is an indoor food production method that uses stacked shelves, modular rack systems, or tower gardens to increase crop yields using less surface area significantly.<sup>39</sup> Technologies such as ultra-efficient LED lighting, automated environmental control systems, and dehumidification recapture loops can dramatically reduce resource consumption, including consumption of energy, water, and nutrients.

Exceptional yields and multiple harvests per year make indoor farming economically viable and sustainable over time. These two factors are possible because indoor farming creates an environment for resource-efficient methods like aeroponics (i.e., spraying nutrient-rich mist on root zones that are suspended in the air) and aquaponics.

Aquaponics is a sustainable farming method that combines traditional aquaculture (raising fish) with hydroponics (growing plants in water without soil). In an aquaponic system, fish produce waste that is converted into plant nutrients. The plants, in turn, help to purify the

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<sup>35</sup> Mara Gittleman et al., *Using Citizen Science to Quantify Community Garden Crop Yields*, 5 *Cities and the Environment* (2012), <https://digitalcommons.lmu.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1095&context=cate>.

<sup>36</sup> Ina Optiz et al., *Contributing to Food Security in Urban Areas: Differences Between Urban Agriculture and Peri-Urban Agriculture in the Global North*, 33 *Agriculture and Human Values* (2016), <https://link.springer.com/article/10.1007/s10460-015-9610-2>.

<sup>37</sup> Gotham Greens, *Our Story*, <https://www.gothamgreens.com/our-story/>.

<sup>38</sup> Katie Spalding, *World's Most Advanced Lab-Grown Meat Facility Opens in California*, *IFL Science* (Nov. 8, 2021), <https://www.iflscience.com/worlds-most-advanced-labgrown-meat-facility-opens-in-california-61548>.

<sup>39</sup> Sarah Federman, *Vertical Farming for the Future*, *USDA* (Oct. 25, 2021), <https://www.usda.gov/media/blog/2018/08/14/vertical-farming-future>.

water for the fish. This closed-loop system can be highly efficient, as it reduces the need for external inputs such as synthetic fertilizers and pesticides, and it allows for year-round production in a controlled environment. Aquaponics can be used to grow various vegetables, herbs, and other plants, as well as raise fish such as tilapia, trout, and bass. It can be a great option for urban farming, as it requires less space and water than traditional farming methods.

Compared to traditional farming techniques, aeroponics and aquaponics dramatically increase yields and quality while reducing water consumption by as much as 90%.<sup>40</sup>

ii. Repurposing Empty Commercial Space

Indoor farms can be developed in underutilized warehouses, shuttered big boxes retail locations such as the vacant CVS on Shattuck and Bancroft, and the vacant Walgreens on Ashby and San Pablo, or under freeway overpasses such as Gilman and I-80. To create dual-purpose land-use throughout the city, advanced greenhouses could be elevated above existing ground-level parking lots at locations such as Whole Foods in North Berkeley.

c. Energy Resilience

The food production network should integrate renewable energy systems that can remain resilient in the event of a disruption to the energy grid. Such a system could employ local micro-grids with solar and storage to provide power to local food production facilities. Additionally, a renewable energy system could help limit environmental impact and reduce long-term costs.<sup>41</sup>

This renewable energy system would combine various methods of production to maximize redundancies and extend grid independence of the food resilience program in the event of a major energy crisis. Existing technologies such as rooftop solar arrays and onsite battery storage systems can be combined with emerging technologies such as urban wind turbines,<sup>42</sup> transparent solar panels that allow crops below to absorb energy,<sup>43</sup> and biofuel co-generators<sup>44</sup> for use when other means of production are not available. These emerging technologies

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<sup>40</sup> Michelle Keller, *Aeroponics - What Is It & Why Is It Important?*, Living Greens Farm (Aug. 4, 2020), <https://www.livinggreensfarm.com/blog/what-is-aeroponics>.

<sup>41</sup> US Department of Agriculture, *Rural Energy for America Program Renewable Energy Systems & Energy Efficiency Improvement Guaranteed Loans & Grants*, <https://www.rd.usda.gov/programs-services/energy-programs/rural-energy-america-program-renewable-energy-systems-energy-efficiency-improvement-guaranteed-loans>.

<sup>42</sup> IBIS Power, *Easily Upgrade Your Building to Renewable Energy*, (last accessed Dec. 20, 2022), <https://ibispower.eu/powernest/>.

<sup>43</sup> Anthony Cuthbertson, *Record-Breaking Transparent Solar Panels Pave Way for Electricity-Generating Windows*, Independent (Oct. 28, 2022), <https://www.independent.co.uk/tech/solar-panel-world-record-window-b2211057.html>.

<sup>44</sup> Diego Perrone et al., *Energy and Economic Investigation of a Biodiesel-Fired Engine for Micro-Scale Cogeneration*, 14 *Energies* (2021), [https://www.researchgate.net/publication/348594263\\_Energy\\_and\\_Economic\\_Investigation\\_of\\_a\\_Biodiesel-Fired\\_Engine\\_for\\_Micro-Scale\\_Cogeneration](https://www.researchgate.net/publication/348594263_Energy_and_Economic_Investigation_of_a_Biodiesel-Fired_Engine_for_Micro-Scale_Cogeneration).

should be considered and planned for when developing the energy independence component of FARM, placing Berkeley at the forefront of sustainability in urban farming.

#### 9. FARM: Organization

The FARM will be a self-funded non-profit chartered by the City of Berkeley, with a self-appointed Board of Directors, approved by the City Council, with duties and administrative powers also approved by the City Council.

The FARM could be organized as a “vertical cooperative.”<sup>45</sup> A cooperative is a user-owned and controlled entity from which benefits are distributed equitably.<sup>46</sup> As a vertical cooperative, the FARM would operate on all levels of the vertical food system—linking producers, processors, distributors, retailers, and consumers. The system as a whole must be sustainable if the FARM continues to provide food security for the community. All recipients and participants in the vertical system would be members of the FARM cooperative.

#### 10. FARM: Governance

The FARM will begin with a volunteer, skills-based governing board, named the Food Security Council, with the City acting as a facilitator. Once the FARM has achieved grant funding, the Food Security Council members will be compensated. The Food Security Council should consist of community members, grant writers, SNAP recipients, food producers, an organized labor representative, and experts in resilience, logistics, renewable energy, and public health. All members would be appointed by the Berkeley City Council. The Food Security Council will have six core responsibilities:

1. Form the FARM as a non-profit organization;
2. Apply for grant funding;
3. Seek external partnerships;
4. Manage the FARM’s efforts to develop and maintain food production and distribution processes;
5. Determine the caloric needs of residents based on empirical evidence to set food production goals for the FARM; and
6. Define food shock events (e.g., how many days without staples constitute a food shock).

#### 11. FARM: Potential Funding Sources

Funding sources include fees for administering government food assistance programs and grants from California, the USDA, and the Department of Energy (DOE) are available.

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<sup>45</sup> John Ikerd, *The Economic Pamphleteer: Reflections on Cooperation*, Journal of Agriculture, Food Systems, and Community Development (2013), <https://doi.org/10.5304/jafscd.2013.032.001>.

<sup>46</sup> USDA, *Understanding Cooperatives: Cooperative Business Principles*, (Revised Apr. 2011), [https://www.rd.usda.gov/sites/default/files/publications/CIR\\_45-2.pdf](https://www.rd.usda.gov/sites/default/files/publications/CIR_45-2.pdf).

a. Federal and State Food Insecurity Related Grants and Programs

| <b>Grant or Program</b>                                                     | <b>Amount</b>                                                     | <b>Source/ Sponsor</b> | <b>Eligible Projects</b>                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------|-------------------------------------------------------------------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">Local Foods, Local Places</a>                                   | -                                                                 | USDA and EPA           | Developing the local food economy. Examples: community gardens, kitchens, farmer's markets, and other food-related enterprises that can create new businesses and revitalize main streets, improve access to fresh, local food, and protect the environment. |
| <a href="#">Community Food Projects Competitive Grants Program (CFPCGP)</a> | \$25K-35K in planning; Up to \$125K per year for up to four years | USDA                   | Planning toward the improvement of community food security in accordance with the goals of CFPCGP.                                                                                                                                                           |
| <a href="#">The GusNIP - Nutrition Incentive Program</a>                    | -                                                                 | USDA                   | Projects intended to increase the purchase of fruits and vegetables by providing incentives at the point of purchase among income-eligible consumers participating in the USDA Supplemental Nutrition Assistance Program (SNAP)                              |
| <a href="#">Farm to School Grant</a>                                        | Up to \$500K                                                      | USDA                   | Linking local producers with schools and other organizations participating in child nutrition programs working to purchase and include locally grown fruits, vegetables, grains, meat, dairy, and seafood in program meals.                                  |
| <a href="#">Conservation Innovation Grants</a>                              | -                                                                 | USDA                   | Projects supporting the development of farming technology to efficiently increase agricultural production through the conservation of natural resources, such as water and soil.                                                                             |
| <a href="#">The Farmers Market Promotion</a>                                | -                                                                 |                        | Projects that develop, coordinate, and expand direct producer-to-consumer markets to help increase access to and                                                                                                                                             |

|                                                               |                                                                                                                                |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">Program (FMPP)</a>                                |                                                                                                                                |      | availability of locally and regionally produced agricultural products by developing, coordinating, expanding, and providing outreach, training, and technical assistance to domestic farmers markets, roadside stands, community-supported agriculture programs, agritourism activities, online sales or other direct producer-to-consumer (including direct producer-to-retail, direct producer-to-restaurant, and direct producer-to-institutional marketing) market opportunities. |
| <a href="#">Local Food Promotion Program</a>                  | \$25,000 to \$100,000 (for Planning projects) and \$100,000 to \$500,000 (for Implementation and Farm to Institution projects) | USDA | Grants for Planning projects help food businesses to develop and test services. Grants for Implementation projects fund the creation of food businesses like community kitchens. Grants for Farm to Institution projects support institutional food services like schools with linkage to farms.                                                                                                                                                                                      |
| <a href="#">Food and Agriculture Service Learning Program</a> | -                                                                                                                              | USDA | For private organizations or non-profits to increase the capacity for food, garden, and nutrition education within host organizations or entities, such as school cafeterias and classrooms while fostering higher levels of community engagement between farms and school systems by bringing together stakeholders from distinct parts of the food system.                                                                                                                          |

b. Federal and State Resilience Grants and Programs

| Grant or Program                                              | Amount | Source/Sponsor                      | Eligible Projects                                                                                                                                 |
|---------------------------------------------------------------|--------|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">CA Community Resilience Centers</a> (anticipated) | -      | California Strategic Growth Council | New construction and upgrades of neighborhood-level resilience centers to provide shelter and resources during climate and other emergencies. The |



|                                                                                |   |                                            |                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------|---|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| release in spring 2023)                                                        |   |                                            | program will also fund year-round services and ongoing programming that build overall community resilience.                                                                                                        |
| <a href="#">Building Resilient Infrastructure and Communities (BRIC) Grant</a> | - | FEMA                                       | Hazard mitigation projects, reducing the risks they face from disasters and natural hazards.                                                                                                                       |
| <a href="#">Hazard Mitigation Grant Program (HMGP)</a>                         | - | FEMA/ OEM                                  | Developing hazard mitigation plans and rebuilding in a way that reduces, or mitigates, future disaster losses in local communities.                                                                                |
| <a href="#">Regional Resilience Planning and Implementation Grant Program</a>  | - | Governor's Office of Planning and Research | Advancing resilience and responding to their greatest climate risks through three major activities: capacity building, planning (including identifying climate resilience priorities), and project implementation. |
| <a href="#">CA Transformative Climate Communities</a>                          | - | California Strategic Growth Council        | Development and infrastructure projects that achieve major environmental, health, and economic benefits in California's most disadvantaged communities.                                                            |

c. Federal and State Renewable Energy Grants and Programs

| Grant or Program                                                               | Amount        | Source/ Sponsor                     | Eligible Projects                                                                                                                                                   |
|--------------------------------------------------------------------------------|---------------|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">Energy Efficiency and Conservation Block Grant (EECBG) Program</a> | \$500,000,000 | Department of Energy                | Development and implementation of an energy efficiency and conservation strategy; establishment of financial incentive programs for energy efficiency improvements. |
| <a href="#">CA Transformative Climate Communities</a>                          | -             | California Strategic Growth Council | Development and infrastructure projects that achieve major environmental, health, and economic benefits in California's most disadvantaged communities.             |

|                                                                  |   |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------|---|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">CA Distributed Electricity Backup Assets Program</a> | - | California                                              | Construction of cleaner and more efficient distributed energy assets that would serve as on-call emergency supply or load reduction for the state's electrical grid during extreme events.                                                                                                                                                                                                                                                                                                                                                            |
| <a href="#">CA Climate Catalyst Revolving Loan Fund</a>          | - | California Infrastructure and Economic Development Bank | <p>Projects that promote climate-smart technologies and practices across the agricultural value chain</p> <p>Projects may include (but are not limited to):</p> <ul style="list-style-type: none"> <li>● On-farm and food processing renewable energy, including electricity, fuels, and bioenergy</li> <li>● Energy, water, and materials efficiency</li> <li>● Methane reduction projects that use best practice approaches consistent with state policy goals</li> <li>● Energy storage or microgrids</li> <li>● Equipment replacements</li> </ul> |
| <a href="#">Renewable Energy For Agricultural Program (REAP)</a> | - | California Energy Commission                            | Installation of renewable energy technologies serving agricultural operations to reduce greenhouse gas emissions.                                                                                                                                                                                                                                                                                                                                                                                                                                     |

**12. Berkeley is well positioned for a food resilience program.**

The City of Berkeley has already taken steps that facilitate a food resilience program. In 2018, the City updated its Urban Agriculture Ordinance, lowering barriers to urban farming in Berkeley.<sup>47</sup> The update reduced the permit costs for larger-scale farming projects to \$1000 and removed requirements that restricted farming to select city-owned properties.<sup>48</sup>

**ENVIRONMENTAL SUSTAINABILITY**

A food resilience program that involves urban agriculture is expected to reduce pollution from food transportation. Urban agriculture shortens the supply chain, truncating the journey from farm to table.

**REVIEW OF EXISTING PLANS, PROGRAMS, POLICIES, AND LAWS**

<sup>47</sup> Stuart Luman, *Berkeley's New Urban Agriculture Ordinance Encourages Residents to Grow Their Own Food*, Berkeleyside (Aug. 27, 2018), <https://www.berkeleyside.org/2018/08/27/berkeley-urban-agriculture-law>.

<sup>48</sup> *Id.*

Adopted in 2009, Berkeley’s Climate Action Plan outlines a vision for a more sustainable city. One key goal in the Plan is for the “majority of food consumed in Berkeley” be produced locally.<sup>49</sup> FARM advances this goal by bringing food production and individuals closer together.

On July 24, 2022, the City of Berkeley adopted an ordinance that updated the municipal code on urban agriculture as follows<sup>50</sup>:

#### Purpose (23.318.010)

The purpose of the Urban Agriculture related regulations contained in this chapter is to provide the following community benefits:

- A. Support the local economy and increase access to fresh local produce.
- B. Strengthen the health and social fabric of communities by encouraging and supporting community gardens.
- C. Accomplish the Berkeley Climate Action Plan goal of supporting efforts to build more complete and sustainable local food production and distribution systems

#### Applicability (23.318.020)

These regulations supersede definitions of incidental or ancillary uses.

#### Urban Agriculture Uses and Levels of Discretion (23.318.030)

- A. Zoning Certificate. When all of the thresholds in Section [23.318.040](#) (Thresholds) are met, the use is considered Low-Impact Urban Agriculture (LIUA) and is allowed by right with a Zoning Certificate.
- B. Administrative Use Permit. When one or more of the thresholds in Section [23.318.040](#) (Thresholds) are not met, the use is considered High-Impact Urban Agriculture (HIUA) requires an AUP. (Ord. 7787-NS § 2 (Exh. A), 2021)

#### Thresholds (23.318.040)

The levels of discretion for urban agriculture are based on the following thresholds:

- A. Maximum parcel size of 7,500 square feet.
- B. Maximum lot coverage of 20 percent for accessory structures and buildings.
- C. Maximum group classes and workshops of 20 participants per class conducted no more than three times per week.
- D. Hours of operation from 8:00 a.m. to 8:00 p.m., including but not limited to activities related to gardening and planting of horticultural crops, group classes, and sales.
- E. Use of organic pesticides. (Ord. 7787-NS § 2 (Exh. A), 2021)

#### Operation Standards (23.318.050)

- Performance Standards. The growing, production, or sale of urban agricultural products may not involve hazardous materials or processes or create offensive or objectionable

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<sup>49</sup> City of Berkeley, *Berkeley Climate Action Plan*, (June 2, 2009), <https://berkeleyca.gov/your-government/our-work/adopted-plans/berkeley-climate-action-plan>.

<sup>50</sup> Berkeley Municipal Code 23.318.050.

noise, vibration, odors, heat, dirt, or electrical disturbance perceptible by a person beyond the lot line of the subject lot.

- Sales and Donations.
  - Sales and/or donations of urban agricultural products grown and produced on-site are permitted.
  - If selling or donating urban agricultural products to the public, the urban agriculture use shall comply with all applicable food safety laws, including the California Health and Safety Code.
- Garbage and Compost.
  - Garbage and compost receptacles must be screened from the street and adjacent properties by utilizing landscaping, fencing, or storage structures and all garbage shall be removed from the site weekly.
  - Compost piles and containers must be set back at least 10 feet from residential buildings when an urban agriculture use abuts a residential use.
- Farm Equipment. Use of mechanized farm equipment is not permitted in Residential Districts and when the urban agriculture use abuts a residential use, with the following exceptions:
  - Heavy equipment may be used initially to prepare the land for agriculture use.
  - Landscaping equipment designed for household use is permitted.
  - Equipment when not in use must be enclosed or otherwise screened from sight. (Ord. 7787-NS § 2 (Exh. A), 2021)

#### FISCAL IMPACTS OF RECOMMENDATION

Fiscal impacts include staff time for analysis.

#### RATIONALE FOR RECOMMENDATION

Food insecurity rates in the Bay Area are worrying. Food shortages, natural disasters, and global conflicts further threaten the availability and economic accessibility of healthy food. The increasingly intense impacts of climate change create heightened cause for concern. Therefore, to create a food safety net in the City of Berkeley, it is necessary to implement FARM.

While FARM is not intended to replace conventional food retailing, it should produce enough food to supplement the normal food supply during times of distress. Reaching this quantity requires a coordinated effort and collaboration with experts in the field of urban agriculture, including small businesses and nonprofit organizations. Therefore, the Office of Economic Development should research incentives for these entities to partner with the City of Berkeley to design and implement a food utility pilot.

#### OUTCOMES AND EVALUATION

This food resilience initiative is expected to address food insecurity for the City's population and maintain that security in the event of environmental and economic shocks.

#### Contributors

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Ben Cadranel, Development Officer  
Ian Richards, Agricultural Technology Consultant

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Kyle Tang

[ktang@cityofberkeley.info](mailto:ktang@cityofberkeley.info)

# Berkeley Food Utility and Access Resilience Measure (FARM)



**Ben Bartlett**  
Vice Mayor, City of Berkeley

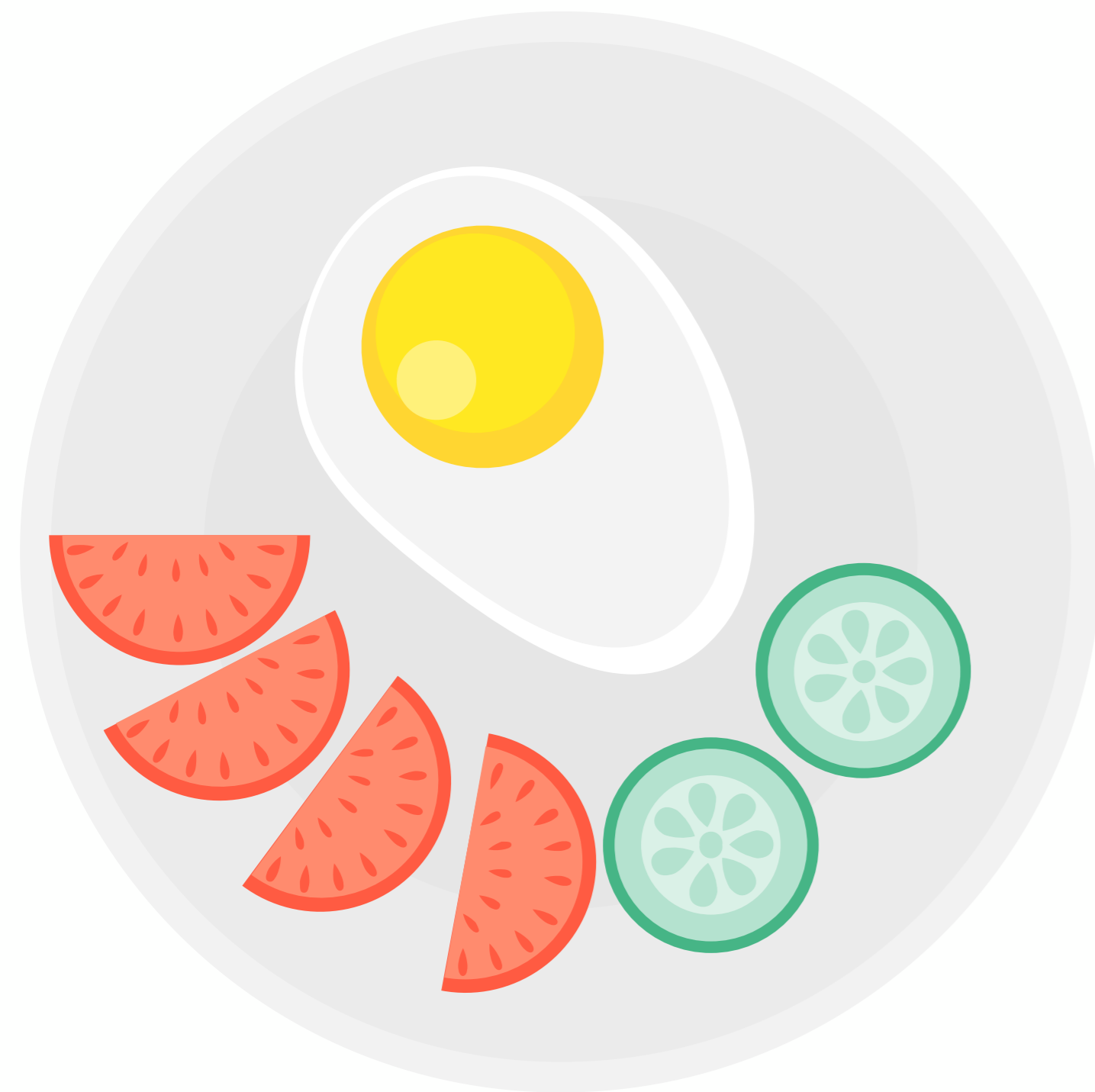


**“There are only nine  
meals between  
mankind and anarchy.”**

**- Vladimir Lenin**

# Recommendation

To the Honorable Mayor and Members of the City Council



**Protecting the City's food supply from natural disasters and economic disruptions by creating a community-based non-profit organization to implement an integrated local food production and distribution system**

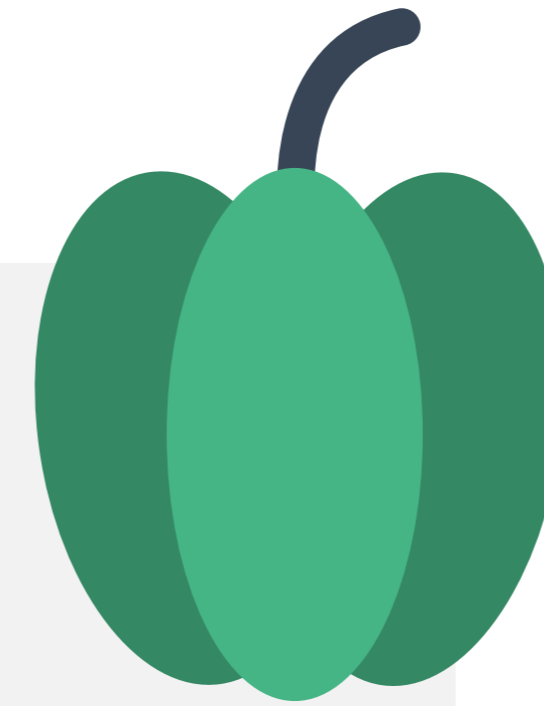
**To design and offer economic incentives for non-profits, agricultural producers, and small businesses to partner with the City**

# Achieving Food Resiliency



## Local Production

**Develop local food production sources**



## Connect

**Connect these sources to each other and local community hubs**



## Power

**Power local food production sources using renewable energy with battery backup storage**

# Community Resilience



What is community resilience?

Ability of a community to withstand and recover from disruptions

## Threats to the Community:

- **Governments faced with existential threats to populations and infrastructure**
- **Rapid advancement of climate change**
- **Extreme weather events**
- **Disaster preparedness**
- **Soaring Food Prices**  
**Need a systems—level approach to address possible points of failure in urban food supply chain**

# Food Resilience



## What is food resilience?

The ways in which a community can ensure its members have access to health and nutritious food, even during times of crisis

- **Berkeley's Climate Action Plan set a target of majority of food consumed to be from local food production**
- **A local food system empowers Berkeley to achieve a key Climate Action Plan goal → producing local food for consumption**
- **California allocated \$477 million toward agricultural resilience measures**
- **California's Strategic Growth Council called for local-level resilience through Community Resilience Centers program**
- **U.S. government is incorporating food resilience in disaster planning**



# Food is a Fundamental Human Right



Like air and water...

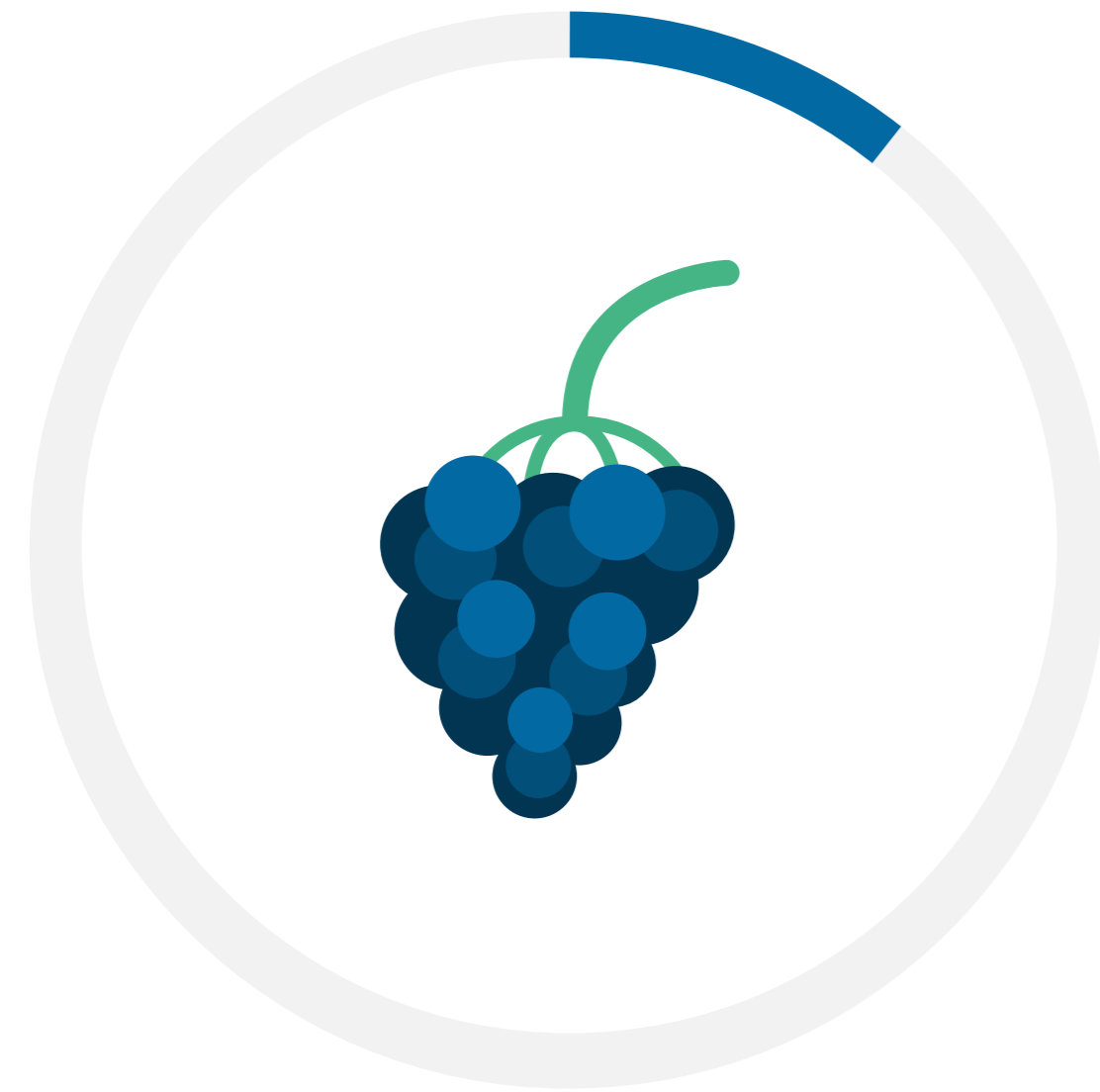
**Food is essential for survival and the only commodity that cannot be postponed.**

- **Food insecure individuals have higher rates of mental health issues**
  - **Hungry children attain lower academic achievement**
- **United Nations recognizes that the right to all nutritional elements is necessary to live a healthy and active life**



# Food Insecurity Data

Food insecurity is a growing crisis throughout the United States



**11.5%**

870,000 people

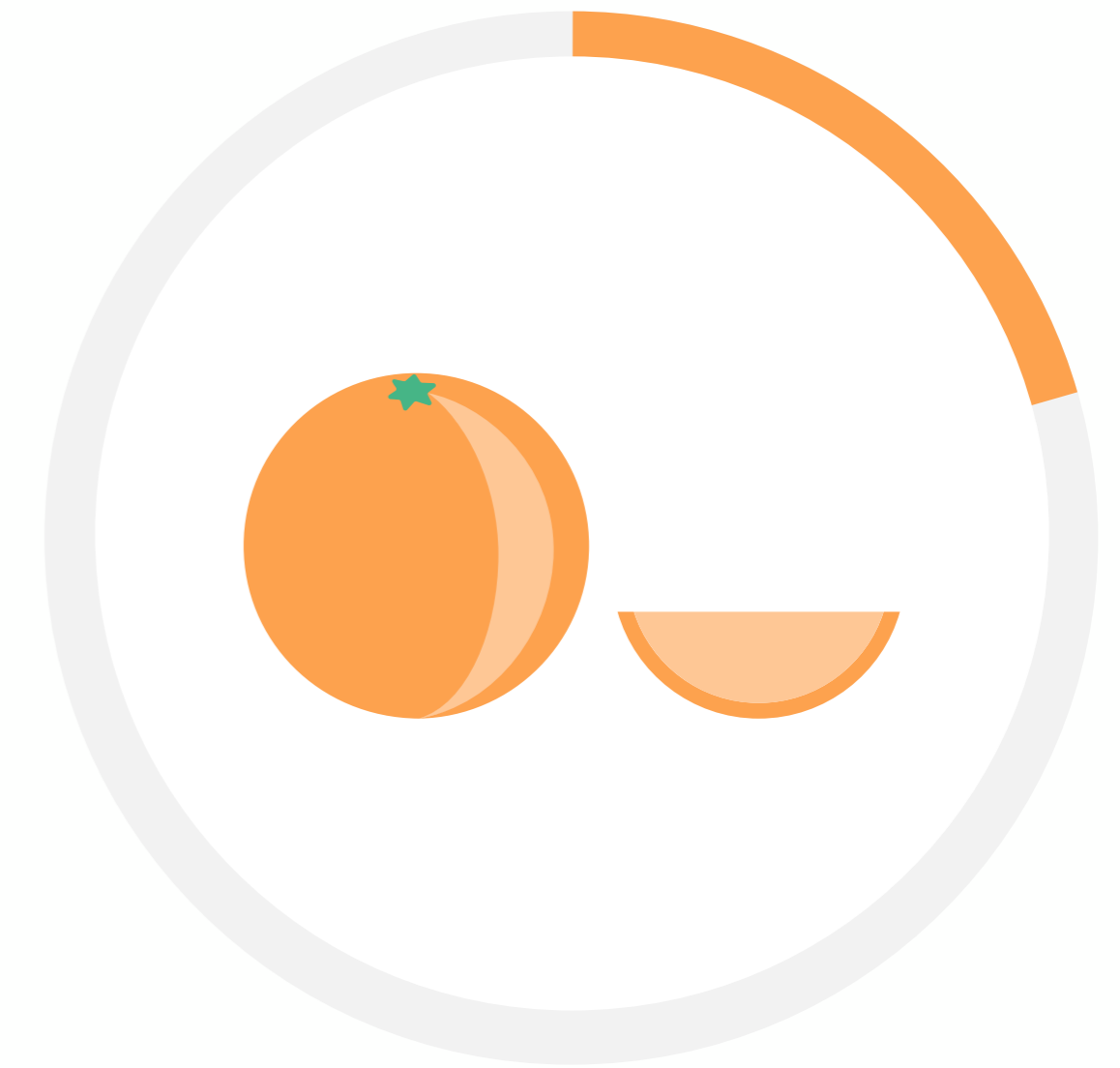
Of people in the Bay Area are food insecure in 2018



**10.5%**

14 million households

Of the US population did not have enough food to meet their needs



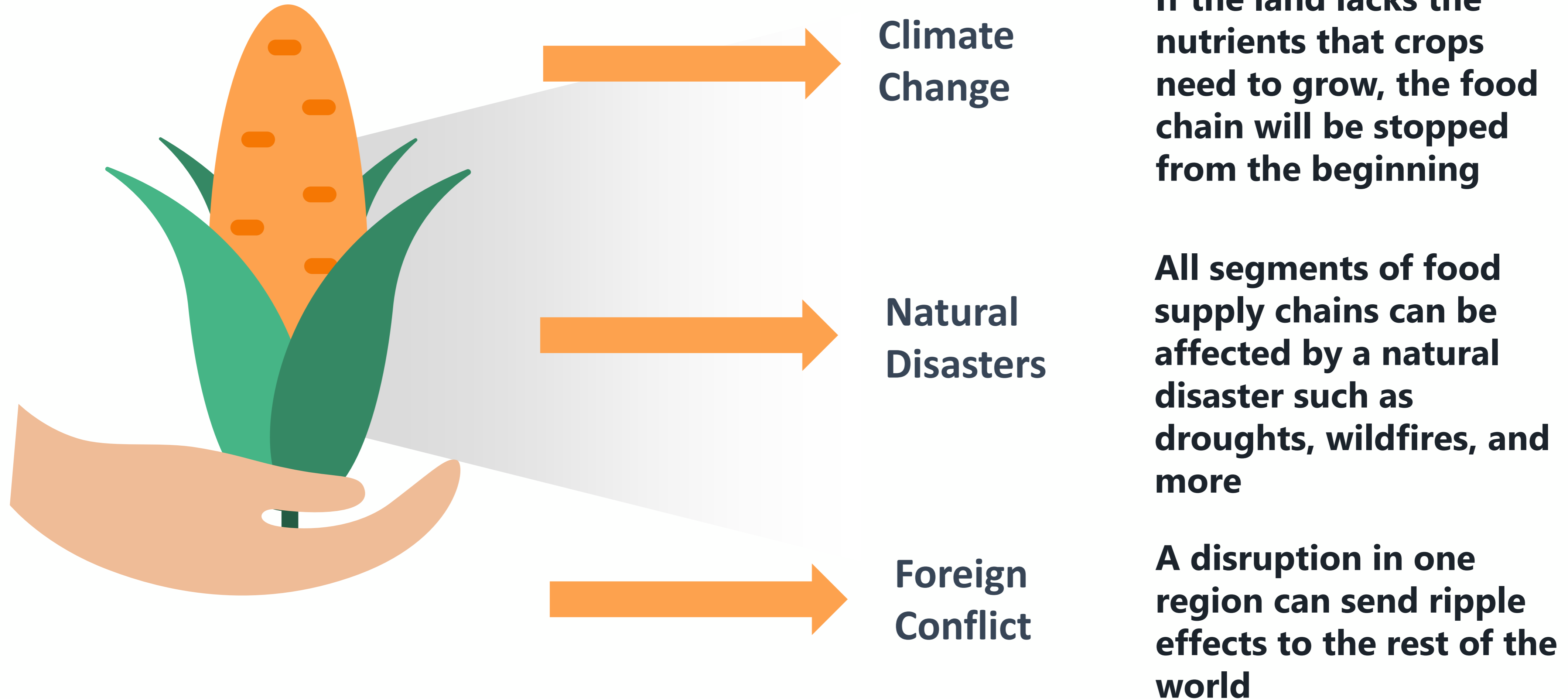
**20%**

20-33%, specifically

Spike in food insecurity in the Bay Area from the beginning of COVID-19 Pandemic



# Threats to Food Access



# FARM as a Community Food Utility

## Community Layer

- **Community Gardens and Backyard Gardens**
- **Synchronizing Local food production with food banks, restaurants, schools and grocery stores**
- **Supplemental Nutrition Assistance Program (SNAP)**

## Production Layer

- **Controlled Environmental Agriculture (CEA)**
- **Repurposing Empty Commercial Space**

## Energy Resilience

- **Integrating renewable energy systems that remain resilient**

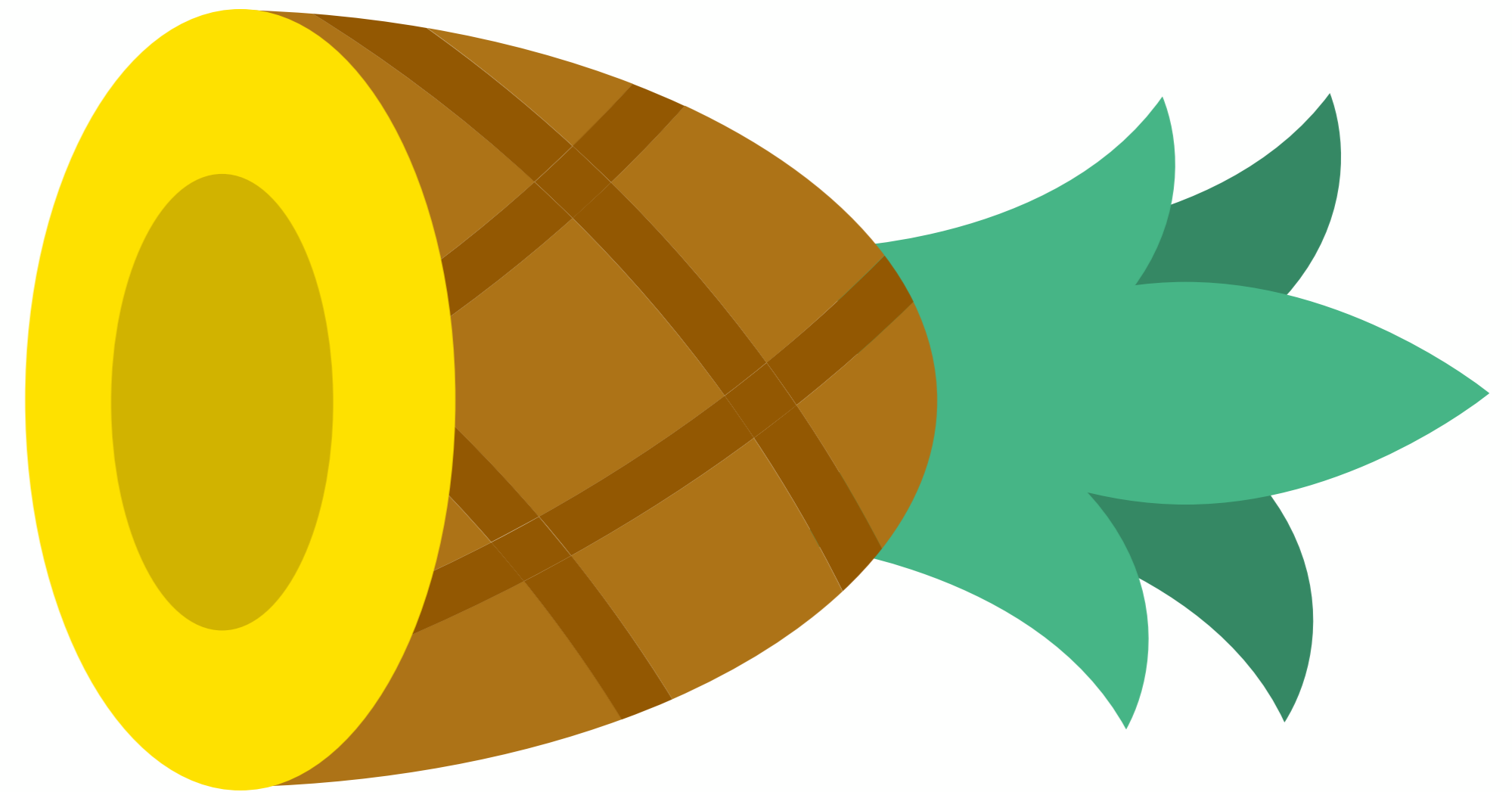


# FARM: Organization

The FARM will be a self-funded non-profit chartered by the City of Berkeley, with a self-appointed Board of Directors, approved by the City Council, with duties and administrative powers also approved by the City Council.

## Vertical Cooperative

- **User-owned and controlled entity from which benefits are distributed equitably**
- **FARM would operate on all levels of vertical food system – linking producers, processors, distributors, retailers and consumers**
- **System must be sustainable, all recipients and participants would be members of FARM**



# FARM Governance: Food Security Council

- FARM will begin with a volunteer, skills-based governing board: Food Security Council
- Once the FARM has achieved grant funding, the Food Security Council members will be compensated
- The Food Security Council should consist of community members, grant writers, SNAP recipients, food producers, an organized labor representative
  - Experts in resilience, logistics, renewable energy, and public health.

## Food Security Council Responsibilities:

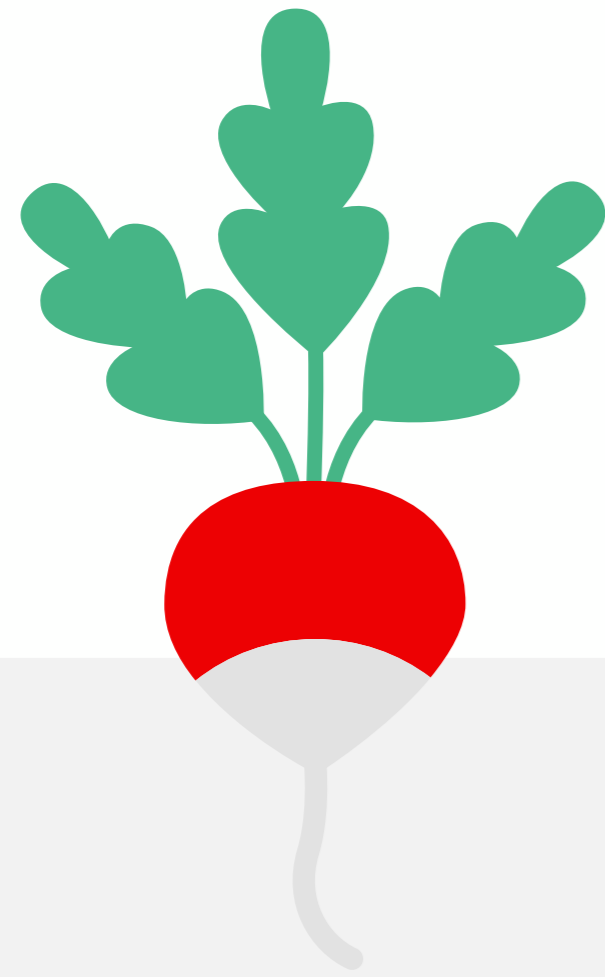
1. Form FARM as a non-profit
2. Apply for funding
3. Seek external partnerships
4. Develop and maintain food production and distribution processes;
5. Determine the caloric needs of residents
6. Define food shock



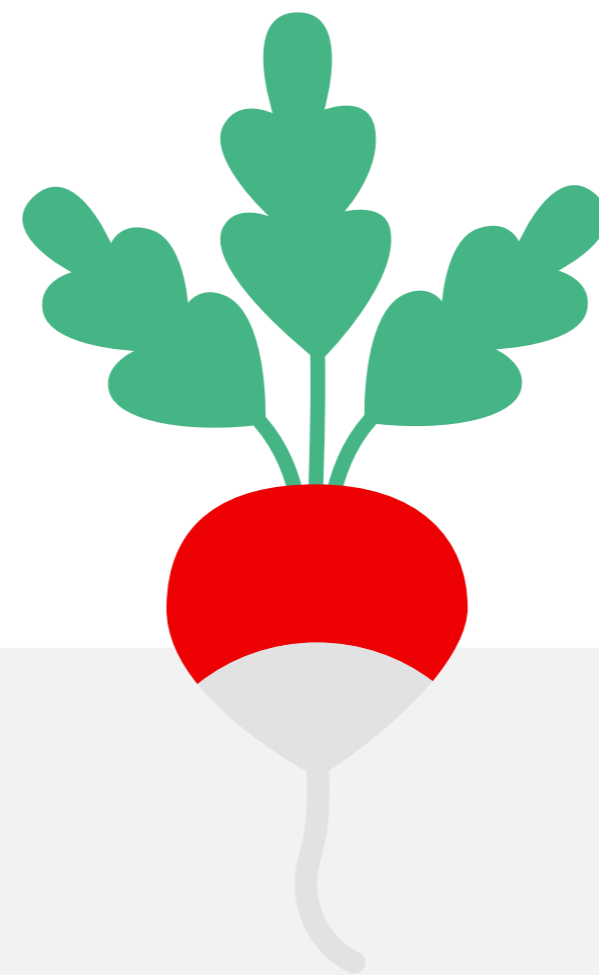


# Potential Funding Sources

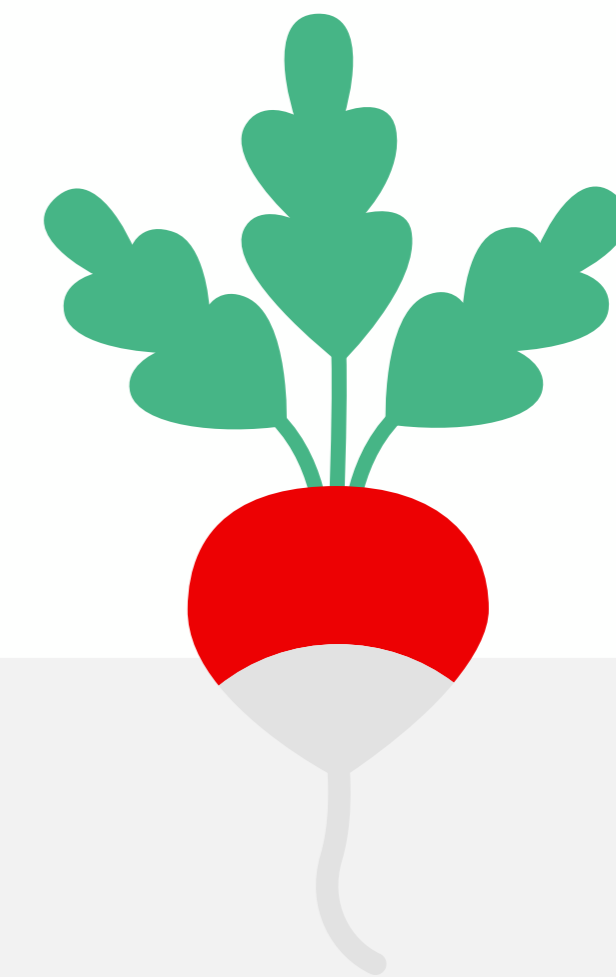
Funding sources include fees for administering government food assistance programs and grants from California, the USDA, and the Department of Energy (DOE) are available.



**Food Insecurity Related  
Grants and Programs**



**Federal and State  
Resilience Grants and  
Programs**



**Federal and State  
Renewable Energy Grants  
and Programs**



# FARM: Conclusion

Food shortages, natural disasters, and global conflicts further threaten the availability and economic accessibility of healthy food. The increasingly intense impacts of climate change create heightened cause for concern. Therefore, to create a food safety net in the City of Berkeley, it is necessary to implement FARM.



# Thank you!

## Contact:

### Vice Mayor Ben Bartlett

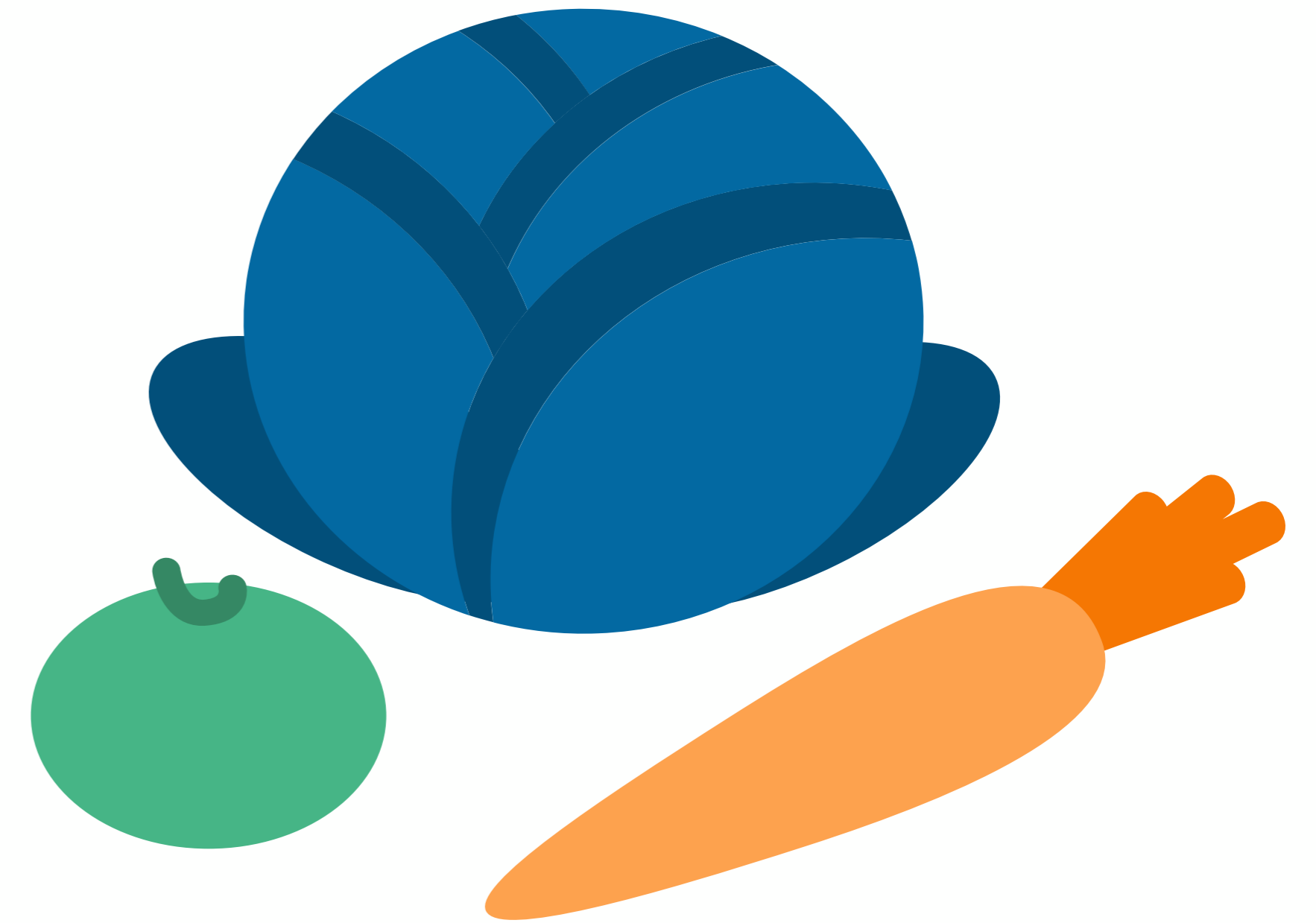
- [bbartlett@cityofberkeley.info](mailto:bbartlett@cityofberkeley.info)
- 510-981-7130

### Additional Contributors:

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Daren Cruz Rodriguez





ACTION CALENDAR  
April 25th, 2023

To: Honorable Mayor and Members of the City Council

From: Community Health Commission

Submitted by: Andy Katz, Chairperson, Community Health Commission

Subject: Referral Response: Responsible Psychedelic Drug Policy Reform in Berkeley

RECOMMENDATION

Adopt a Resolution that refers to the City Manager a program to: a) work with external organizations providing psychedelic harm reduction, education, and support resources to the Berkeley Community, b) work with City Departments and external organizations to create, and return to the City Council with a policy for collecting public health data on psychedelic drug use in the City, and c) deprioritizes the enforcement of laws that impose criminal penalties for the possession of psychedelic drugs for personal use (with the exception of Peyote), and laws that impose criminal penalties for the cultivation, processing, and preparation of psychedelic-containing plants and fungi for personal use (with the exception of Peyote).

SUMMARY

- The purpose of this report is to respond to the City Council's referral requesting that the Commission make a recommendation regarding psychedelic drug policy reform in the City.
- Public perceptions of psychedelic drugs have shifted in the past few years, with mainstream media outlets reporting about the beneficial potential of psychedelic drug use (sometimes touting the substances as miracle cures or magic bullets), psychedelic drug policy reforms being proposed and often passed in various jurisdictions throughout the United States, billions of dollars of investment pouring into the psychedelic space, a trend towards increasing use of psychedelic drugs within the population, and a wave of interest in receiving psychedelic treatments. Given these rapid changes, there is a need for the provision of unbiased, evidence-informed psychedelic harm reduction, education, and support resources to the public, as well as for the collection of public health data on psychedelic drug use.
- This report recommends that the City Council adopt a resolution that refers to the City Manager to work with external organizations to provide psychedelic harm reduction, education, and support resources to the Berkeley Community, refers to the City Manager work with City Departments and external organizations to create, and return to the City Council with, a policy for collecting public health data on

psychedelic drug use in the City, and deprioritizes the enforcement of laws that impose criminal penalties for the possession of psychedelic drugs for personal use (with the exception of Peyote), and laws that impose criminal penalties for the cultivation, processing, and preparation of psychedelic-containing plants and fungi for personal use (with the exception of Peyote).

- This recommended action would help provide the needed resources to the Berkeley community, create a policy for public health data collection regarding psychedelic drug use in the City (which is particularly important for policy-tracking going forward), and prevent the possibility of individuals facing criminalization for the personal use of the substances in the City. The recommended resolution would serve as an example or template for other jurisdictions to follow.
- Implementing the recommended action would only cost the City in terms of staff time, and in terms of resources such as the use of City webpages, community spaces such as libraries, etc. All of the psychedelic harm reduction, education, and support resources would be provided to the Berkeley community for free by external organizations who are working in collaboration with the City.
- No specific funding is required for implementing the recommended action.

#### FISCAL IMPACTS OF RECOMMENDATION

- Adoption of this resolution may minimally reduce City expenditures associated with enforcement of laws imposing criminal penalties for possession of psychedelic drugs for personal use, and laws imposing criminal penalties for the cultivation, processing, and preparation of psychedelic-containing plants and fungi for personal use.
- Adoption of this resolution would decrease any present and future City expenditures associated with addressing adverse reactions to and negative health outcomes of psychedelic drug use, as a result of provision of psychedelic harm reduction, education, and support resources.
- Adoption of this resolution would require the use of City resources (including City staff time) to work with the external organizations to provide the psychedelic harm reduction, education, and support resources and to create and implement a public health data collection policy. However, because the City would be partnering with external organizations who would provide these resources (and collaborate in creating the data collection policy) for free, the costs to the City would be quite limited.

#### CURRENT SITUATION AND ITS EFFECTS

On September 20, 2019, Berkeley City Council referred to the Community Health Commission for feedback the adoption of a Resolution decriminalizing Entheogenic Plants and Fungi such as mushrooms, cacti, iboga containing plants, and/or extracted combinations of plants similar to Ayahuasca; and limited to those containing the following types of compounds: indole amines, tryptamines, phenethylamines, by restricting any city funds or resources to assist in the enforcement of laws imposing

criminal penalties for the use and possession of Entheogenic Plants by adults age 21 and over.

On November 29, 2022, the Community Health Commission approved the recommendation to the Berkeley City Council responding to the commission referral on *Decriminalizing Entheogenic Plants*.

Key elements of the recommendation include:

- 1) Work with external organizations providing psychedelic harm reduction, education, and support resources to the Berkeley community.
- 2) Work with City Departments and external organizations to create, and return to the City Council with a policy for collecting public health data on psychedelic drug use in the City.
- 3) Deprioritize the enforcement of laws that impose criminal penalties for the possession of psychedelic drugs for personal use (with the exception of Peyote),
- 4) Deprioritize the enforcement of laws that impose criminal penalties for the cultivation, processing, and preparation of psychedelic-containing plants and fungi for personal use (with the exception of Peyote)

**Action:** M/S/C (Smart/Spigner) Motion to approve the Commission recommendation (Responsible Psychedelic Drug Policy Reform in Berkeley) for City Council referral on Entheogenic Plants.

**Votes:** Ayes – Webber, Bechtolsheim, Smart, Adams, Katz, Spigner; Noes – None; Abstain – None; Absent – Rosales.

### BACKGROUND

“Psychedelic drugs” (or “classical psychedelics”) are LSD, psilocybin, DMT, mescaline, and other compounds that exert similar psychoactive effects by stimulating a specific subtype of serotonin receptor (5-HT<sub>2A</sub>) on nerve cells in the brain and elsewhere in the body.

Although ketamine, MDMA, and ibogaine are often called “psychedelic drugs,” these substances produce different psychoactive (and physiological) effects through different pharmacological mechanisms of action, and are not considered “psychedelic drugs” in this resolution.

Psychedelic drugs can induce extra-ordinary, altered states of consciousness, involving significant changes in thought, feeling, and perception, with these psychoactive effects becoming more intense and unpredictable when the drugs are taken in higher doses. Psychedelic drug use has the potential to produce positive effects and beneficial

outcomes (such as a sense of spiritual well-being, and improvements in the symptoms of mental health disorders), and to produce adverse effects and negative outcomes (such as intense confusion, fear, and panic, and even erratic behavior that can lead to harming oneself or others).

The acute effects and outcomes of psychedelic drug use are dependent in part on individual personality trait, medical health, and mental health factors. Psychedelic drug use can be beneficial for one person, but dangerous for another. Individuals with particular contraindications are known to face an increased likelihood of adverse effects and negative outcomes; for example, individuals who have a history of or predisposition to psychotic disorders are at risk for triggering the onset of psychosis as a result of psychedelic drug ingestion.

The acute effects and the outcomes of psychedelic drug use are also extremely dependent on “container,” which is the particular context/conditions/circumstances within which the substance is used. “Container” includes the user’s “Set,” which in addition to the user’s personality traits and health conditions, is all of the expectations, intentions, emotions, beliefs, etc. that the user brings to the situation, and the “Setting,” which is the physical, interpersonal, social, cultural, etc. environment, or external conditions, within which the use occurs (including what the sitter, guide, facilitator, therapist, etc. brings into the situation, if they are present in the situation).

While there is still much to learn about the factors that contribute to how individuals react to psychedelic drugs and how these factors relate to acute effects and outcomes of use, it is clear that adverse effects and negative outcomes are significantly less likely to occur and beneficial effects and outcomes are more likely to occur when psychedelic drugs are used within containers that are intentional, structured, and include the support of trained, competent, and well-intentioned sitters, guides, facilitators, therapists, etc. It is also clear that adverse effects and negative outcomes are significantly more likely, and beneficial effects and outcomes less likely, when the drugs are used outside of these containers (for example, when the user decides to use the substance spontaneously without intentional preparation, when they are alone, in a chaotic or unpredictable environment, etc.).

The outcomes of psychedelic drug use are also dependent on “integration,” which refers to the process of unpacking and exploring the meaning of one’s psychedelic experience and applying it to one’s life, with integration being vital not only because it helps one fulfill the beneficial potential of one’s experience, but also because the absence of integration can create risks and lead to negative outcomes, such as in scenarios when trauma surfaces in the experience, but is not integrated afterwards.

A variety of plants and fungi contain psychedelic drugs, and many have been used for religious and medicinal purposes by indigenous groups for at least hundreds of years. A variety of species of psilocybin-containing fungi, the LSA-containing seeds of morning



glory species (*ipomoea tricolor* and *turbina corymbosa*), Ayahuasca (a brew of DMT-containing and MAOI-containing plants, with the latter being included to allow the DMT to be absorbed through oral ingestion), and mescaline-containing cacti such as San Pedro (*echinopsis pachanoi*), Peruvian Torch (*echinopsis peruviana*), and Peyote (*lophophora williamsii*) all have well-documented histories of indigenous and syncretic traditional use in the Americas, and all continue to be used in a variety of traditional contexts to this day. This use often occurs (though not always) within highly intentional, structured, time-tested ceremonial containers that include the guidance of trained practitioners, followed by integration practices, and occurring within cultural contexts that differ quite significantly from that of contemporary American society.

Some religious groups with a history of traditional ceremonial use of psychedelic-containing plants and fungi have been granted religious-use protections in the United States, such as the Brazil-based Ayahuasca-using churches “Uniao do Vegetal” (UDV) and “Santo Daime,” and the Peyote-using Native American Church (NAC), which arose in the North American Southwest. Peyote currently only grows wild in South Texas, and the population is very fragile, which is why the National Council of Native American Churches and the Indigenous Peyote Conservation Initiative released a statement requesting that decriminalization and legalization policies do not include this species, to prevent the possibility of increased poaching threats to the wild population.

The history of psychedelic drug use in Western society is closely tied to the discovery and proliferation of LSD (lysergic acid diethylamide). The Swiss scientist Albert Hoffman accidentally discovered the psychoactive effects of the substance in 1943, in his work for Sandoz Laboratories. Following Hoffman’s discovery, Sandoz Laboratories believed that LSD had potential for clinical applications, and encouraged researchers to experiment with the substance to explore its potential. For about 15 years, LSD was the focus of extensive research and testing, but this first wave of scientific experimentation was derailed when LSD began to gain popularity among countercultural groups, and utopian-minded psychedelic-drug-use-evangelicals such as Timothy Leary began to publicly call for widespread use of the substance (and other psychedelics). As the use of LSD became more visible, associated with countercultural and activist movements, associated with recreational use, and associated with adverse reactions such as psychosis and erratic behavior, jurisdictions moved to ban the substance. In 1970, the federal government of the United States moved to classify LSD as Schedule 1, which is a category of controlled substances that supposedly have been found to have “a high potential for abuse,” “no currently accepted medical use in treatment,” and “a lack of accepted safety for use under medical supervision.” Other psychedelic drugs such as psilocybin, DMT, and mescaline, were also classified as Schedule 1 controlled substances along with LSD. For a long time after this, psychedelic drugs and psychedelic drug use became a stigmatized topic in much of Western society, and legal research ceased for many years. After psychedelic drugs became illegal and stigmatized, use of the substances continued underground, including in the context of

underground psychedelic-assisted therapy, psychedelic ceremonies, and other psychedelic practices.

While the discovery and proliferation of LSD was incredibly important to the history of psychedelic drug use in Western society (especially in that first wave from 1943 to 1970), it is important to note that Western interest in psilocybin-containing mushrooms and the traditional ceremonial use of psychedelics was invigorated by Gordon Wasson's 1957 Time article documenting his visit to the Mazatec curandera Maria Sabina, who used psilocybin-containing mushrooms in her practice. This article ultimately led to a flood of tourists visiting Maria Sabina's village and other areas of Mexico, seeking to experience psilocybin-containing mushrooms, which was not Maria Sabina's intention in sharing her knowledge with Wasson. The unwanted attention created severe problems for Maria Sabina, for her community, and for other curanderos and indigenous communities who traditionally used psilocybin-containing mushrooms. In the 1960s, however, psilocybin-containing mushrooms were not used by Westerners at anywhere near the same rate that LSD was used. LSD was being produced in massive amounts in (eventually illicit) laboratories, and was easily transported and distributed (largely because an active dose of LSD is a miniscule amount of material). Techniques for cultivating psilocybin-containing mushrooms were not developed or available until the 1970s, and foraging for the mushrooms could not create enough of a supply to in any way compete with LSD. Things have changed, however. A survey study that investigated contemporary psychedelic drug use found that psilocybin-containing mushroom use accounted for half of all psychedelic drug use reported by participants.

Legal scientific research into psychedelic drugs in the United States started up again in the 1990s when Rick Strassman was able to successfully secure approval to conduct experiments with DMT on human subjects. DMT is an endogenous compound (meaning it occurs naturally in the human body), so it was much easier to convince the appropriate authorities that this substance was worthy of scientific study (compared to LSD or other non-endogenous psychedelic drugs). Although Strassman eventually stopped his DMT research before he fully completed the project, his work was crucial to putting the gears in motion again for legal psychedelic research. After Strassman's successful securing of approval for his DMT research, "the door was open for further human experimentation with psychedelic drugs," because the FDA was now "more willing to accept protocols for psychedelic research."

In the 2000s and onward, a number of research teams began to increasingly study the therapeutic applications of psychedelic drugs, primarily psilocybin, showing promising initial results. This generated more scientific and medical interest in psilocybin and psychedelics in general, leading to more and more studies being approved, funded, and conducted. This new wave of psychedelic research was fueled in part by the availability of new tools and models for studying the pharmacology and neuroscience of psychedelic drugs, as well as by the development of new ways to collect and analyze quantifiable data about research subjects' psychedelic experiences.

In the past several years, the resurgence of psychedelic research has only accelerated. There has been an explosion of research into the use of psychedelic-assisted psychotherapies for treating mental health conditions such as major depressive disorder and substance use disorder, with a number of studies showing promising preliminary evidence for therapeutic benefits when screened, prepared patients are administered with the substances within structured, clinical containers, with the support of trained therapists, and with integration following the administration sessions. These promising preliminary findings led the FDA to issue “breakthrough therapy” designations to psilocybin-assisted treatments, expediting the process of review and approval. While psychedelic therapies have not yet been demonstrated to be safe and effective treatments for any health condition, and have not yet been approved by the FDA, this year, the federal government created an interagency task force to study and address issues related to the projected approval, rollout, and regulation of psychedelic medicine in the United States, with the goal of creating a “framework for the responsible, accountable, safe, and ethical deployment of psychedelic therapies for mental health disorders when the FDA approves their use.”

While psychedelic drug use has been highly stigmatized in Western society, especially since the beginning of the Drug War in the United States, public perceptions have shifted in the past few years, with mainstream media outlets reporting about the beneficial potential of psychedelic drug use, psychedelic drug policy reforms being proposed and often passed in various jurisdictions throughout the United States, billions of dollars of investment pouring into the psychedelic space, first from a small number of wealthy psychedelic-enthusiasts, and now increasingly from commercial/industry/venture capital interests, an observed trend towards increasing use of psychedelic drugs within the population, and a wave of interest in receiving psychedelic treatments in a medical context. This wave of interest in receiving psychedelic treatments has been in part due to the social and cultural impact of UC Berkeley Journalism Professor Michael Pollan’s books and docuseries, and is evidenced by the massive increase in the number of individuals seeking to participate in the limited number of active or recruiting psychedelic clinical trials.

David B. Yaden and some other researchers in the psychedelic research field have argued that we have become trapped in a “psychedelic hype bubble” that is “driven largely by media and industry interests.” They note that the term “bubble” is “often applied to something of value that has become overvalued in popular perception,” typically when a “rapid increase in extreme visibility and expectations” leads to “a peak of inflated expectations,” which is then followed by “an equally steep decline in which highly inflated expectations are dashed.” Yaden et al. argue that psychedelics are “currently cresting” the peak of inflated expectations, citing the observation that “in the past few years, a disturbingly large number of [mainstream media] articles have touted psychedelics as a cure or miracle drug.”

It is important to remain aware of the possibility that we are indeed in the midst of a “psychedelic hype bubble,” and of the fact that psychedelic research, and our understanding of psychedelic drugs and psychedelic practices, are still in the early stages. Psychedelic drugs are clearly very powerful tools, and contemporary American society is only beginning to understand how they work, what they are capable of, and how to use them safely, beneficially, and ethically. Psychedelics and psychedelic practices may be beneficial for some people in some contexts, and not for others in other contexts, and we must be careful about allowing expectations of the substances’ universal beneficial potential and safety to become excessively inflated.

Psychedelic drug reform policies are, in part, public health policies. In order to craft evidence-based public health policies regarding psychedelic drug use, we must look to the available scientific research into the individual and public health outcomes of psychedelic drug use, and seek accurate, comprehensive public health data, and avoid basing policy decisions on rapidly-shifting, media-influenced (and possibly, at this time, overly-enthusiastic) public perceptions of the substances’ safety and efficacy. However, we must consider public perceptions of the substances when evaluating the potential need for the provision of public health interventions indicated for psychedelic use, including promotion of harm reduction, education, and other support resources. Furthermore, we must consider long-term equitable access concerns in our psychedelic public health policy decision-making.

Psychedelic drug reform policies are also, in part, criminal justice policies. In order to promote health and safety regarding psychedelic drug use, we must take into account a number of issues, such as the current laws, the actual enforcement situation on the ground in the jurisdiction in question and its criminalization consequences for members of the community, the human rights concerns that are at stake, the actual consequences (particularly unintended consequences) of psychedelic drug reform policies in other jurisdictions, and the various (public health) trade-offs involved in different policy options.

#### ENVIRONMENTAL SUSTAINABILITY AND CLIMATE IMPACTS

- Possession, cultivation, processing, and preparation of Peyote (*Lophophora williamsii*) for personal use is being omitted from this resolution’s deprioritization policy, in order to protect the sustainability of the endangered plant’s population in the Southwest. The National Council of Native American Churches and the Indigenous Peyote Conservation Initiative have asked for this plant to be excluded from psychedelic decriminalization and legalization proposals for this reason.

#### RATIONALE FOR RECOMMENDATION

This resolution deprioritizes the enforcement of laws imposing criminal penalties for the possession of psychedelic drugs for personal use (with the exception of Peyote), and laws imposing criminal penalties for the cultivation, processing, and preparation of

plants and fungi containing psychedelic drugs for personal use (with the exception of Peyote). This resolution **DOES NOT** deprioritize the enforcement of laws against giving away, sharing, distributing, transferring, dispensing, or administering of psychedelic drugs to other people, and does not authorize these activities in any way.

The decision to limit deprioritization to possession of psychedelic drugs for personal use, and cultivation, processing, and preparation of psychedelic-containing plants and fungi for personal use was informed by examining the trade-offs involved in the different policy options.

Deprioritizing the enforcement of laws against possession of psychedelic drugs for personal use in Berkeley would prevent individuals from being investigated, arrested, prosecuted, or imprisoned for engaging in this activity in Berkeley. According to reports from BPD sources (BPD was unable to provide data after a request was sent), the police department very rarely investigates or arrests individuals for offenses involving psychedelic drugs, and when this does occur, it is virtually always for commercial distribution, rather than possession for personal use, or cultivation, processing, and preparation of psychedelic-containing plants and fungi for personal use. This suggests that very few people face the risk of criminal consequences for offenses involving psychedelic drugs in Berkeley, with the main criminal liability being to those who sell the substances.

Given that very few (if any) people are already subject to investigation or arrest in Berkeley for possession of psychedelic drugs for personal use, this policy option would probably not have significant concrete criminal justice consequences for members of the Berkeley community, although it would prevent the highly unlikely (and blatantly unjust) scenario in which someone was indeed investigated and/or arrested for possession of psychedelic drugs for personal use in Berkeley. However, this policy option sends a symbolic message about the importance of decriminalizing possession of psychedelic drugs for personal use, particularly to jurisdictions where individuals actually do face a significant risk of criminalization for this activity. It may also influence a person's decision to seek medical assistance or support resources as a preventive harm reduction measure or to address acute adverse effects during use.

The deprioritization of investigation and enforcement of laws against giving away, sharing, or distributing plants containing psychedelic drugs to other individuals has, in jurisdictions such as Oakland, demonstrably led to the emergence of unregulated gray markets for psychedelic drugs. In these gray markets, we see enterprising entrepreneurs opening commercial operations such as delivery services (advertised with fliers and posters), storefront dispensaries, pop-ups, and outdoor market booths, sometimes asking for "suggested donations," and sometimes not bothering at all with the pretense that they are merely "giving away" the substances. For example, at least one convenience store in Oakland is now openly offering psilocybin mushroom chocolate bars for sale. This deprioritization policy has also demonstrably opened

access to unregulated facilitated psychedelic dosing sessions (with practitioners and groups accepting payment for their services), including one-on-one psychedelic-assisted practices and group practices such as ceremonies (often with public-facing websites and other promotional materials). It is important to carefully consider the implications and potential public health consequences of opening this kind of access to the substances at this time.

While there is much we do not know yet about the individual and public health consequences of psychedelic drug use, we do know that these are very powerful psychoactive substances (far more powerful than cannabis) that can present serious risks, especially for some individuals, and when used in different circumstances. While many of these risks can be mitigated when use occurs within an intentional, supportive, guided “container,” there is still much to learn about how specific individual and container factors are connected to safety and benefit, and about how to create safe and beneficial containers for different individuals, and for different purposes (e.g. treating depression, PTSD, etc.). Additionally, the use of psychedelic drugs under the guidance or supervision of another person places the user in a highly vulnerable position in which they are susceptible to (conscious or unconscious) manipulation, exploitation, and abuse at the hands of their sitter, facilitator, guide, therapist, etc. Without having effective safeguards in place, opening unregulated access to psychedelic drugs and psychedelic services would create a dangerous situation, particularly for individuals with contraindications, and individuals who are members of vulnerable populations.

While there is a body of promising scientific research into the potential therapeutic applications of psychedelic drugs, the findings from this research are still quite limited and preliminary. However, psychedelic drugs are increasingly perceived by the public as being safe and effective “medicines,” despite the current lack of FDA approval, and despite the large gaps in our scientific knowledge about the substances’ risk/benefit profiles and long-term effects (for different individuals and populations, when used in different contexts, and when used in the treatment of different health conditions). Governments have public health imperatives to develop and implement policies that fully acknowledge these complex (and rapidly-changing) circumstances. Policies must be developed and implemented with the understanding that psychedelic drug policy reform involves unique issues that are not present when considering (for example) methamphetamine or fentanyl policy, in part because these other substances, unlike psychedelics, are generally understood by the public as being dangerous, addictive, recreational drugs, rather than as safe and effective “medicines” that will supposedly be a magic-bullet solution to the mental health crisis.

Because psychedelic drugs are increasingly promoted as being actively beneficial substances with great therapeutic, medical, or even spiritual and societal value, this is generating significant and unique demand for psychedelic drugs and psychedelic services. Deprioritizing the enforcement of laws against giving away, sharing, distributing, transferring, dispensing, or administering of psychedelic drugs to other



people opens the door for individuals and groups to provide an unregulated supply to meet this demand. Some of these individuals and groups, even those with entirely good intentions, would likely end up presenting or marketing their goods and services in ways that are not accurate or evidence-based, and that make misleading or unfounded claims about the safety and efficacy of what they are providing. This situation, again, would be dangerous, particularly for individuals with contraindications, and for vulnerable populations (such as severely depressed people who are desperate for a solution to their suffering).

We carefully considered issues related to long-term equitable access to psychedelic drugs and psychedelic services in our policy-making decision process. One often-raised concern is that if local jurisdictions and states do not decriminalize (or even legalize) the unrestricted giving away, sharing, or administering of psychedelic drugs right now, that future regulatory frameworks will inevitably become overly-restrictive, and shaped by corporate interests, making access expensive and inequitable.

In response to this concern, we argue that immediately opening unregulated gray markets for psychedelic drugs and psychedelic services, at least without first establishing a robust and widely-accessible safety/harm reduction/education/support scaffolding, represents inequitable public health policy. For example, if unregulated gray market access was opened without any safeguards in place, individuals who have more time, education, experience, skills, resources, access to medical care, etc. to conduct their own research/educate themselves (e.g. about using psychedelics within a safe container, about contraindications, about detecting red flags that may indicate abusive guides, etc.) would likely be able to make safer and more beneficial decisions about using the substances, about selecting a guide, etc. These individuals would presumably be more likely to experience positive outcomes and less likely to experience negative outcomes from accessing psychedelic drugs or psychedelic services, which is an inequitable situation (and vulnerable populations in particular would be subject to inequitable levels of risk). This is one of the reasons it is necessary to include a safety scaffolding in psychedelic drug policy, and to fully establish this safety scaffolding before opening widespread access.

Furthermore, we are optimistic that a transparent, comprehensive public conversation about the issues, with the participation of representatives of different communities and impacted groups, a variety of interdisciplinary experts, etc. will lead to the development and implementation of psychedelic drug reform policies that promote equitable access to psychedelic drugs and psychedelic services (whatever those policies may ultimately look like). We are optimistic that the people of the State of California, either through their representatives in the legislature or through ballot initiatives, will in the future approve psychedelic drug policies that create access that is equitable, safe, beneficial, and ethical. We can learn from mistakes with cannabis policy, and work to prevent corporate and other commercial interests from shaping psychedelic policy decisions towards their own interests.

Moving on from public health concerns, we identified and analyzed several criminal justice concerns that may provide reasons in favor of deprioritizing the enforcement of laws against giving away, sharing, distributing, transferring, dispensing, or administering of psychedelic drugs to other people in the City of Berkeley. One criminal justice reason to select this policy option would be to prevent individuals from being investigated, arrested, prosecuted, and incarcerated for engaging in these activities in Berkeley. However, as stated previously, very few people are investigated or arrested in Berkeley for offenses involving psychedelic drugs, with the rare cases involving the sale of the substances. Therefore, including giving away, sharing, etc. in our deprioritization policy would not have a significant impact on keeping individuals from being criminalized for the psychedelic-involved activities they are already engaging in, because these individuals are not currently at significant risk for investigation or arrest in Berkeley. If we did include giving away, sharing, etc. in our deprioritization policy, we would, however, be actively opening the gates for a widely-accessible, but completely unregulated gray market to emerge in Berkeley. We see the need to avoid this unintended consequence (and its public health implications) as outweighing the criminal justice value of deprioritizing enforcement of laws against giving away, sharing, etc. of psychedelic drugs.

Another relevant criminal justice concern we considered is the imperative to respect and protect the right to religious freedom. It has been argued that the right to religious freedom entails that every individual has the right to use psychedelics in religious practices, particularly in community with others, free from government restriction or interference. If this is the case, then this would provide reason to deprioritize enforcement of laws against giving away, sharing, distributing, transferring, dispensing, or administering of psychedelic drugs to other people *within the context of religious practices*.

We recommend that while the right to religious freedom may entail that every individual has the right to use psychedelic drugs in religious practices, including in community with others, there are many problems involved in identifying “religious practices” and distinguishing them from other activities, such that it would be intractably difficult to write a religious use protection into the resolution without creating many ambiguities and easily-exploited loopholes (for commercial activity, insincere religious practice, etc.). Additionally, deprioritizing enforcement of laws against possession of psychedelic drugs for personal use would allow individuals to engage in psychedelic religious practices in community with others, as long as everyone brought their own substances to these gatherings. Furthermore, because psychedelic practices involve the use of powerful drugs that place users in highly vulnerable positions in which they are susceptible to (conscious or unconscious) manipulation, exploitation, and abuse, we are concerned that our attempts to specifically open the door for religious use any further at this time would open the door to these dangers, particularly when charismatic leaders and guru-figures are involved in the psychedelic practices.

When making the decision to omit giving away, sharing, distributing, transferring, dispensing, or administering of psychedelic drugs to other people from the resolution's deprioritization policy, we considered the public health concerns along with the criminal justice concerns. We determined that the public health reasons to refrain from opening unregulated gray-market access at this time (at least without first fully establishing a robust safety scaffolding) outweigh the criminal justice reasons in favor of deprioritizing enforcement of laws against giving away, sharing, administering, etc. of psychedelic drugs to other people. Legislative discussions before California State Legislature regarding the possible regulatory frameworks, consumer and client protections, licensing or certification systems for therapists and facilitators, etc., is a more appropriate venue for the conversation regarding safe distribution and access.

An essential part of this resolution refers to the City Manager direction to work with external organizations (which may include the Fireside Project, Dance Safe, and the UC Berkeley Center for the Science of Psychedelics) to provide accurate, evidence-informed, and widely-accessible psychedelic education, harm reduction, and other support resources to the Berkeley community. The goal here is to help individuals make informed and responsible decisions about using psychedelic drugs, and if they choose to use the drugs, to help them do so as safely and beneficially as possible. We see this component of the resolution as particularly important right now due to the marked shift in public perceptions of psychedelic drugs, and due to the increasing interest in and use of the substances (and unregulated gray market access in Oakland). We believe that the provision of psychedelic harm reduction, education, and support resources is essential for providing a "safety scaffolding" for psychedelic drug use within the City, and that this safety scaffolding must be fully in place before we can consider opening widespread, unregulated access to psychedelic drugs and psychedelic services.

The final element of this resolution refers to the City Manager direction to create, and return to the City Council with, a policy for collecting public health data regarding psychedelic drug use in the City. As of right now, the City of Berkeley has no policy for psychedelic drug use public health data collection, and no City department collects any of this data. There are extremely significant gaps in our knowledge of current patterns of psychedelic drug use and the public health outcomes of use generally, so improved data collection is needed to arrive at a better understanding of psychedelic drug use in the population and its effects on public health in the City, particularly for the purpose of preparing for policy tracking and for crafting evidence-based psychedelic public health policies in the future.

In creating the "safety scaffolding" and the public health data collection policy, we also aim to send a message to other jurisdictions about the necessity of including these elements in responsible psychedelic drug reform policies.

ALTERNATIVE ACTIONS CONSIDERED

- We considered the resolution that the advocacy group Decriminalize Nature proposed in 2019, which is very similar to the policy passed in Oakland, CA and a number of other jurisdictions. This proposed Berkeley resolution would have opened the door for the emergence of an unregulated gray market in Berkeley, without first establishing a safety scaffolding and a policy for public health data collection. For the reasons discussed in the above “rationale” section, we chose a different policy approach.
- We decided against the “no action” option because there is so much public interest in psychedelic drug use right now, and we believe that it is crucial for the City of Berkeley to address this topic in a responsible, public-health-focused manner.

CITY MANAGER

The City Manager [TYPE ONE] concurs with / takes no position on the content and recommendations of the Commission’s Report. [OR] Refer to the budget process.

CONTACT PERSON

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Attachments:

1: Resolution

2: References

RESOLUTION NO. ##,###-N.S.

RESOLUTION CALLING FOR THE PROVISION OF EVIDENCE-INFORMED PSYCHEDELIC HARM REDUCTION, EDUCATION, AND SUPPORT RESOURCES TO THE BERKELEY COMMUNITY, CALLING FOR THE CREATION OF A POLICY FOR COLLECTING PUBLIC HEALTH DATA ON PSYCHEDELIC DRUG USE IN THE CITY, AND DEPRIORITIZING THE ENFORCEMENT OF LAWS THAT IMPOSE CRIMINAL PENALTIES FOR THE POSSESSION OF PSYCHEDELIC DRUGS FOR PERSONAL USE AND LAWS THAT IMPOSE CRIMINAL PENALTIES FOR THE CULTIVATION, PROCESSING, AND PREPARATION OF PSYCHEDELIC-CONTAINING PLANTS AND FUNGI FOR PERSONAL USE

WHEREAS, “psychedelic drugs” (or “classical psychedelics”) are LSD, psilocybin, DMT, mescaline, and other compounds that exert similar psychoactive effects by stimulating a specific subtype of serotonin receptor (5-HT<sub>2A</sub>) on nerve cells in the brain and elsewhere in the body;<sup>1</sup> and

WHEREAS, psychedelic drugs can induce extra-ordinary, altered states of consciousness, involving significant changes in thought, feeling, and perception,<sup>1,2</sup> with these psychoactive effects becoming more intense and unpredictable when the drugs are taken in higher doses;<sup>1</sup> and

WHEREAS, psychedelic drugs have the potential to produce positive effects and beneficial outcomes (such as a sense of spiritual well-being, and improvements in the symptoms of mental health disorders),<sup>1-4</sup> and to produce adverse effects and negative outcomes (such as intense confusion, fear, and panic, and even erratic behavior that can lead to harming oneself or others),<sup>1-4</sup> and individuals with particular contraindications face an increased likelihood of adverse effects and negative outcomes, with those who have a history of or predisposition to psychotic disorders being at risk for triggering the onset of psychosis as a result of psychedelic drug use;<sup>4-5</sup> and

WHEREAS, the acute effects and the outcomes of psychedelic drug use are extremely dependent on “container,”<sup>1-6</sup> which is the particular context/conditions/circumstances within which the substance is used, including “Set” (the user’s expectations, intentions, mood, beliefs, medical and health conditions, etc.) and “Setting” (the physical, interpersonal, social, cultural, etc. environment within which the use occurs);<sup>1-6</sup> and

WHEREAS, while there is still much to learn about the factors that contribute to how individuals react to psychedelic drugs and how these factors relate to acute effects and outcomes of use,<sup>15</sup> it is clear that adverse effects and negative outcomes are significantly less likely to occur and beneficial effects and outcomes are more likely to occur when psychedelic drugs are used within containers that are intentional, structured, and include the support of trained, competent, and well-intentioned sitters, guides, facilitators, therapists, etc.,<sup>1-6</sup> and that adverse effects and negative outcomes are significantly more

likely, and beneficial effects and outcomes less likely, when the drugs are used outside of these containers (for example, when the user decides to use the substance spontaneously without intentional preparation, when they are alone, in a chaotic or unpredictable environment, etc.);<sup>1-6</sup> and

WHEREAS, the outcomes of psychedelic drug use are also dependent on “integration,” which refers to the process of unpacking and exploring the meaning of one’s psychedelic experience and applying it to one’s life,<sup>7</sup> with integration being vital not only because it helps one fulfill the beneficial potential of one’s experience, but also because the absence of integration can create risks and lead to negative outcomes, such as in scenarios when trauma surfaces in the experience, but is not integrated afterwards; and

WHEREAS, psychedelic-containing plants and fungi have a long history of traditional use in some indigenous societies,<sup>6,7</sup> with this use typically occurring within highly intentional, structured, time-tested ceremonial containers that include the guidance of trained practitioners, followed by integration practices, and occurring within cultural contexts that differ quite significantly from that of contemporary American society;<sup>6,7</sup> and

WHEREAS, individuals and groups use psychedelic drugs in a wide variety of ways and for a wide variety of purposes, from using them for recreational purposes, to using them as medicines for therapeutic improvement, to using them as sacraments for spiritual, religious, or “entheogenic” purposes; and

WHEREAS, in recent years, there has been resurgence of scientific research into the use of psychedelic-assisted psychotherapies for treating mental health conditions such as major depressive disorder and substance use disorder,<sup>8</sup> with a number of studies showing promising preliminary evidence<sup>15</sup> for therapeutic benefits when screened, prepared patients are administered with the substances within structured, clinical containers, with the support of trained therapists, and with integration following the administration sessions;<sup>8</sup> and

WHEREAS, at this time, while psychedelic therapies have not yet been demonstrated to be safe and effective treatments for any health condition, and have not yet been approved by the FDA,<sup>8,15</sup> the federal government has created an interagency task force to study and address issues related to the projected approval, rollout, and regulation of psychedelic medicine in the United States, with the goal of creating a “framework for the responsible, accountable, safe, and ethical deployment of psychedelic therapies for mental health disorders when the FDA approves their use;”<sup>9</sup> and

WHEREAS, while psychedelic drug use has been highly stigmatized in Western society, especially since the beginning of the Drug War in the United States, public perceptions have shifted in the past few years,<sup>8-12,15</sup> with mainstream media outlets reporting about the beneficial potential of psychedelic drug use (sometimes touting the substances as miracle cures or magic bullets),<sup>8,10-12,15</sup> psychedelic drug policy reforms being proposed



and often passed in various jurisdictions throughout the United States,<sup>7,12,15</sup> billions of dollars of investment pouring into the psychedelic space, first from a small number of wealthy psychedelic-enthusiasts and now from commercial/industry/venture capital interests,<sup>10,15</sup> a trend towards increasing use of psychedelic drugs within the population,<sup>12,13</sup> and a wave of interest in receiving psychedelic treatments,<sup>11</sup> and is evidenced by the massive increase in the number of individuals seeking to participate in the limited number of active or recruiting psychedelic clinical trials;<sup>11</sup> and

WHEREAS, given the profile of use for this class of drug, and given recent shifts in public perception and policy, the City of Berkeley has a responsibility to make efforts, through collaborations with external organizations, to provide accurate, unbiased, evidence-informed, and widely-accessible psychedelic harm reduction, education, and other support resources to the Berkeley community, to help individuals make informed and responsible decisions about using psychedelic drugs, and if they choose to use the drugs, to help them do so safely and beneficially; and

WHEREAS, there are extremely significant gaps in our knowledge of current patterns of psychedelic drug use and the public health outcomes of use,<sup>12,14,15</sup> so improved data collection is needed to arrive at a better understanding of psychedelic drug use in the population and its effects on public health, particularly for the purpose of preparing for policy tracking and for crafting evidence-based psychedelic public health policies in the future; and

WHEREAS, while the possession of psychedelic drugs for personal use is illegal at the federal level in the United States, arrests and prosecutions for engaging in psychedelic drug offenses almost always follow state law, and laws and penalties vary widely between different states, with possession of psychedelic drugs for personal use being considered in California to be a misdemeanor, punishable by up to one year of imprisonment; and

WHEREAS, arresting, prosecuting, and incarcerating people for the possession of psychedelic drugs for personal use and for the cultivation, processing, and preparation of psychedelic-containing plants and fungi for personal use is unjust, needlessly harmful to individuals and communities, represents a waste of resources, and does not promote public health; and

WHEREAS, deprioritization of investigation and enforcement of laws against giving away, sharing, or distributing psychedelic drugs to other individuals has, in jurisdictions such as Oakland, CA, demonstrably led to the emergence of unregulated gray markets for psychedelic drugs, with enterprising entrepreneurs opening (sometimes “donation”-based) commercial operations such as delivery services, storefront dispensaries, pop-ups, and outdoor market booths, and now with at least one convenience store in Oakland openly offering psilocybin mushroom chocolate bars for sale; and

WHEREAS, the deprioritization of investigation and enforcement of laws against giving away, sharing, distributing, or administering psychedelic drugs to other individuals has, in jurisdictions such as Oakland, CA, demonstrably opened access to unregulated psychedelic administration/dosing sessions (with practitioners and groups soliciting payment for their services), including one-on-one psychedelic-assisted therapy and group practices such as ceremonies (often with public-facing websites and other promotional materials), and while some of these practices appear to operate in ways that are largely safe, ethical, and responsible, others do not, and are not required to, operate by the same standards, guidelines, and procedures; and

WHEREAS, at this stage, given the present circumstances in our society, the City of Berkeley's perspective is that it is prudent public health policy to pass a psychedelic drug reform proposal that does not lead to the unintended consequences of the emergence of an unregulated gray market for psychedelic drugs and the opening of access to unregulated psychedelic administration/dosing sessions, without first fully establishing a robust psychedelic harm reduction, education, and support scaffolding, without first creating a policy for public health data collection on psychedelic drug use, and without having a transparent, comprehensive public conversation, involving a variety of interdisciplinary experts, representatives of different communities and impacted groups, etc., about opening access to psychedelic drugs in a way that is safe, beneficial, ethical, and equitable, including discussion of the potential role of religious, ceremonial, and traditional use protections, public education campaigns, harm reduction programs, possible regulatory frameworks, consumer and client protections, licensing or certification systems for therapists and facilitators etc.; and

WHEREAS, the City of Berkeley wishes to declare its desire to create a psychedelic education, harm reduction, and support scaffolding for the community, to create a policy for collecting public health data on psychedelic drug use within the community, and to not expend City resources to assist in the enforcement of laws imposing criminal penalties for the possession for personal use of psychedelic drugs, or for the cultivation, processing, and preparation of psychedelic-containing plants and fungi for personal use; and

WHEREAS, a foundational part of the psychedelic harm reduction infrastructure is the "Psychedelic Peer Support Line," – 62-FIRESIDE | 623-473-7433 - operated by a Bay Area-based nonprofit organization called Fireside Project, which has provided free, confidential peer-to-peer emotional support by phone and text message to over 5,000 people during and after psychedelic experiences, and 21% of respondents to Fireside Project's post-call survey agreed or strongly agreed that they might have called 911 or gone to the Emergency Room but for their conversation with Fireside Project, and it is imperative that every member of the Berkeley community become aware of the Psychedelic Peer Support Line before they take any psychedelic substance.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that the Mayor and City Council hereby declare that it shall be the policy of the City of Berkeley that no department, agency, board, commission, officer, or employee of the city, including without limitation, Berkeley Police Department personnel, shall use any city funds or resources to assist in the enforcement of laws imposing criminal penalties for the possession of psychedelic drugs for personal use, or laws imposing criminal penalties for the cultivation, processing, and preparation of psychedelic-drug-containing plants and fungi for personal use. For the purposes of this resolution, “psychedelic drugs” refers to the “classical psychedelics” LSD, psilocybin, DMT, mescaline, and all other compounds that exert similar psychoactive effects through stimulation of the 5-HT<sub>2A</sub> receptor. This resolution’s deprioritization policy does not apply to the mescaline-containing cactus Peyote (*Lophophora williamsii*), due to sustainability and poaching concerns raised by the National Council of Native American Churches and the Indigenous Peyote Conservation Initiative, who have released a statement requesting that decriminalization policies do not include this species.

BE IT FURTHER RESOLVED that this resolution defines the “personal use of psychedelic drugs” as an individual ingesting or self-administering psychedelic drugs.

BE IT FURTHER RESOLVED that this resolution defines “possession of psychedelic drugs for personal use” as an individual possessing psychedelic drugs for the purpose of being ingested or self-administered by that same individual, and not by any other person or people.

BE IT FURTHER RESOLVED that this resolution defines the “cultivation, processing, and preparation of psychedelic-containing plants and fungi for personal use” as an individual cultivating, processing, and preparing any of these plants and fungi for the purpose of the resulting material being ingested or self-administered by that same individual, and not by any other person or people.

BE IT FURTHER RESOLVED that this resolution does not authorize or enable any of the following activities: giving away, sharing, distributing, transferring, dispensing, or administering of psychedelic drugs to another individual.

BE IT FURTHER RESOLVED that the City of Berkeley shall, in the future, consider adopting policy that deprioritizes enforcement of laws imposing criminal penalties for the possession of MDMA, ketamine, ibogaine, and other psychedelic-adjacent compounds for personal use.

BE IT FURTHER RESOLVED that the City of Berkeley declares its support for a transparent, comprehensive public conversation about opening access to psychedelic drugs and psychedelic administration/dosing sessions in a way that is safe, beneficial, ethical, and equitable, including discussion of the potential role of religious, ceremonial, and traditional use protections, public education campaigns, harm reduction programs,

possible regulatory frameworks, consumer and client protections, licensing or certification systems for therapists and facilitators, etc., and that the City urges the California State Legislature to take part in this conversation, and consider passing legislation that addresses the relevant issues.

BE IT FURTHER RESOLVED that the City Council refers to the City Manager to work with external organizations such as non-profits and academic institutions to provide and promote unbiased, evidence-informed psychedelic harm-reduction, education, and support resources to the Berkeley community, including but not limited to the harm reduction-based drug education curriculum for high school students, Safety First, educational materials, workshops and other resources such as those provided by harm reduction resources and other organizations for adults generally, as well as for adults who use the drugs in relevant settings, such as within nightlife, at festivals, and the use of drug purity/adulteration checking technologies, etc.

BE IT FURTHER RESOLVED that the City Council refers to the City Manager to collaborate with harm reduction resource organizations to ensure that every resident of Berkeley becomes aware of peer support services before consuming psychedelic drugs. Such collaboration may include but is not limited to sharing the peer support number - with law enforcement and other City employees who may come into contact with people who may use psychedelic drugs, posting this information on City websites; encouraging schools to share this information with their students, and encouraging business such as bars, clubs, concert halls, and nightlife venues to share this information with their customers.

BE IT FURTHER RESOLVED that any organization or individual who works with the City to provide psychedelic education, harm reduction, or support resources shall not, through their work with the City, actively facilitate access to psychedelic drugs or psychedelic administration sessions, while current State law is in place. If an organization or individual is found to be acting in violation of this provision of the resolution, the City shall review the partnership with the organization or individual, and consider ending the partnership, depending on circumstances of the violation.

BE IT FURTHER RESOLVED that the City Council refers to the City Manager to collaborate with the Public Health Division, other City Departments, and external organizations and individuals to create, and return to the City Council with, a policy for collecting public health data on psychedelic use in the City.

BE IT FURTHER RESOLVED that the City of Berkeley urges other local jurisdictions to pass proposals that would establish psychedelic education, harm reduction, and support resources for their communities, create policies for collecting public health data on psychedelic drug use within their communities, and deprioritize the enforcement of laws imposing criminal penalties for the possession of psychedelic drugs (except Peyote) for

personal use, and for the cultivation, processing, and preparation of psychedelic-containing plants and fungi (except Peyote) for personal use.

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