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# Vermont Agriculture and Food System Plan 2020 -- A Review of Recommendations (Part One)

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## Key Findings

1. All recommendations in this review have been coded into eight thematic categories to be used more effectively by stakeholders.
2. We identify four clusters of recommendations to assist stakeholders in understanding the relationships between categories and enabling understanding of the various stakeholders and resources necessary to implement recommendations from different briefs
3. 87% of recommendations either request direct funding for an initiative or recommend a capital expenditure. With financial challenges amidst COVID-19, we highlight eight recommendations for a Vermont Food System that could move forward without financial resources.
4. In the future, giving authors a guide for writing recommendations would make them easier to categorize and implement.

## Overview

The Vermont Agriculture and Food System Plan: 2020 (VAFSP) consists of 23 briefs on a range of food system topics within three broad categories: Issues, Products, and Markets. Each brief offers a unique set of recommendations based on its topic, including actions that would increase the viability of food sectors and the agricultural economy. Briefs offer anywhere from four to seven recommendations each, with an average of 5.2 per brief and a total of 119 recommendations.

**The goal of our review is to analyze the recommendations found in the VAFSP report to provide ways to distill these recommendations and make them more accessible to stakeholders.** We identify categories and connections across the recommendations to create thematic entry points that facilitate a more structured way to discuss and approach the VAFSP report. Our review offers a tool to help stakeholders who are looking to prioritize steps towards making a sustainable and viable agricultural landscape in Vermont. We hope that the full categorization in Appendix III will be used as a database to understand the categories of the report's recommendations.

## Identification of Eight Recommendation Themes

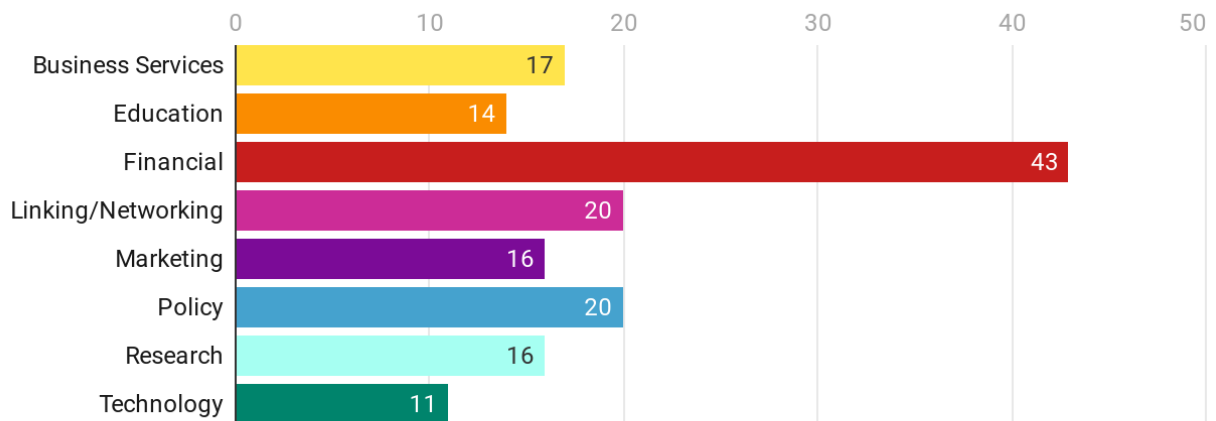
Based on a systematic review, the recommendations are placed into eight thematic categories:

- Business Services
- Education
- Financial
- Linking/Networking
- Marketing
- Policy

- Research
- Technology.

Some recommendations are placed in more than one category due to the complexity of their content (Appendix 3 for complete categorization). The number of recommendations per category ranges from 11 to 43, with an average of 17.5 (Figure 1).

## Number of Recommendations per Category



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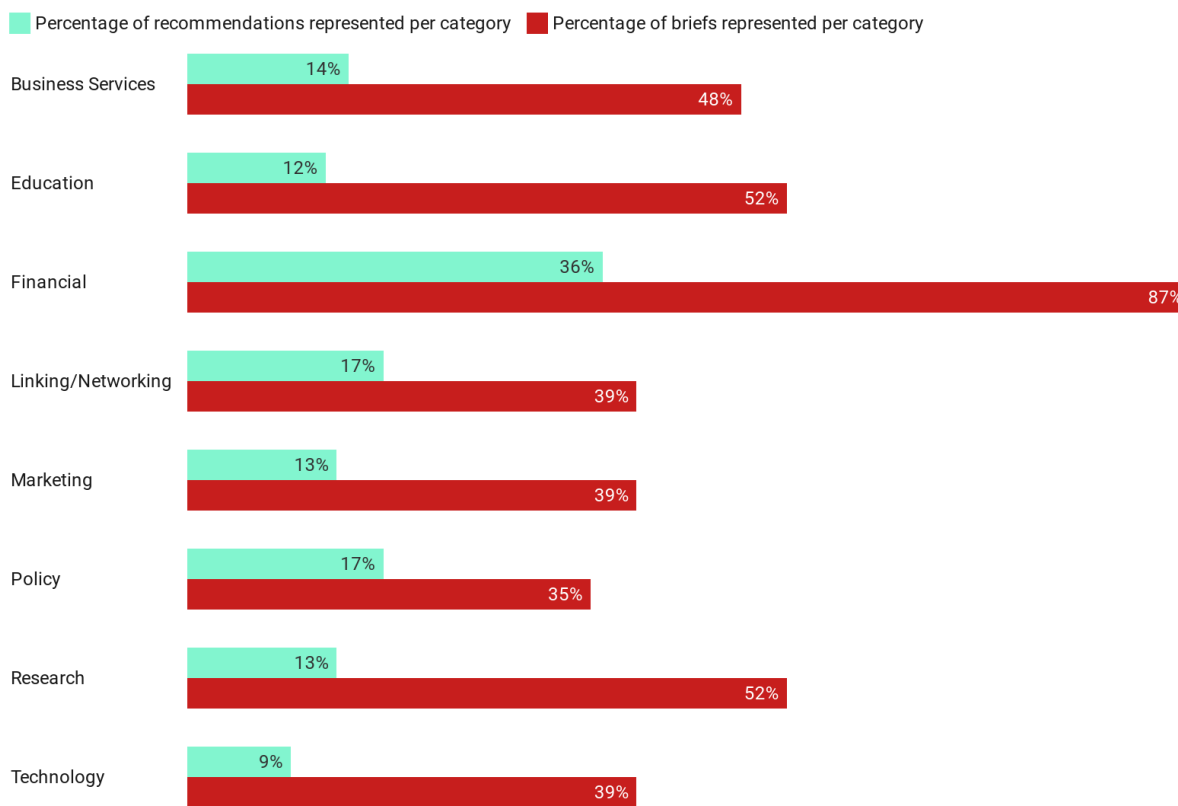
Figure 1. *Number of recommendations per category*

*Note:* Due to some recommendations being placed in multiple categories, the total number of recommendations represented above is greater than 119 (N=157). Financial categorization does not include all recommendations that *involve* money; rather, it includes recommendations for which financial aspects are the core (e.g. investment, funding, FTE creation; see Appendix III, Table C for a full list of Financial recommendations).

To assess the scope of recommendations across the briefs, the percentage of the total recommendations found in each category is considered, as is the percentage of briefs represented by those recommendations (Figure 2).

Figure 2 is useful for assessing if the recommendations within each category came from a small percentage of the briefs or span many briefs. For example, Technology recommendations represent 9% of all recommendations, making it the least common recommendation addressed in all briefs. Technology's 11 recommendations come from 39% of briefs, so less than half of the briefs contain a recommendation involving Technology. In contrast, over a third of the recommendations are Financial (36%), and these span 87% of the briefs. This means that Financial recommendations are the most common type of recommendation, as well as the recommendation found in the largest number of briefs.

## Representation of Recommendations & Briefs within Categories



Created with Datawrapper

Figure 2. Percentages of categories represented in briefs and recommendations. Green bars are the percentage of total recommendations in each category. Red bars are the percentage of total briefs represented in each category.

Note: Due to some recommendations being placed in multiple categories, the total percentages for recommendations represented per category sums to 132%. Financial categorization does not include all recommendations that *involve* money; rather, it includes recommendations for which financial aspects are the core (e.g., investment, funding, FTE creation; see Appendix III, Table C for a full list of Financial recommendations).

## Linking Categories and Brief Recommendations

To examine how the recommendations relate to each other and put the eight categories in a broader context, we use cluster analysis. Imagine that the eight categories are ingredients that can be used to create a dish, and recommendations are those dishes. In this report, we have 119 “dishes” that are created out of our 8 “ingredients.” Cluster analysis uses algorithms to study the dishes (recommendations) to allow us to find the right amount of each ingredient (category) of certain dishes so that one can create a recipe (cluster). Ultimately these clusters can show the relationship of various categories and overlap with other categories, which may assist policymakers in understanding how different stakeholders could coordinate together.

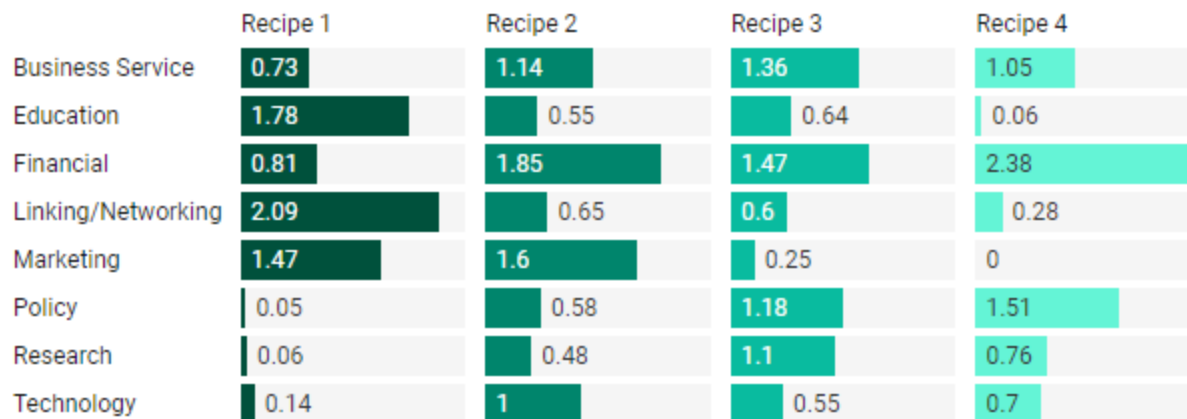


Figure 3. *Weighted Averages of the Recommendations (by categories and cluster/recipe). Numbers represent the relative contribution of a given topic in a given recipe.*

**Recipe 1:** 25 recommendations (21%); **Recipe 2:** 26 recommendations (22%); **Recipe 3:** 10 recommendations (8%); **Recipe 4:** 58 recommendation (49%). Note: weighted average

In our analysis, we find four clusters, which we call “recipes.” The analogy helps to draw useful comparisons. Not only do we learn more about Vermont food systems using the collection of recipes we create, but we also can make customized recommendations (dishes) from these recipes for different topics. Figure 3 shows the number of recommendations used to build each cluster (recipe) and the average amount of ingredients (categories) in it.

In recipe 1, linking/networking dominates, as demonstrated by the highest number. Recommendations in this recipe also regularly have components of Education and Marketing. For example, the essence of recommendation #18 is in creating networks, asking for support for farmer-to-farmer education. For the next three recipes, the Business Services and Financial categories have various degrees of influence. However, they play different roles due to their associations with other categories in Marketing, Policy, Research, and Technology. In recipe 2, Marketing and Technology are the two additional influential categories. One example is in recommendation #82, which asks for marketing funding for technical assistance to help Vermont products sell in regional and national markets. In recipe 3, Research and Policy are influential. Recommendations in this recipe often ask for new research to be conducted or the development of certification programs. An example is the maple food safety program in recommendation #95. Finally, recommendations in recipe four primarily call for new legislation and/or request funding. Recommendation #109, for example, asks to fund policy support for farm succession planning.

Finally, we explore how the different clusters/recipes relate to the various brief topics in the VAFSP. To prepare a full meal, we sometimes need just one type of recipe (cluster) to make different dishes (recommendations). However, often we need a main dish recipe, a side dish recipe, and a dessert recipe, which in our analogy would represent one or multiple recipes in a given brief topic. Figure 4 visually shows the presence of different categorical clusters (recipes) across the briefs.

Figure 4 demonstrates that in some briefs there are only one cluster/recipe (e.g., Consumer Demand) or only two clusters/recipes (e.g., Agritourism) for a given brief. This reflects that these briefs' recommendations require a cohesive strategy within a few kinds of categories. For example, in Consumer Demand, all of the recommendations deal with marketing challenges, rather than cross-sectoral issues or stakeholders. Conversely, some briefs span three or more recipes (e.g., Cheese, Food Access), suggesting that these topics and their recommendations require a more diverse set of strategies or stakeholders.

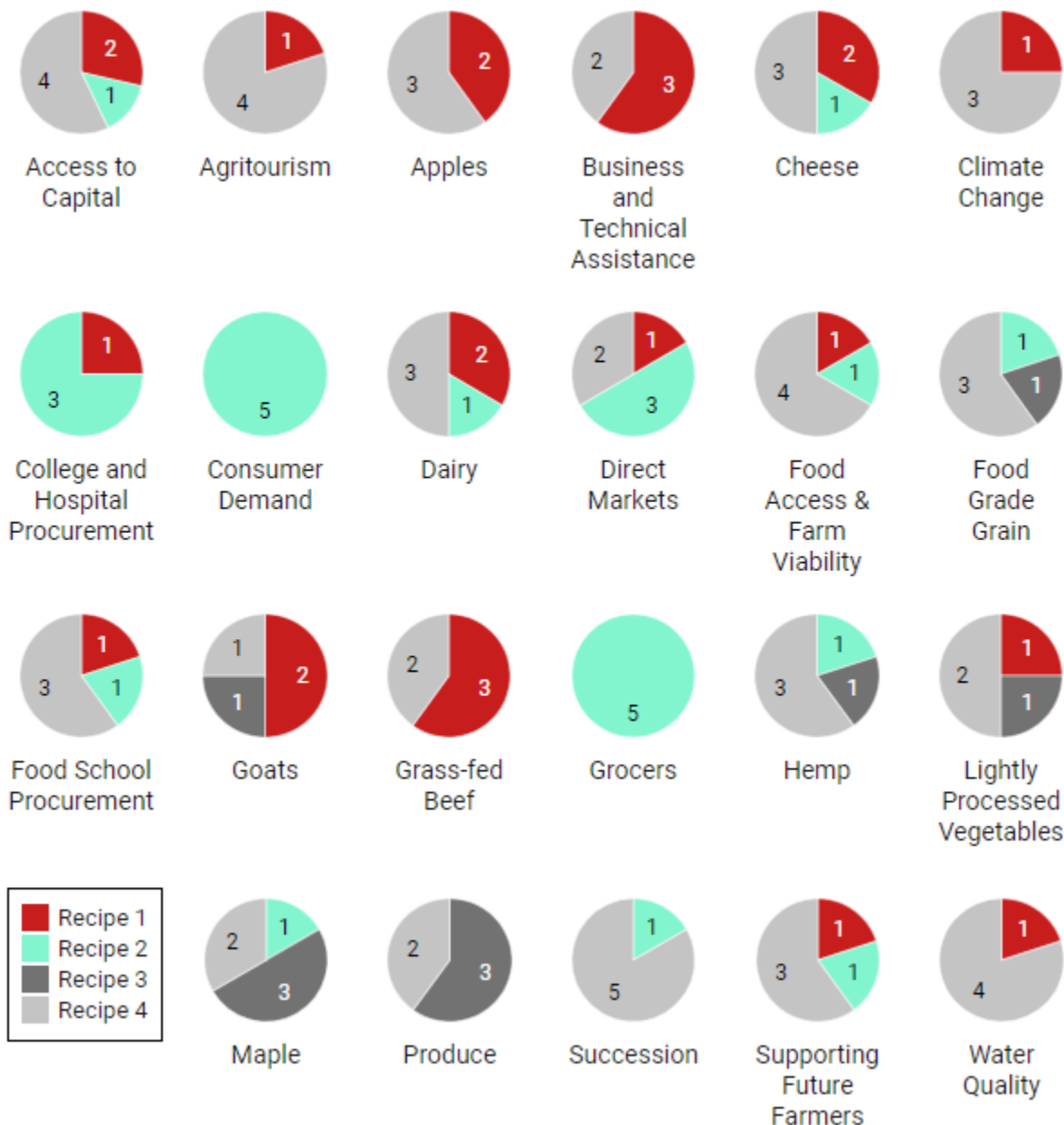


Figure 4. *Recipes of Recommendations (by topics)*

*Qualitatively similar:* **Recipe 1:** Consumer Demand and Grocers; **Recipe 4:** Agritourism, Climate Change, Succession, Water Quality. *Qualitatively different:* **Recipe 1, 2 and 4:** Access to Capital, Cheese, Dairy, Direct Markets, Food Access, School Food Procurement, Supporting Future Farmers; **Recipe 1, 3 and 4:** Goats; **Recipe 2, 3, and 4:** Food-grade Grains, Hemp and Maple. Note: the pie slice no. = the total recommendations in the recipes.

## COVID-19 and Vermont Food Systems (or Vermont Food System Post-COVID-19)

During and after COVID-19 we recognize that there may be limited opportunities for funding to implement many of these recommendations. Furthermore, events and gatherings in the foreseeable future will likely be limited to small groups of people and involve significant health and safety measures. **One of the main findings from synthesizing the recommendations was that nearly all of the topic briefs (87%) either request direct funding for an initiative or recommend some sort of capital expenditure.** This is an important finding, given that governmental priorities and the funding landscape will likely look distinctly different in the aftermath of COVID-19. In light of this, we present examples of recommendations from each category that do not include significant investment, demonstrating the potential for investments in our food system that can advance despite capital restrictions.

### 8 Recommendations for Food Systems During COVID-19

#### *Minimal cost and Socially distanced*

1. **Business Services:** Researchers, related organizations, and businesses should investigate and advise Regional Development Corporations, the Vermont Department of Economic Development and the Vermont Department of Labor about the extent of and type of labor needs and opportunities for expanded processing in the state. *(Recommendation #92, Cluster #4)*
2. **Education:** Social service providers and those who are delivering food access programs should each understand the many different program options that are available and work cooperatively to market them to reach full utilization with less administrative burden on participants. State agencies should explore ways to coordinate or otherwise support this effort in partnership with key nonprofit partners. *(Recommendation #59, Cluster #1)*
3. **Financial:** Work with public-private entities to explore the creation of an Agricultural Loan Loss Reserve Fund for businesses that need financing but lack collateral. Such a fund would serve as a guarantee in lieu of collateral, and only be drawn from upon loss of principal. *(Recommendation #4, Cluster #4)*
4. **Linking/Networking:** Processors and buyers should work with producers to set up clear and consistent communication around volume, scheduling, and logistics, and offer forward contracting—a commitment between two parties guaranteeing a buyer will purchase a certain amount of product—when possible. *(Recommendation #90, Cluster #1)*
5. **Marketing:** Launch a Vermont Brand and Marketing Collaborative to leverage improved marketing strategies and collateral. Include representatives from VDTM, VAAFM, and independent businesses in tourism, food, and outdoor recreation. *(Recommendation #40, Cluster #2)*
6. **Policy:** VAAFM should work with Vermont's federal delegation to urge sensible reform to immigration and labor rules that affect fruit and vegetable growers (e.g. H2A, Title

29, part 780 of CFR (Agricultural Labor Exemption Rules). (*Recommendation #13, Cluster #4*)

7. **Research:** Collect ideas from small produce farmers on ways to make regulatory compliance easier and more efficient, through listening sessions, focus groups, and surveys. Examine policies in other states worthy of consideration. This should be a collaborative effort between VAAFM, UVM Extension, UVM College of Agriculture and Life Sciences, and NOFA-VT. (*Recommendation #100, Cluster #3*)
8. **Technology:** Explore the demand for and feasibility of a produce-buyer database web portal to expand the sale and distribution of Vermont products within Vermont and the region. (*Recommendation #80, Cluster #2*)

## Creating Consistency Across Recommendations in Future Briefs

Our fourth finding in this report points to the potential benefit we see in providing the authors of future briefs a set of guidelines to use when writing recommendations. Our ability to categorize recommendations was at times hampered by the complexity, nuance, or vague nature of its content. While we understand that simplifying a recommendation for a deeply intertwined food system can be difficult, we believe that a basic guide may help stakeholders to more easily understand what food system actors explicitly need, and in what ways they can best help. For example, authors could offer categories for recommendations such as provided here, or they could specify who may provide the funding they are requesting.

The value Vermont places on its working landscape is evident in both the legislature's request to develop this report, as well as the care and consideration the authors of each brief put into writing their recommendations. We view the Vermont Agriculture and Food System Plan: 2020 as an opportunity for stakeholders locally and regionally to not only hear the voices of producers, business owners, and organizations but also to take their recommendations and implement them. However, recognizing that our ability to implement the entirety of the recommendations is unlikely, this report aims to give stakeholders a tool that allows them to prioritize recommendations based on their role within the food system.

## Acknowledgements

We would like to thank the Vermont House Agriculture Committee chair, Carolyn Patridge, and her fellow representatives, Ellen Kahler from Vermont Sustainable Jobs Fund (VSJF), Abbey Willard from Agricultural Development Division, Vermont Agency of Agriculture, Food & Markets (VAAFM), and our Food Systems Science and Food Policy colleagues for their inputs and advice.



## Appendix I: Methodology

This project was completed as a final project for Dr. Meredith Niles' Food Systems class in the fall of 2020. After discussing with stakeholders what a useful project might be to aid the Vermont food system, we decided to attempt making the Vermont Agriculture and Food System Plan 2020 recommendations section more easily understood and implementable for stakeholders.

To systematically review the recommendation section of the report, first, all authors read the entire report. After an initial read, a second read focusing on recommendations was conducted to find common themes within the section. By discussion, ten themes were agreed upon as the most frequently found within the recommendations. These ten themes (Business Services, Education, Farm Viability, Financial, Innovation, Linking/Networking, Marketing, Policy, Research, Technology) were utilized to categorize the recommendations. Farm Viability and Innovation were dropped from the final categorization and the results as they were found no significant contribution. This categorization was made with the intention of aiding stakeholders in their ability to quickly scan which recommendations they can be of most support implementing.

All four members of our team read the recommendations a third time, individually coding each into categories. In some cases, recommendations were voted into multiple categories if they encompassed more than one, with 6 being the highest number of categories for a single recommendation. However, only eight recommendations (1.6%) were placed in more than three categories, with the average number of categories per recommendation per person being 1.9. After compiling our votes, we discussed recommendations that did not have at least three votes in one category in order to come to a consensus on final categorization. Lastly, we placed the recommendations into the categories for which they had three or four votes. With these categories, we were able to provide further analysis of categories and obtain recommendations that would be useful in a post-COVID-19 food system.

### *Cluster Analysis*

We use Weka 3.8.4 to perform cluster analysis. Cluster analysis groups recommendations using their attributes like the types of briefs, topics, and, most importantly, the sum of individual votes of each category from our previous analysis. From here, our unit of analysis moved away from 119 recommendations to 10 categories. We are interested in the relationships among these categories. Using cluster analysis, one can find patterns of these categories that are otherwise difficult to inspect. The default expectation maximization (EM) algorithm in Weka is selected. Like most clustering algorithms, the EM algorithm attempts to maximize the similarities (distance in multidimensional space) within the cluster and the differences between clusters.

In our cluster analysis, we tested two models. One includes the types of briefs (issue, product, and market), and another one excludes it. Both include topics (e.g., maple) and the votes of categories. The former results in four clusters with a log-likelihood score of -11.06. The latter results in five clusters with a log-likelihood score of -13.89. Significant testing is uncommon for clustering analysis at this scale. Therefore, we chose the model with a higher score.

## Appendix II: Recommendation by Types of Brief and Topics

Type of Brief	Topic	Number of recommendations
Issue	Access to Capital	7
	Agritourism	5
	Business and Technical Assistance	5
	Consumer Demand	5
	Climate Change	4
	Food Access & Farm Viability	6
	Succession	6
	Supporting Future Farmers	5
	Water Quality	5
	Product	Apples
Cheese		6
Dairy		6
Food Grade Grain		5
Goats		4
Grass-fed Beef		5
Hemp		5
Lightly Processed Vegetables		4
Maple		6
Produce		5
Market	College and Hospital Procurement	4
	Direct Markets	6
	Food School Procurement	5
	Grocers	5

### Appendix III: Recommendations by Categories

#### A. Business Services

#	Type	Topic	Recommendation from Brief
7	Issue	Access to Capital	Revise the Vermont Training Program statute to enable funding for food system and working lands entrepreneurs who want to secure coaching and mentoring services (e.g., leadership and CEO/peer-to-peer mentoring). As businesses grow and scale, entrepreneurs and founders need the same support an incumbent worker may need to upgrade their skills.
19	Issue	Business and Technical Assistance	Increase the number of Vermont farm and food business service providers (17 FTEs) with specialized skills, and ensure qualified providers are available to farm and food businesses equally across the state and across stages of development. Estimates from the 2020 Vermont Food System Plan Briefs show the need for at least: <ul style="list-style-type: none"> <li>• Six additional business assistance providers with a focus on succession planning, business finances, transition to other production strategies, and potential diversification. Four of these to work with dairy farms and two to work with other types of farms and food businesses</li> <li>• Two additional technical assistance advisors with expertise in land and environmental assessments</li> <li>• Two additional consultants or FTEs with expertise in marketing and sales</li> <li>• Two additional FTE business and technical assistance advisors specializing in grazing (i.e., grass-based business models) and small and large animal livestock</li> <li>• Four additional FTE technical assistance advisors with specialized production expertise: one for grain, one for apples, and two for hemp production</li> <li>• One additional FTE at Farm First and/or the Vermont Agricultural Mediation Program, to assist farmers in crisis</li> </ul>
20	Issue	Business and Technical Assistance	Investigate the creation of a searchable database to connect available bookkeepers and accountants with working lands businesses, to increase the businesses' financial literacy.
22	Issue	Business and Technical Assistance	Increase outreach to farms and food businesses to increase awareness of the diverse network of service providers that exist and the value of having someone outside a farm or food business provide advice and assistance across all stages of development and over time.
24	Product	Cheese	New business models for support and logistics businesses should be developed, such as haulers, cooperatives, and lab staff specifically for cheese and soft dairy production. Utilize grant programs to assist these businesses with equipment purchases, business planning, and workforce development.
47	Product	Dairy	Expand opportunities to differentiate the milk supply by supporting farm and processor transitions to, or increasing production capacity for, higher-attribute milk (grass-fed, organic, GMO-free) that responds to consumer trends and positions Vermont as the leader of innovative dairy production.
50	Market	Direct Markets	Assess what resources would be needed in order to purchase/dedicate public land for eight "flagship" farmers markets across the state through land trusts, Vermont State Parks, or some other body that can help institutionalize market locations.

53	Market	Direct Markets	To increase their sustainability and impact, provide funding to include farmers markets in business assistance programs like the Vermont Farm Viability program. Funding would include stipends for the markets to dedicate a staff person to participate in the program. Estimated cost: \$3,000 per market (10 markets per year).
61	Product	Food Grade Grain	Create a Vermont grains processing center with a multitude of benefits, including job creation and market security. This center would encourage more working lands to transition to grains, boosting the local markets. It would increase the reliability of grain quality for buyers, mitigating the risk of quality inconsistencies and boosting the potential monetary value for farmers. A grains center could control the quality of grain through consistent cleaning, drying, milling, processing, and storing.
83	Market	Grocers	Develop a five-year plan for statewide retail market development that helps stores maintain profitability and navigate the next period of consolidation and disruption through trainings, speakers, resources, and events.
92	Product	Lightly Processed Vegetables	Researchers, related organizations, and businesses should investigate and advise Regional Development Corporations, the Vermont Department of Economic Development and the Vermont Department of Labor about the extent of and type of labor needs and opportunities for expanded processing in the state.
98	Product	Maple	Initiate a statewide workforce development and workplace safety program to address the unique needs of both forest management and food manufacturing career tracks.
99	Product	Produce	Offer grants to support farm infrastructure for marketing, processing, storage, and cooperative distribution. Build on the Vermont Agency of Agriculture, Food and Markets (VAAF) Produce Safety Improvement Grant program approach that requires and facilitates engaging technical service providers for project design, implementation, and documentation of results of on-farm projects. \$200,000 annually, up to \$20,000 per farm.
102	Product	Produce	Provide ongoing grant funds for capacity development for grower organizations (Vermont Vegetable and Berry Growers Association, Vermont Association of Professional Horticulturists) so they can improve communication, education, marketing, and applied research in collaboration with UVM Extension. Suggested funding: \$10,000 annually available to each organization, to be matched 50:50.
107	Issue	Succession	Consider options to encourage multiple tenants/owners on larger conserved farms, including policy incentives. Public funds and/or easement permissions may be critical to repurpose, remove, or add infrastructure to support new businesses and new business models.
108	Issue	Succession	Invest in sample business plans, market analyses, and financial benchmarking tools for emerging business models such as grass-fed beef, hemp/CBD, pork, and value-added dairy products. Cost: \$250,000 over three years.
109	Issue	Succession	Increase availability of business assistance for farmers looking at options for farm transfer and succession, as well as legal and tax capacity and support. In particular, increase the number of service providers of succession assistance.

			Cost: \$600,000 per year for six additional FTE. (NOTE: Cost and 6 FTEs is included in Business & Technical Assistance)
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B. Education

#	Type	Topic	Recommendation from Brief
2	Issue	Access to Capital	Provide targeted education and outreach to main street investors (non-accredited) to build awareness of opportunities to invest in intermediary institutions, such as Community Development Financial Institutions (CDFIs) and credit unions who are lending to and/or investing in food system businesses.
7	Issue	Access to Capital	Revise the Vermont Training Program statute to enable funding for food system and working lands entrepreneurs who want to secure coaching and mentoring services (e.g., leadership and CEO/peer-to-peer mentoring). As businesses grow and scale, entrepreneurs and founders need the same support an incumbent worker may need to upgrade their skills.
8	Issue	Agritourism	Organize training and networking events that bring together farmers, educators, and tourism professionals, contribute to the development of a statewide agritourism strategy, and help service providers support Agritourism. Priority topics include marketing and communications, liability and safety, and group tours (ranging from school field trips to media tours).
18	Issue	Business and Technical Assistance	Support alternative ways to encourage farmer learning including peer-group-based education, workshops, and farmer-to-farmer programming.
21	Issue	Business and Technical Assistance	Provide current service providers with professional development on farm succession planning as well as climate change threats to Vermont food production.
32	Issue	Climate Change	Fund a training program to be given to all agricultural service providers on the observed and projected changes in Vermont's climate, how it can affect agriculture, and basic adaptation principles. What is learned in these trainings can then be shared with their farm clients. Existing farmer networks can be utilized for climate change outreach and education, especially through peer-to-peer connections.
36	Market	College and Hospital Procurement	Additional state and federal workforce development training funds are needed in order to train more food service workers in culinary skills that utilize more Vermont products, including skills to process, prepare, and serve irregularly shaped and sized vegetables as well as whole animals. Additionally, institutions need to create incentives to keep food service staff on the payroll: increasing compensation, providing paid training, and increasing longevity benefits.
43	Product	Dairy	Establish a formal mentorship program that will pay successful, retiring dairy farmers to work one-on-one with young farmers and help them navigate the challenges of being a new or beginning farmer, including animal health, farm management, and financial and personal challenges. This relationship keeps the inherent knowledge of land, cows, and dairy production going strong and does not de-value the worth of years in the industry. The Dairy Grazing Apprenticeship program could be a model for this system. Cost: \$12,000 per farmer/mentee relationship. Assumes 20 farms per year.

59	Issue	Food Access & Farm Viability	Social service providers and those who are delivering food access programs should each understand the many different program options that are available and work cooperatively to market them to reach full utilization with less administrative burden on participants. State agencies should explore ways to coordinate or otherwise support this effort in partnership with key nonprofit partners.
67	Market	Food School Procurement	Increase education and matchmaker events for buyers and producers to learn about values-based purchasing, forward contracting (i.e., contracted annual commitments between farms and buyers), and the criteria schools use to make purchasing decisions. Support the school nutrition profession with more school-funded opportunities for technical assistance and training around buying and using local foods for school nutrition, and around cooking from scratch and using local products.
78	Product	Grass-fed Beef	Create a targeted education and outreach program to improve beef quality and to improve grazing management for all types of beef production, particularly for grass-finished markets and to increase consistency to serve larger urban markets. combined with this program should be improved matching of target markets. Currently, staff capacity in this area is minimal and would require new funding to establish.
103	Product	Produce	Develop a regional training program to provide one-on-one business assistance and cohort-based educational programs which recruit, prepare, and place the next generation of wholesale produce growers and farm managers. Plan and implement the program through a consortium of Cooperative Extension and agencies of agriculture and economic development in several New England states along with nonprofits such as the Carrot Project and the New England Vegetable and Berry Growers Association.
113	Issue	Supporting Future Farmers	Increase education and advocacy efforts to inform state and federal programs about new and emerging business models. Involve farmers and technical assistance providers in the development and implementation of state and federal regulatory, conservation, and financing programs.
115	Issue	Water Quality	Dedicate funds to support Vermont Natural Resources Conservation Districts and farmer watershed organizations with the specific objective of allowing them to reach other farmers and do farmer-to-farmer education about improved soil and manure management. We know this to be one of the most effective means of influencing change, so we should facilitate it as much as possible. Cost: \$100,000 per year, per organization; total cost \$300,000 per year.

C. Financial

#	Type	Topic	Recommendation from Brief
3	Issue	Access to Capital	Provide at least \$1.5 million in funding annually to the Working Lands Enterprise Fund. These grant funds are a unique and critical source of capital that leverage and accelerate innovation and sustainability in Vermont food system businesses.
4	Issue	Access to Capital	Work with public-private entities to explore the creation of an Agricultural Loan Loss Reserve Fund for businesses that need financing but lack collateral. Such a fund would serve as a guarantee in lieu of collateral, and only be drawn from upon loss of principal.
5	Issue	Access to Capital	Explore what would be required to develop a college loan forgiveness program for aspiring farmers to make it easier for them to acquire land and start their farm.
6	Issue	Access to Capital	The Vermont State Treasurer should expand the focus of the state’s Local Investment Initiative to include investments that support a healthy food system in Vermont. Investments could be in the fixed income public markets, fixed income private debt markets, cash, and real assets. The Soil Wealth report provides guidance on investing in agriculture across asset classes.
27	Product	Cheese	Increasing annual investments in the Vermont Cheese Council’s marketing initiatives to \$150,000 would provide immediate returns for smaller cheese makers.
31	Issue	Climate Change	Investigate innovative funding mechanisms for assisting with implementation of climate change adaptation practices (such as cover crops and building organic matter in soil), crop insurance for diversified Vermont-scale farms, and emergency recovery following extreme weather events, so that we are better prepared to respond when climate change related events occur. Even with technical assistance program support, some water quality Best Management Practices (BMPs) that assist with climate change resiliency are still financially out of reach for many farms.
36	Market	College and Hospital Procurement	Additional state and federal workforce development training funds are needed in order to train more food service workers in culinary skills that utilize more Vermont products, including skills to process, prepare, and serve irregularly shaped and sized vegetables as well as whole animals. Additionally, institutions need to create incentives to keep food service staff on the payroll: increasing compensation, providing paid training, and increasing longevity benefits.
37	Issue	Consumer Demand	Provide a \$100,000 annual appropriation to the Vermont Agency of Agriculture, Food and Markets for the marketing of Vermont food and farm products.
39	Issue	Consumer Demand	Provide \$24,000 in funding support to the Vermont Farm to Plate Network to host, in partnership with VDTM and VAAFAM, quarterly collaborative marketing summits for food and farm businesses to improve marketing skills



			and understanding of consumer demand (e.g., market research, social media strategies, developing marketing assets, etc.), and identify partnership opportunities.
44	Product	Dairy	Incentivize new farmers and farm transitions by starting a program similar to the Agency of Commerce and Community Development’s Remote Worker Grant Program, that will help defray costs of starting a new dairy farm or taking over the operation of an existing farm through a family or business transition. For example, the program could seek out graduates of the Dairy Grazing Apprenticeship program to increase the amount of grass-based dairy farming, and target successful young farmers looking for an opportunity to start their own farm business. Cost: The program costs would be highly variable based on what would be covered. For example, defray closing costs on a farm purchase, provide a living stipend for a year, and provide a mentor to assist during the first two years of operation.
45	Product	Dairy	Ensure that the current processing capacity is maintained or increased as this is critical to long-term farm sustainability. Incentivizing or funding plant maintenance and energy efficiency upgrades will keep this critical and expensive piece of the supply chain in operation and will attract additional types of milk production in the state as companies expand product lines.
46	Product	Dairy	Provide incentives and ensure current funding opportunities benefit dairy farms to move towards energy efficiency, including equipment upgrades, renewable energy generation systems, and work in concert with the needs of milk hauling and processing companies.
49	Market	Direct Markets	To expand direct markets’ ability to support public health/food access, create a state funding source devoted to perpetuating NOFA-VT’s statewide direct market EBT doubling programs. Estimated cost: \$43,000 annually to support equipment and fees for 45 farmers markets and 20 farms.
51	Market	Direct Markets	Provide \$500,000 annually in state funding for a collaborative, statewide marketing and consumer messaging campaign to focus on the unique attributes and values that direct markets offer, building affinity for shoppers to support direct markets.
52	Market	Direct Markets	Provide annual funding for two FTE positions: one to provide centralized resources and marketing support to Vermont’s direct market producers, and one for the Vermont Farmers Market Association to provide centralized resources and marketing support to its members. Estimated cost: \$150,000 for two FTEs.
53	Market	Direct Markets	To increase their sustainability and impact, provide funding to include farmers markets in business assistance programs like the Vermont Farm Viability program. Funding would include stipends for the markets to dedicate a staff person to participate in the program. Estimated cost: \$3,000 per market (10 markets per year).
55	Issue	Food Access & Farm Viability	The Vermont Legislature should fund an appropriation of \$500,000 a year to enable organizations in the charitable food system to source food directly from Vermont farmers (e.g. Vermonters Feeding Vermonters).

56	Issue	Food Access & Farm Viability	The Vermont Legislature should fund an appropriation of at least \$100,000 a year to enable the hiring of a shared full-time staff person to support coordination across gleaning programs in the state.
57	Issue	Food Access & Farm Viability	The Vermont Legislature should create a Local Food Access Funding Program, with an appropriation of at least \$250,000 a year, available to multiple organizations to support program needs including: • maintaining or increasing benefits that increase consumer purchasing power for local food at farmers markets or other retail outlets, and outreach around these services. • making wireless EBT machines available at no cost to producers and farmers markets. Estimated cost: \$43,000 annually to support equipment and fees for 45 farmers markets and 20 farms.
58	Issue	Food Access & Farm Viability	The Vermont Legislature should fund an appropriation of at least \$100,000 a year to enable the hiring of a shared full-time staff person to support coordination across gleaning programs in the state.
60	Product	Food Grade Grain	Provide funding for capital expenses to eliminate some of the small-scale infrastructure gaps. This funding could be available to farmers, or to organizations and/or businesses that work directly with farmers.
63	Product	Food Grade Grain	Increase funding for research to identify marketable grains that grow well in Vermont, such as barley, spelt, and heirloom wheat varieties. With climate change and ever more unpredictable weather and seasonal patterns, creating new varieties and production strategies that can be resilient in Vermont will become of even greater importance than it is now. Cost: \$75,000 per year.
64	Product	Food Grade Grain	Increase funding for technical assistance. Farmers and grain related businesses have technical assistance requirements that are not always readily available in Vermont. Building connections through UVM Extension and Northern Grain Growers Association to increase technical assistance availability would improve grain quantity and quality. Cost: one FTE at UVM Extension, \$125,000 per year.
68	Market	Food School Procurement	The Vermont Legislature should fund the Vermont Farm to School Network with \$500,000 of annual base funding for Farm to School infrastructure grants, technical assistance, and training to grow FTS in all counties.
70	Product	Goats	Offer financial support (a combination of low-interest loans and grants) for on-farm diversification that includes goats, in order to support the costs related to infrastructure, cash flow, and herd transition. A process to pair investors with farmers in search of capital could be mutually beneficial. The overall cost is approximately \$400,000 to diversify a cow dairy to include goats. The cost of a new milking parlor is \$150,000, the cost of 400 goats is \$160,000. (Total cost to get to ten 400-goat farms is \$4 million.)
74	Product	Grass-fed Beef	Establish financial support for shared-learning cohorts of beef producers in business planning and management programs. In addition, make grant opportunities available to Vermont graduates of Ranching for Profit, particularly participants in the benchmarking program.

82	Market	Grocers	Devote more resources to retail-specific sales and marketing technical assistance. Subsidize the cost of attendance at national sales and marketing events for producers and service providers. Investigate funding models that could provide Vermont product merchandising, Point of Sale materials (e.g., product signage), and brand ambassadorship in retail markets. It is imperative that our food producers are given the tools they need to compete within regional and national markets, and can affordably access professional services needed to succeed in retail. Cost: \$50,000.
86	Product	Hemp	State investment in hemp research, education, feasibility, and innovation programs is essential to develop niche food, feed, fiber, and industrial products, professionals, and markets that go “beyond CBD.” UVM’s Center for Agriculture and Life Sciences and Rubenstein School, UVM Extension, VAAFM, Vermont Sustainable Jobs Fund, and others are recommended to lead or expand such programs. The private sector also needs to accelerate hemp investment, research, and development.
87	Product	Hemp	Additional technical assistance staff is needed to support hemp growers and processors. An allocation of \$200,000 to UVM Extension for two FTE staff is needed.
89	Product	Lightly Processed Vegetables	Investors, institutional buyers, and grant-makers (e.g., Working Lands Enterprise Fund) should fund processors’ capital investment needs for expensive equipment to start or scale up processing ventures.
95	Product	Maple	Develop Vermont as the industry leader in maple food safety programs. Expanded funding is needed to maintain the Vermont Sugarhouse Certification Program coordinated by the Vermont Maple Sugar Makers Association past 2020. Industry and state representatives must collaborate to determine which entities have the long-term capacity to oversee critical maple food safety training and verification programs. Additional programs will be needed for maple processors and handlers throughout the supply chain. Cost: ~\$100,000.
101	Product	Produce	Provide funding to hire a highly skilled farm transfer service provider to focus on produce farms, offering intensive, frequent, one-on-one assistance to develop and implement farm succession plans, working with funders to facilitate farm purchases. This position must collaborate closely with the Vermont Housing and Conservation Board’s Farm & Forest Viability program, which is already facilitating this work. \$100,000 annually for five years to cover salary, fringe, overhead, and travel costs. (NOTE: 1 FTE included in Business and Technical Assistance)
102	Product	Produce	Provide ongoing grant funds for capacity development for grower organizations (Vermont Vegetable and Berry Growers Association, Vermont Association of Professional Horticulturists) so they can improve communication, education, marketing, and applied research in collaboration with UVM Extension. Suggested funding: \$10,000 annually available to each organization, to be matched 50:50.
104	Issue	Succession	Develop additional low-cost and flexible financing programs for farm buyers. The Vermont Land Trust is currently raising \$15 million for their Farmland Future Fund that will enable them to provide low-cost financing for farm

			buyers to make infrastructure changes and improvements.
106	Issue	Succession	Vermont Agency of Agriculture, Food and Markets, VLT, and members of the Clean Water Partnership should assess and quantify the funding gap and identify sources of funding needed for farmland conservation. Then make public funds available to resolve older infrastructure that can have water quality issues.
108	Issue	Succession	Invest in sample business plans, market analyses, and financial benchmarking tools for emerging business models such as grass-fed beef, hemp/CBD, pork, and value-added dairy products. Cost: \$250,000 over three years.
110	Issue	Supporting Future Farmers	Expand financial support for Vermont Land Trust's land conservation and transition efforts, including buy-lease-sell, Farmland Access Program, and land conservation.
114	Issue	Supporting Future Farmers	Increase funding support for Vermont Housing and Conservation Board Farm & Forest Viability Program and UVM Extension's production technical assistance for farmers. This should include increasing funding for one-on-one technical assistance, bolstering producer associations, and increasing directed applied research and education.
115	Issue	Water Quality	Dedicate funds to support Vermont Natural Resources Conservation Districts and farmer watershed organizations with the specific objective of allowing them to reach other farmers and do farmer-to-farmer education about improved soil and manure management. We know this to be one of the most effective means of influencing change, so we should facilitate it as much as possible. Cost: \$100,000 per year, per organization; total cost \$300,000 per year.
116	Issue	Water Quality	Fully fund the Vermont Agency of Agriculture, Food and Markets Farm Agronomic Practices Program and the Capital Equipment Assistance Program to financially assist farmers with improving soil health and lower the economic hurdle of changing management during these challenging economic conditions.
117	Issue	Water Quality	Continue to fund the Vermont Phosphorus Innovation Challenge to launch current projects and pilot the most promising technologies.
118	Issue	Water Quality	Dedicate \$1 million to measuring and continuously monitoring soil health across the state of Vermont, building a statewide database, benchmarking specific soil types, and correlating changes with specific BMP implementation.
119	Issue	Water Quality	Dedicate \$5 million to research that monitors field-scale water quality performance of practices post-installation, and will inform a Payment for Ecosystem Services program that provides incentives to farmers for reducing P losses.



### D. Linking/Networking

#	Type	Topic	Recommendation from Brief
1	Issue	Access to Capital	Foster regional relationships across New England states to bring regional capital (financial, social, human) into Vermont for food system businesses (e.g., Northern New England Women’s Investors Network, New Hampshire and Maine Charitable Foundations). In particular, convene philanthropic, public, and private organizations to collaborate on solutions for farm-transfer financing (e.g., down payment on land, guarantees for farmers who provided owner financing, and lease-to-own models designed to address farmer needs and interests).
8	Issue	Agritourism	Organize training and networking events that bring together farmers, educators, and tourism professionals, contribute to the development of a statewide agritourism strategy, and help service providers support Agritourism. Priority topics include marketing and communications, liability and safety, and group tours (ranging from school field trips to media tours).
15	Product	Apples	Collaborate across the distribution chain to increase in-state and regional institutional purchases of Vermont apples. Local food coordinators and other market specialists should assist with USDA purchases for school lunches, contracts at key institutions including higher education food service and hospitals, and aggregation through food hubs that prioritize fruit from local orchards.
18	Issue	Business and Technical Assistance	Support alternative ways to encourage farmer learning including peer-group-based education, workshops, and farmer-to-farmer programming.
22	Issue	Business and Technical Assistance	Increase outreach to farms and food businesses to increase awareness of the diverse network of service providers that exist and the value of having someone outside a farm or food business provide advice and assistance across all stages of development and over time.
25	Product	Cheese	Align the dairy cooperative system with in-state cheese making in order to embrace more types of milk storage, including cheese-quality milk and raw milk for cheese production.
32	Issue	Climate Change	Fund a training program to be given to all agricultural service providers on the observed and projected changes in Vermont’s climate, how it can affect agriculture, and basic adaptation principles. What is learned in these trainings can then be shared with their farm clients. Existing farmer networks can be utilized for climate change outreach and education, especially through peer-to-peer connections.

34	Market	College and Hospital Procurement	Help new and experienced Vermont producers understand college and hospital market opportunities. UVM Extension and the Vermont Agency of Agriculture, Food and Markets (VAAFAM) should collaborate with NOFAVT, Farm to Institution New England (FINE), and Health Care Without Harm (HCWH) to help Vermont producers assess the costs and benefits of growing, processing, and marketing specific foods for institutions in Vermont and neighboring states. These entities can draw on numerous national models for evaluating costs and accessing institutional markets. Convene a forum to discuss current efforts and opportunities, including funding opportunities, and develop a coordinated five-year plan.
42	Product	Dairy	Reinvigorate farmer cohort learning groups by funding a position that can coordinate meetings between farmers of different scales and in varying regions to share their specialized knowledge and allow farmers to connect with each other to broaden skill sets while providing social outlets. This could also be a coordination role between the many dairy support organizations who are already conducting on-farm events so as not to be duplicative and to make events welcoming to all. NOFA-VT hosted this cohort model several years ago with great success and it is an example of why New Zealand’s dairy industry is so successful and adaptable. Cost: \$100,000 annually for a position and associated costs for successful meetings.
48	Market	Direct Markets	Develop peer-to-peer training and outreach to share success stories of producers that have been experimenting with online farm stands and customizable CSA models.
54	Issue	Food Access & Farm Viability	Fund a pilot aggregation and sales system that effectively serves both the charitable food system and institutional and other market channels, through a structured partnership among established processors, aggregators, and gleaners. The pilot would include data collection on specific marketable surplus food products. Potential partners include Center for an Agricultural Economy, Deep Root Organic Cooperative, Salvation Farms, and the Vermont Department of Corrections. Estimated cost: \$100,000 per year for four years.
59	Issue	Food Access & Farm Viability	Social service providers and those who are delivering food access programs should each understand the many different program options that are available and work cooperatively to market them to reach full utilization with less administrative burden on participants. State agencies should explore ways to coordinate or otherwise support this effort in partnership with key nonprofit partners.
62	Product	Food Grade Grain	Develop regional market connections and a marketing mechanism for Vermont grain products, particularly specialty grains. For example, funding for the Northern Grain Growers Association to develop quality production standards for Vermont grain farmers to use if they choose to and fall under the qualifications of the program.

67	Market	Food School Procurement	Increase education and matchmaker events for buyers and producers to learn about values-based purchasing, forward contracting (i.e., contracted annual commitments between farms and buyers), and the criteria schools use to make purchasing decisions. Support the school nutrition profession with more school-funded opportunities for technical assistance and training around buying and using local foods for school nutrition, and around cooking from scratch and using local products.
73	Product	Goats	UVM Extension should create a staff position focused on goat farming to coordinate farm development efforts within the state and create resources to share with farmers interested in diversifying to goat dairy production. Cost: \$100,000 per year. (NOTE: 1 FTE included in Business and Technical Assistance)
75	Product	Grass-fed Beef	Actively develop stronger beef-dairy partnerships to reduce feed and housing costs, share overhead expenses, and increase appropriate market channels for dairy beef as a complementary product to beef.
79	Market	Grocers	Continue philanthropic and state funding support for producer-buyer forums that bring together industry experts and buyers (both Vermont and regional), including product-specific forums (e.g., cheese, meat, produce, specialty food). Forums build market access for suppliers, help buyers differentiate their product mix, and increase trade association collaboration and engagement. Cost: \$60,000 total over three years.
90	Product	Lightly Processed Vegetables	Processors and buyers should work with producers to set up clear and consistent communication around volume, scheduling, and logistics, and offer forward contracting—a commitment between two parties guaranteeing a buyer will purchase a certain amount of product—when possible.
91	Product	Lightly Processed Vegetables	Anchor buyers (e.g., Sodexo) and processors (e.g., Vermont Food Venture Center, Mad River Food Hub, and Western Massachusetts Food Processing Center) should compile the challenges of the local processing business model and develop a product list that works for producers, processors, and buyers. Sodexo’s Vermont First initiative has begun determining products with high institutional demand and low local production volumes that local producers could feasibly address. This initiative should be continued and shared among buyers, processors, and producers.
115	Issue	Water Quality	Dedicate funds to support Vermont Natural Resources Conservation Districts and farmer watershed organizations with the specific objective of allowing them to reach other farmers and do farmer-to-farmer education about improved soil and manure management. We know this to be one of the most effective means of influencing change, so we should facilitate it as much as possible. Cost: \$100,000 per year, per organization; total cost \$300,000 per year.



E. Marketing

#	Type	Topic	Recommendation from Brief
16	Product	Apples	The Vermont Agency of Agriculture, Food and Markets (VAAFAM) should conduct and expand marketing programs for all Vermont horticultural crops, including apples. Marketing programs should be two-tiered to support both in-state and out-of-state promotions. Quality standards should be established for Vermont products that are exclusive and meaningful and thus may indicate provenance and quality of Vermont products sold outside the state.
26	Product	Cheese	Develop a comprehensive dairy products marketing program focused on quality that would assist producers with limited marketing budgets (including cost estimate).
27	Product	Cheese	Increasing annual investments in the Vermont Cheese Council’s marketing initiatives to \$150,000 would provide immediate returns for smaller cheese makers.
33	Market	College and Hospital Procurement	Vermont colleges and hospitals need assistance in marketing their contributions to the state’s healthy and local food system as a way to increase food literacy. Building off the successful Vermont Farm to Plate “Rooted in Vermont” campaign, develop a strategy to help college and hospital dining operators market their use of local food.
34	Market	College and Hospital Procurement	Help new and experienced Vermont producers understand college and hospital market opportunities. UVM Extension and the Vermont Agency of Agriculture, Food and Markets (VAAFAM) should collaborate with NOFAVT, Farm to Institution New England (FINE), and Health Care Without Harm (HCWH) to help Vermont producers assess the costs and benefits of growing, processing, and marketing specific foods for institutions in Vermont and neighboring states. These entities can draw on numerous national models for evaluating costs and accessing institutional markets. Convene a forum to discuss current efforts and opportunities, including funding opportunities, and develop a coordinated five-year plan.
37	Issue	Consumer Demand	Provide a \$100,000 annual appropriation to the Vermont Agency of Agriculture, Food and Markets for the marketing of Vermont food and farm products.
38	Issue	Consumer Demand	Develop a shared communications and graphic design “content creation” position to be co-located between the Agricultural Development Division at VAAFAM and the Vermont Department of Tourism and Marketing (VDTM) at ACCD to further support outreach to Vermont producers, increase the presence of Vermont food producers on social media and at trade shows, and to strengthen the existing marketing team and coordination with VDTM and the Chief Marketing Office. Initial research recommends \$100,000 per year to support the position, with tactical funds being generated through grant support.
39	Issue	Consumer Demand	Provide \$24,000 in funding support to the Vermont Farm to Plate Network to host, in partnership with VDTM and VAAFAM, quarterly collaborative marketing summits for food and farm

			businesses to improve marketing skills and understanding of consumer demand (e.g., market research, social media strategies, developing marketing assets, etc.), and identify partnership opportunities.
40	Issue	Consumer Demand	Launch a Vermont Brand and Marketing Collaborative to leverage improved marketing strategies and collateral. Include representatives from VDTM, VAAFAM, and independent businesses in tourism, food, and outdoor recreation.
41	Issue	Consumer Demand	Create three Vermont marketing broker positions to develop the regional market for a strategic catalog of Vermont products. Explore developing a three-year pilot program that explores broker logistics for identifying and developing top market channel opportunities within three target urban centers in the Northeast. Cost: \$600,000 over 3 years. NOTE: Included in Grocers.
51	Market	Direct Markets	Provide \$500,000 annually in state funding for a collaborative, statewide marketing and consumer messaging campaign to focus on the unique attributes and values that direct markets offer, building affinity for shoppers to support direct markets.
52	Market	Direct Markets	Provide annual funding for two FTE positions: one to provide centralized resources and marketing support to Vermont’s direct market producers, and one for the Vermont Farmers Market Association to provide centralized resources and marketing support to its members. Estimated cost: \$150,000 for two FTEs.
71	Product	Goats	The Vermont Agency of Agriculture, Food and Markets could assist in developing marketing materials for goat meat as well as consumer and chef education through training and sampling, and the facilitation of restaurant and retail partnerships.
81	Market	Grocers	Create three Vermont marketing broker positions to develop the regional market for a strategic catalog of Vermont products. The brokers would pilot a three-year program, identifying and developing top market channel opportunities within three target urban centers in the Northeast. Estimated cost: \$600,000 over three years.
94	Product	Maple	Public-private marketing initiatives should be developed in order to maintain Vermont brand recognition and facilitate market expansion of pure maple syrup across the U.S. This should include the development of consumer education campaigns that position maple as a natural sweetener (i.e., corn syrup alternative) and highlight Vermont’s position as a brand leader. Public-private partnerships should fund product development research and support first-mover businesses seeking to expand into new product categories, such as beverages and snacks.
111	Issue	Supporting Future Farmers	Support regional market development efforts, especially entrepreneur-driven aggregation and distribution activities. Develop co-marketing enterprises that allow for local sales associated with a specific farm brand while also providing an aggregated regional market access.



## F. Policy

#	Type	Topic	Recommendation from Brief
7	Issue	Access to Capital	Revise the Vermont Training Program statute to enable funding for food system and working lands entrepreneurs who want to secure coaching and mentoring services (e.g., leadership and CEO/peer-to-peer mentoring). As businesses grow and scale, entrepreneurs and founders need the same support an incumbent worker may need to upgrade their skills.
9	Issue	Agritourism	Draft tightly-crafted legislation around the definition of Agritourism in a way that supports a limited liability statute for farms offering agritourism experiences. This type of legislation would build on the accessory on-farm business statute (Act 143) and potentially impact zoning, insurance, liability, signage, and the types of activities permitted on farms.
11	Issue	Agritourism	Develop and promote best practice standards for Agritourism that enhance the Vermont brand and reputation for high quality, authentic products and experiences. As Agritourism is rapidly expanding, standards are needed that allow for innovation while also protecting farmers, consumers, and neighbors.
12	Issue	Agritourism	To demystify zoning and regulations, develop decision trees that detail procedures for addressing issues related to zoning, regulations, and permitting at the municipal, state, and federal levels. Help farmers strengthen relationships with municipal and planning officials to create a more supportive environment for Agritourism.
13	Product	Apples	VAAFM should work with Vermont’s federal delegation to urge sensible reform to immigration and labor rules that affect fruit and vegetable growers (e.g. H2A, Title 29, part 780 of CFR (Agricultural Labor Exemption Rules).
14	Product	Apples	Support increased purchases of apples and production of high-value ciders through farm cidery legislation that would allow growers to more easily enter the cider market themselves and increase farm gate value for the fruit they produce.
23	Product	Cheese	Vermont’s congressional delegation and the Vermont Agency of Agriculture, Food and Markets should support overhauling the milk classification system to better embrace Vermont’s current needs and future growth trends.
28	Product	Cheese	Clarify and codify cheese labeling nomenclature.
29	Issue	Climate Change	By 2023, create carbon sequestration offsets protocols within Vermont’s rules for the Regional Greenhouse Gas Initiative and the emerging, analogous Transportation Climate Initiative.
44	Product	Dairy	Incentivize new farmers and farm transitions by starting a program similar to the Agency of Commerce and Community Development’s Remote Worker Grant Program, that will help defray costs of starting a new dairy farm or taking over the operation of an existing farm through a family or business transition. For example, the program could seek out graduates of the Dairy Grazing Apprenticeship program to increase the amount of grass-based dairy farming, and target successful young farmers looking for an opportunity to start their own farm business. Cost: The program costs would be highly variable based on what would be covered. For example, defray closing costs on a farm purchase,

			provide a living stipend for a year, and provide a mentor to assist during the first two years of operation.
57	Issue	Food Access & Farm Viability	The Vermont Legislature should create a Local Food Access Funding Program, with an appropriation of at least \$250,000 a year, available to multiple organizations to support program needs including: • maintaining or increasing benefits that increase consumer purchasing power for local food at farmers markets or other retail outlets, and outreach around these services. • making wireless EBT machines available at no cost to producers and farmers markets. Estimated cost: \$43,000 annually to support equipment and fees for 45 farmers markets and 20 farms.
58	Issue	Food Access & Farm Viability	The Vermont Legislature should fund an appropriation of at least \$100,000 a year to enable the hiring of a shared full-time staff person to support coordination across gleaning programs in the state.
65	Market	Food School Procurement	Incentivize local purchasing by developing, with Farm to School partners, a percent-per-meal reimbursement to schools for purchasing local products above a certain threshold. For example, New York provides \$0.25 per lunch to schools incorporating 30% New York product in their meal program. According to a Farm to School 2016-17 economic study <sup>3</sup> , “every dollar spent on local food contributes an additional 60¢ to the local economy.”
68	Market	Food School Procurement	The Vermont Legislature should fund the Vermont Farm to School Network with \$500,000 of annual base funding for Farm to School infrastructure grants, technical assistance, and training to grow FTS in all counties.
69	Market	Food School Procurement	The state should support incremental steps towards universal meals, which increase student participation, decrease paperwork, and allow for time and money to be used on local food procurement.
84	Product	Hemp	The Vermont Legislature needs to pass legislation in 2020 approving hemp products (e.g., CBD) for use in food and beverages, and as a food supplement (see Maine’s ME LD630 from 2009).
96	Product	Maple	Improve preparedness for state agencies and institutions to make increased investment to keep pace with industry growth. Investment is needed in the following areas: • Expand Vermont Agency of Agriculture, Food and Markets retail inspections and oversight to maintain standards for syrup in the marketplace. • Expand educational programs focused on syrup grading and quality standards.
99	Product	Produce	Offer grants to support farm infrastructure for marketing, processing, storage, and cooperative distribution. Build on the Vermont Agency of Agriculture, Food and Markets (VAAF) Produce Safety Improvement Grant program approach that requires and facilitates engaging technical service providers for project design, implementation, and documentation of results of on-farm projects.

			\$200,000 annually, up to \$20,000 per farm.
100	Product	Produce	Collect ideas from small produce farmers on ways to make regulatory compliance easier and more efficient, through listening sessions, focus groups, and surveys. Examine policies in other states worthy of consideration. This should be a collaborative effort between VAAF, UVM Extension, UVM College of Agriculture and Life Sciences, and NOFA-VT.
105	Issue	Succession	Increase state resources for conservation efforts that support farmland access and succession planning.

G. Research

#	Type	Topic	Recommendation from Brief
10	Issue	Agritourism	Conduct market research to develop a narrative toolkit for practitioners and consumer-facing digital content. Consolidate databases and share lists to facilitate communication internally and contribute to research that measures the size and scope of Agritourism.
30	Issue	Climate Change	Further investigate market mechanisms and existing systems, nationally and internationally, including voluntary, bilateral, and compliance, for providing payments to Vermont farmers for sequestering carbon and reducing greenhouse gas emissions.
63	Product	Food Grade Grain	Increase funding for research to identify marketable grains that grow well in Vermont, such as barley, spelt, and heirloom wheat varieties. With climate change and ever more unpredictable weather and seasonal patterns, creating new varieties and production strategies that can be resilient in Vermont will become of even greater importance than it is now. Cost: \$75,000 per year.
66	Market	Food School Procurement	Further develop a transparent values-based system so buyers can buy according to their values, not just price. This includes values such as supporting the local economy, farming practices that support healthy soils and planet, fair labor practices, etc.
72	Product	Goats	Create a “Center of Excellence” with an on-site farm in Vermont to support growth of the goat farming industry and build expertise. Vermont Technical College has expressed interest in exploring this opportunity. This leadership could be a model for other states interested in farm diversification and keeping agricultural land in production. The first step is to explore the cost of creating such a Center.
76	Product	Grass-fed Beef	Identify and expand opportunities along the regional value chain focused on grass-based production. Models outside of our region include examples of shared services such as breeding technicians, veterinarians serving a cohort of partnering farms, co-owned equipment, and discounted rates on larger purchases of feed or supplies.
77	Product	Grass-fed Beef	Develop a multi-year benchmarking/tracking program with beef production methods (high and low-intensity grazing management, grain-finished and grass-finished), markets (regional auction, aggregator-mode, direct sale, etc.), and profitability levels in order to assist farmers making better business decisions.
85	Product	Hemp	UVM Extension should establish and support a hemp seed breeding and certification program over a three- to five-year period. The program must engage Vermont growers to create stable genetics for the Northeast that cover the full range of hemp end-uses.
86	Product	Hemp	State investment in hemp research, education, feasibility, and innovation programs is essential to develop niche food, feed, fiber, and industrial products, professionals, and markets that go “beyond CBD.” UVM’s Center for Agriculture and Life Sciences and Rubenstein School, UVM Extension, VAAFM, Vermont Sustainable Jobs Fund, and others are recommended to lead or expand such programs. The private sector also needs to accelerate hemp investment, research, and development.

91	Product	Lightly Processed Vegetables	Anchor buyers (e.g., Sodexo) and processors (e.g., Vermont Food Venture Center, Mad River Food Hub, and Western Massachusetts Food Processing Center) should compile the challenges of the local processing business model and develop a product list that works for producers, processors, and buyers. Sodexo’s Vermont First initiative has begun determining products with high institutional demand and low local production volumes that local producers could feasibly address. This initiative should be continued and shared among buyers, processors, and producers.
93	Product	Maple	Improved economic and land use data is needed to evaluate the impact of maple in Vermont and nationally.
97	Product	Maple	Prioritize forest climate change research and new programs to develop adaptation strategies.
100	Product	Produce	Collect ideas from small produce farmers on ways to make regulatory compliance easier and more efficient, through listening sessions, focus groups, and surveys. Examine policies in other states worthy of consideration. This should be a collaborative effort between VAAF, UVM Extension, UVM College of Agriculture and Life Sciences, and NOFA-VT.
112	Issue	Supporting Future Farmers	Increase the development of non-traditional land access and financing models, including collaborative/co-located farms, local low-cost financing options, and programming for underserved populations.
118	Issue	Water Quality	Dedicate \$1 million to measuring and continuously monitoring soil health across the state of Vermont, building a statewide database, benchmarking specific soil types, and correlating changes with specific BMP implementation.
119	Issue	Water Quality	Dedicate \$5 million to research that monitors field-scale water quality performance of practices post-installation, and will inform a Payment for Ecosystem Services program that provides incentives to farmers for reducing P losses.



## H. Technology

#	Type	Topic	Recommendation from Brief
17	Product	Apples	Increase and permanently fund technical assistance services through UVM Extension, VAAFAM, or other stakeholder organizations. Include pest management, horticultural, food safety, and economics expertise in technical assistance programming. (NOTE: 1 FTE position included in Business and Technical Assistance)
20	Issue	Business and Technical Assistance	Investigate the creation of a searchable database to connect available bookkeepers and accountants with working lands businesses, to increase the businesses' financial literacy.
35	Market	College and Hospital Procurement	Provide technical assistance to support contracting and supply planning at institutions. Colleges and hospitals can optimize their value as reliable, consistent markets for Vermont producers by making buying commitments in advance of the growing season. VAAFAM, UVM Extension, NOFA-VT, Vermont Farm to Plate Network, HCWH, and FINE should collaborate to provide assistance to producers and buyers on these contracting models.
46	Product	Dairy	Provide incentives and ensure current funding opportunities benefit dairy farms to move towards energy efficiency, including equipment upgrades, renewable energy generation systems, and work in concert with the needs of milk hauling and processing companies.
64	Product	Food Grade Grain	Increase funding for technical assistance. Farmers and grain related businesses have technical assistance requirements that are not always readily available in Vermont. Building connections through UVM Extension and Northern Grain Growers Association to increase technical assistance availability would improve grain quantity and quality. Cost: one FTE at UVM Extension, \$125,000 per year.
80	Market	Grocers	Explore the demand for and feasibility of a produce-buyer database web portal to expand the sale and distribution of Vermont products within Vermont and the region.
82	Market	Grocers	Devote more resources to retail-specific sales and marketing technical assistance. Subsidize the cost of attendance at national sales and marketing events for producers and service providers. Investigate funding models that could provide Vermont product merchandising, Point of Sale materials (e.g., product signage), and brand ambassadorship in retail markets. It is imperative that our food producers are given the tools they need to compete within regional and national markets, and can affordably access professional services needed to succeed in retail. Cost: \$50,000.
87	Product	Hemp	Additional technical assistance staff is needed to support hemp growers and processors. An allocation of \$200,000 to UVM Extension for two FTE staff is needed.
114	Issue	Supporting Future Farmers	Increase funding support for Vermont Housing and Conservation Board Farm & Forest Viability Program and UVM Extension's production technical assistance for farmers. This should include increasing funding for one-on-one technical assistance, bolstering producer associations, and increasing directed applied research and education.

117	Issue	Water Quality	Continue to fund the Vermont Phosphorus Innovation Challenge to launch current projects and pilot the most promising technologies.
118	Issue	Water Quality	Dedicate \$1 million to measuring and continuously monitoring soil health across the state of Vermont, building a statewide database, benchmarking specific soil types, and correlating changes with specific BMP implementation.

## Appendix IV: Matrixes

### A. Raw Scores (Before Re-votes)

#	A	B	C	D	E	F	G	H	I	J	recipe
1	1	0	1	2	1	4	1	0	0	0	0
2	0	4	1	2	0	1	1	0	0	0	0
3	0	0	0	4	1	0	0	0	0	0	3
4	1	0	1	3	2	0	0	2	0	0	3
5	0	0	1	3	1	0	0	1	1	0	3
6	0	0	0	4	0	0	0	2	1	1	3
7	3	3	0	2	0	1	0	3	0	0	1
8	0	4	0	0	0	3	1	0	0	0	0
9	1	0	0	1	0	0	0	4	0	0	3
10	1	0	0	0	0	1	0	0	4	2	3
11	0	0	0	0	1	0	0	3	1	0	3
12	1	0	0	0	0	2	0	3	0	0	3

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13	0	0	1	0	1	0	0	4	0	0	3
14	2	0	0	0	0	0	0	4	0	0	3
15	0	0	1	0	0	4	1	0	0	0	0
16	2	0	1	0	0	0	4	0	0	0	0
17	0	1	0	2	0	0	0	1	1	3	3
18	0	4	1	0	0	3	0	0	0	0	0
19	4	0	0	2	1	0	0	0	0	1	3
20	3	0	0	1	2	0	0	0	0	3	3
21	2	3	1	0	0	0	0	0	1	0	0
22	3	1	0	0	0	3	0	0	0	0	0
23	0	0	1	0	0	0	0	4	0	0	3
24	4	0	0	2	2	0	0	0	0	1	3
25	2	0	0	0	0	3	0	1	0	2	1
26	0	0	1	1	0	0	4	0	0	0	0

27	0	0	1	3	0	1	3	0	0	0	0
28	1	0	0	0	0	0	0	3	1	0	3
29	0	0	0	0	1	0	0	4	0	0	3
30	0	0	1	1	0	0	0	2	4	0	3
31	1	0	0	4	1	0	0	0	2	1	3
32	0	4	0	1	0	3	0	0	0	0	0
33	0	1	0	0	0	1	4	0	0	0	1
34	0	1	0	1	0	4	3	0	0	0	0
35	2	0	0	0	0	2	1	0	0	4	1
36	2	3	0	4	0	0	0	0	0	0	1
37	0	0	0	4	0	0	3	2	0	0	1
38	0	0	0	0	0	1	4	0	0	1	1
39	1	1	0	3	0	1	3	0	0	0	1
40	0	0	0	0	1	0	4	0	0	0	1

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41	1	0	0	1	1	0	4	0	1	0	1
42	1	2	0	2	1	4	0	0	0	0	0
43	2	3	1	0	1	2	0	0	0	0	0
44	2	0	1	3	1	0	0	3	0	0	3
45	1	0	1	4	0	0	0	1	0	2	3
46	0	0	0	4	0	0	0	2	0	3	3
47	3	0	0	0	2	0	1	0	0	0	1
48	0	2	0	0	0	3	1	0	0	0	0
49	0	0	0	3	1	0	1	2	0	0	1
50	4	0	0	0	2	1	0	0	2	0	3
51	0	1	0	3	1	0	3	1	0	0	1
52	2	0	0	4	0	0	3	0	0	0	1
53	3	0	1	4	0	0	0	0	0	0	3
54	0	0	0	2	2	4	1	0	0	2	1

55	0	0	0	4	0	1	0	2	0	0	3
56	2	0	0	3	0	1	0	2	0	0	3
57	1	0	0	3	0	0	0	3	0	0	3
58	0	0	0	3	0	0	0	3	0	0	3
59	0	3	0	0	0	4	1	0	0	0	0
60	0	0	0	4	0	0	0	0	0	0	3
61	4	0	0	0	2	0	0	0	1	2	3
62	0	0	0	0	0	3	2	0	1	1	1
63	0	0	1	3	0	0	1	0	3	0	2
64	0	0	0	4	0	1	0	0	0	3	3
65	0	0	1	1	0	1	0	4	0	0	3
66	1	0	0	0	1	0	1	0	3	1	1
67	1	4	0	0	0	4	0	0	0	1	0
68	0	1	0	3	0	1	0	3	0	1	3

69	0	0	0	1	1	0	0	4	0	0	3
70	1	0	0	4	1	1	0	0	0	0	3
71	1	2	0	0	0	2	4	0	0	0	0
72	1	2	0	1	1	0	0	0	3	1	2
73	0	2	0	1	0	3	0	0	0	0	0
74	1	2	0	4	0	1	0	0	0	0	0
75	1	0	1	0	0	3	1	0	0	0	0
76	2	0	1	0	1	0	0	1	3	1	3
77	2	0	0	0	1	0	0	0	3	2	3
78	1	4	0	1	0	1	0	0	0	0	0
79	1	0	0	2	0	3	1	0	0	0	1
80	0	0	0	0	1	0	1	0	2	3	1
81	2	0	0	0	1	0	4	0	0	1	1
82	0	0	0	3	0	0	2	0	1	4	1



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83	3	2	0	1	0	1	0	0	0	0	1
84	0	0	0	0	0	0	0	4	0	0	3
85	1	2	0	0	0	0	0	0	3	0	2
86	1	1	0	3	2	0	0	0	3	0	3
87	2	1	0	3	0	0	0	0	0	3	3
88	2	1	0	2	0	1	1	1	0	0	1
89	0	0	0	4	0	0	0	0	0	1	3
90	1	0	0	0	1	3	0	0	0	0	0
91	1	0	0	0	0	3	0	0	3	0	2
92	3	0	0	1	0	1	0	1	2	0	3
93	0	0	0	0	0	0	0	0	4	0	3
94	1	2	0	0	0	1	4	0	1	0	1
95	0	2	0	4	0	0	0	2	1	0	2
96	1	2	0	2	0	0	0	4	0	1	2

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97	2	0	0	0	0	0	0	0	4	0	3
98	3	2	0	1	0	0	0	2	0	0	2
99	3	0	0	2	0	0	1	3	0	1	2
100	0	1	0	0	0	2	0	3	3	0	2
101	2	1	1	4	0	1	0	0	0	0	3
102	3	0	0	4	0	1	0	2	0	0	3
103	2	4	0	0	1	1	0	1	0	0	2
104	1	0	0	3	0	0	0	0	0	0	3
105	1	0	1	1	0	0	0	4	0	0	3
106	0	0	0	4	0	2	0	1	1	0	3
107	3	0	0	2	2	0	0	2	1	0	3
108	3	0	0	3	0	0	1	0	0	1	1
109	4	0	1	2	0	0	0	1	0	0	3
110	1	0	1	4	0	0	0	0	0	0	3

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111	2	0	1	0	0	2	3	0	0	0	0
112	2	0	0	1	2	0	0	0	3	0	3
113	0	4	0	0	1	0	0	1	0	1	1
114	0	1	0	3	0	1	0	1	1	3	3
115	0	3	0	3	0	3	0	0	0	0	0
116	1	0	1	4	0	0	0	1	0	0	3
117	0	0	0	3	1	0	0	1	1	4	3
118	0	0	0	3	0	0	0	0	3	3	3
119	0	0	0	4	1	0	0	0	3	1	3

Note: A. Business Services B. Education [C. Farm Viability] D. Financial [E. Innovation] F. Linking/Networking G. Marketing H. Policy I. Research J. Technology

B. Re-compute Scores (After Re-votes)

#	A	B	C	D	E	F	G	H	I	J
1	1	0	1	2	1	4	1	0	0	0
2	0	4	1	2	0	1	1	0	0	0
3	0	0	0	4	1	0	0	0	0	0
4	1	0	1	3	2	0	0	2	0	0
5	0	0	1	3	1	0	0	1	1	0
6	0	0	0	4	0	0	0	2	1	1
7	3	3	0	2	0	1	0	3	0	0
8	0	4	0	0	0	3	1	0	0	0
9	1	0	0	1	0	0	0	4	0	0
10	1	0	0	0	0	1	0	0	4	2
11	0	0	0	0	1	0	0	3	1	0
12	1	0	0	0	0	2	0	3	0	0
13	0	0	1	0	1	0	0	4	0	0
14	2	0	0	0	0	0	0	4	0	0
15	0	0	1	0	0	4	1	0	0	0
16	2	0	1	0	0	0	4	0	0	0

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17	0	1	0	2	0	0	0	1	1	3
18	0	4	1	0	0	3	0	0	0	0
19	4	0	0	2	1	0	0	0	0	1
20	3	0	0	1	2	0	0	0	0	3
21	2	3	1	0	0	0	0	0	1	0
22	3	1	0	0	0	3	0	0	0	0
23	0	0	1	0	0	0	0	4	0	0
24	4	0	0	2	2	0	0	0	0	1
25	2	0	0	0	0	3	0	1	0	2
26	0	0	1	1	0	0	4	0	0	0
27	0	0	1	3	0	1	3	0	0	0
28	1	0	0	0	0	0	0	3	1	0
29	0	0	0	0	1	0	0	4	0	0
30	0	0	1	1	0	0	0	2	4	0
31	1	0	0	4	1	0	0	0	2	1
32	0	4	0	1	0	3	0	0	0	0
33	0	1	0	0	0	1	4	0	0	0
34	0	1	0	1	0	4	3	0	0	0

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35	2	0	0	0	0	2	1	0	0	4
36	2	3	0	4	0	0	0	0	0	0
37	0	0	0	4	0	0	3	2	0	0
38	0	0	0	0	0	1	4	0	0	1
39	1	1	0	3	0	1	3	0	0	0
40	0	0	0	0	1	0	4	0	0	0
41	1	0	0	1	1	0	4	0	1	0
42	1	2	0	2	1	4	0	0	0	0
43	2	3	1	0	1	2	0	0	0	0
44	2	0	1	3	1	0	0	3	0	0
45	1	0	1	4	0	0	0	1	0	2
46	0	0	0	4	0	0	0	2	0	3
47	3	0	0	0	2	0	1	0	0	0
48	0	2	0	0	0	3	1	0	0	0
49	0	0	0	3	1	0	1	2	0	0
50	4	0	0	0	2	1	0	0	2	0
51	0	1	0	3	1	0	3	1	0	0
52	2	0	0	4	0	0	3	0	0	0

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53	3	0	1	4	0	0	0	0	0	0
54	0	0	0	2	2	4	1	0	0	2
55	0	0	0	4	0	1	0	2	0	0
56	2	0	0	3	0	1	0	2	0	0
57	1	0	0	3	0	0	0	3	0	0
58	0	0	0	3	0	0	0	3	0	0
59	0	3	0	0	0	4	1	0	0	0
60	0	0	0	4	0	0	0	0	0	0
61	4	0	0	0	2	0	0	0	1	2
62	0	0	0	0	0	3	2	0	1	1
63	0	0	1	3	0	0	1	0	3	0
64	0	0	0	4	0	1	0	0	0	3
65	0	0	1	1	0	1	0	4	0	0
66	1	0	0	0	1	0	1	0	3	1
67	1	4	0	0	0	4	0	0	0	1
68	0	1	0	3	0	1	0	3	0	1
69	0	0	0	1	1	0	0	4	0	0
70	1	0	0	4	1	1	0	0	0	0

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71	1	2	0	0	0	2	4	0	0	0
72	1	2	0	1	1	0	0	0	3	1
73	0	2	0	1	0	3	0	0	0	0
74	1	2	0	4	0	1	0	0	0	0
75	1	0	1	0	0	3	1	0	0	0
76	2	0	1	0	1	0	0	1	3	1
77	2	0	0	0	1	0	0	0	3	2
78	1	4	0	1	0	1	0	0	0	0
79	1	0	0	2	0	3	1	0	0	0
80	0	0	0	0	1	0	1	0	2	3
81	2	0	0	0	1	0	4	0	0	1
82	0	0	0	3	0	0	2	0	1	4
83	3	2	0	1	0	1	0	0	0	0
84	0	0	0	0	0	0	0	4	0	0
85	1	2	0	0	0	0	0	0	3	0
86	1	1	0	3	2	0	0	0	3	0
87	2	1	0	3	0	0	0	0	0	3
88	2	1	0	2	0	1	1	1	0	0



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89	0	0	0	4	0	0	0	0	0	1
90	1	0	0	0	1	3	0	0	0	0
91	1	0	0	0	0	3	0	0	3	0
92	3	0	0	1	0	1	0	1	2	0
93	0	0	0	0	0	0	0	0	4	0
94	1	2	0	0	0	1	4	0	1	0
95	0	2	0	4	0	0	0	2	1	0
96	1	2	0	2	0	0	0	4	0	1
97	2	0	0	0	0	0	0	0	4	0
98	3	2	0	1	0	0	0	2	0	0
99	3	0	0	2	0	0	1	3	0	1
100	0	1	0	0	0	2	0	3	3	0
101	2	1	1	4	0	1	0	0	0	0
102	3	0	0	4	0	1	0	2	0	0
103	2	4	0	0	1	1	0	1	0	0
104	1	0	0	3	0	0	0	0	0	0
105	1	0	1	1	0	0	0	4	0	0
106	0	0	0	4	0	2	0	1	1	0

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107	3	0	0	2	2	0	0	2	1	0
108	3	0	0	3	0	0	1	0	0	1
109	4	0	1	2	0	0	0	1	0	0
110	1	0	1	4	0	0	0	0	0	0
111	2	0	1	0	0	2	3	0	0	0
112	2	0	0	1	2	0	0	0	3	0
113	0	4	0	0	1	0	0	1	0	1
114	0	1	0	3	0	1	0	1	1	3
115	0	3	0	3	0	3	0	0	0	0
116	1	0	1	4	0	0	0	1	0	0
117	0	0	0	3	1	0	0	1	1	4
118	0	0	0	3	0	0	0	0	3	3
119	0	0	0	4	1	0	0	0	3	1

Note: A. Business Services B. Education [C. Farm Viability] D. Financial [E. Innovation] F. Linking/Networking G. Marketing H. Policy I. Research J. Technology