FOOD SYSTEMS SOLUTIONS

FSM R&D Division of Trade

Funded by the United States Department of Commerce

Economic Development Administration

Developing a Food Innovation System for Chuuk State:

Food Systems Solutions Data Collection Methods and Results

RUTGERS

Acknowledgements:

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This addendum includes the results of the surveys and the survey tools used to capture the voices of the many FSM food system stakeholders and was used in part to guide and inform the food systems development framework that was codesigned and developed with each FSM state.

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Food Systems Solutions Chuuk State

Survey Methodology

Study design and setting:

The research protocol titled *"Strengthening Food Security in the Federated States of Micronesia: An Innovative Approach to Enhancing Information Systems, Establishing an FSM Food Innovation Center and Supporting Local Capacity Building"* received Institutional Review Board (IRB) approval from both the College of Micronesia-FSM and Rutgers. At Rutgers, the protocol (IRB Number Pro2024000757) was reviewed under minimal risk and granted exempt status (Exempt 2i) on April 30, 2024, with approval issued by the Rutgers Human Research Protection Program. At the College of Micronesia-FSM, the protocol (WIRB® Protocol #0020724072024) was reviewed on July 2, 2024, and formally approved as exempt on July 29, 2024, by the COM-FSM IRB. Both approvals affirmed that the study may proceed in accordance with the approved protocols and applicable human subjects protection regulations. For the surveys, partnering NGO facilitated trained local enumerators to conduct the food system stakeholder interviews in local languages. All enumerators were required to complete and were awarded CITI certification and received training from the Rutgers Food System Science Team prior to conducting the surveys.

The Chuuk team was composed of three men from the Chuuk Department of Agriculture, one woman from the Disaster Control and Management Office, and seven women from the Chuuk Women's Council (CWC). The CWC was the formal NGO collaborative partner in Chuuk. Several steps were undertaken by the team in order to prepare for going out to the field to conduct the 10 different survey tools. First, all 11 enumerators completed the Collaborative Institutional Training Initiative (CITI) with Rutgers, The State University of New Jersey, prior to conducting the surveys. Second, the team reviewed the surveys and agreed to keep them in English but use the Chuukese language when interviewing respondents. The FSM team in concert with the Rutgers Food Systems Science Team and the CWC met together and made sure that everyone understood the contents of the surveys, practiced the questions and possible answers and how best to capture the participant responses. The Chuuk based team decided in advance which Chuukese words to use for certain English terms. Third, the team put together a general list of farmers and fishers to target for interviews and identified the islands and communities they were from.

The main island of Weno is the only community accessible by car, while the rest of the islands are reached by boat. It was therefore crucial that travel was arranged strategically in order to save time and energy and to ensure safety of the enumerators since the season was marked by big waves, strong currents, heavy rains, and strong winds. A lead enumerator was often assigned to a particular community based on whether he or she was from that community or knew someone there. For example, a team member from the Department of Agriculture who lives on Fefen was assigned to conduct the household survey, the commercial survey, and the focus group survey for Fefen, Siis, and Parem. The team member from the Disaster Control and Management Office was assigned to conduct the household survey on Uman because her husband is from that island and had the means to call selected fishers and farmers to meet at a designated meeting hall. A team member from the Chuuk Women's Council conducted the household survey on Udot and Eot because she is from those islands and was able to go with a friend to Fanapanges to conduct

both the household and commercial surveys. Another member of the Women's Council carried out the household and commercial surveys for Paata and Polle because her husband is from those islands and she was able to interview participants when they traveled to Weno by boat for Christmas shopping or to sell their fish at the markets. Other members of the Women's Council saved travel time by interviewing people from Piis Panewu, Fonoton, Romanum, and Oneisomw who came to Weno either for Christmas shopping or to visit family.

Study population and sample selection:
The study population covered only the islands within the Chuuk Lagoon and did not include the Mortlocks and the Northwest islands. Population data from the King Tide 2021 Municipalities Initial Damage Assessment Report was used to calculate the breakdown of the 150 sample size and to determine how many interviews would be conducted on each of the 16 inhabited islands in the Chuuk Lagoon.

In the Northern Namoneas, the sample included two respondents from Fonoton, one from Piis Panewu, two from Fonoton, and 90 from the main island of Weno. In the Southern Namoneas region, there were nine from the island of Tonoas, nine from Fefen, six from Uman, one from Siis, and two from Parem. In the Faichuk region, there were four from Udot, one from Eot, two from Romanum, two from Fanapanges, three from Paata, four from Polle, two from Oneisomw, and 12 from Toleisomw.

Given the time constraints and needs of the baseline study, those interviewed were known men and women subsistence farmers and fishers who were available during the period the enumerators were in their communities and who volunteered to participate in the survey. The purpose of the surveys was explained to respondents, and their consent was obtained prior to answering the questionnaires. Compensation for participation was provided in the form of a $20 dollar phone card. On average, a survey was completed within one to one and a half hours.

Questionnaire and interview of study participants: The questionnaire had 11 sections. This covered demographic information, climate impact on food sources, local food production and climate change, agriculture, farming, and agroforestry, raising livestock and poultry, marine food sources, barriers to food production, diet and food access, availability, and affordability, the impact of COVID 19, perception, preference, and attitudes, and adaptation and resilience. The surveys were administered in English and in the Chuukese language depending on the preference of the interviewee.

Food Systems Solutions Surveys Conducted for Chuuk State:

Producer Survey: 70 surveys conducted
Consumer Survey: 67 surveys conducted
Community Management Leader Survey: 23 surveys conducted
Food Distributors and Retailers: 36 surveys conducted
- Local markets: 12 surveys conducted
- Restaurants: 24 surveys conducted

Trainer Surveys: 13 surveys conducted
Information Content Providers Survey: 11 surveys conducted

Information Infrastructure Provider Survey: 2 surveys conducted
Technical IT Survey: 4 surveys conducted
Policymaker Survey: 26 surveys conducted

Data limitation:
Given respondent were using recall to answer each question, it is possible that in certain cases the data collected may not be accurate or complete because some of the participants did not keep records. In such cases, probing questions were asked to obtain the most accurate answers possible. Some of the questions were purposefully repetitious, yet that also was found to some minor confusion and frustration by some respondents. At times, participants gave general answers to questions intended only for their farming or fishing. For example, a farmer might answer that he does not grow or harvest giant taro but still respond "yes" to whether climate change has affected his taro garden. Most participants answered "don't know" when asked which months they experienced crop loss. In retrospect, it would have been helpful to also ask when the season for particular crops or fish occurs in order to determine whether crop loss correlated with seasonal patterns. This information would also have revealed whether the seasons for particular crops and fish have been shifting over the years.

The survey questions would also have benefited from more response options such as "all of the above," "none of the above," "don't know," "don't care," or "none." Without such options, some participants may have provided an answer in a way that did not reflect their real situation simply because the appropriate response was not available.

Federated States of Micronesia
Food Systems Solutions Project
FSS Survey Data Tables and Charts
Chuuk State

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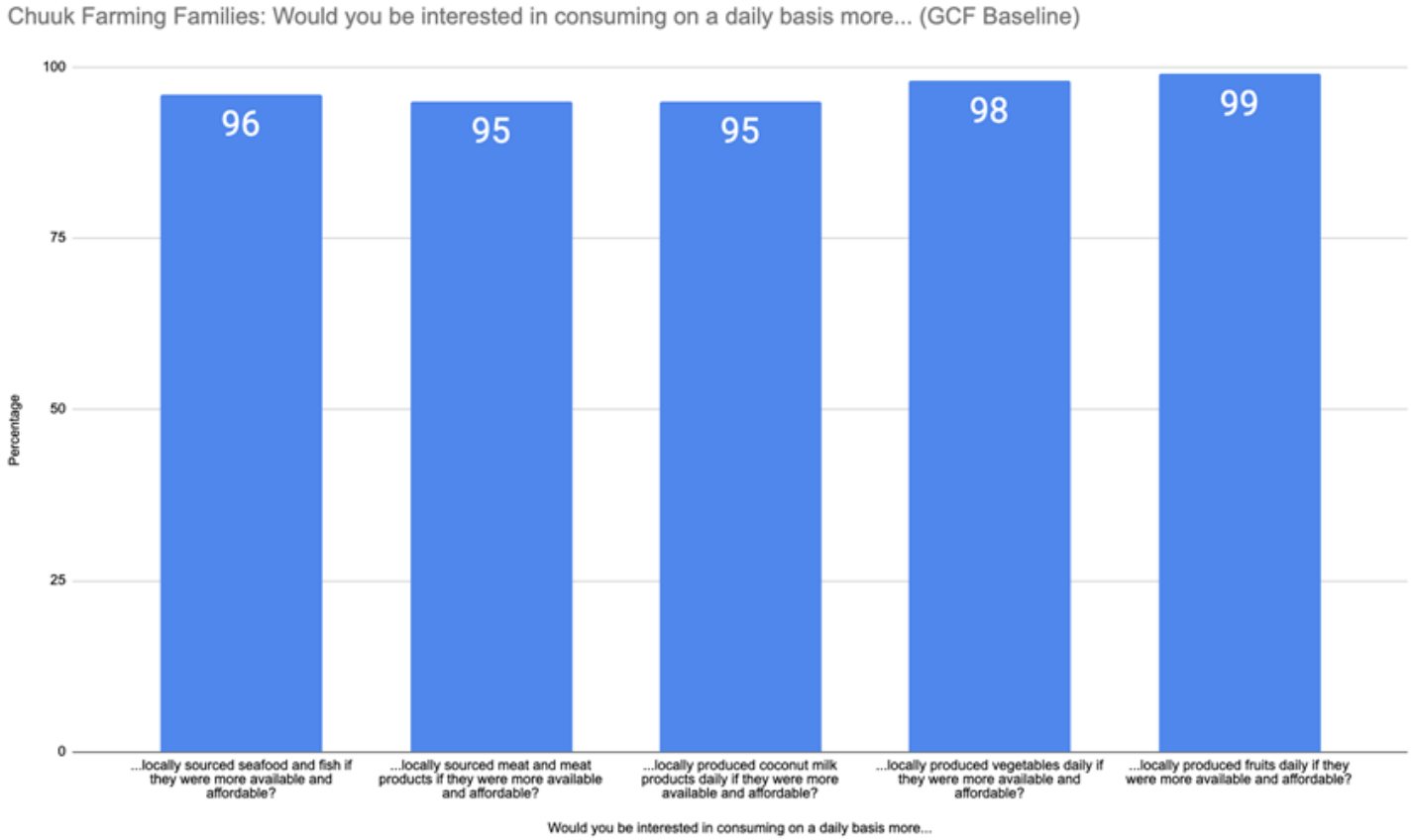
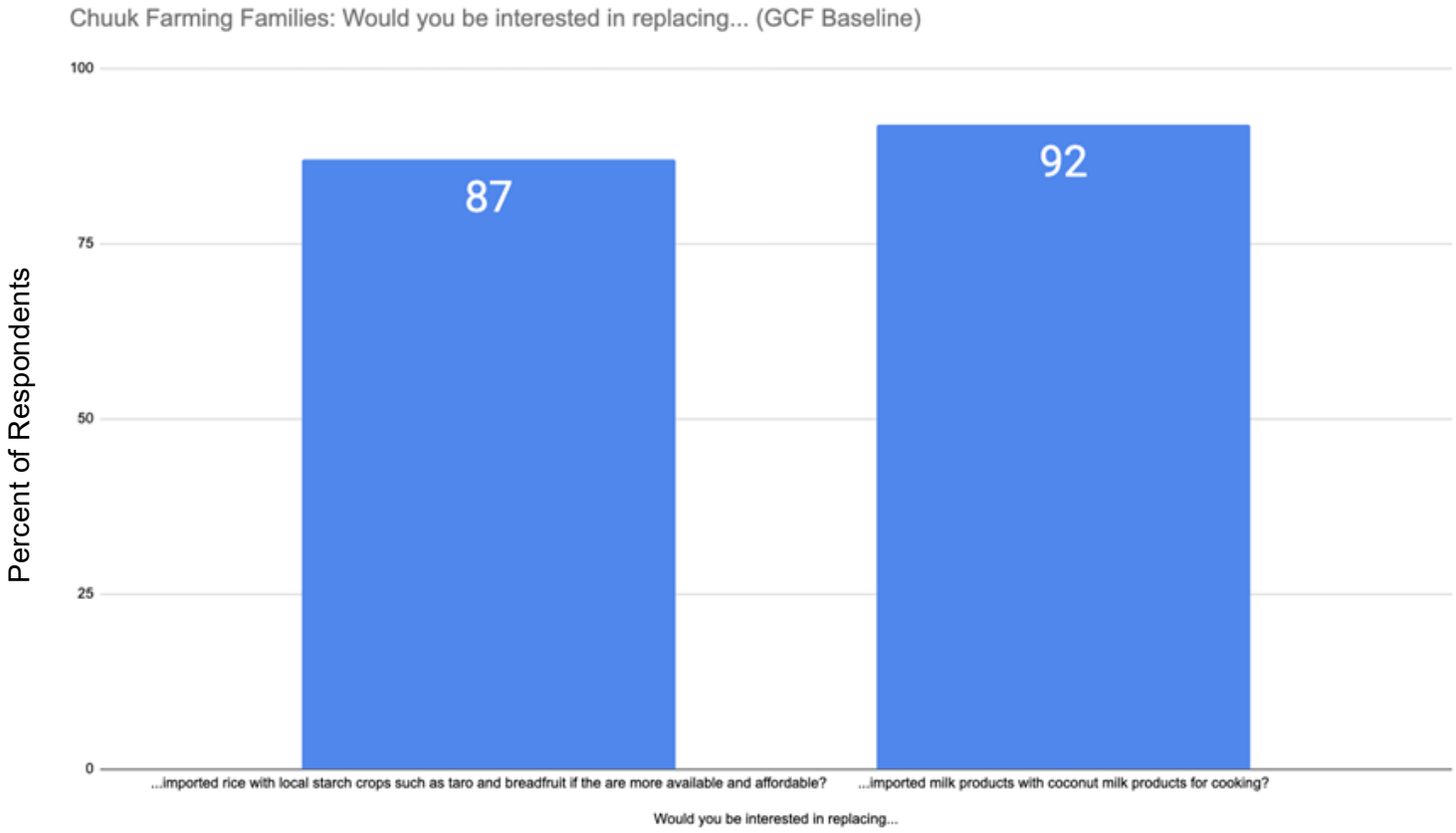
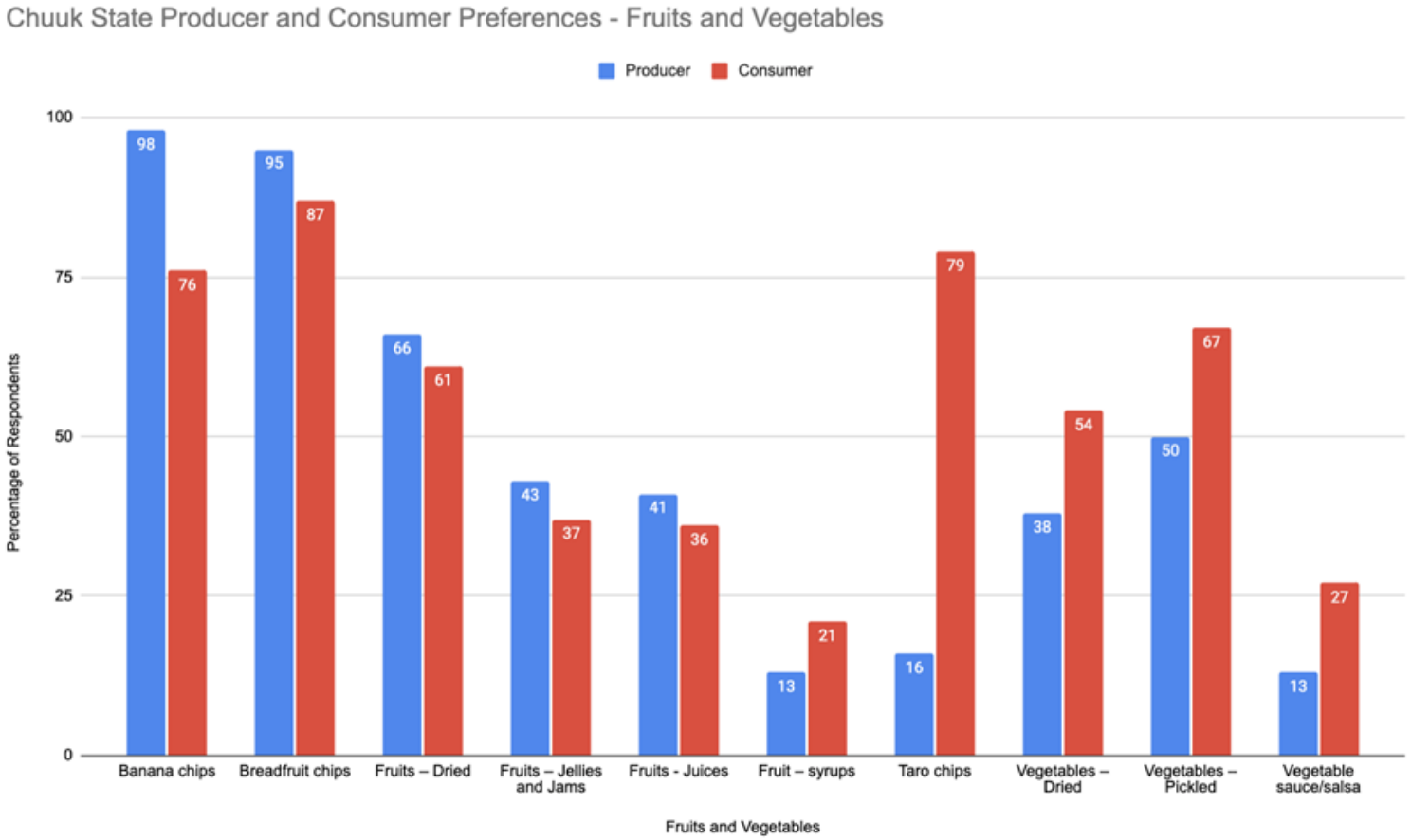
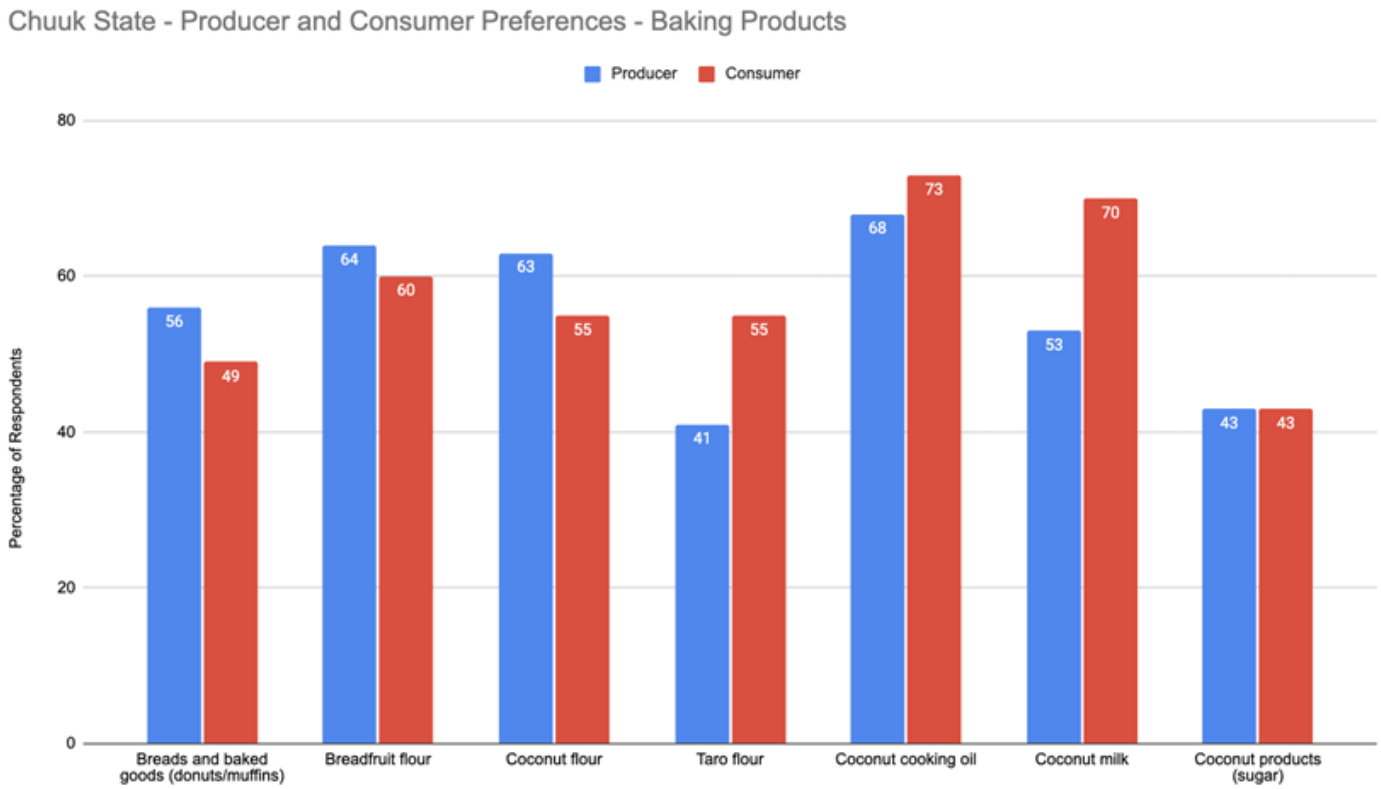
Federated States of Micronesia
Food Systems Solutions Project
FSS Survey Data Tables and Charts
Chuuk State
General and Combined
Stakeholders

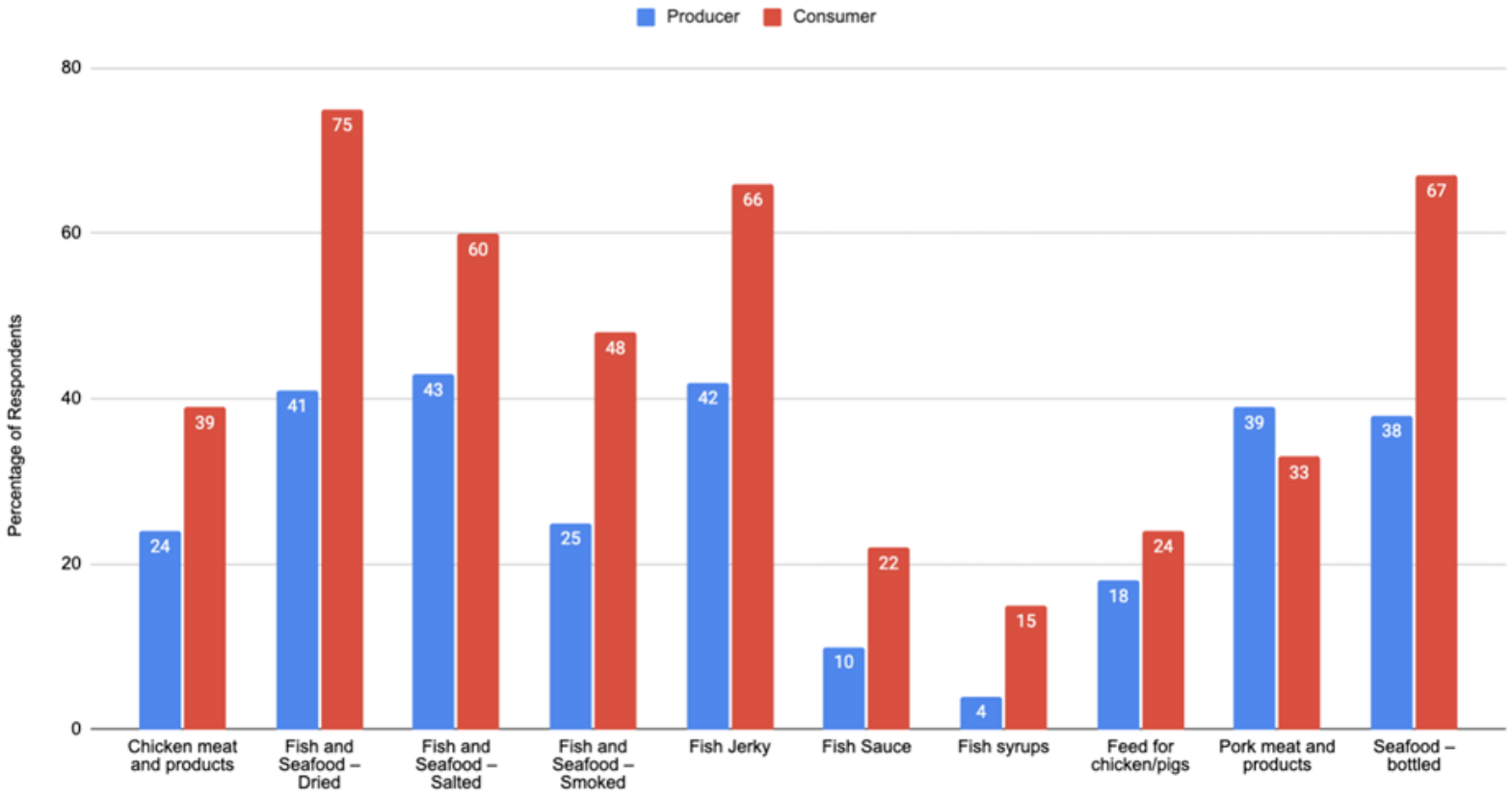

Chuuk Farming Families: Would you be interested in consuming on a daily basis more... (GCF Baseline)
Percentage
100
75
50
25
0
96
95
95
98
99
...locally sourced seafood and fish if they were more available and affordable?
...locally sourced meat and meat products if they were more available and affordable?
...locally produced coconut milk products daily if they were more available and affordable?
...locally produced vegetables daily if they were more available and affordable?
...locally produced fruits daily if they were more available and affordable?
Would you be interested in consuming on a daily basis more...


Chuuk Farming Families: Would you be interested in replacing... (GCF Baseline)
Percent of Respondents
100
75
50
25
0
87
92
...imported rice with local starch crops such as taro and breadfruit if the are more available and affordable?
...imported milk products with coconut milk products for cooking?
Would you be interested in replacing...

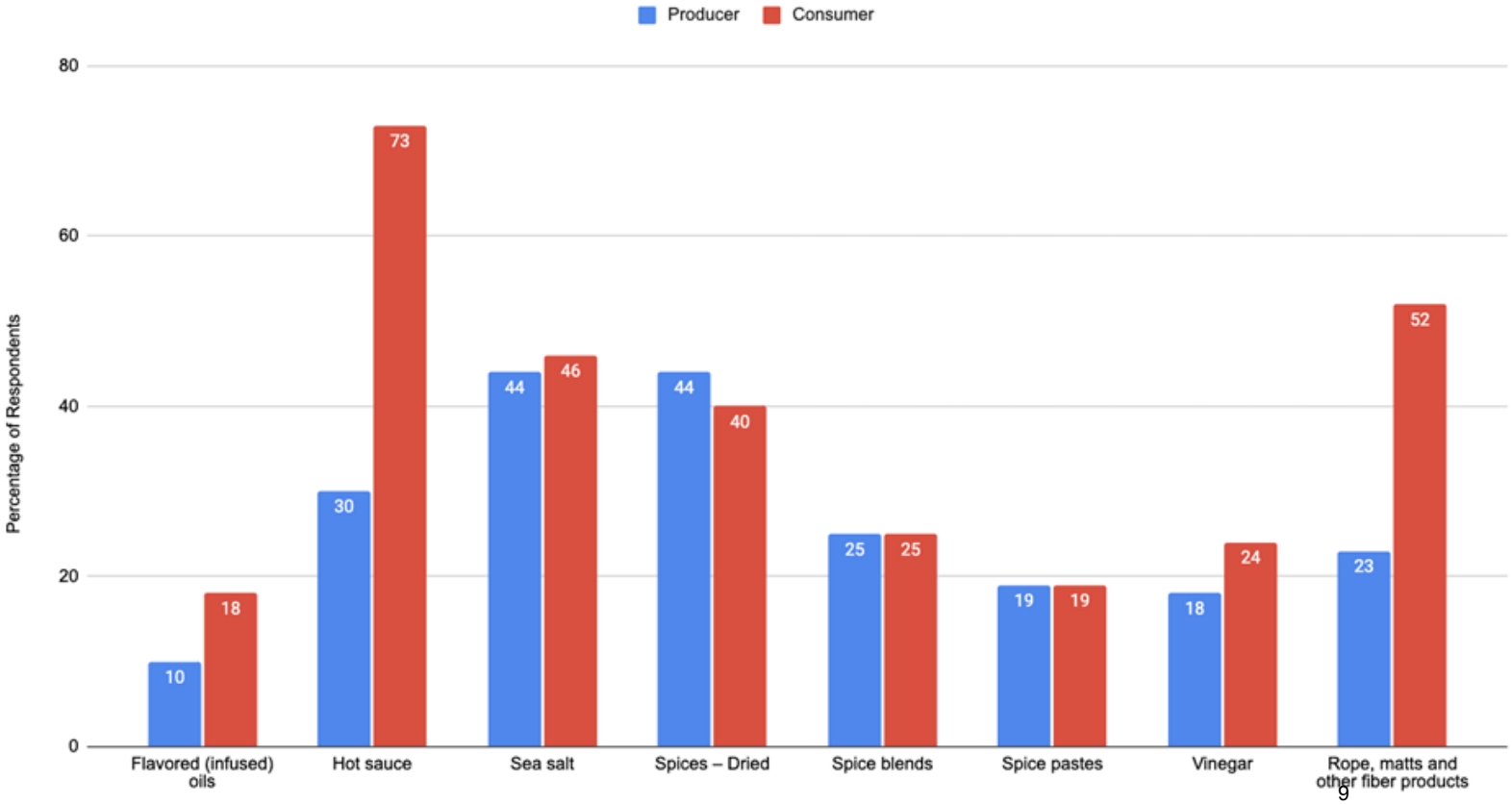

Chuuk State Producer and Consumer Preferences - Fruits and Vegetables
Producer
Consumer
Percentage of Respondents
100
75
50
25
0
98
76
95
87
66
61
43
37
41
36
13
21
16
79
38
54
50
67
13
27
Banana chips
Breadfruit chips
Fruits – Dried
Fruits – Jellies and Jams
Fruits - Juices
Fruit – syrups
Taro chips
Vegetables – Dried
Vegetables – Pickled
Vegetable sauce/salsa
Fruits and Vegetables


Chuuk State - Producer and Consumer Preferences - Baking Products
Producer
Consumer
Percentage of Respondents
80
60
40
20
0
56
49
64
60
63
55
41
55
68
73
53
70
43
43
Breads and baked goods (donuts/muffins)
Breadfruit flour
Coconut flour
Taro flour
Coconut cooking oil
Coconut milk
Coconut products (sugar)

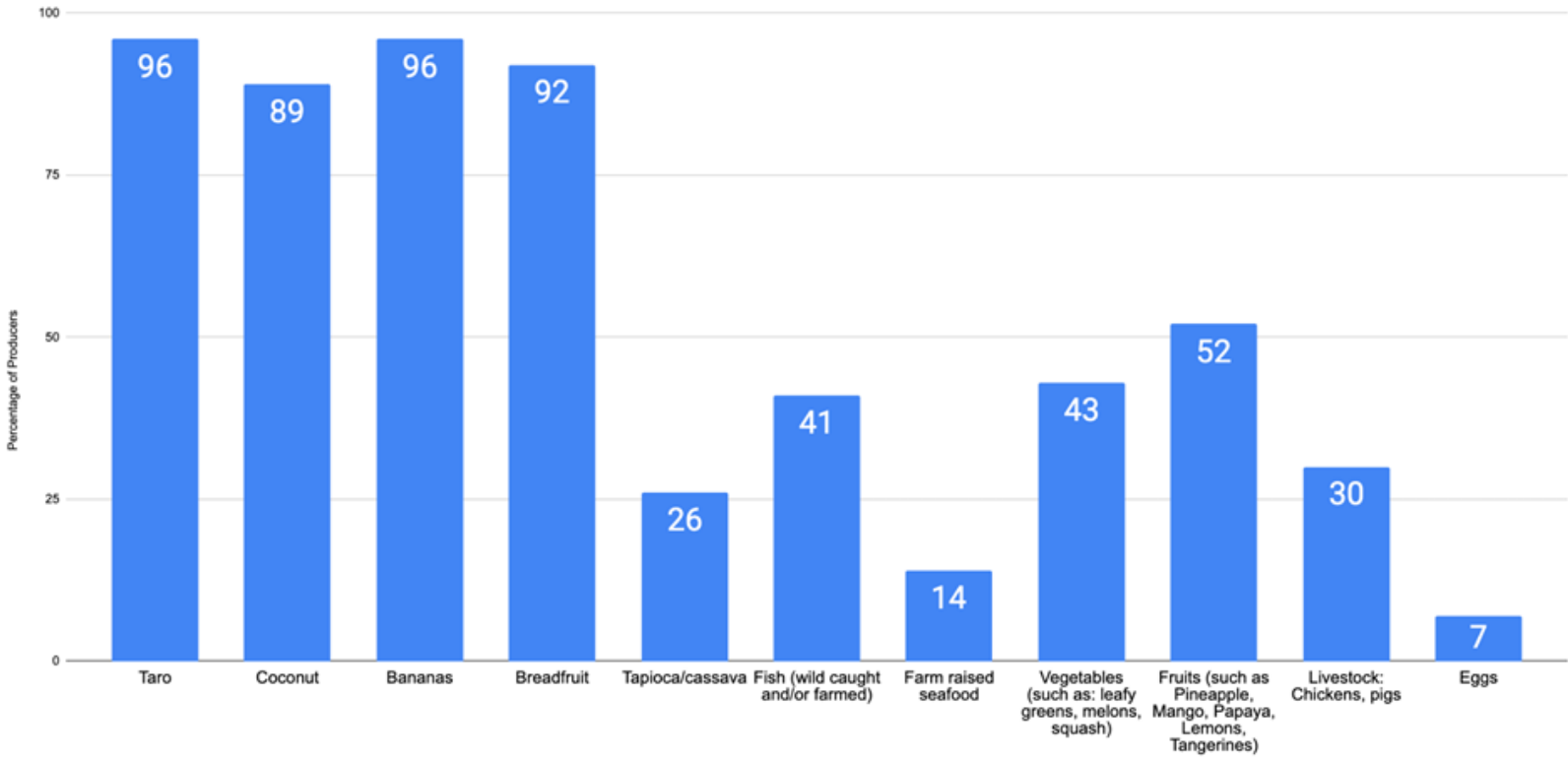
Chuuk State - Producer and Consumer Preferences - Meat and Seafood Products

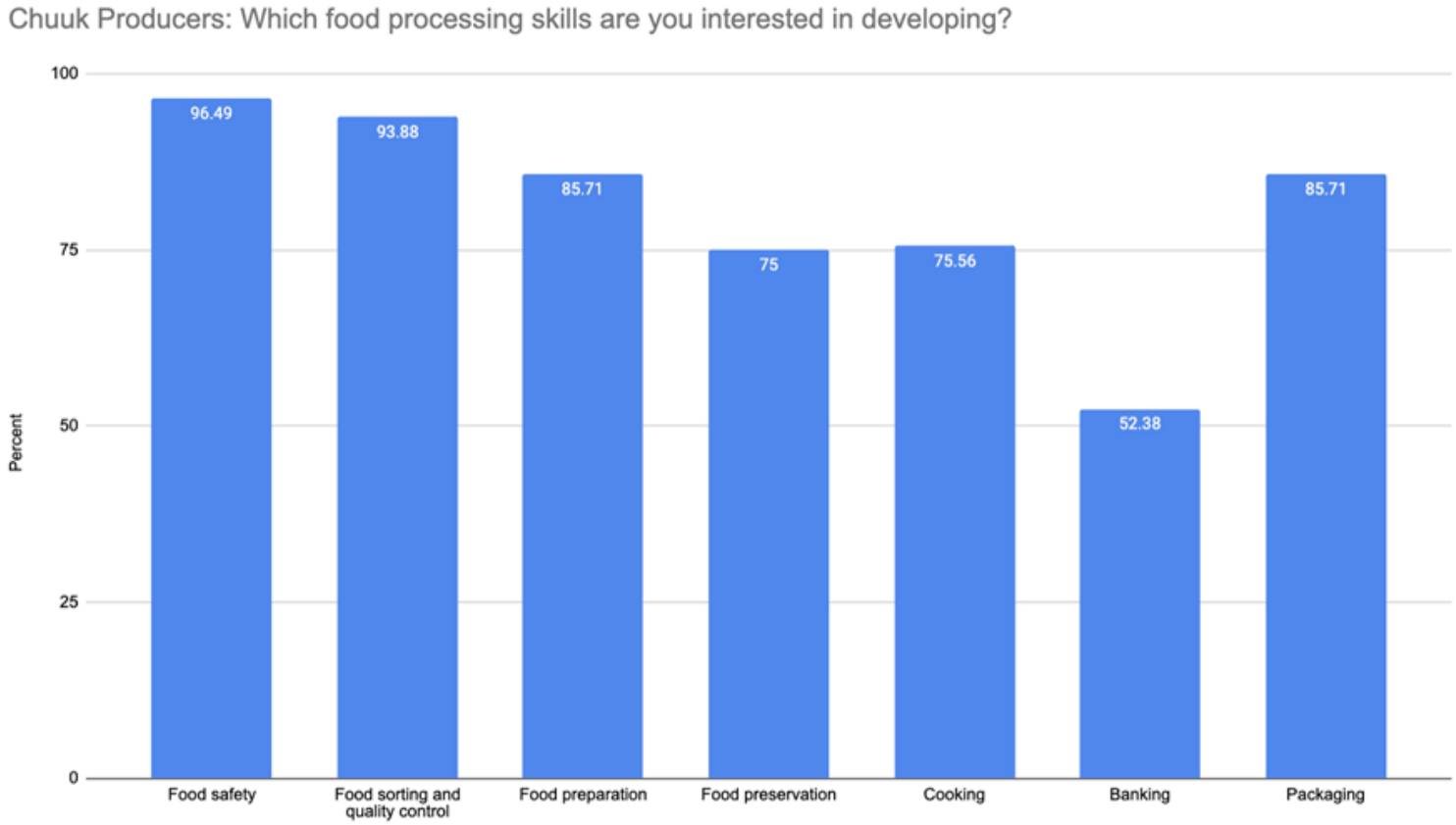


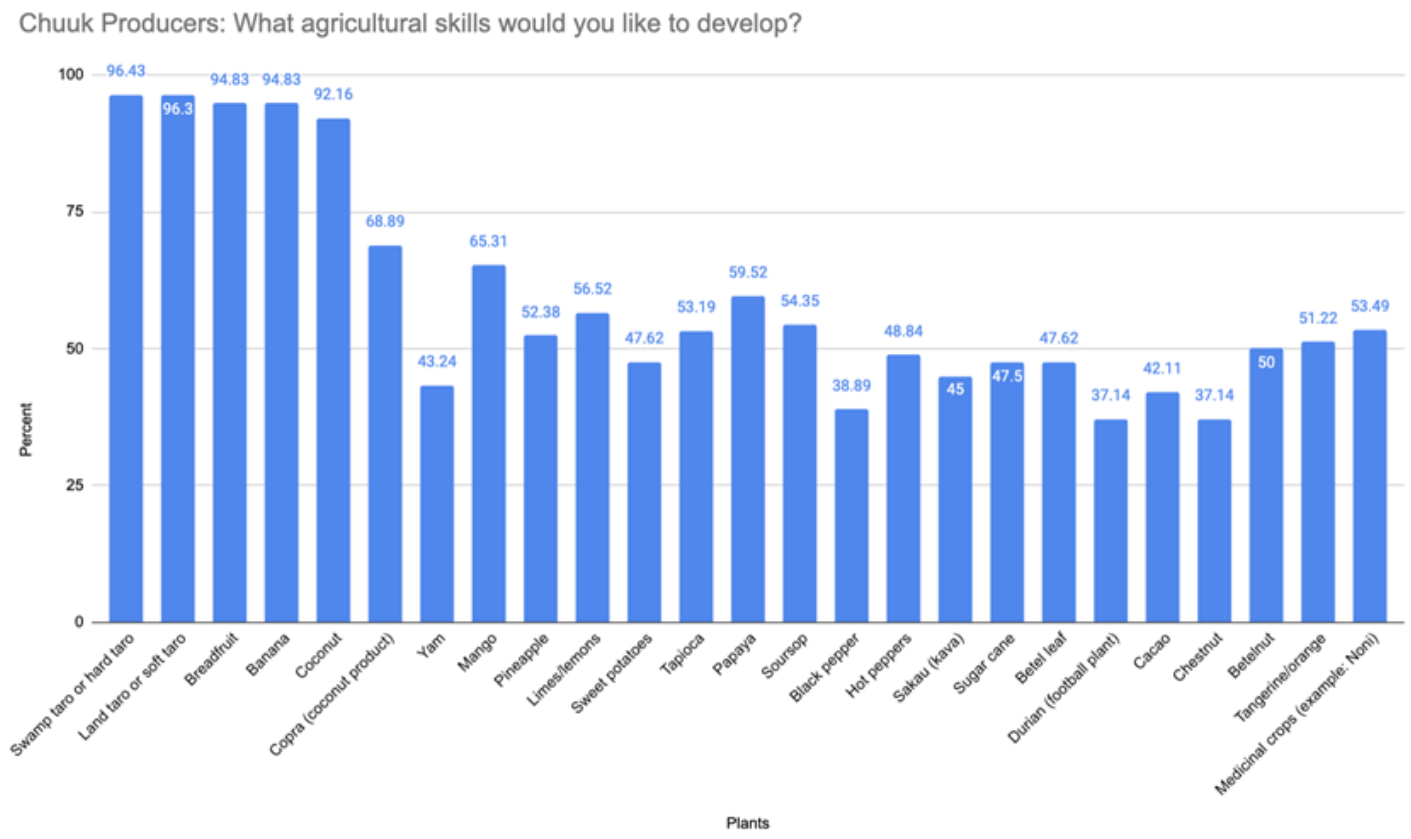
Chuuk State - Producer and Consumer Preferences - Seasonings and Misc Products

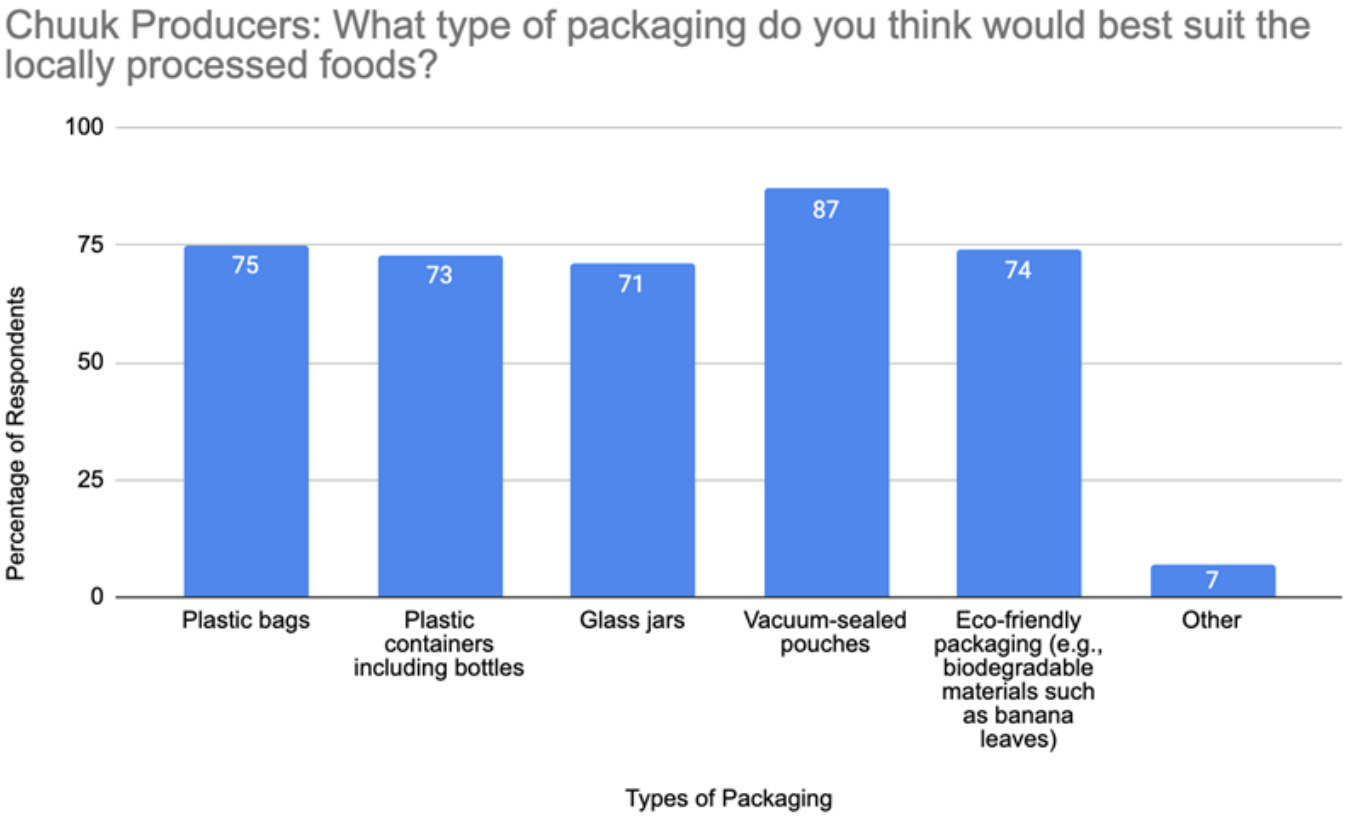


Federated States of Micronesia
Food Systems Solutions Project
FSS Survey Data Tables and Charts
Chuuk State
Producers

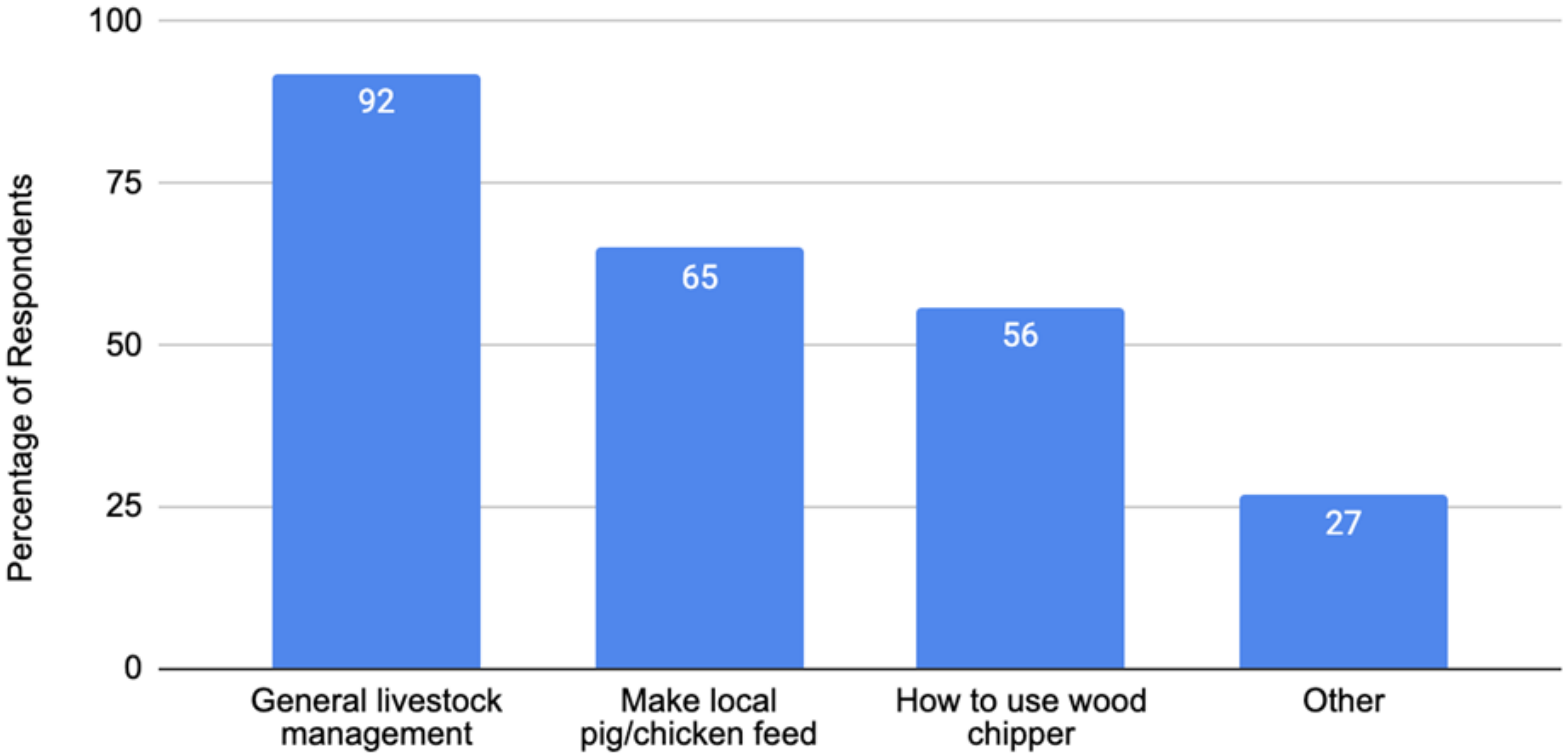

Chuuk Producers: What foods could you regularly provide to a food processing plant?
Percentage of Producers
100
75
50
25
0
96
89
96
92
26
41
14
43
52
30
7
Taro
Coconut
Bananas
Breadfruit
Tapioca/cassava
Fish (wild caught and/or farmed)
Farm raised seafood
Vegetables (such as: leafy greens, melons, squash)
Fruits (such as Pineapple, Mango, Papaya, Lemons, Tangerines)
Livestock: Chickens, pigs
Eggs


Chuuk Producers: Which food processing skills are you interested in developing?
Percent
100
75
50
25
0
96.49
93.88
85.71
75
75.56
52.38
85.71
Food safety
Food sorting and quality control
Food preparation
Food preservation
Cooking
Banking
Packaging

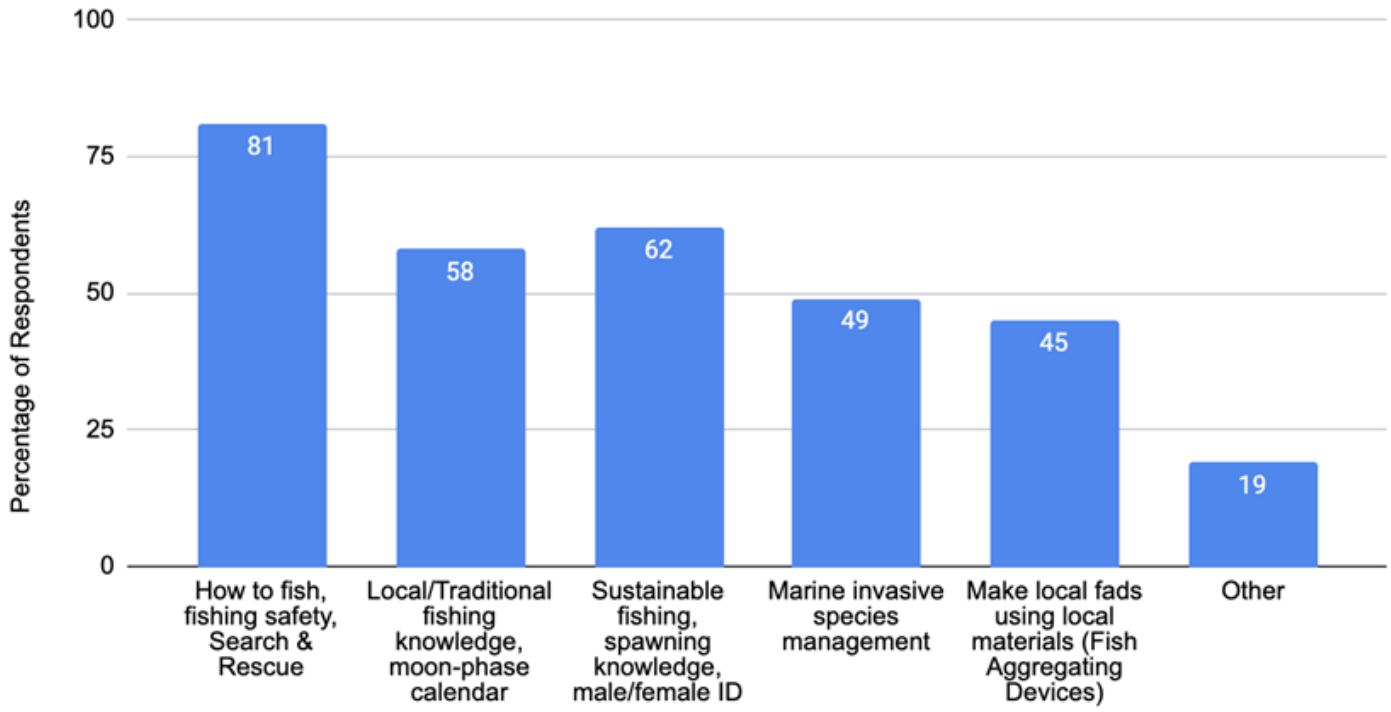

Chuuk Producers: What agricultural skills would you like to develop?
Percent
100
75
50
25
0
96.43
96.3
94.83
94.83
92.16
68.89
43.24
65.31
52.38
56.52
47.62
53.19
59.52
54.35
38.89
48.84
45
47.5
47.62
37.14
42.11
37.14
50
51.22
53.49
Swamp taro or hard taro
Land taro or soft taro
Breadfruit
Banana
Coconut
Copra (coconut product)
Yam
Mango
Pineapple
Limes/lemons
Sweet potatoes
Tapioca
Papaya
Soursop
Black pepper
Hot peppers
Sakau (kava)
Sugar cane
Betel leaf
Durian (football plant)
Cacao
Chestnut
Betelnut
Tangerine/orange
Medicinal crops (example: Noni)
Plants


Chuuk Producers: What type of packaging do you think would best suit the locally processed foods?
Percentage of Respondents
100
75
50
25
0
75
73
71
87
74
7
Plastic bags
Plastic containers including bottles
Glass jars
Vacuum-sealed pouches
Eco-friendly packaging (e.g., biodegradable materials such as banana leaves)
Other
Types of Packaging

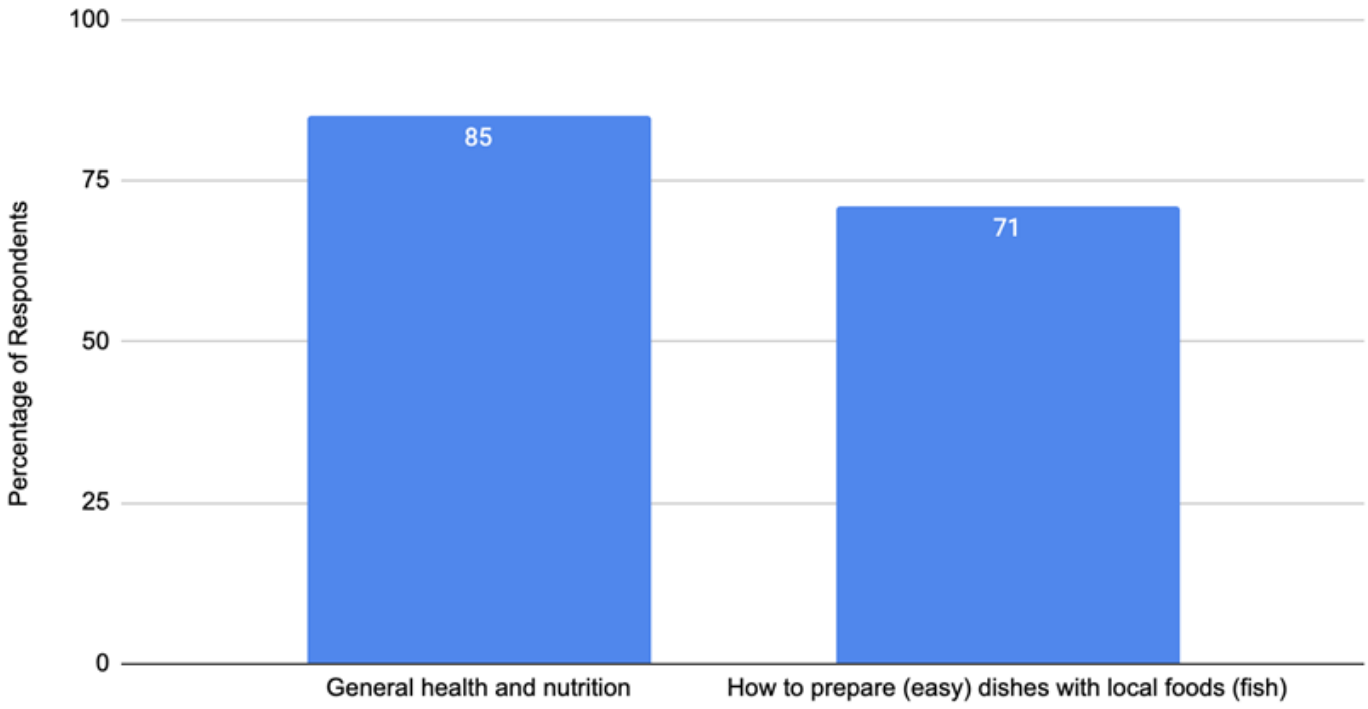
Chuuk Producers: What training would you like: LIVESTOCK



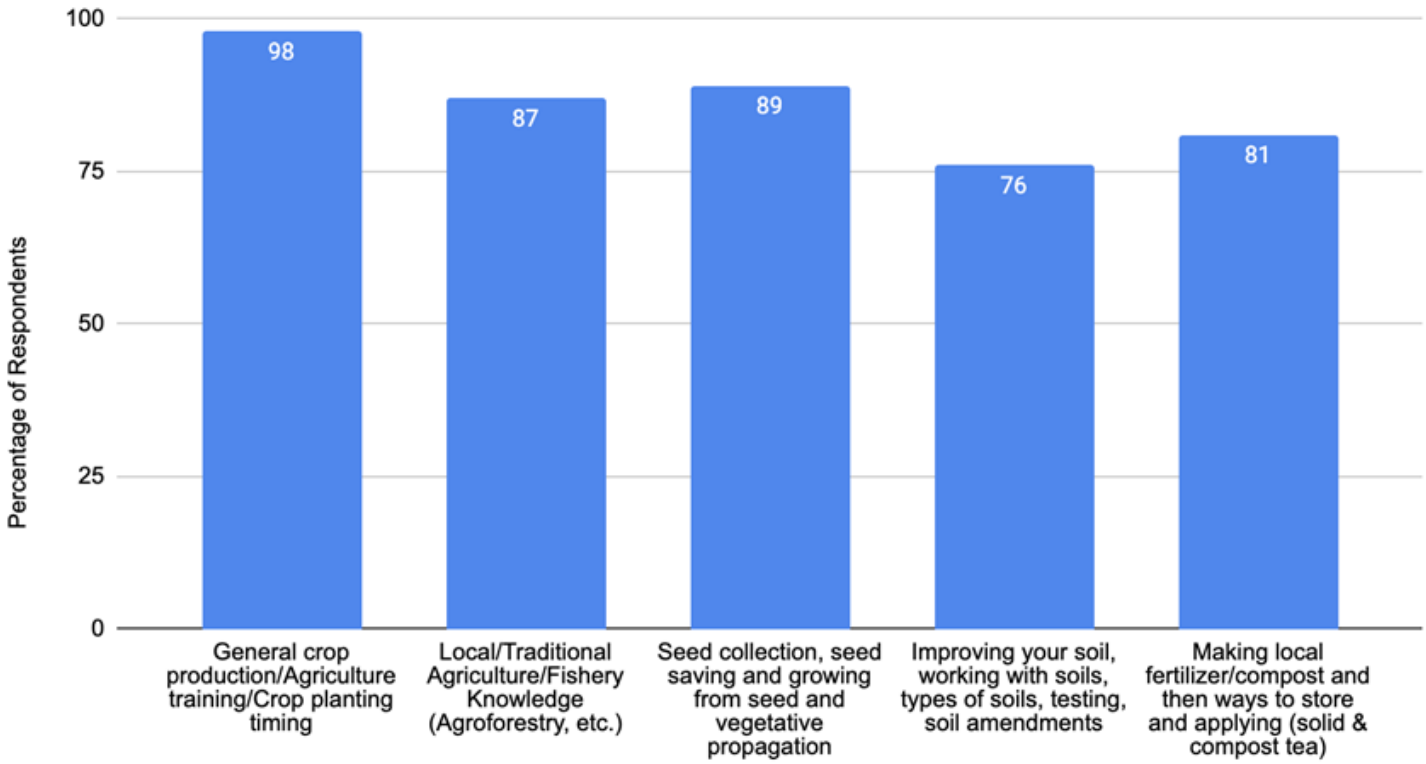
Chuuk Producers: What training would you like: MARINE/AQUACULTURE



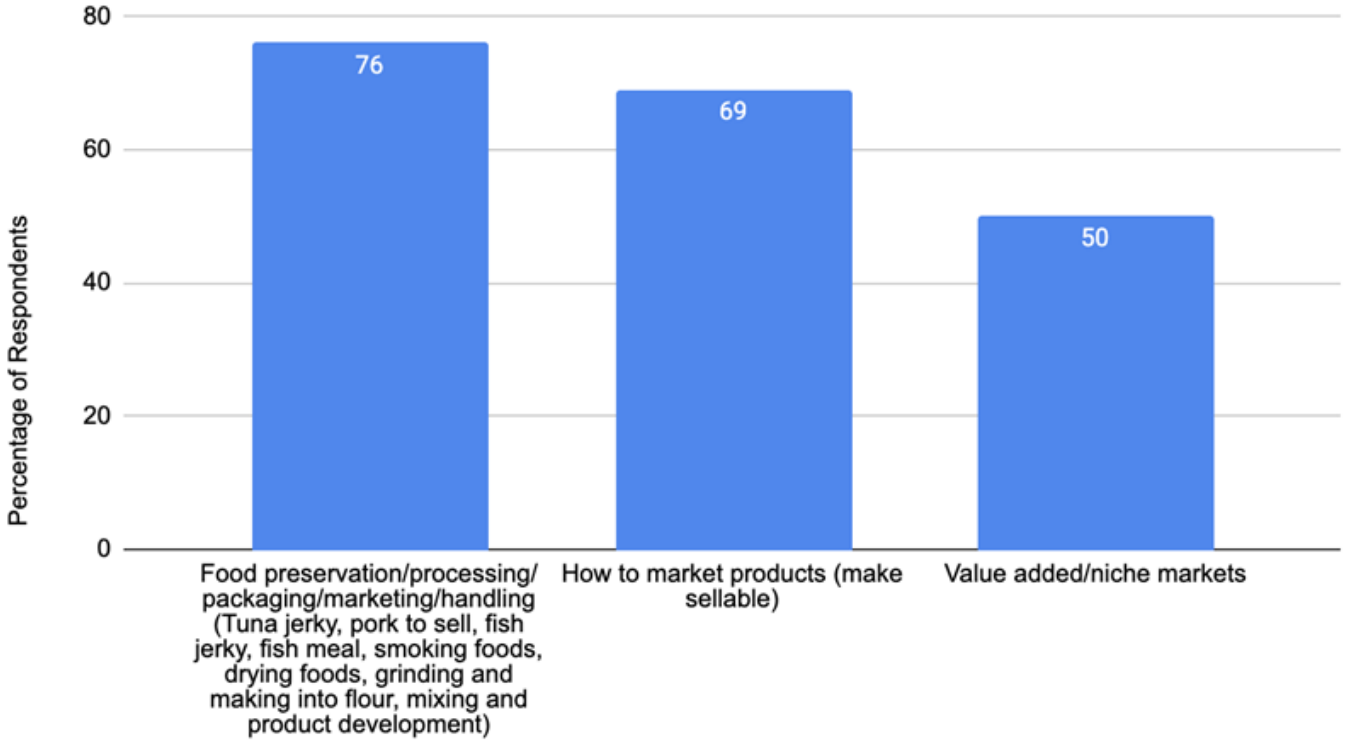
Chuuk Producers: What training would you like: HEALTH AND NUTRITION



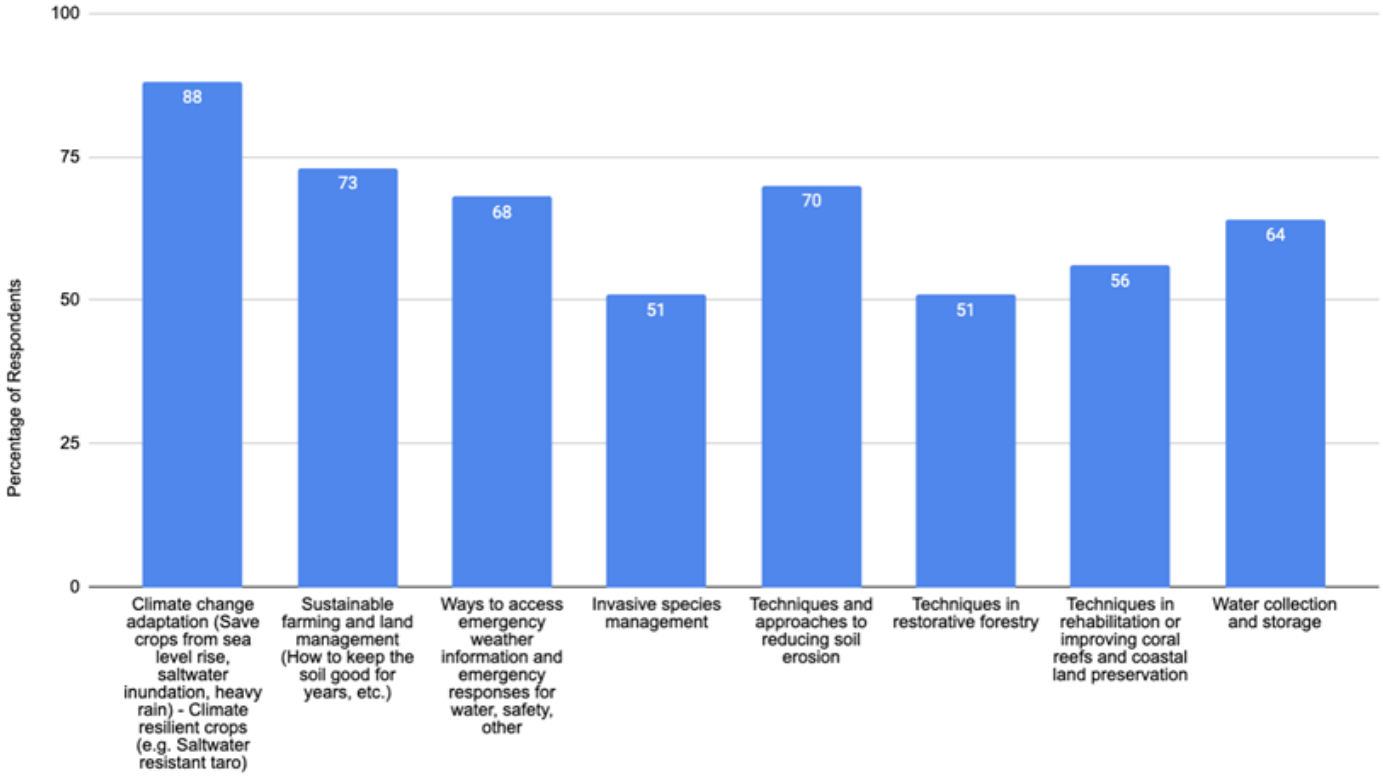
Chuuk Producers: What training would you like: AGRICULTURE



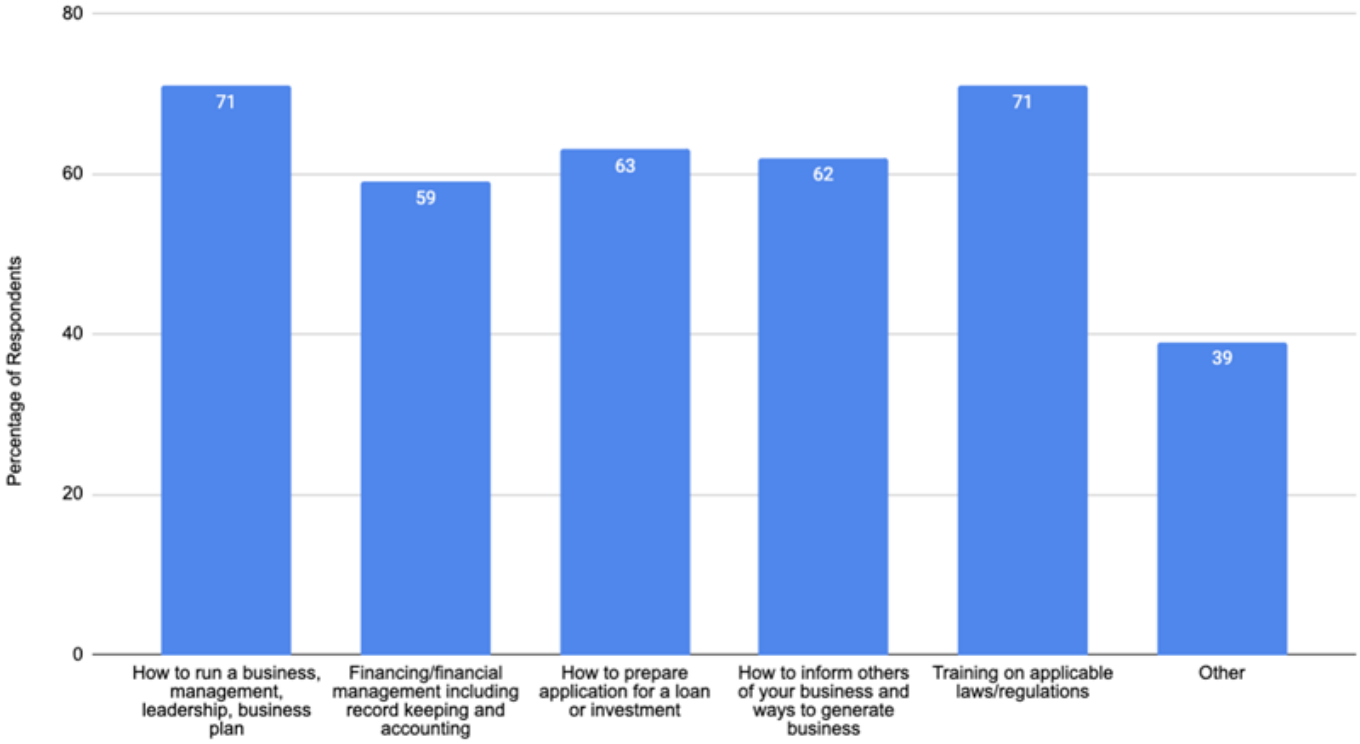
Chuuk Producers: What training would you like: MARKETING



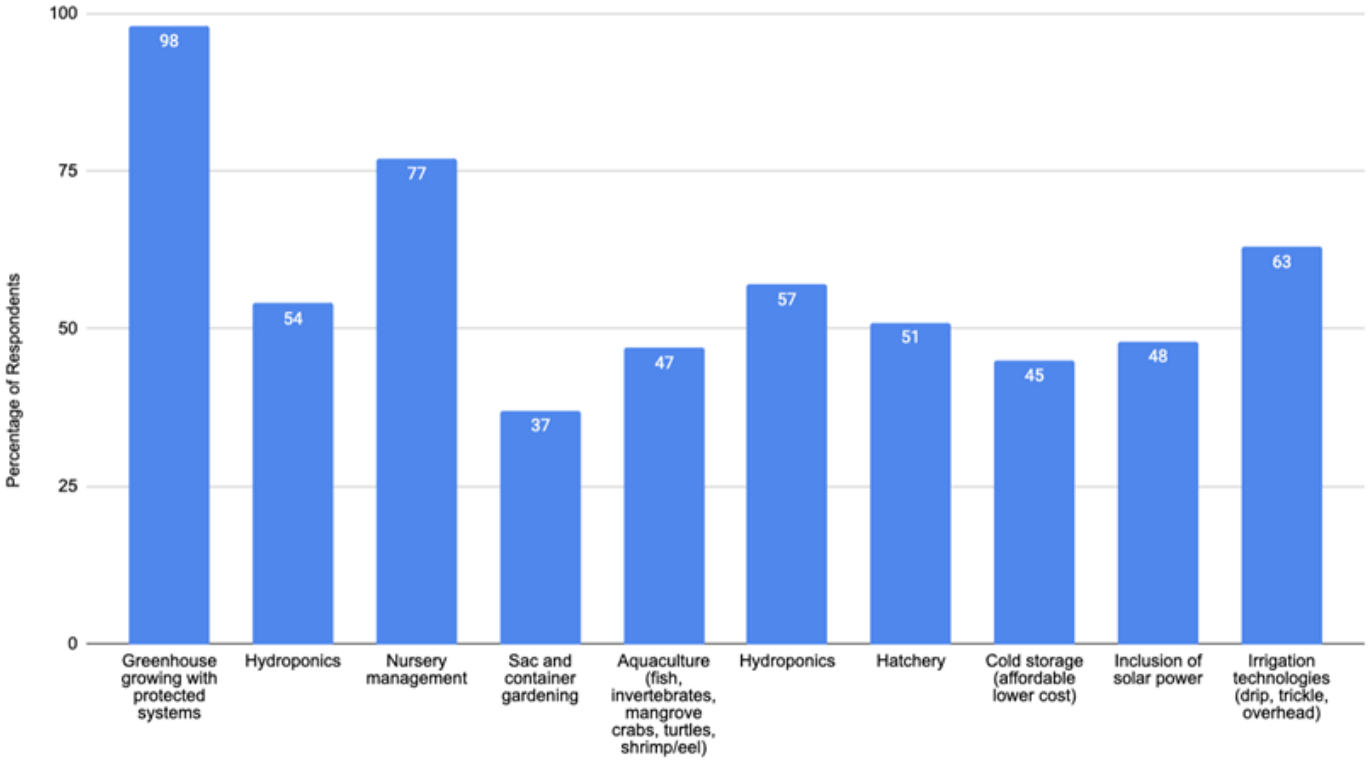
Chuuk Producers: What training would you like: CLIMATE CHANGE

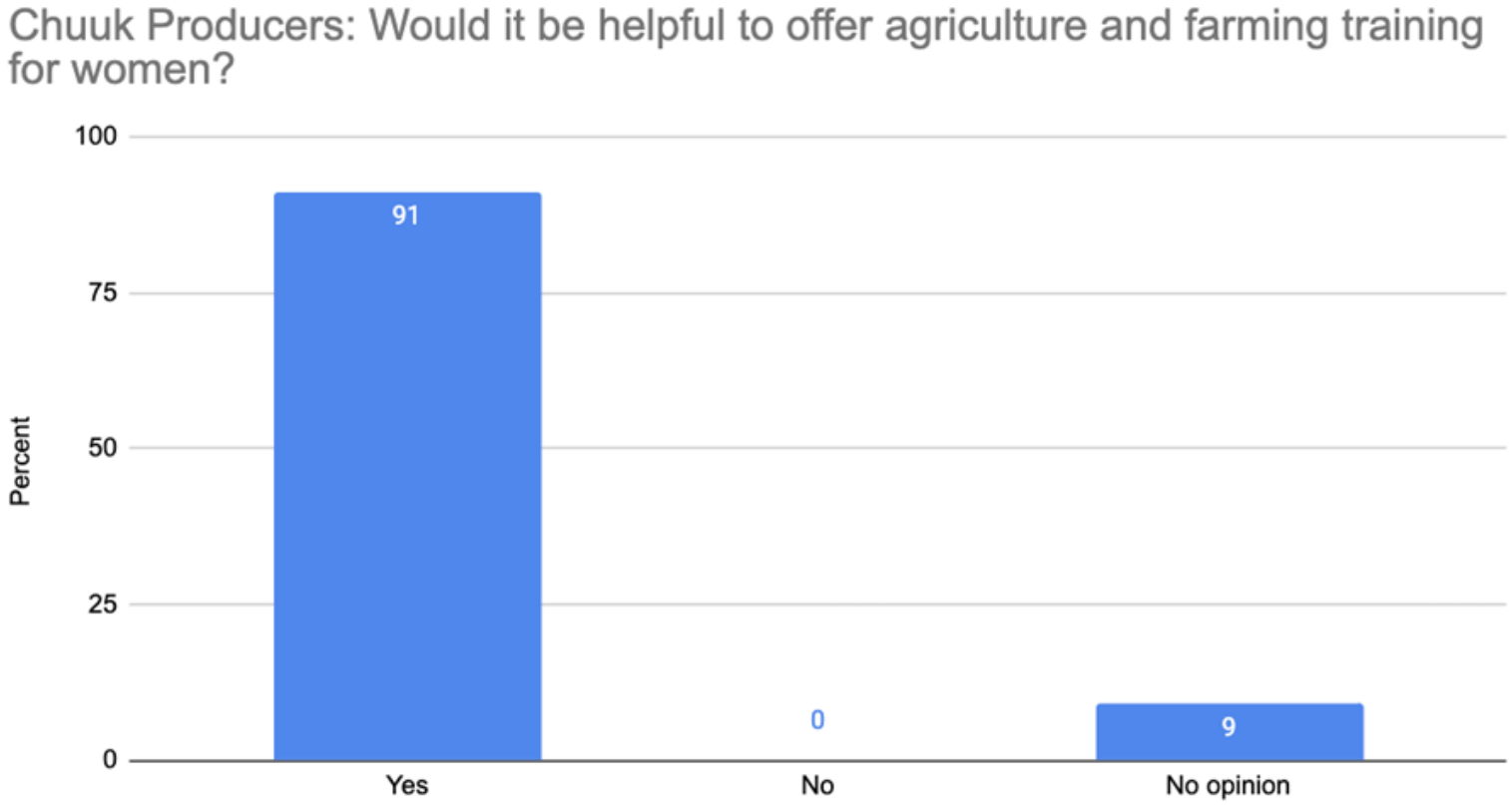


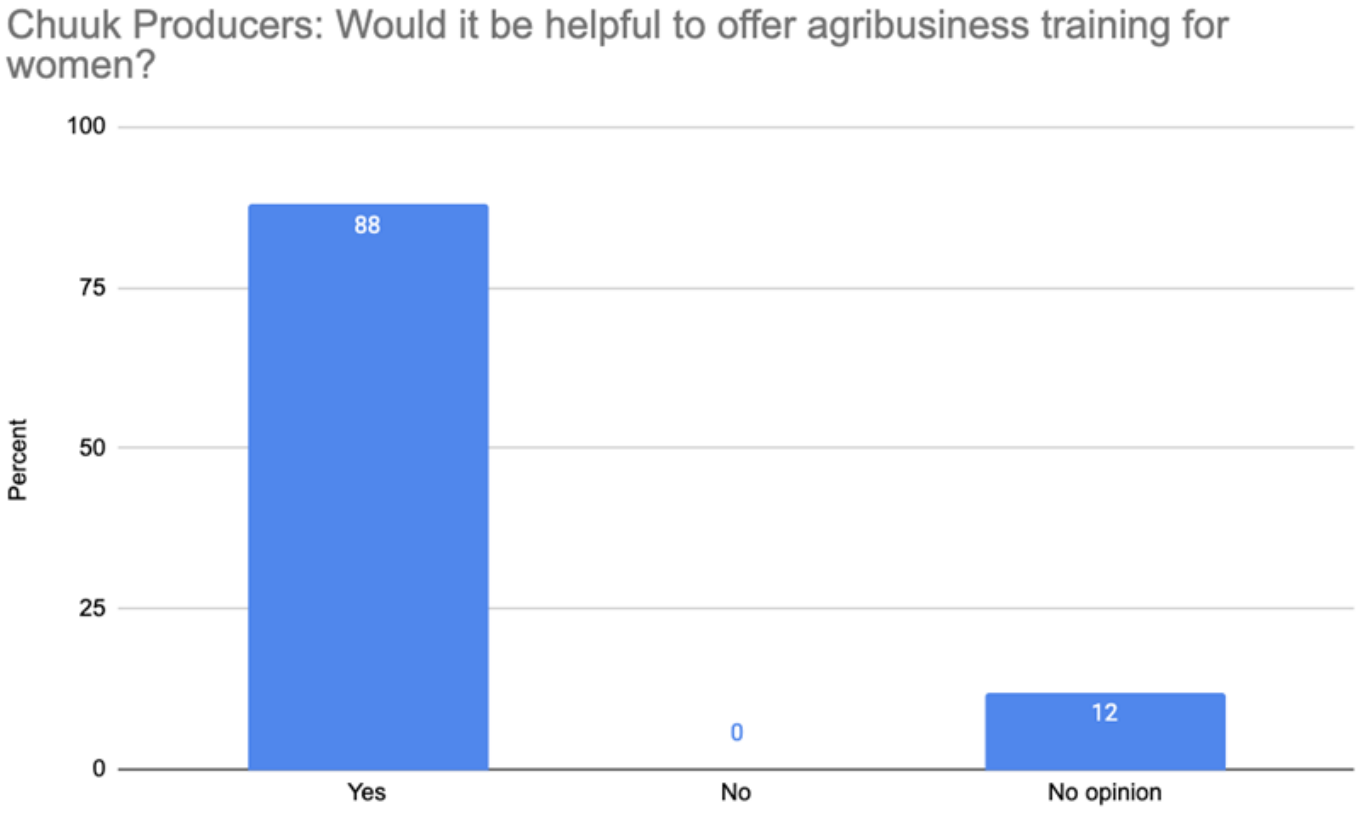
Chuuk Producers: What training would you like: BUSINESS MANAGEMENT



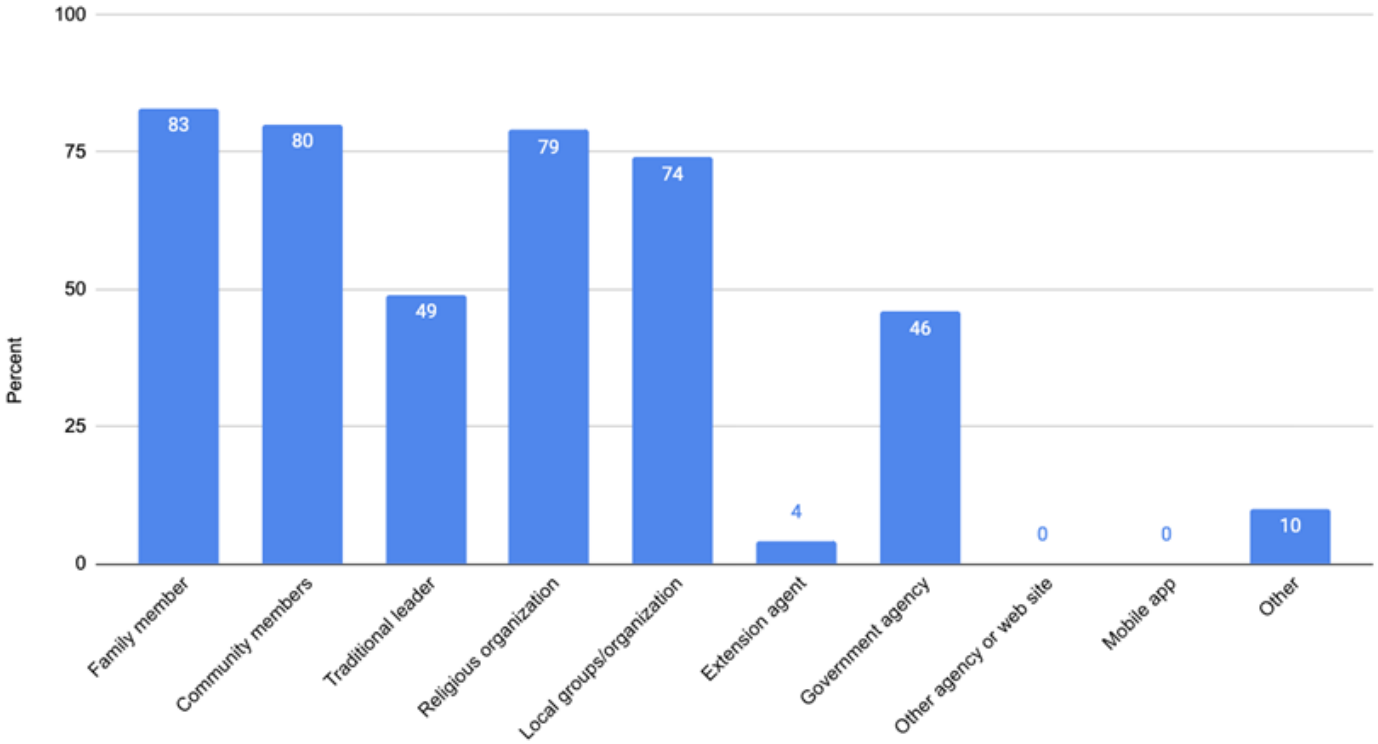
Chuuk Producers: What training would you like: AGRICULTURAL TECHNOLOGIES



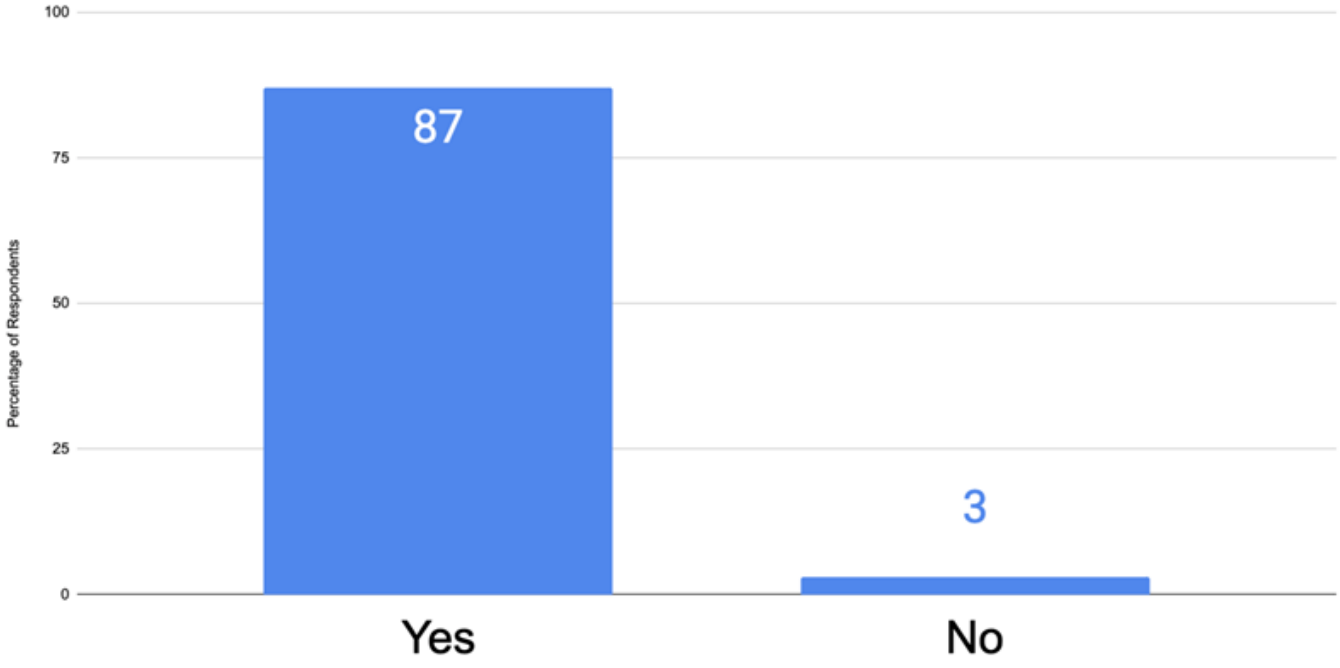

Chuuk Producers: Would it be helpful to offer agriculture and farming training for women?
100
75
50
25
0
Percent
91
0
9
Yes
No
No opinion


Chuuk Producers: Would it be helpful to offer agribusiness training for women?
100
75
50
25
0
Percent
88
0
12
Yes
No
No opinion

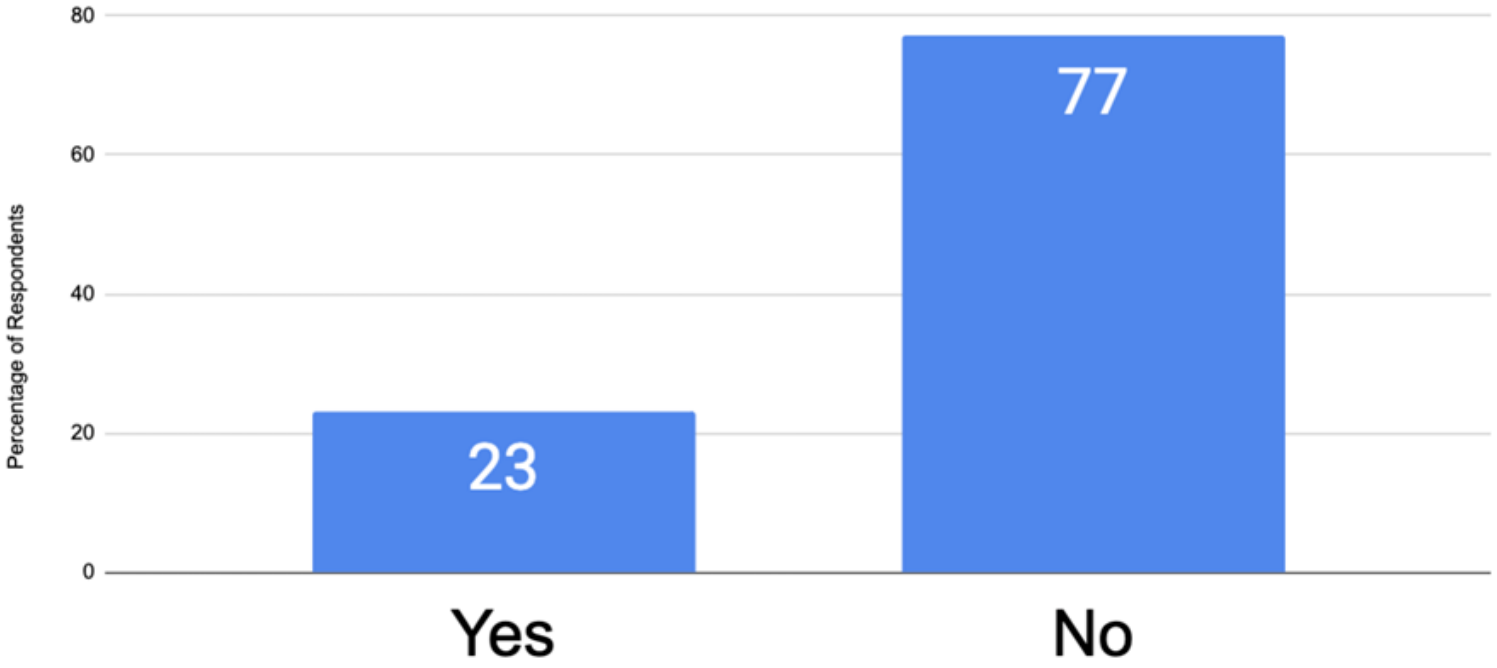
Chuuk Producers: If you need to communicate with the government leaders responsible for making laws/policies, where would you go?



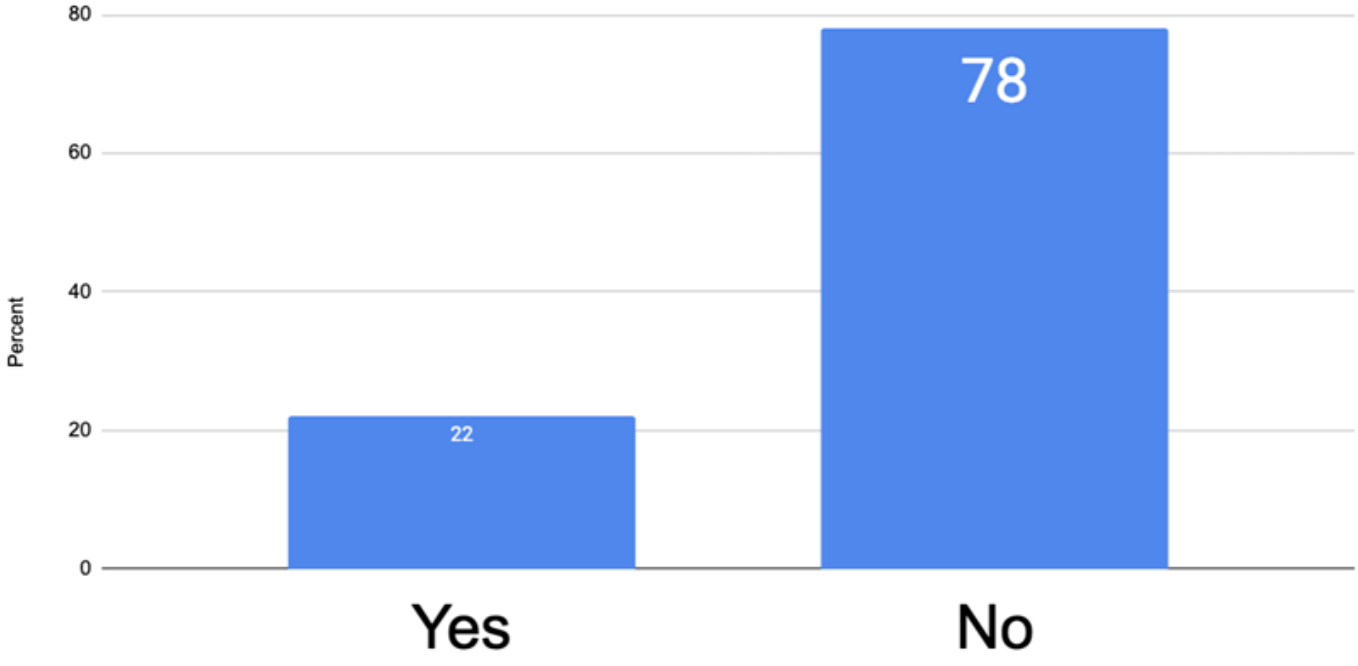
Chuuk Producers: Would you be interested in being more active in your community relative to preserving land and water resources?



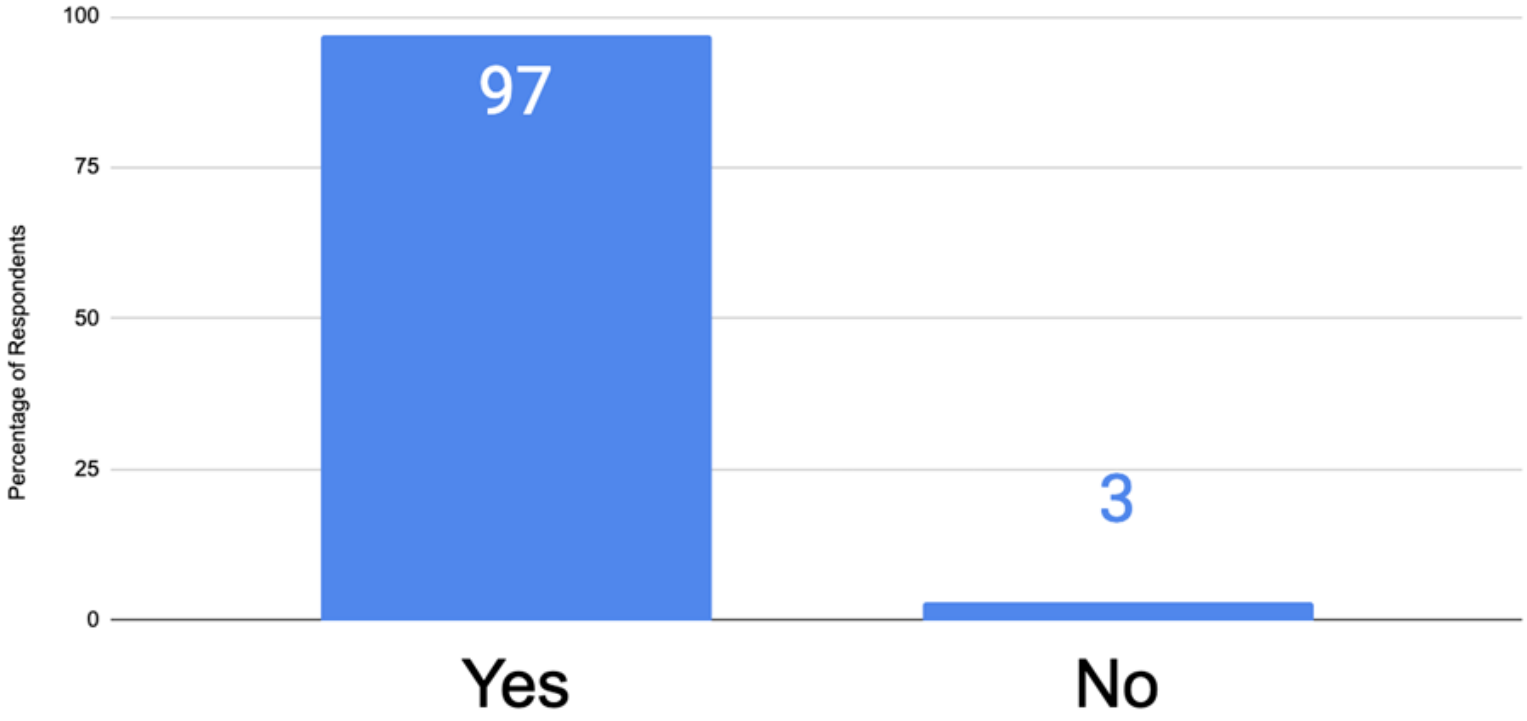
Chuuk Producers: Have you been trained in or do you have managerial experience?



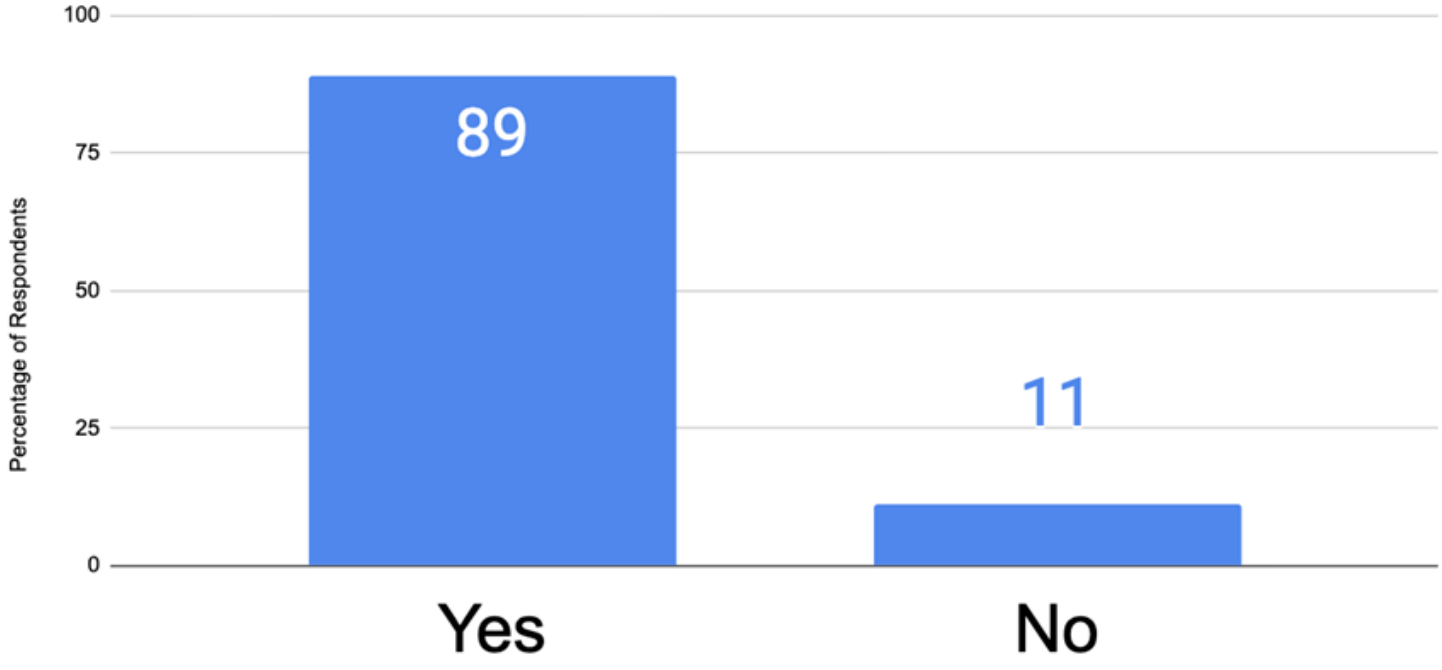
Chuuk Producers: Have you been trained in or do you have organizational experience?



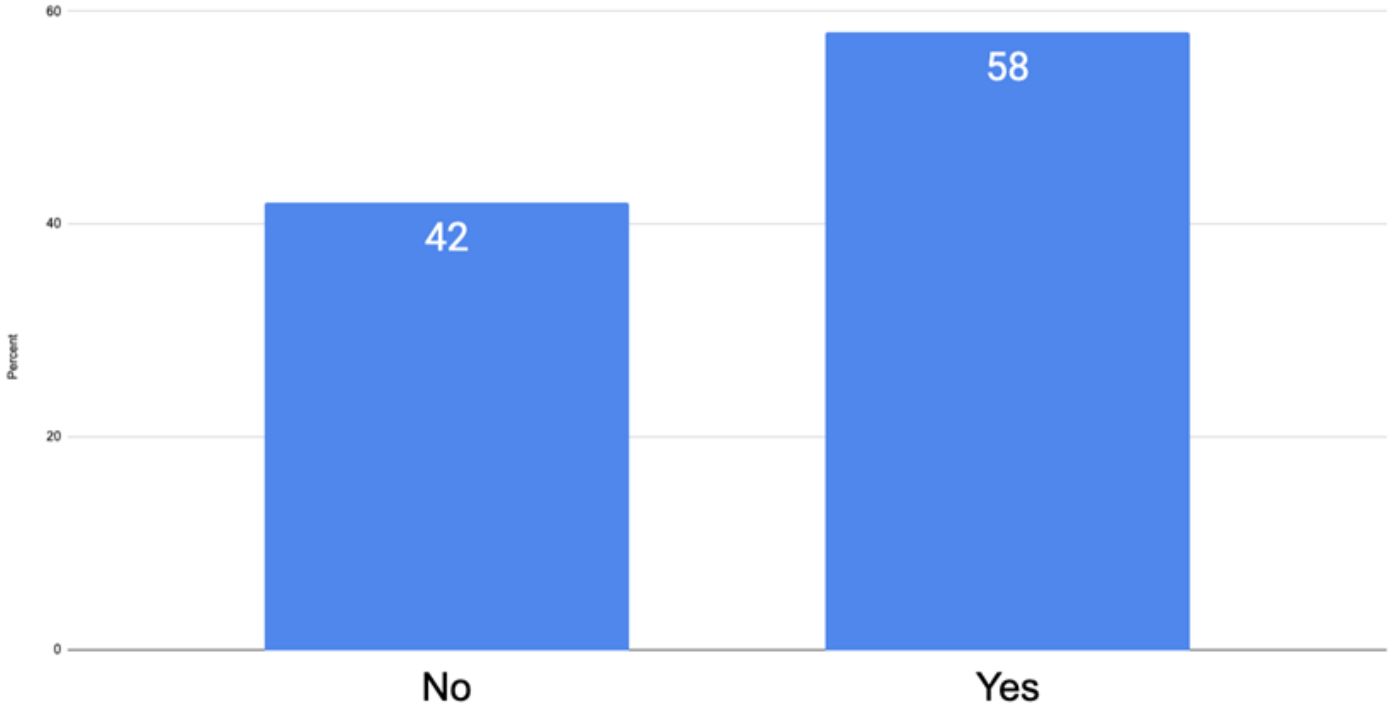
Chuuk Producers: Would you like any training to help you produce more food?



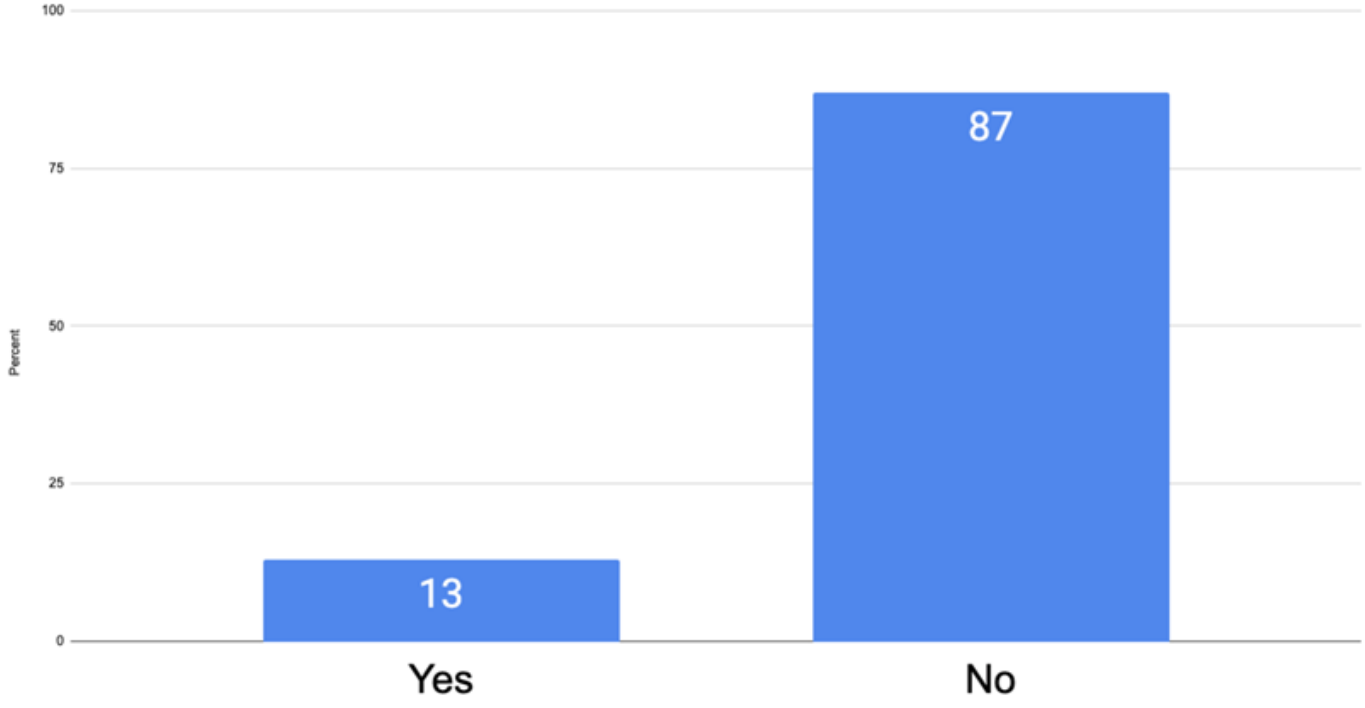
Chuuk Producers: Would you be interested in being trained in commercial food processing?



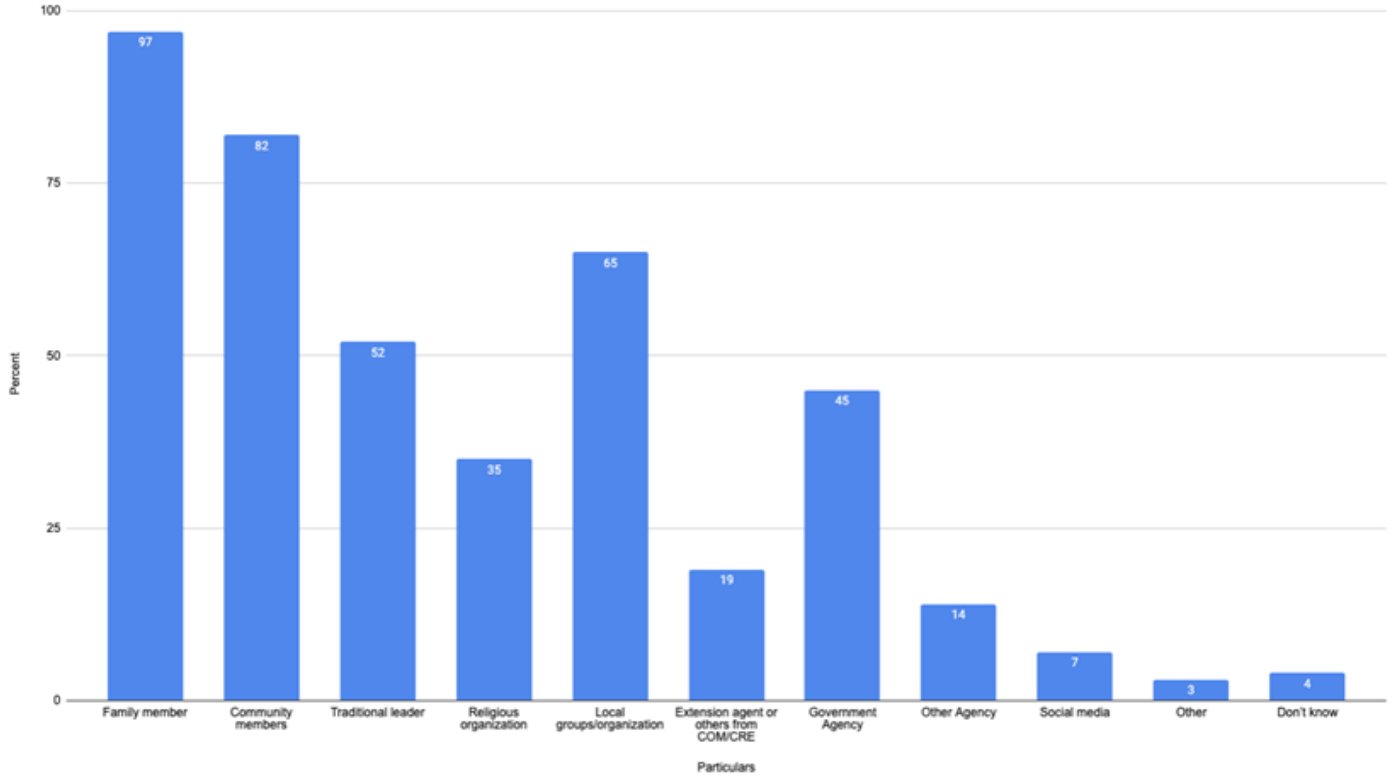
Chuuk Producers: Can you currently access online notifications for trainings opportunities (example cooking, seedling training etc.)?



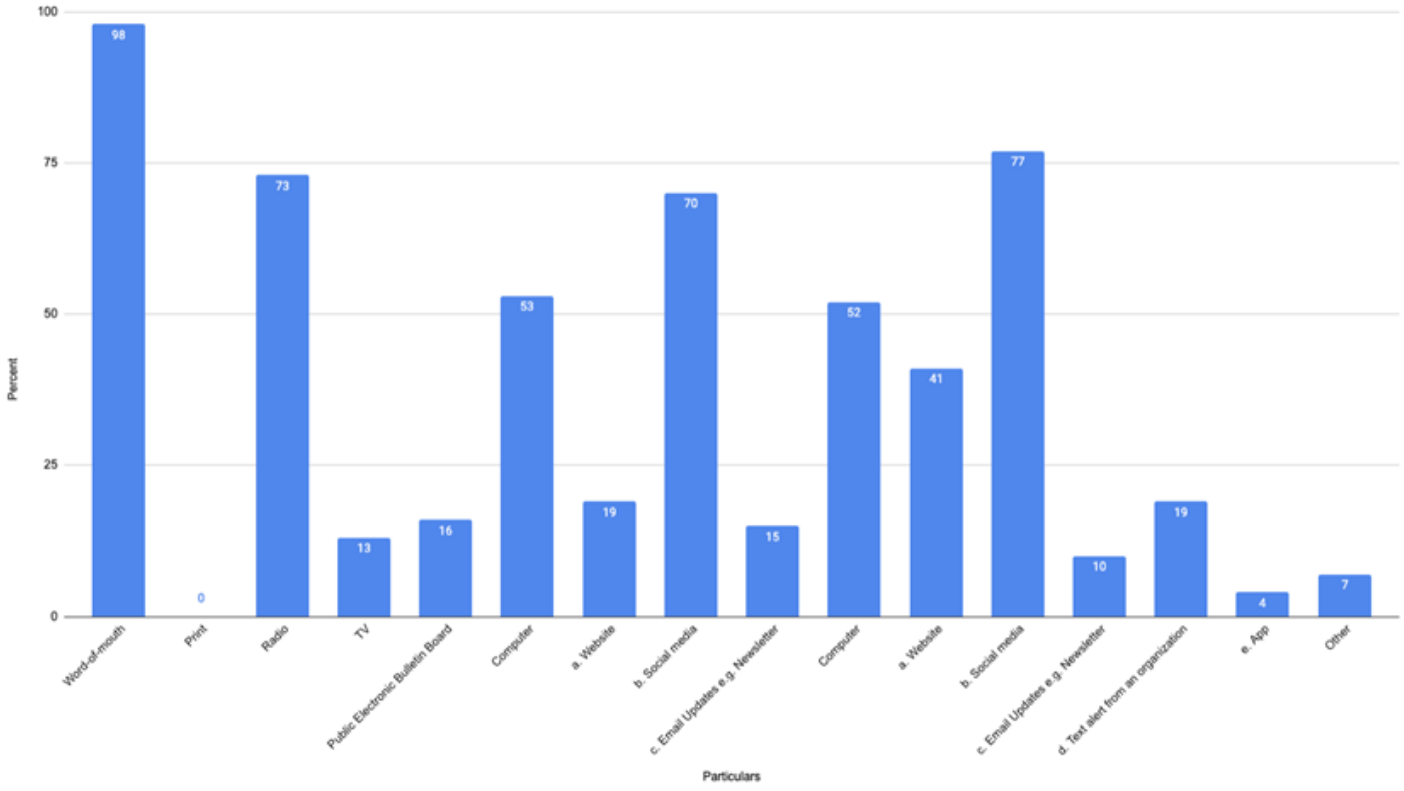
Chuuk Producers: Would you pay to get additional food production information?



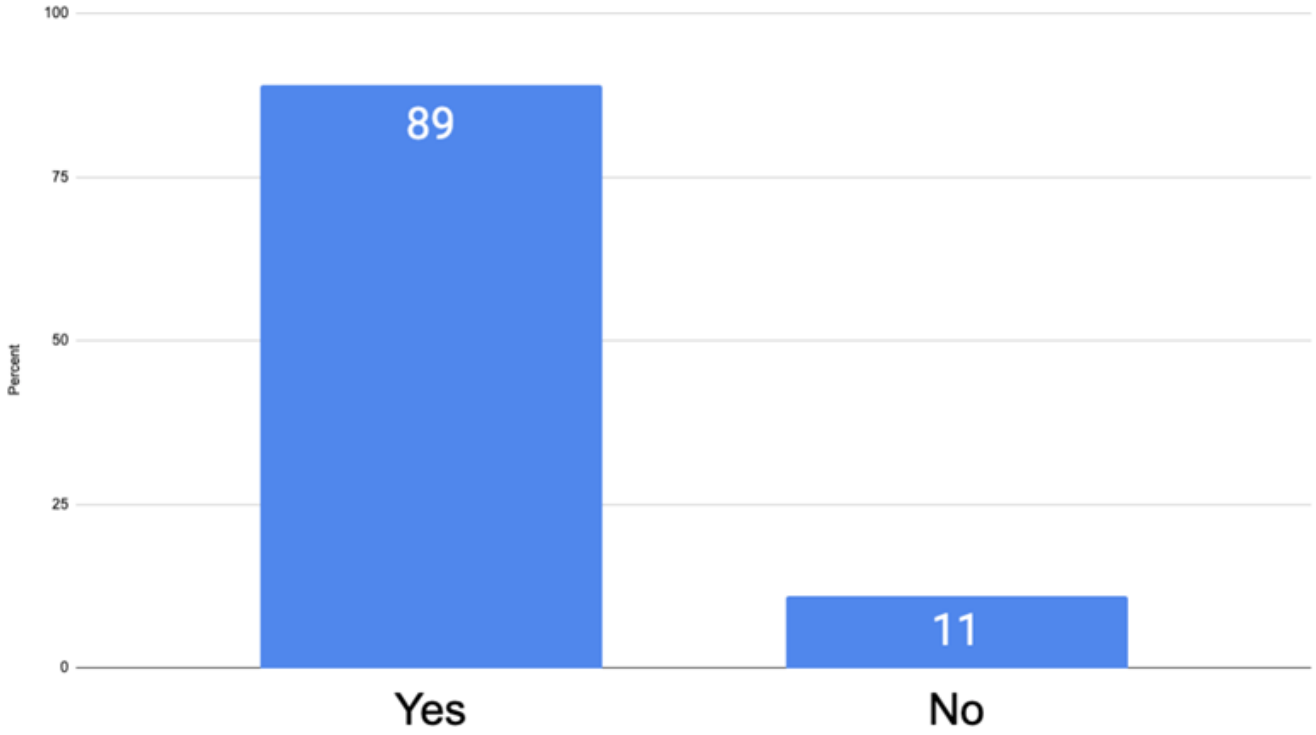
Chuuk Producers: Who gives you, or can give you the information you need (source person/agency/ organization)?



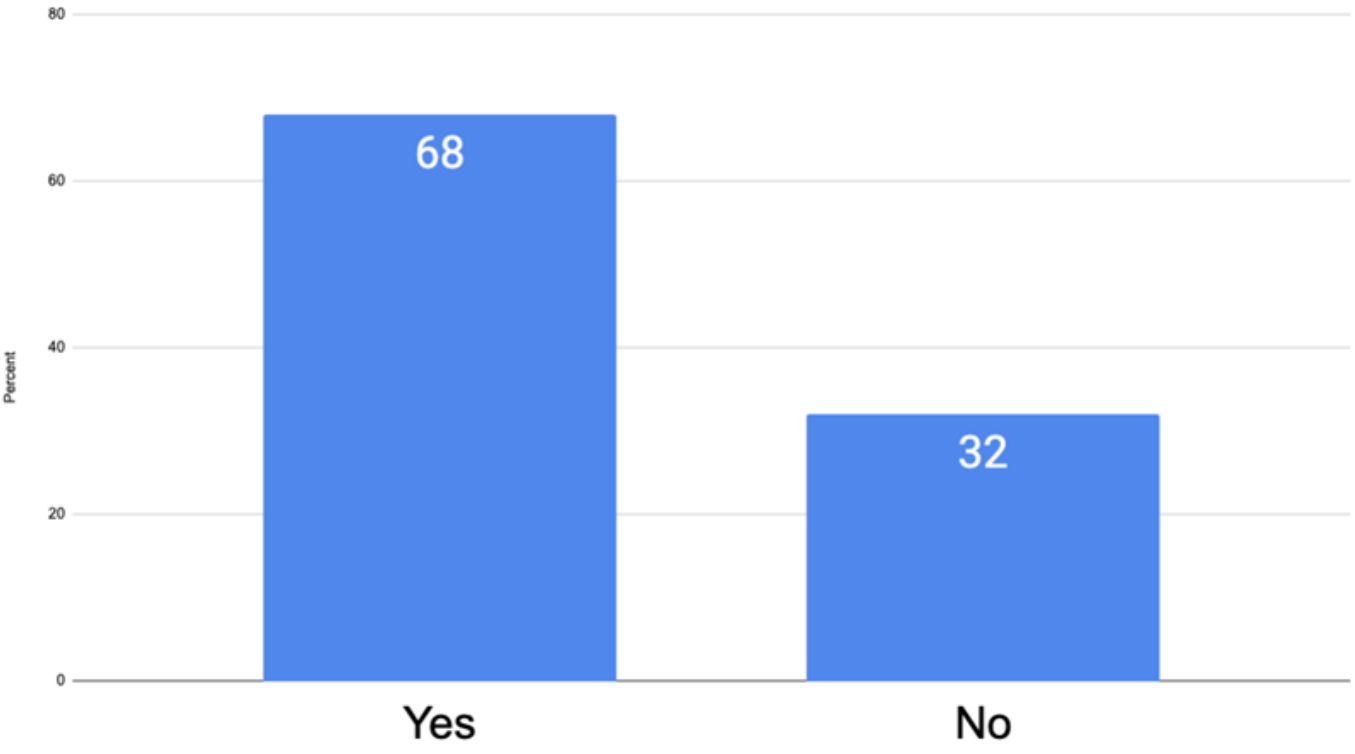
Chuuk Producers: How do you currently access the information you need?



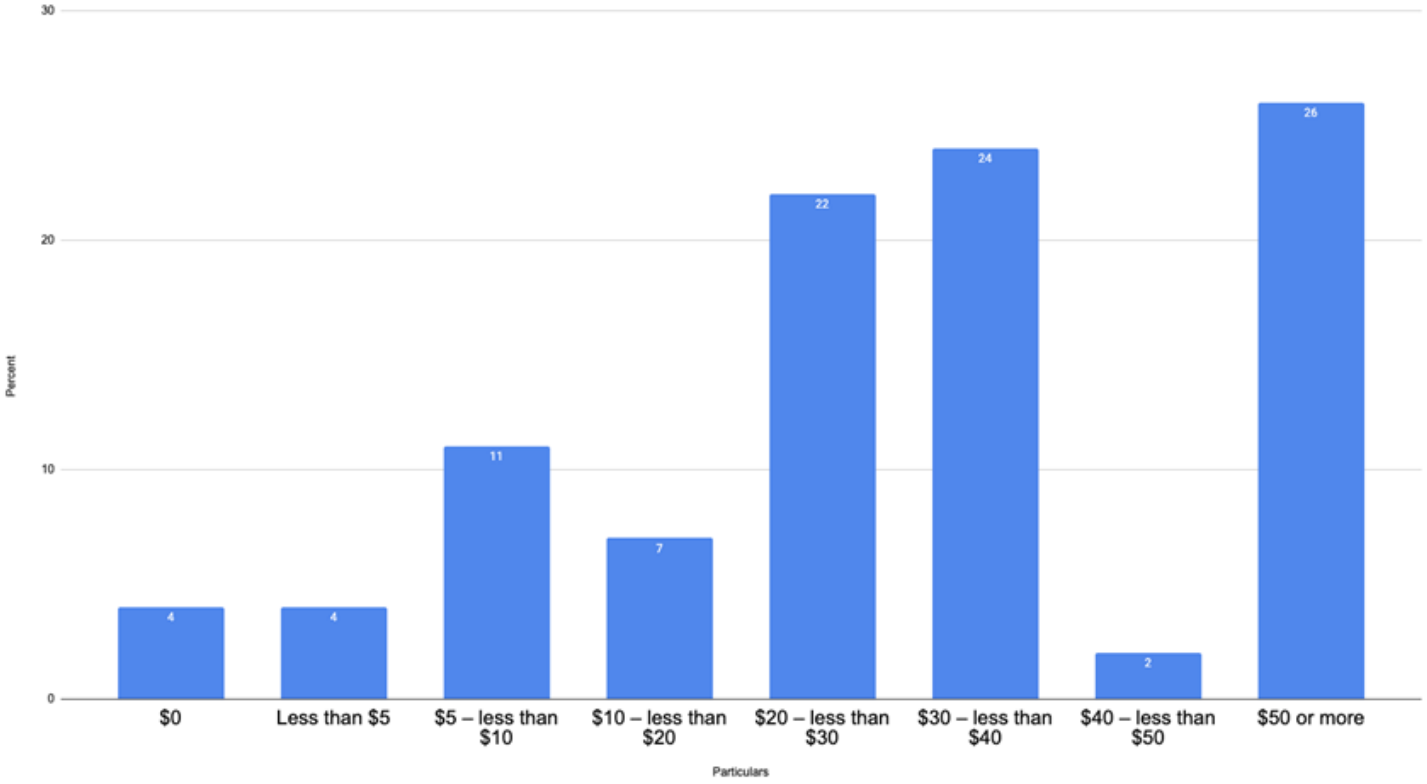
Chuuk Producers: Do you need better access to information?



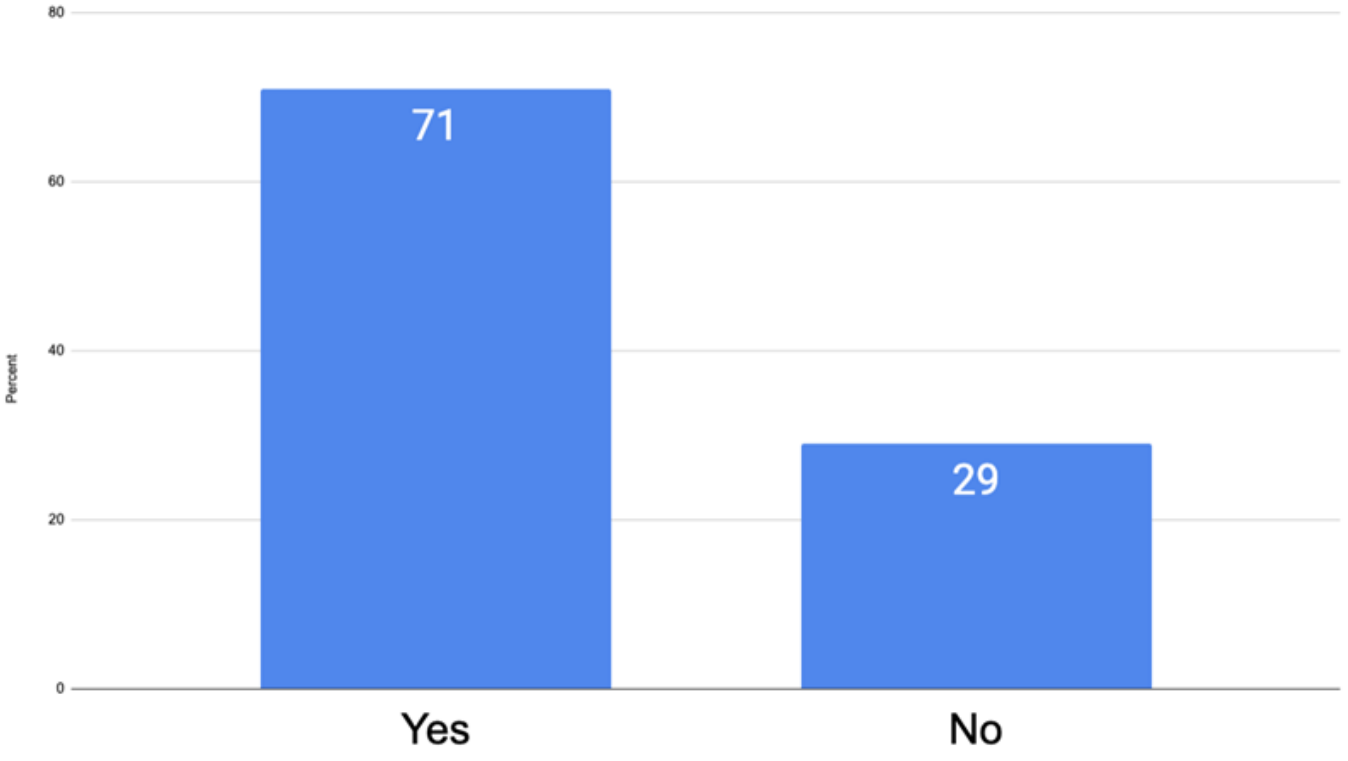
Chuuk Producers: Do you have your own cellphone?



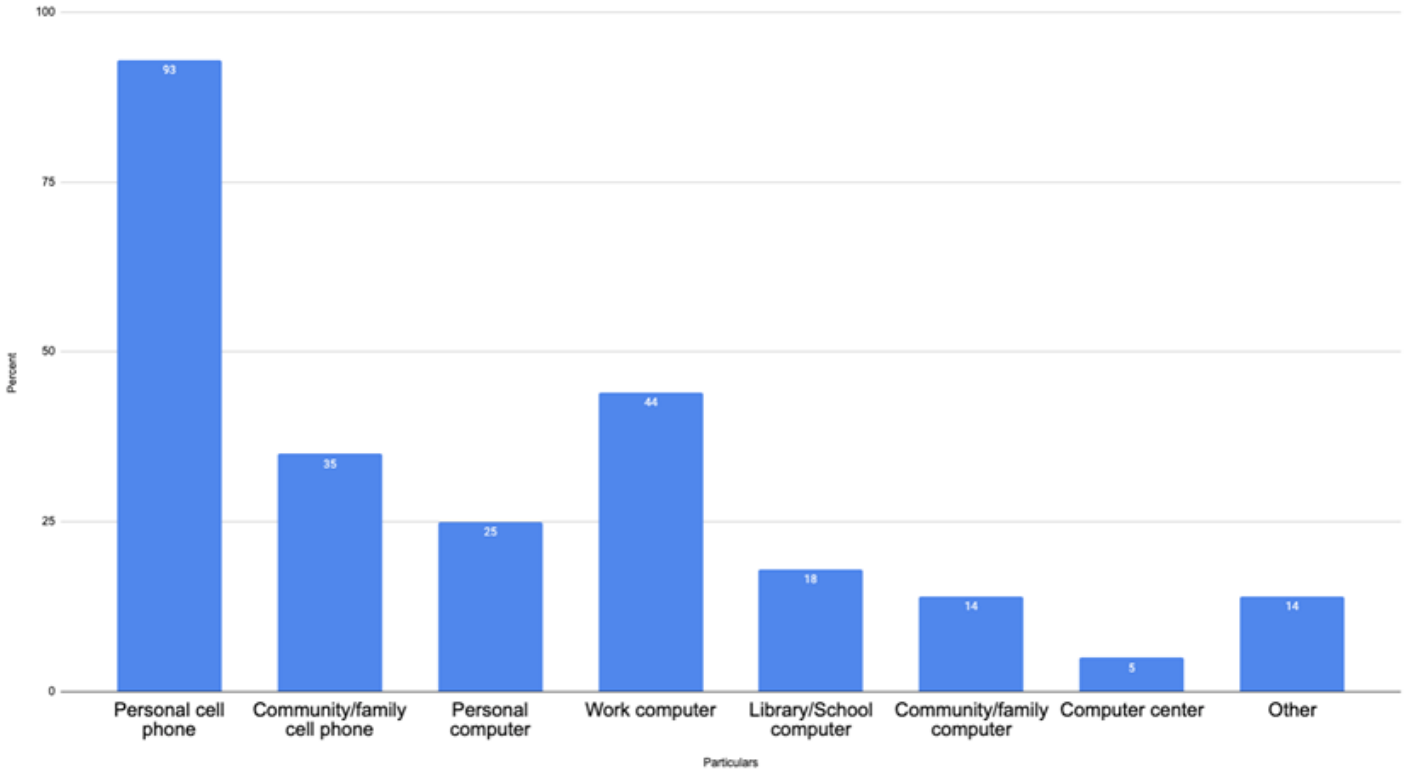
Chuuk Producers: How much do you spend per month on cellular data?



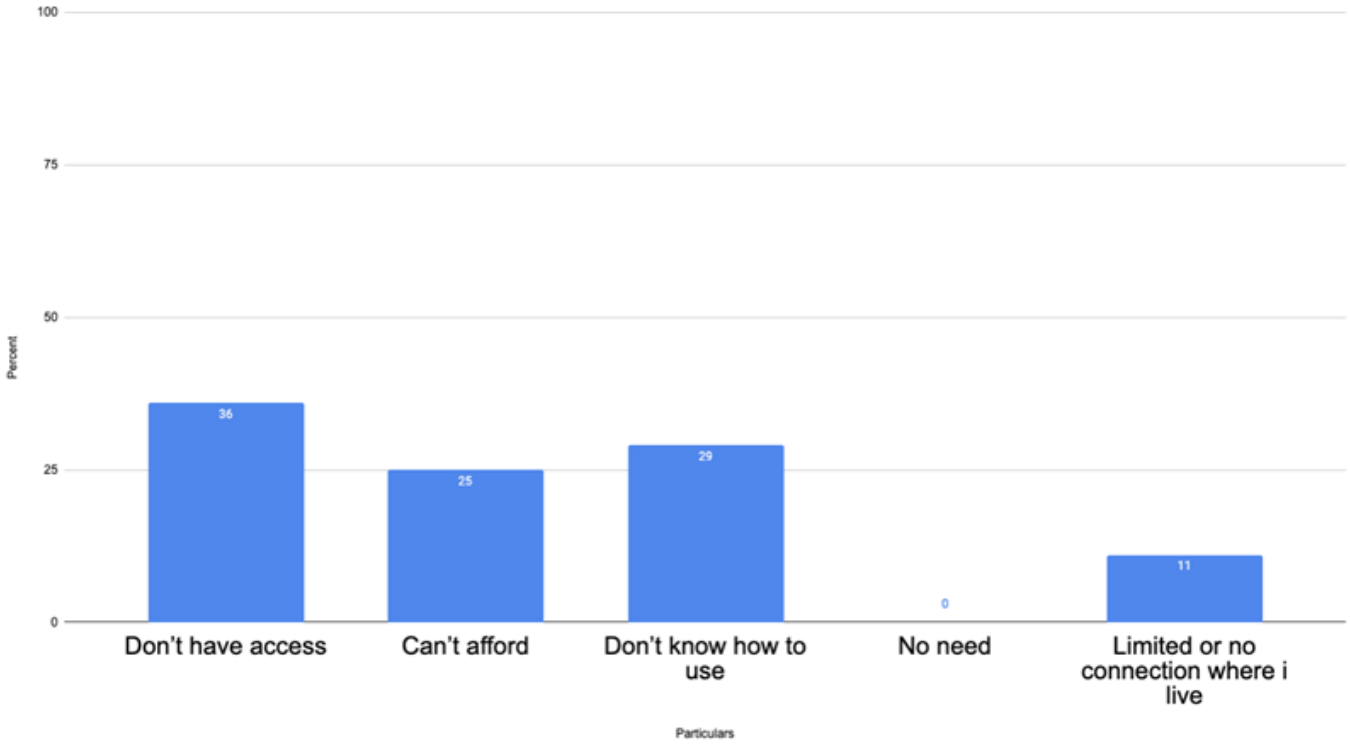
Chuuk Producers: Do you have access to the Internet?



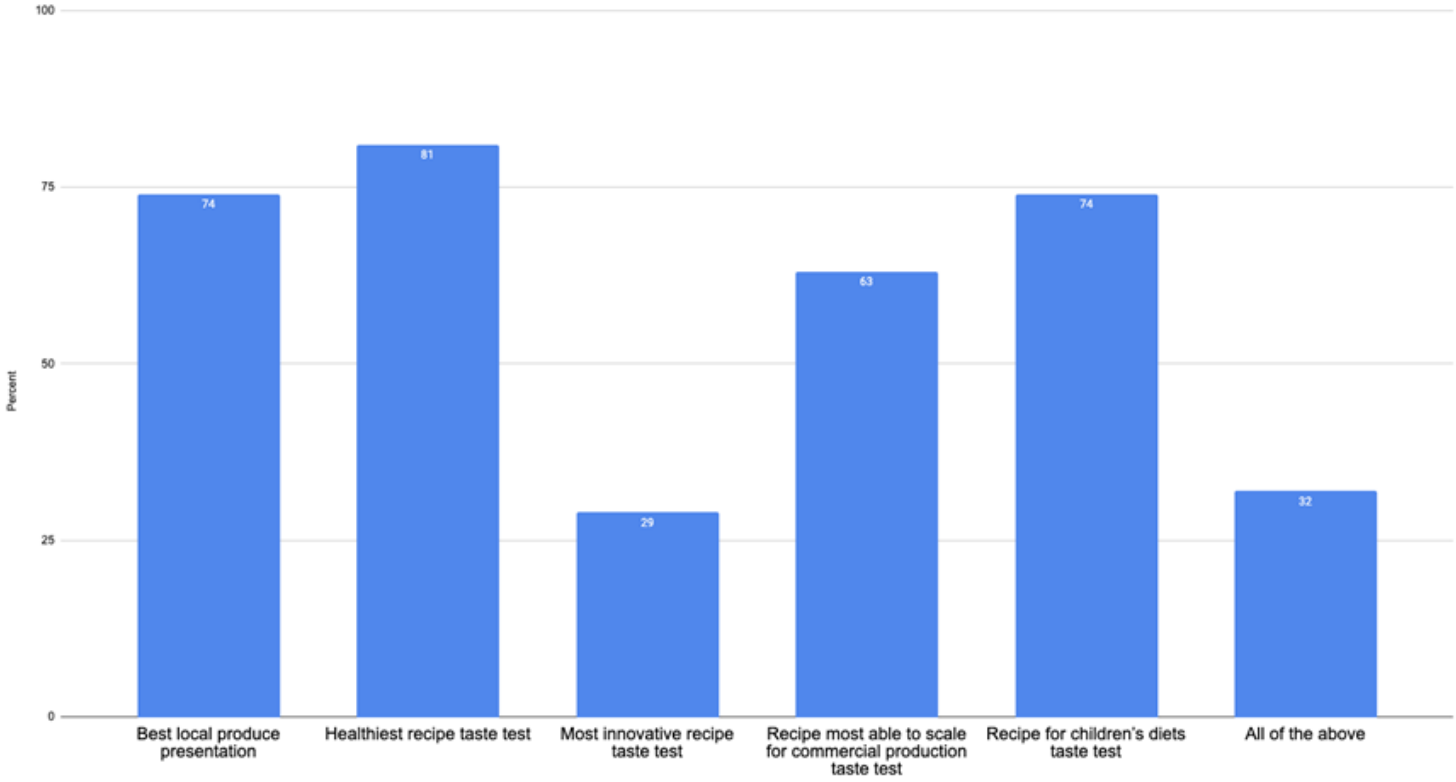
Chuuk Producers: How do you access the Internet?



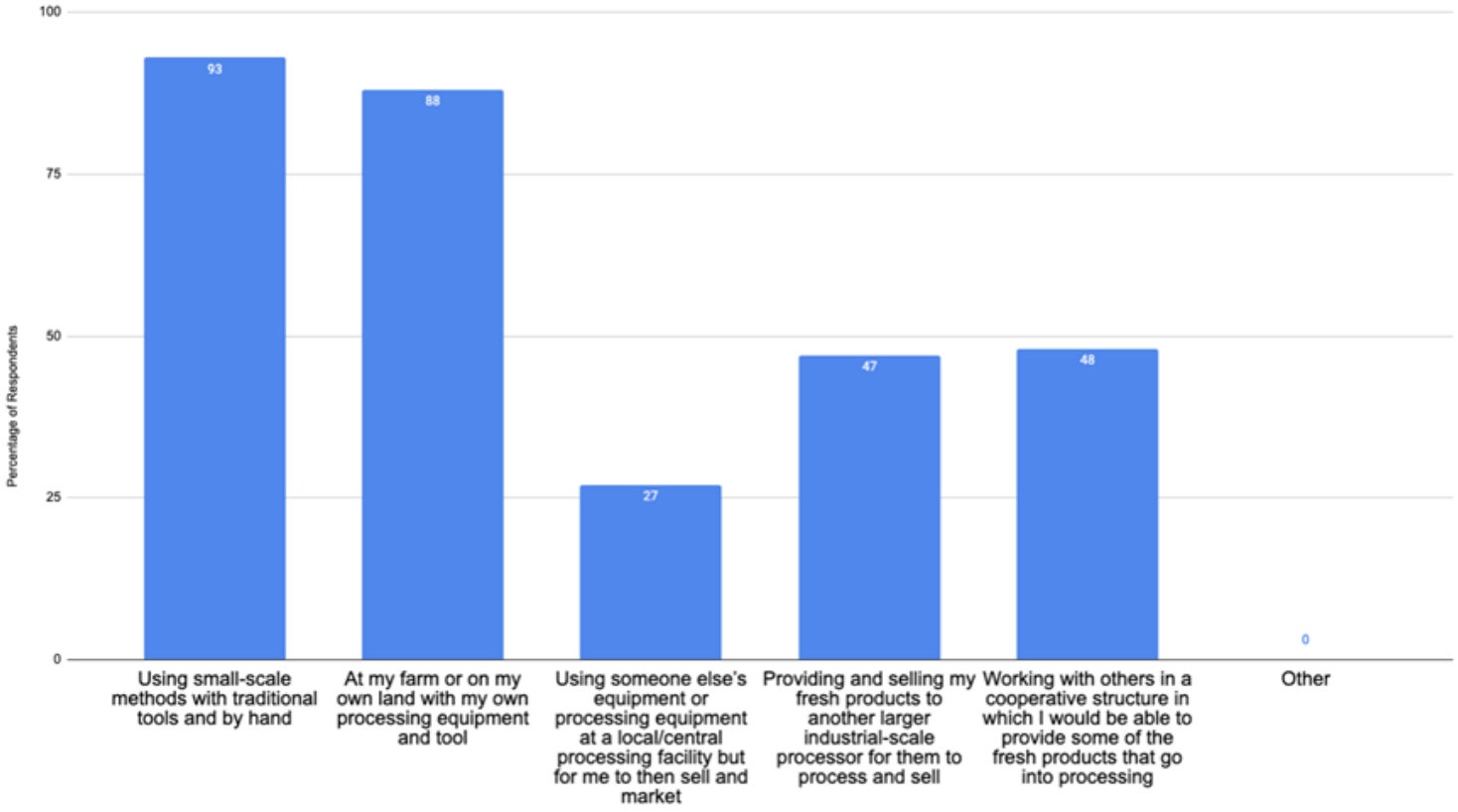
Chuuk Producers: If you don't have Internet access, why not?

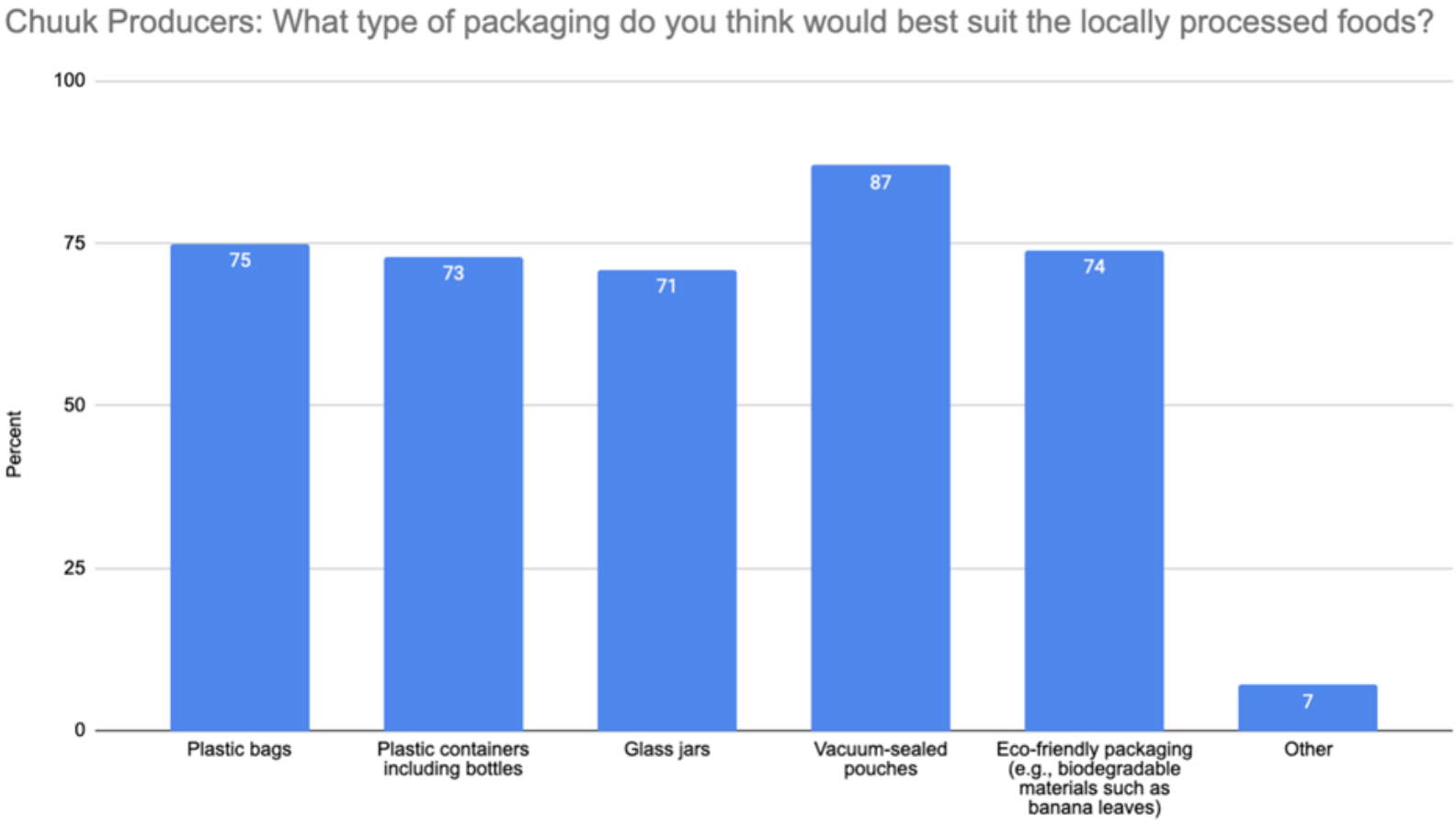


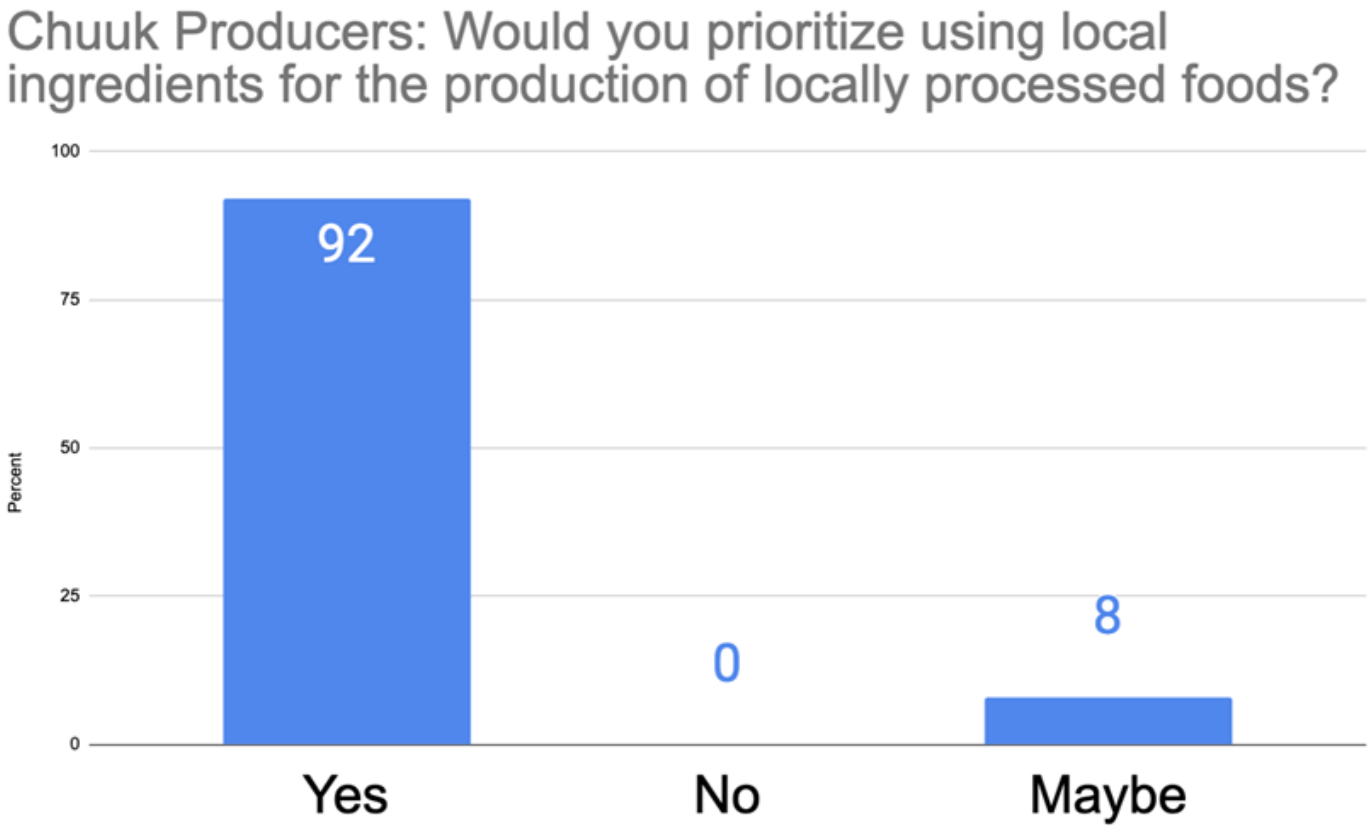
Chuuk Producers: What types of competition categories would interest you?



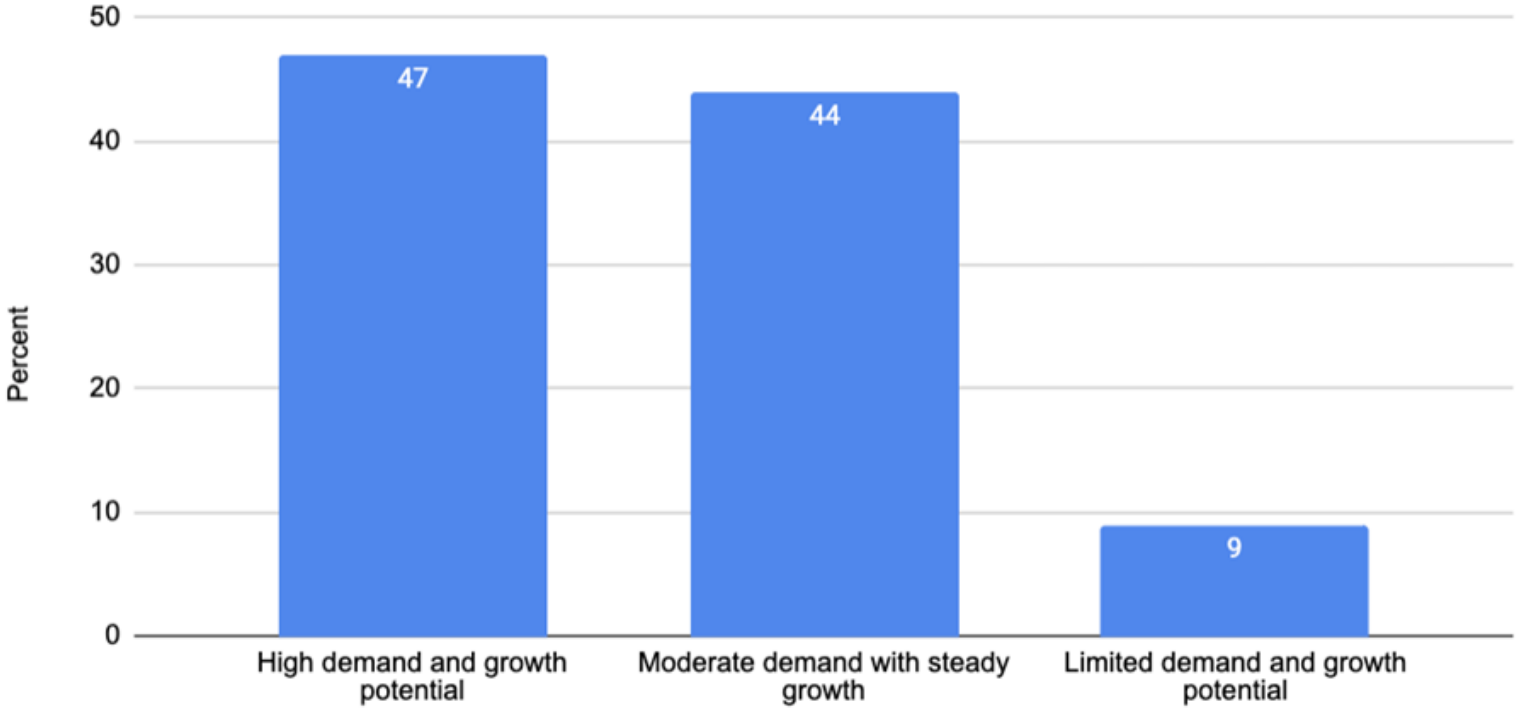
Chuuk Producers: How would you prefer to process these locally processed foods?



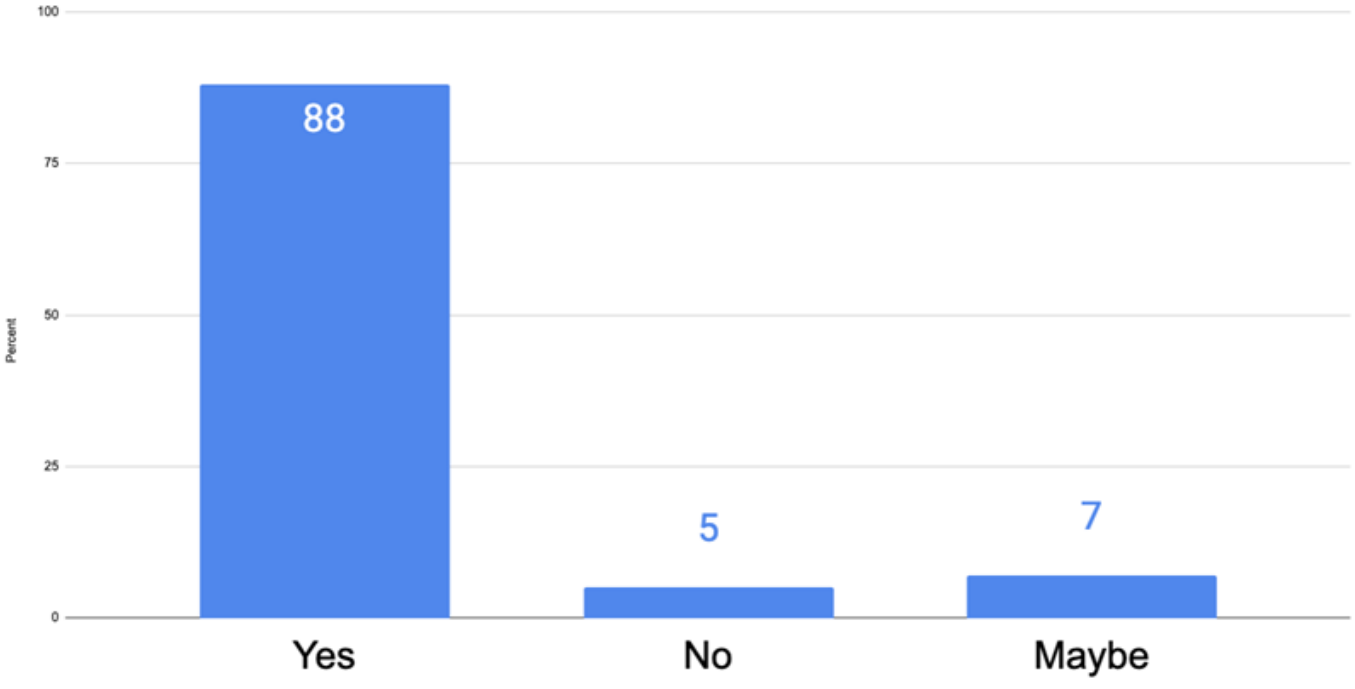

Chuuk Producers: What type of packaging do you think would best suit the locally processed foods?
100
75
50
25
0
Percent
75
73
71
87
74
7
Plastic bags
Plastic containers including bottles
Glass jars
Vacuum-sealed pouches
Eco-friendly packaging (e.g., biodegradable materials such as banana leaves)
Other


Chuuk Producers: Would you prioritize using local ingredients for the production of locally processed foods?
100
75
50
25
0
Percent
92
0
8
Yes
No
Maybe

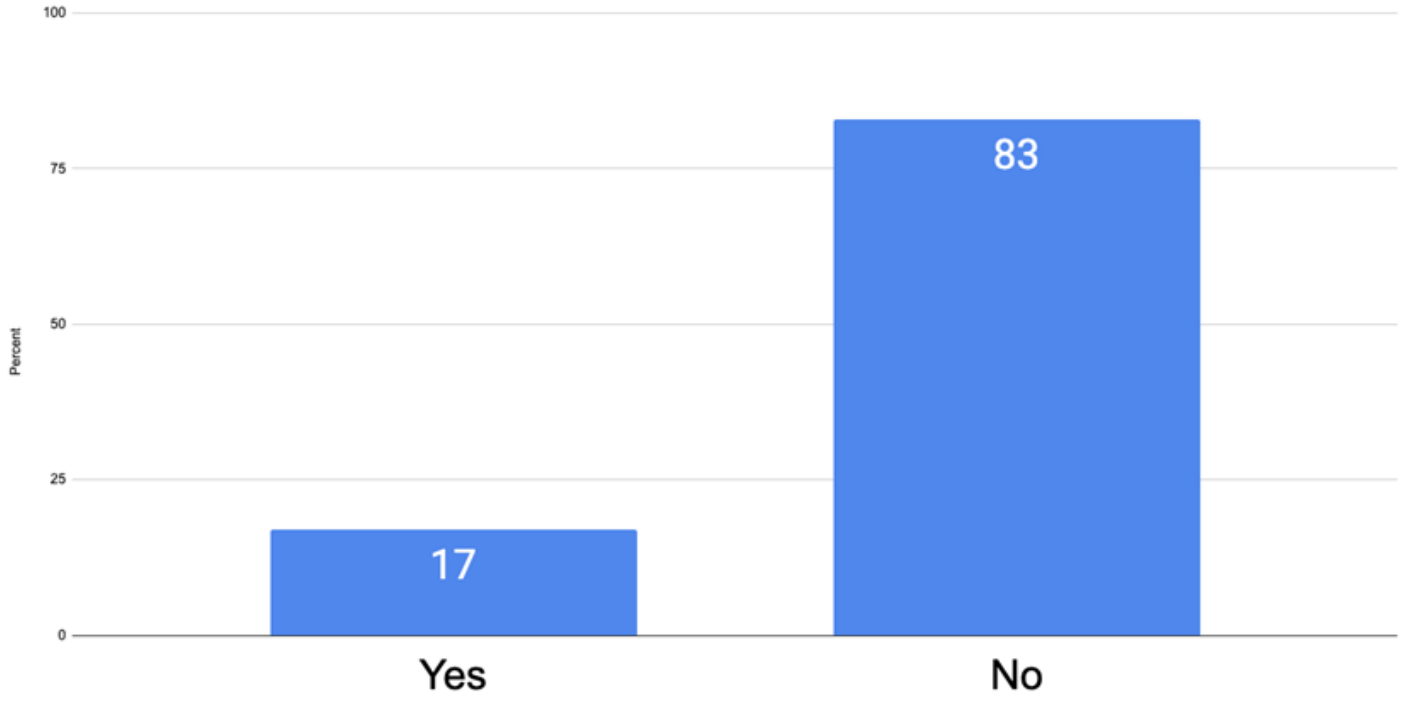
Chuuk Producers: How do you perceive the market potential for locally processed foods in the FSM and potentially beyond?



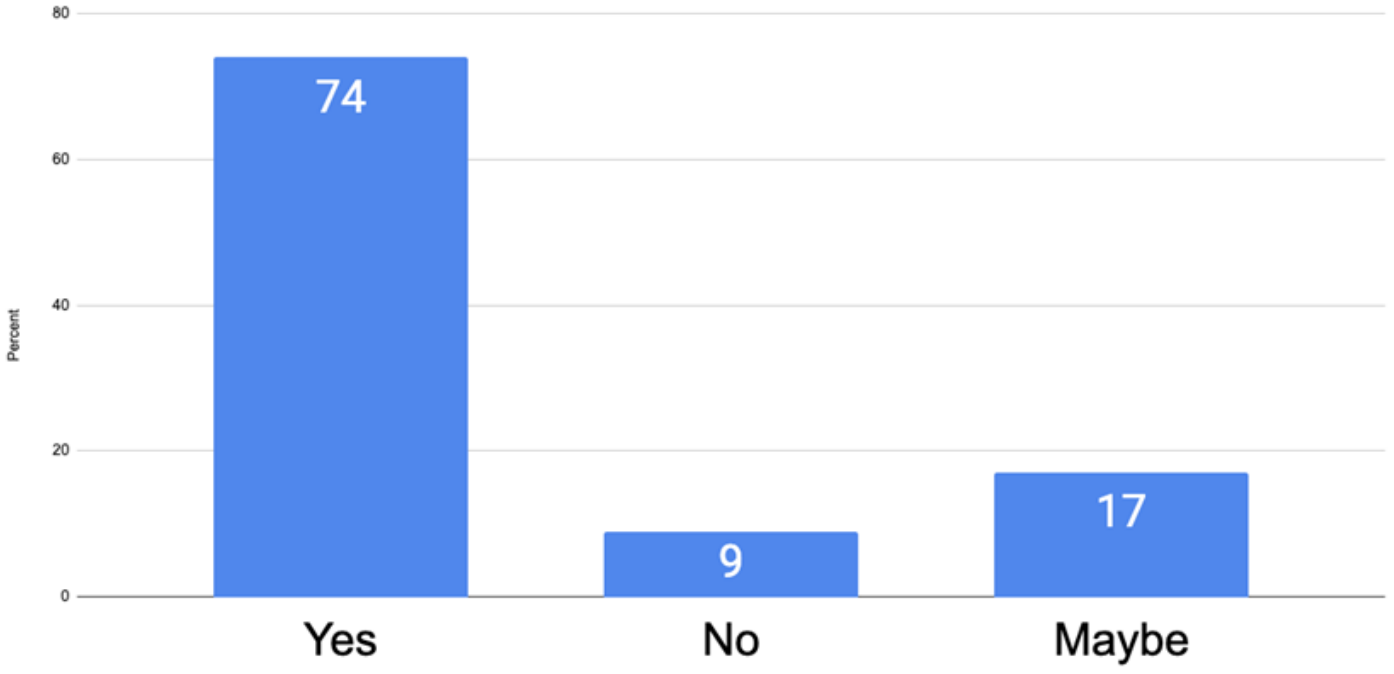
Chuuk Producers: Would you require any technical or financial support or assistance in terms of training, access to technology, marketing, or other aspects?



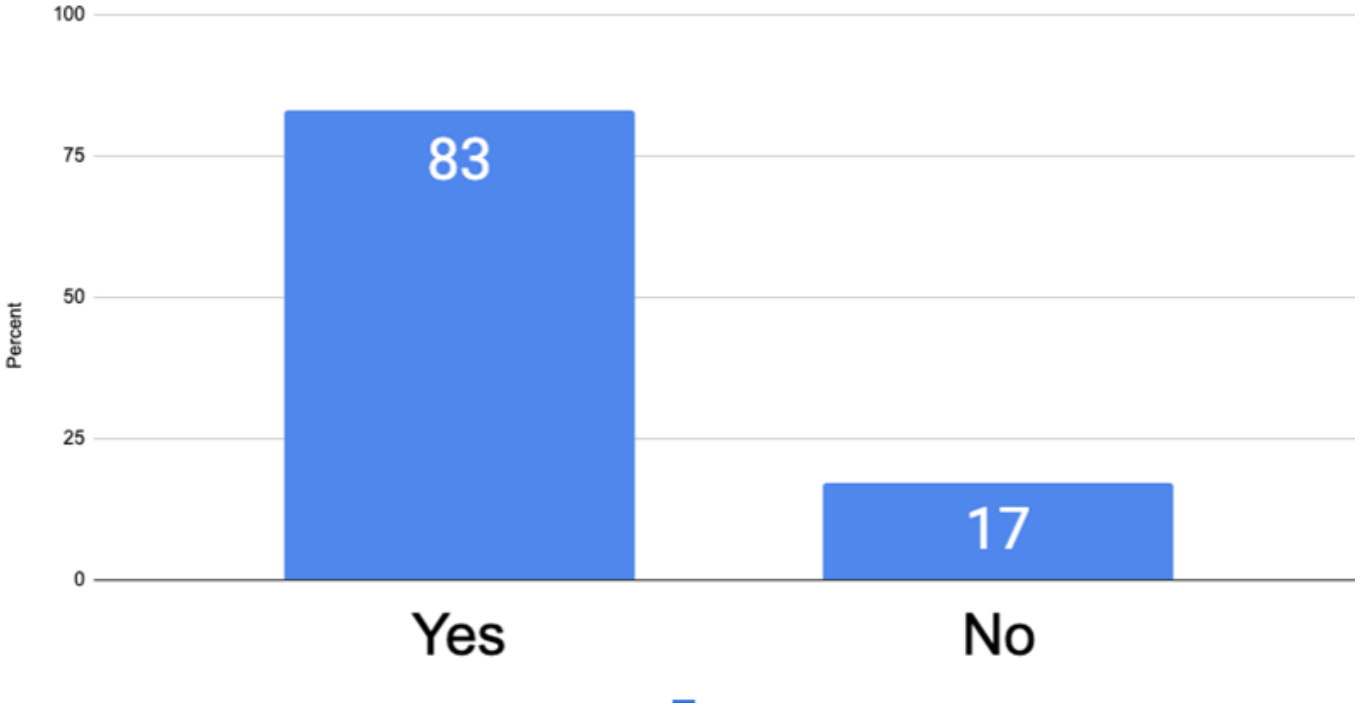
Chuuk Producers: Are you aware of the regulatory requirements and standards for processing and selling local food products in the FSM [NOTE: there are differences in regulatory compliance issues for fish, meat, poultry, juices, foods]?



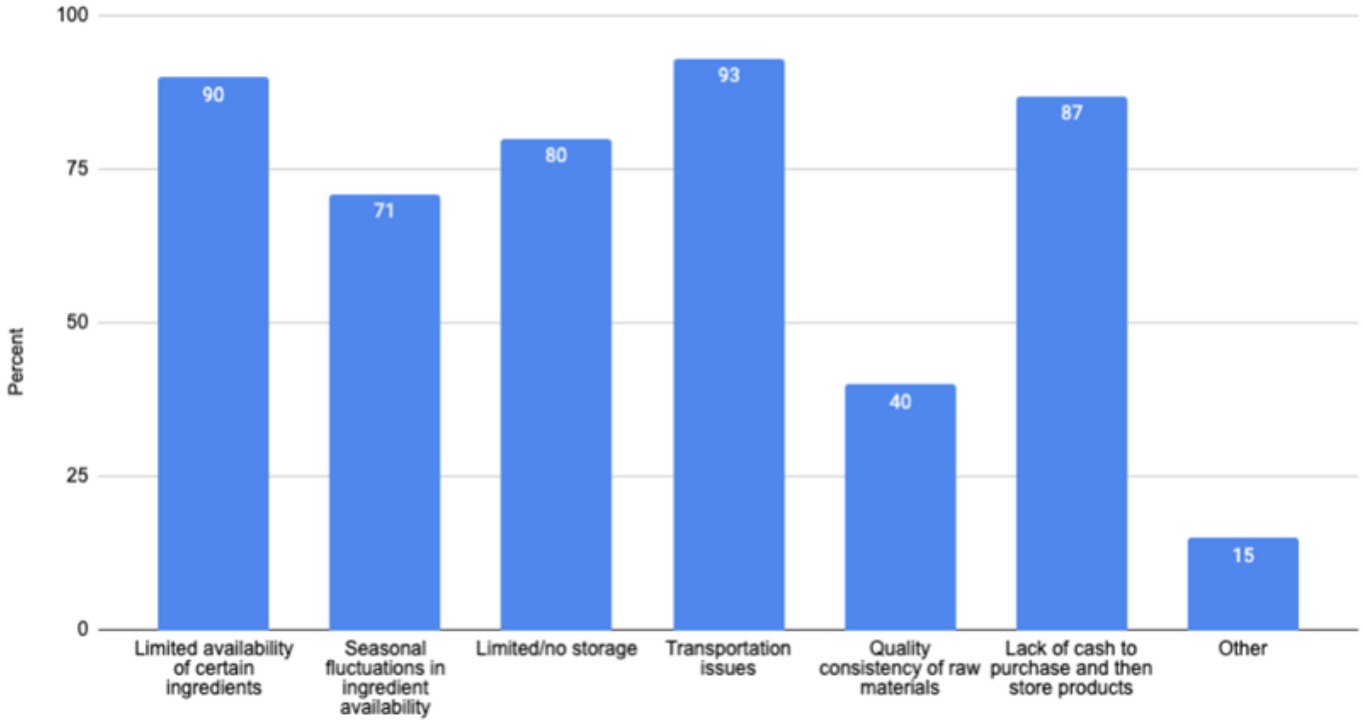
Chuuk Producers: Would you be interested in collaborating with other producers or stakeholders in your community, or locality or state for joint processing or marketing initiatives?



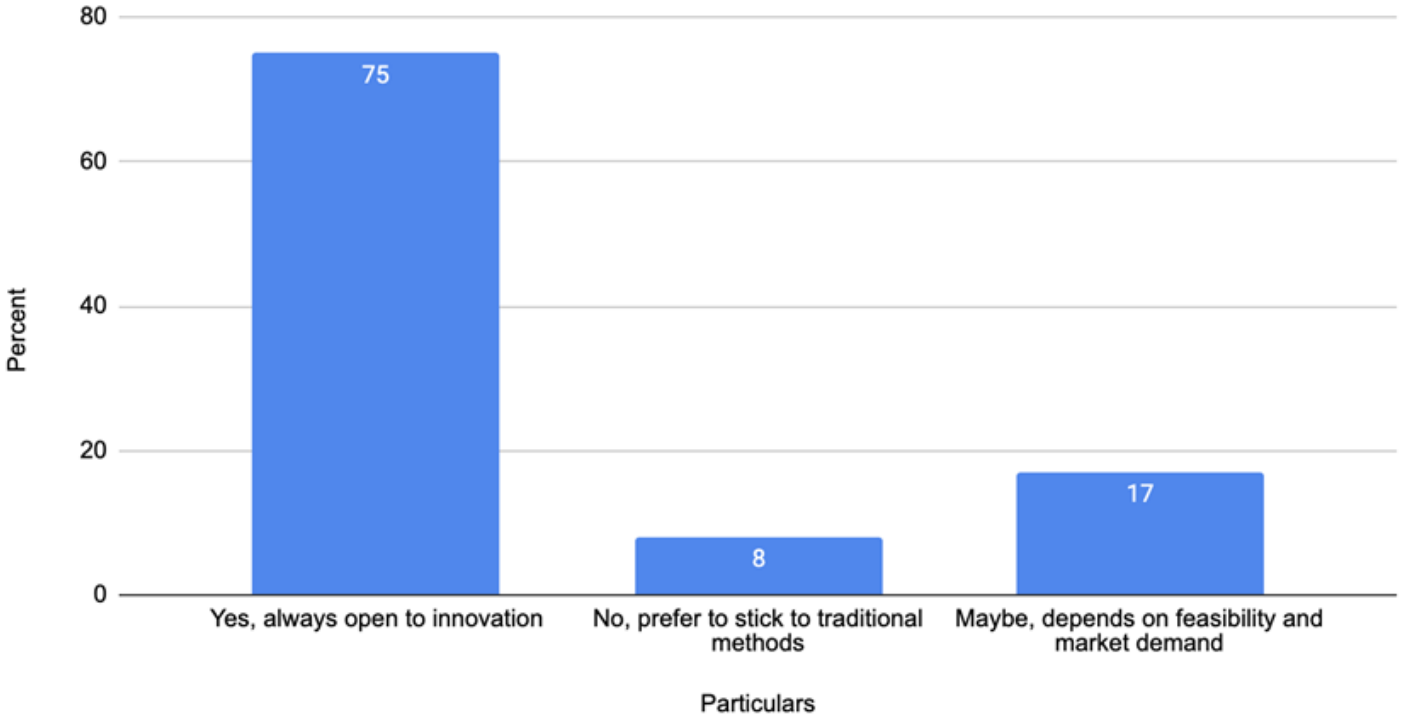
Chuuk Producers: Do you require assistance with the regulatory requirements and standards?



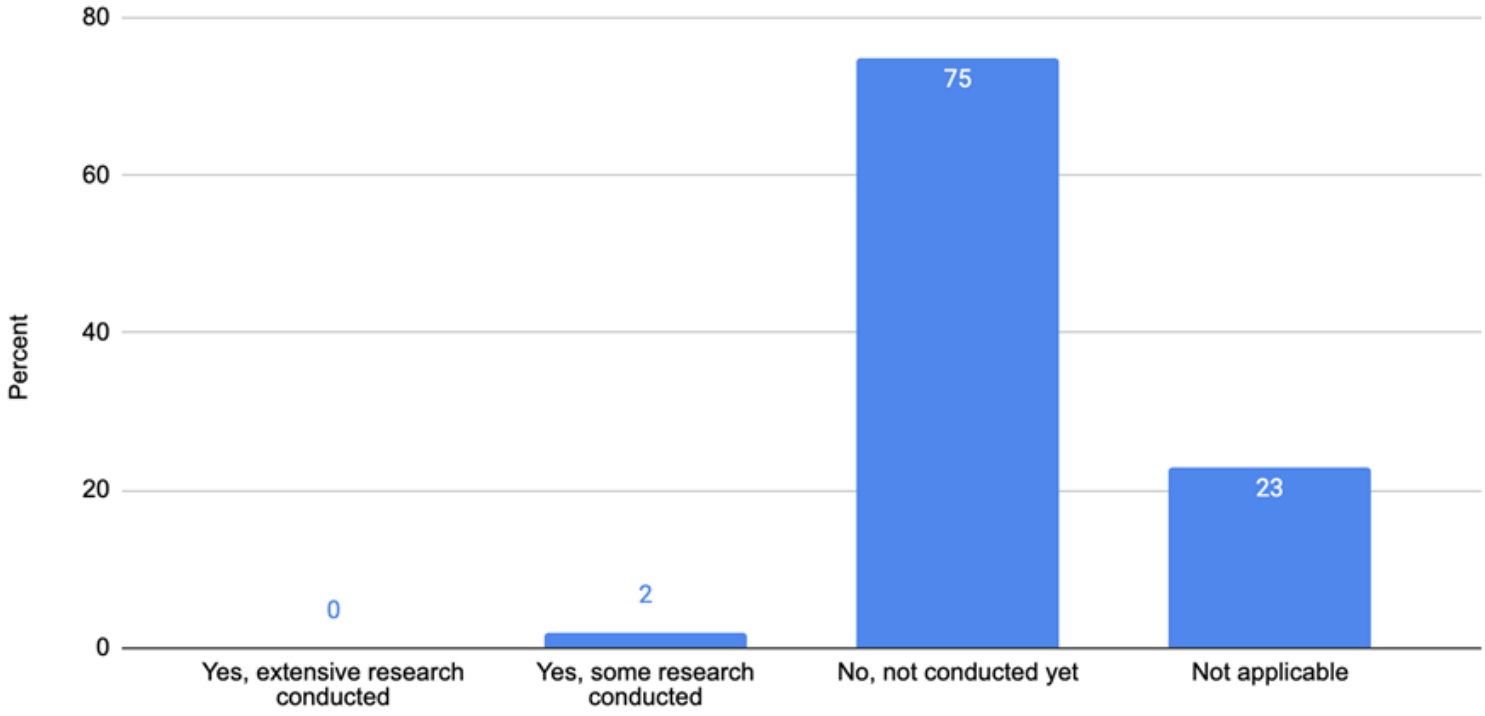
Chuuk Producers: What are the challenges you face in sourcing local ingredients to ensure you have enough materials for processing local foods?

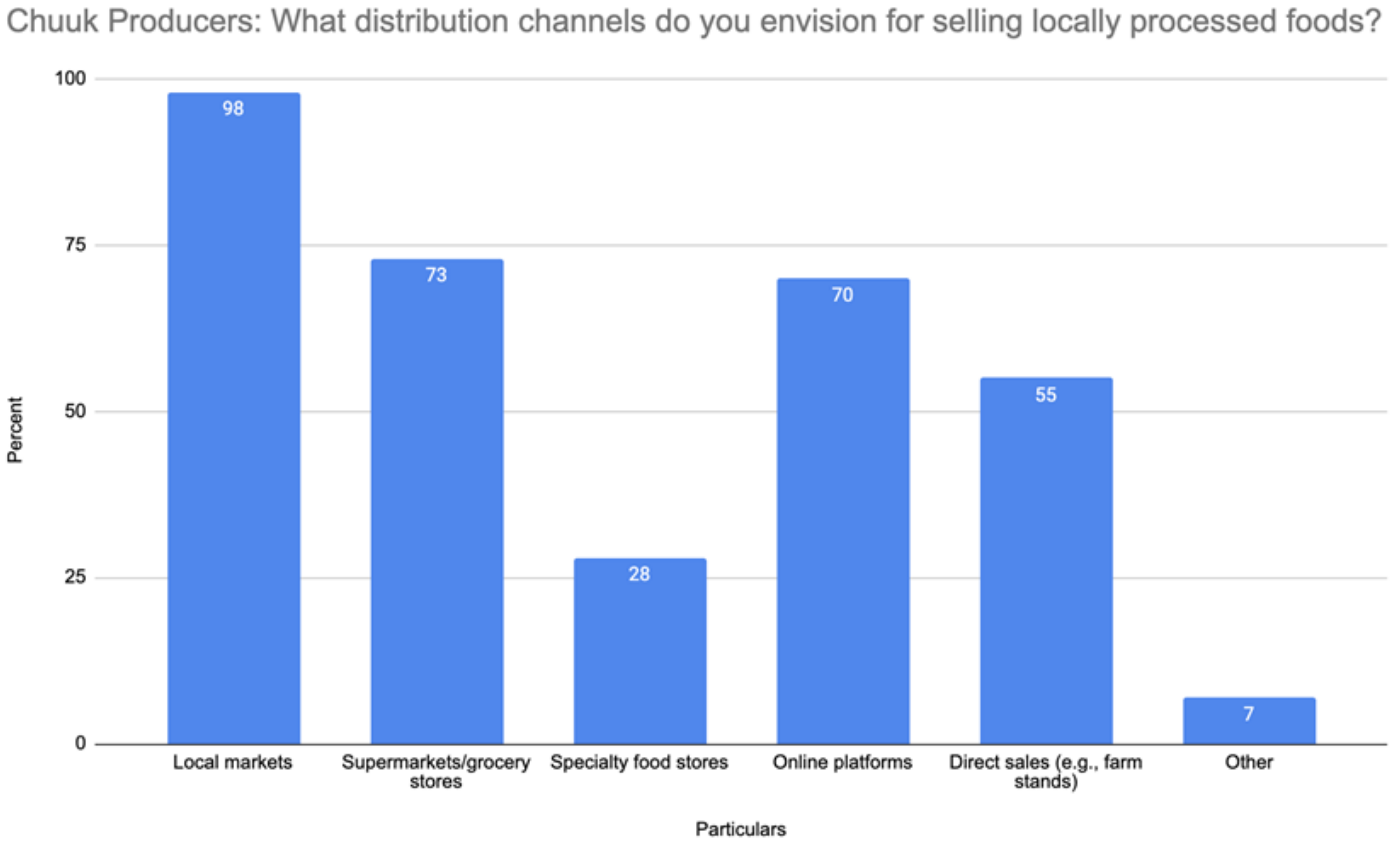


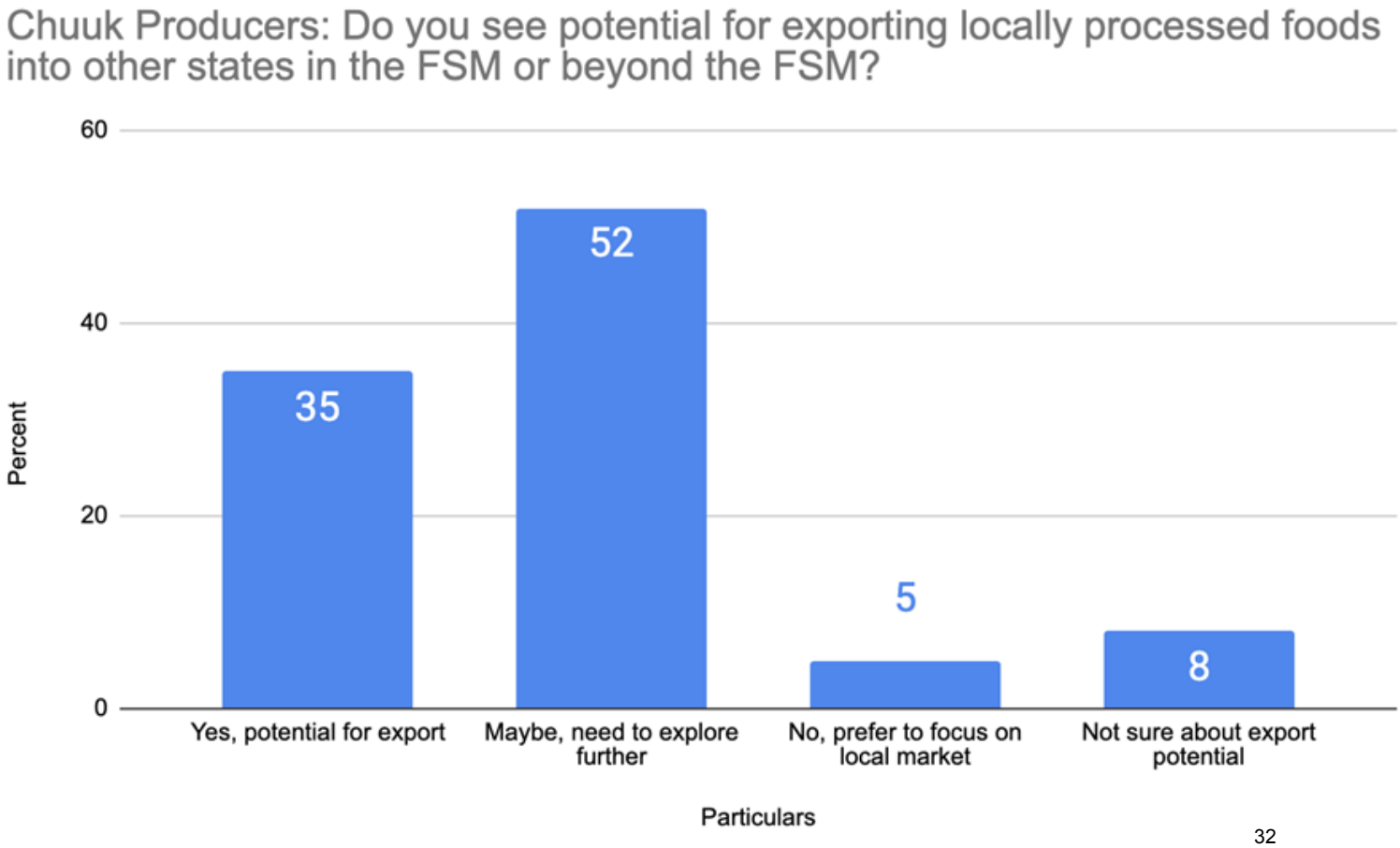
Chuuk Producers: Are you open to exploring innovative techniques or recipes for locally processed foods to cater to evolving consumer preferences?



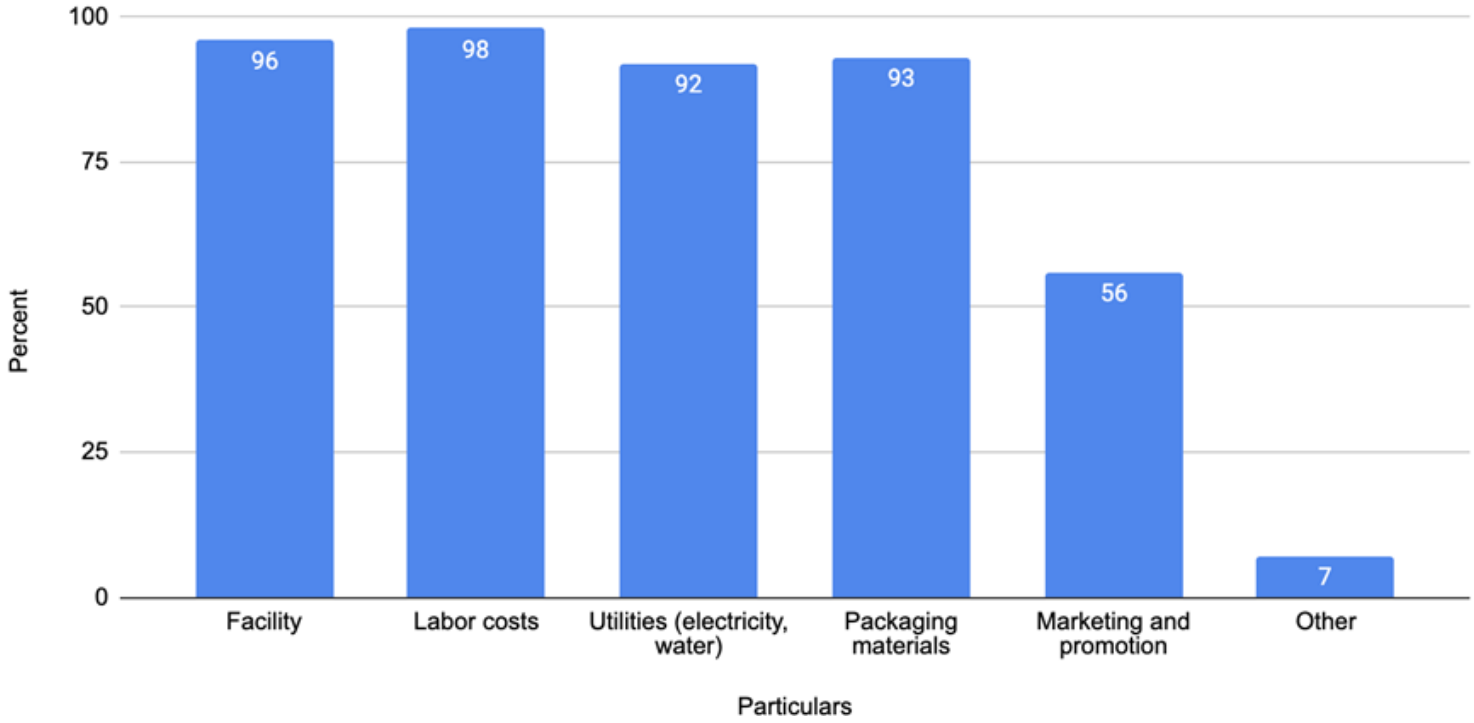
Chuuk Producers: Have you conducted any market research or feasibility studies to assess the demand for locally processed foods in the FSM market?



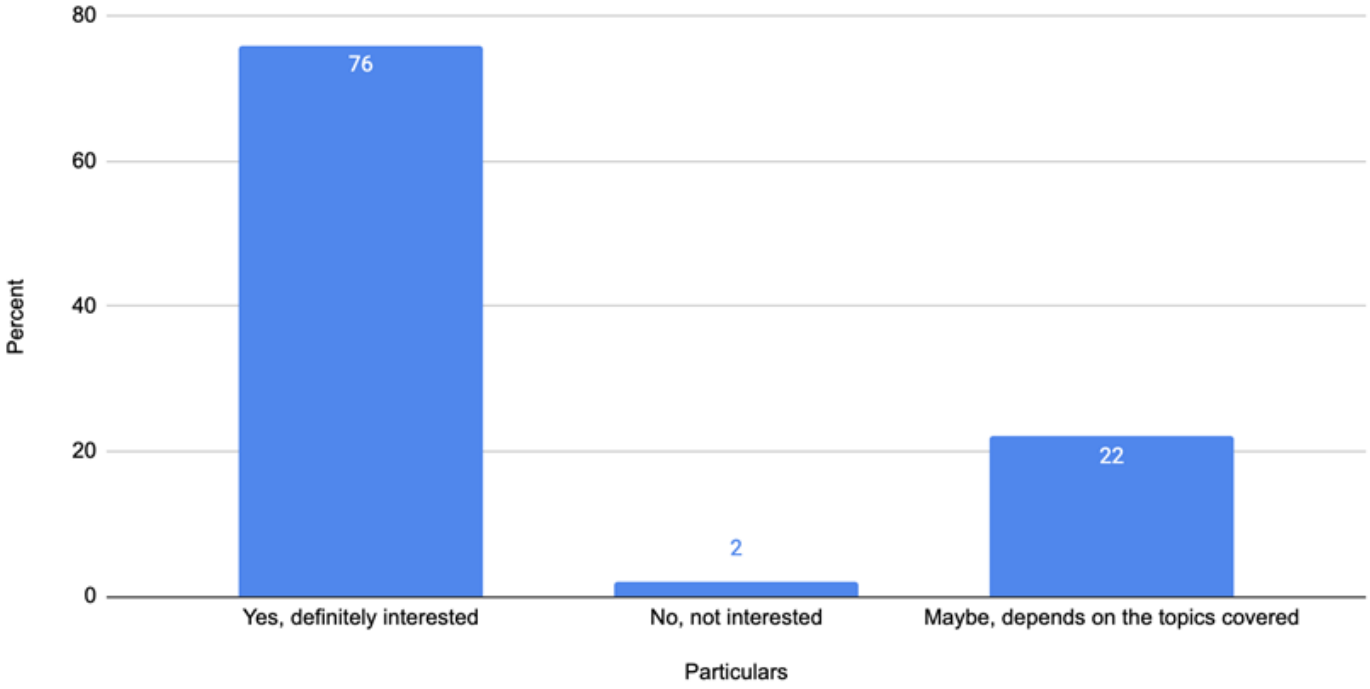

Chuuk Producers: What distribution channels do you envision for selling locally processed foods?
100
75
50
25
0
Percent
98
73
28
70
55
7
Local markets
Supermarkets/grocery stores
Specialty food stores
Online platforms
Direct sales (e.g., farm stands)
Other
Particulars


Chuuk Producers: Do you see potential for exporting locally processed foods into other states in the FSM or beyond the FSM?
60
40
20
0
Percent
35
52
5
8
Yes, potential for export
Maybe, need to explore further
No, prefer to focus on local market
Not sure about export potential
Particulars

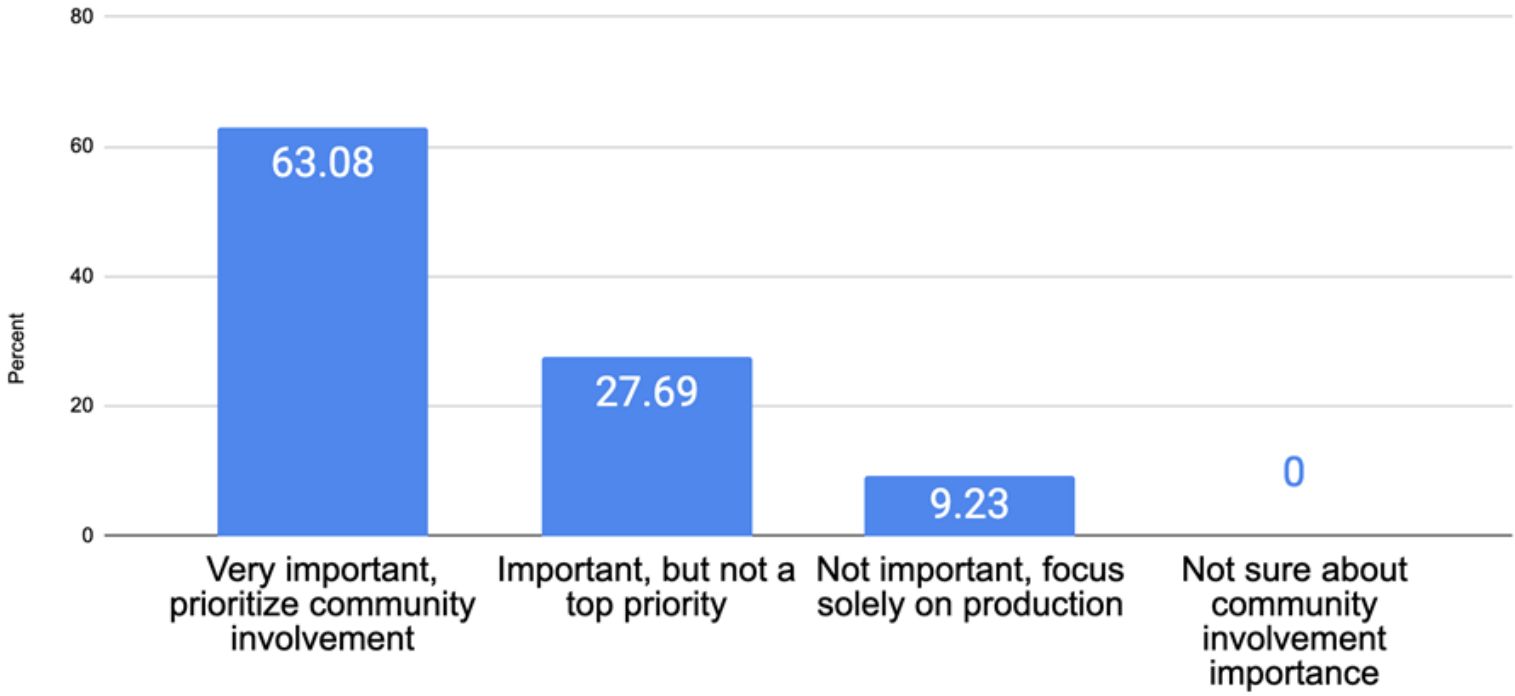
Chuuk Producers: Besides raw materials and processing equipment, what other costs do you anticipate in the production of locally processed foods? (e.g., labor, utilities, packaging)?



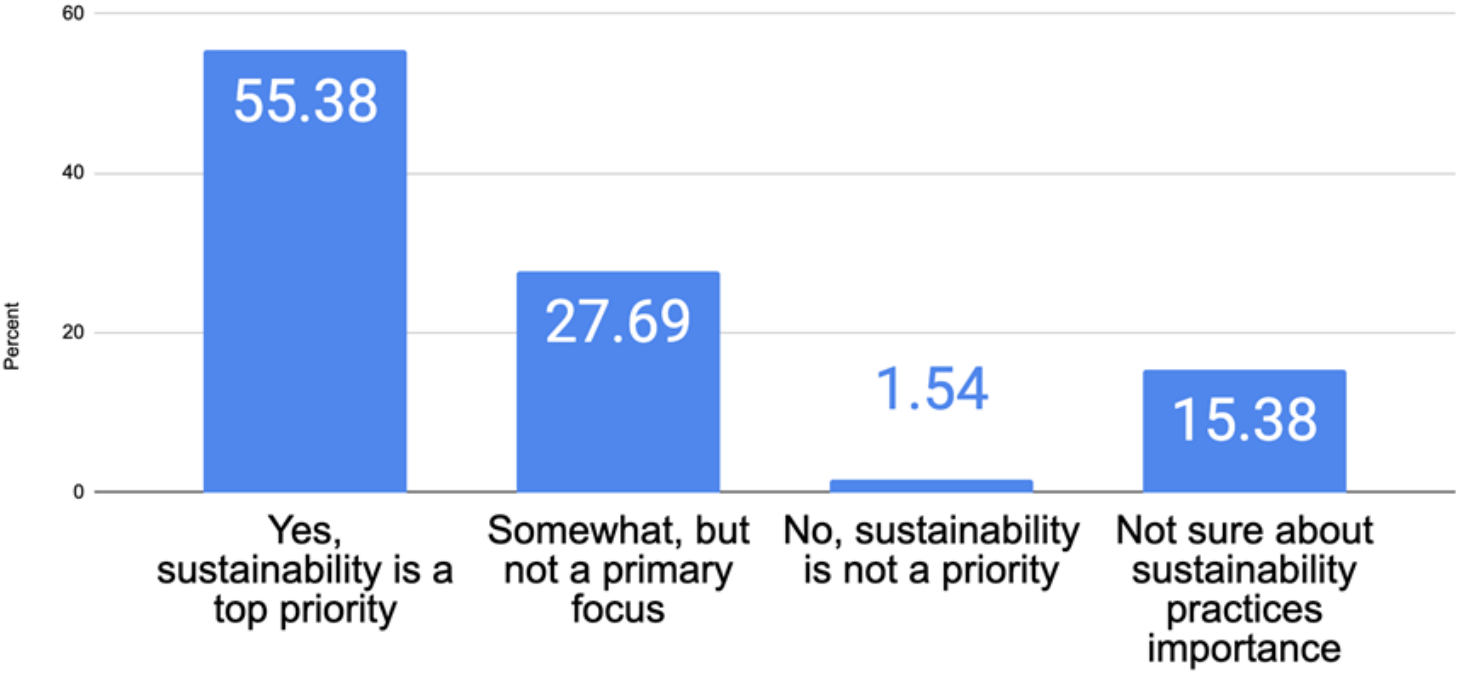
Chuuk Producers: Would you participate in training programs or workshops offered by the Food Innovation Center to enhance your skills in traditional food processing techniques, quality control, or business management?



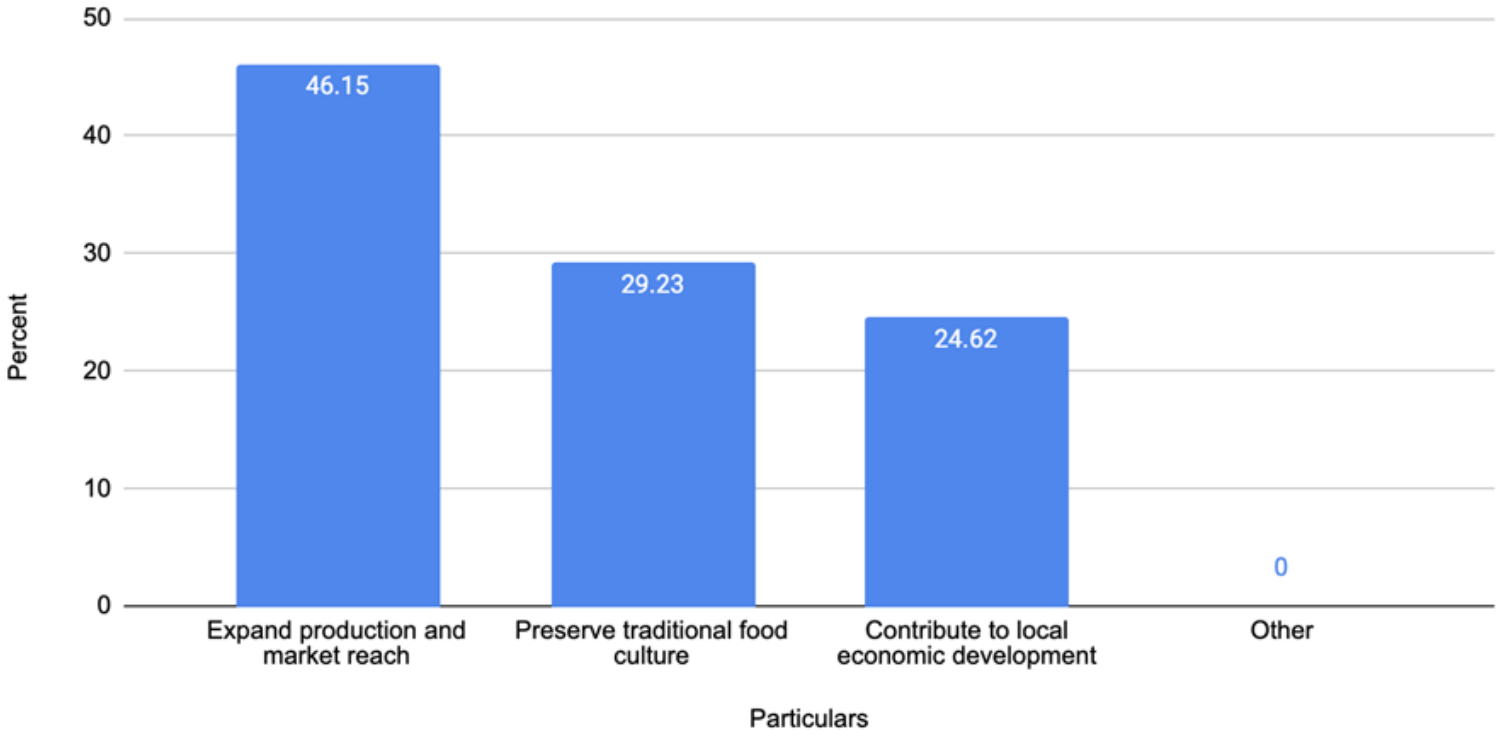
Chuuk Producers: How important is community involvement and support in your vision for producing locally processed foods?



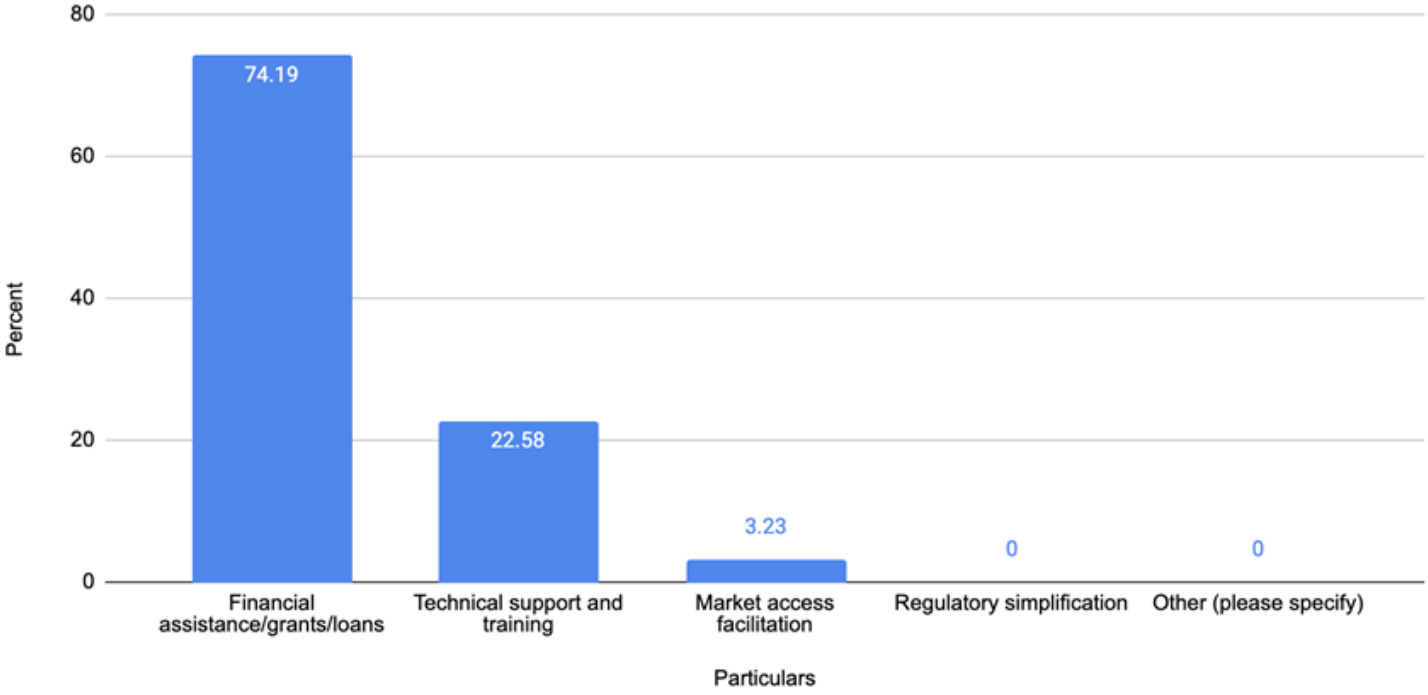
Chuuk Producers: Do you prioritize sustainable practices in your production processes, such as minimizing waste, conserving resources, or supporting local ecosystems?

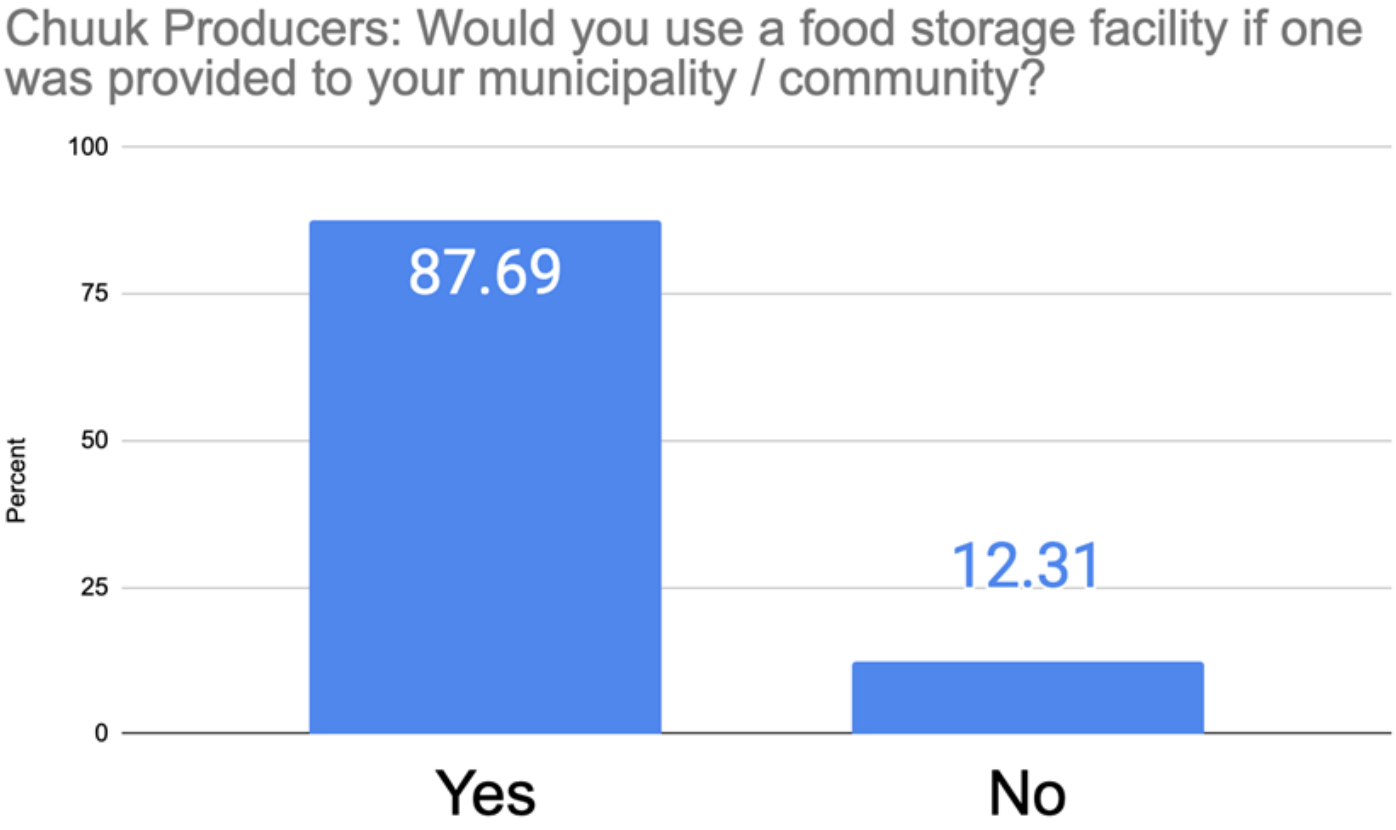


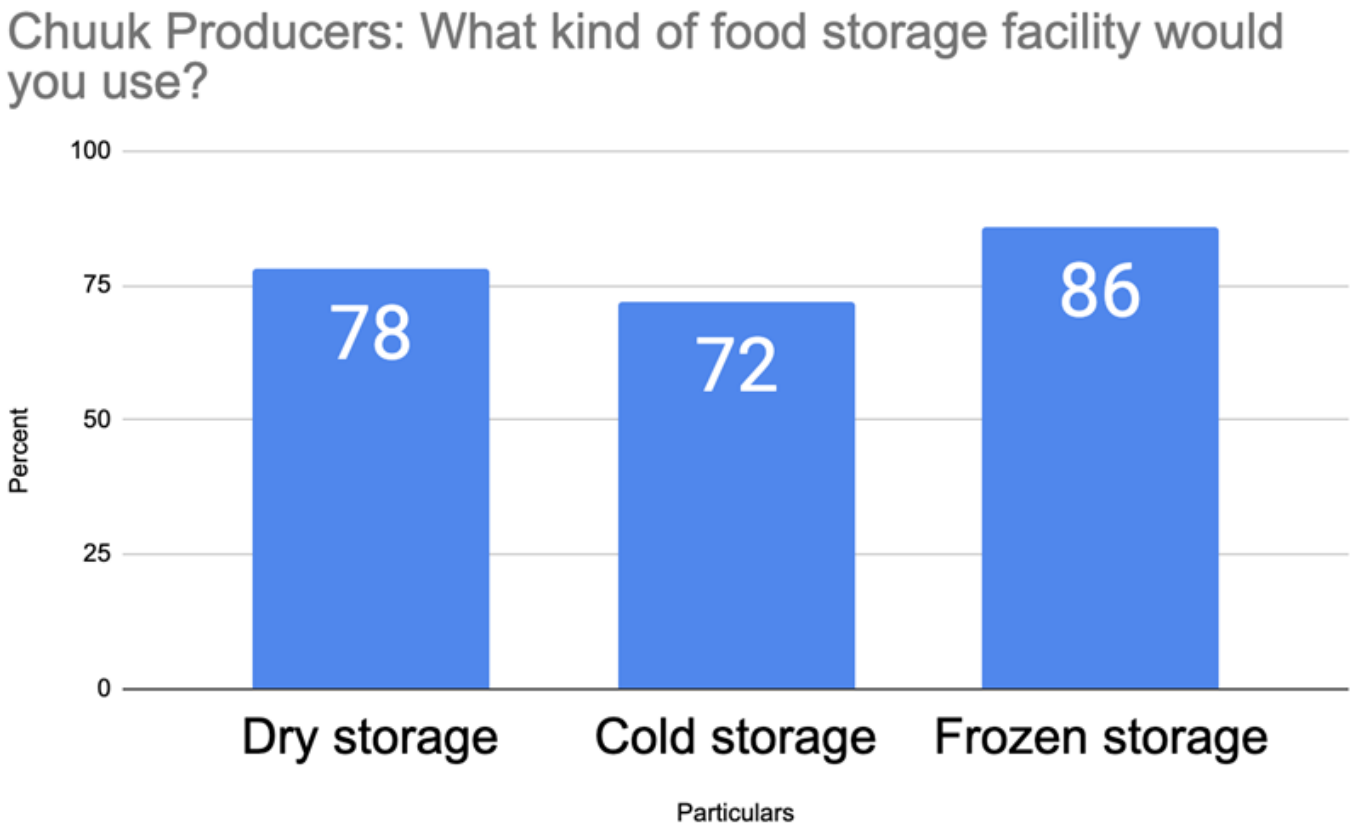
Chuuk Producers: What are your long-term goals and aspirations for your involvement in producing locally processed foods. How do you see your role evolving in the future?



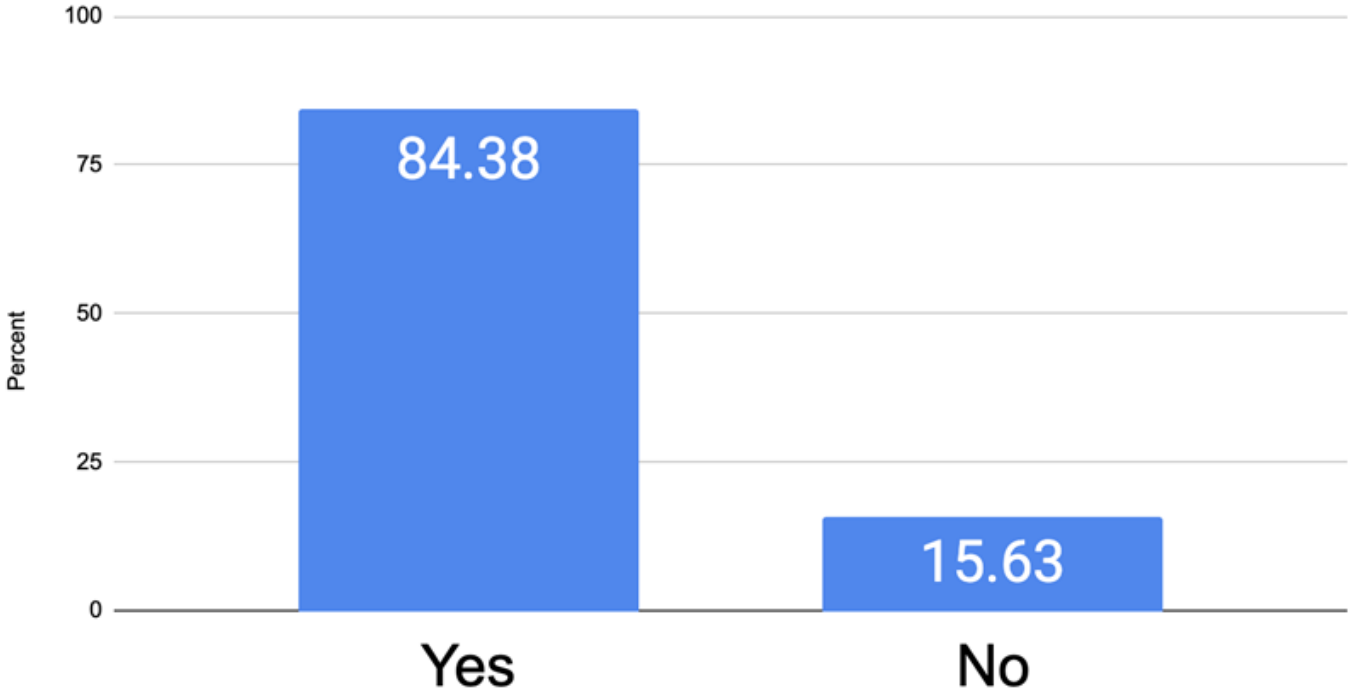
Chuuk Producers: What kind of support or incentives from the government would be most beneficial to you for promoting the production and marketing of locally processed foods in the FSM?



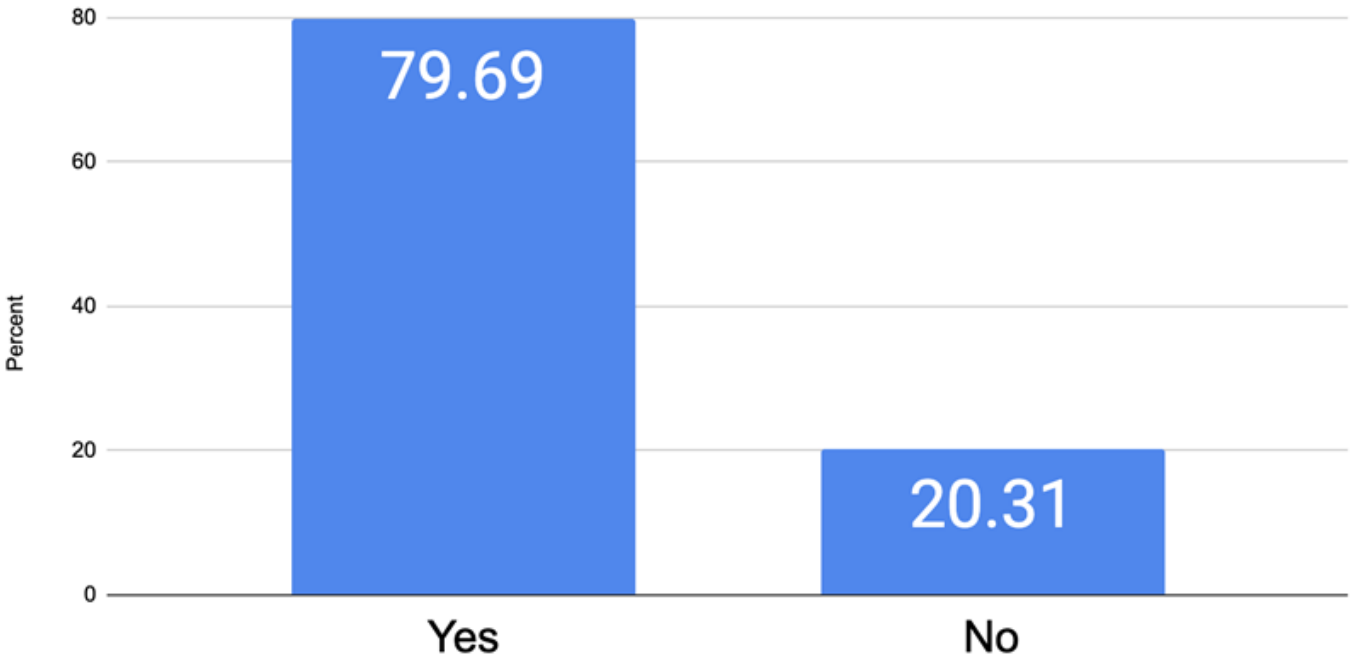

Chuuk Producers: Would you use a food storage facility if one was provided to your municipality / community?
100
75
50
25
0
Percent
87.69
12.31
Yes
No


Chuuk Producers: What kind of food storage facility would you use?
100
75
50
25
0
Percent
78
72
86
Dry storage
Cold storage
Frozen storage
Particulars

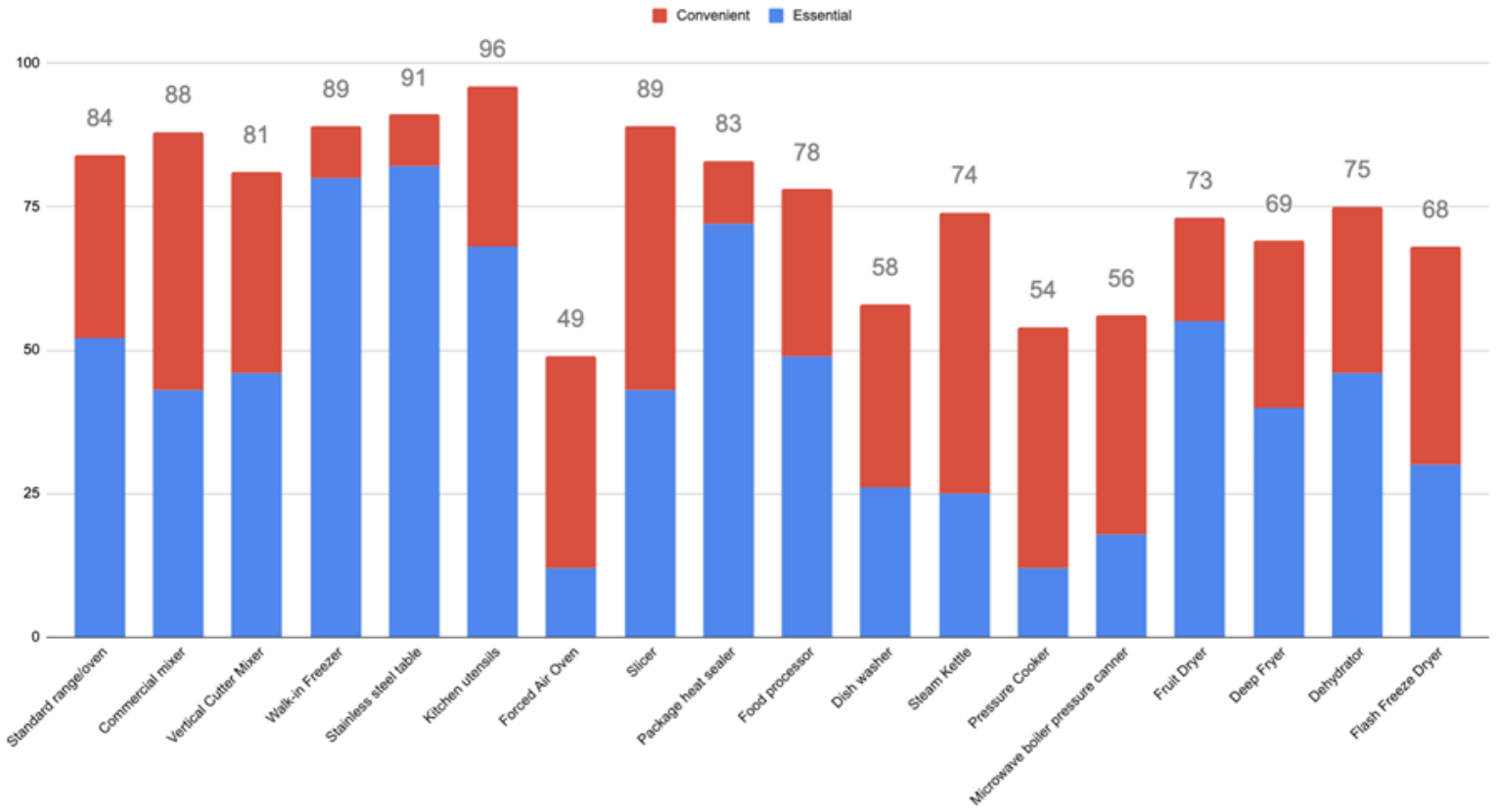
Chuuk Producers: Would you be interested in selling the food you produce to a local food processing plant?



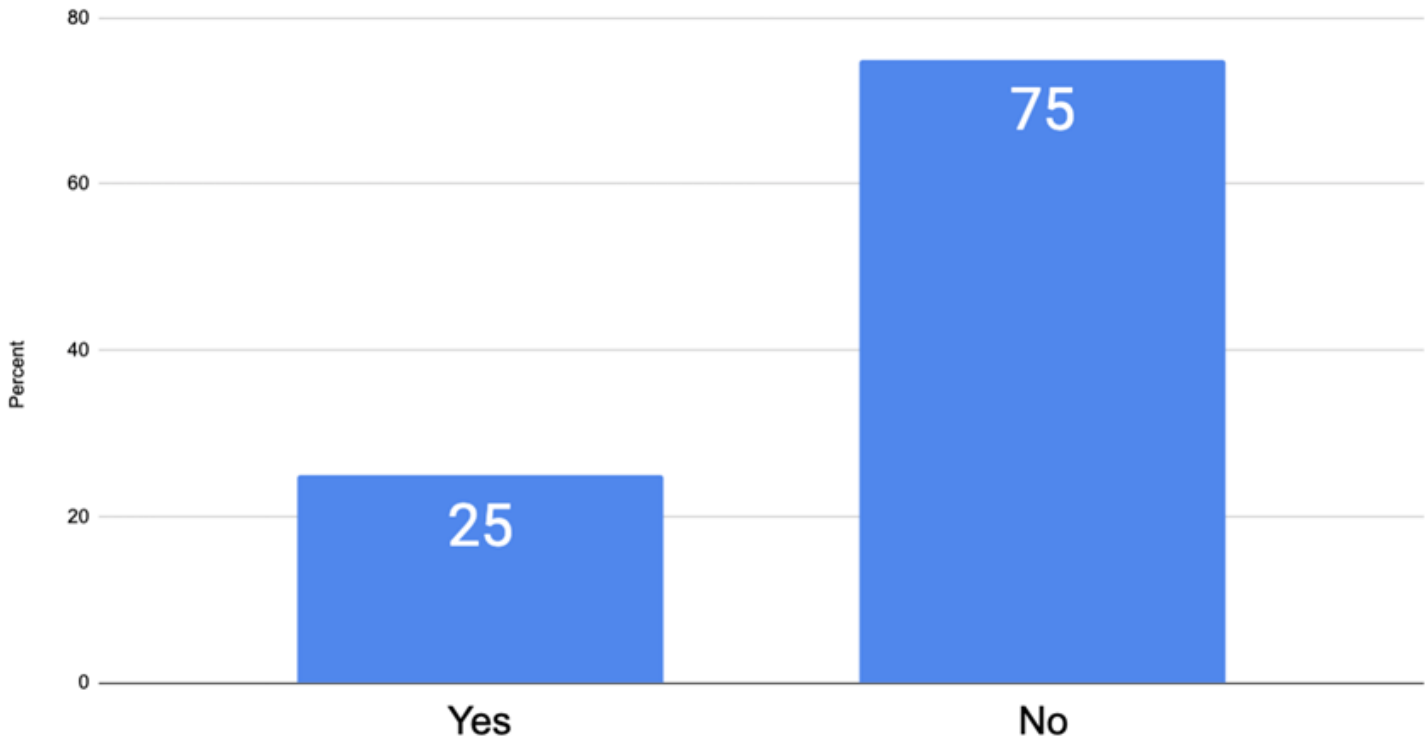
Chuuk Producers: Would you be interested in having your raw food products purchased directly from your farm/island (So, you do not have to transport them to market)?



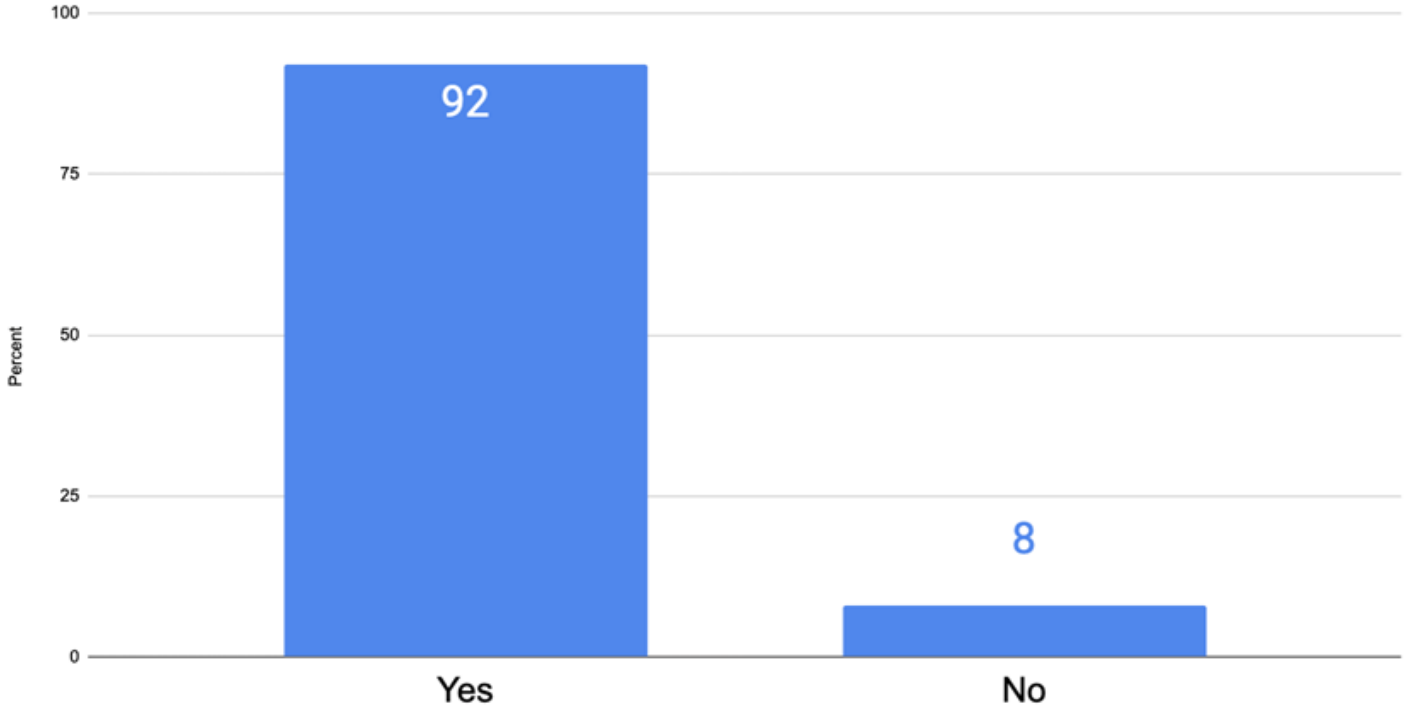
Chuuk Producers: Rate your level of need for the following types of equipment



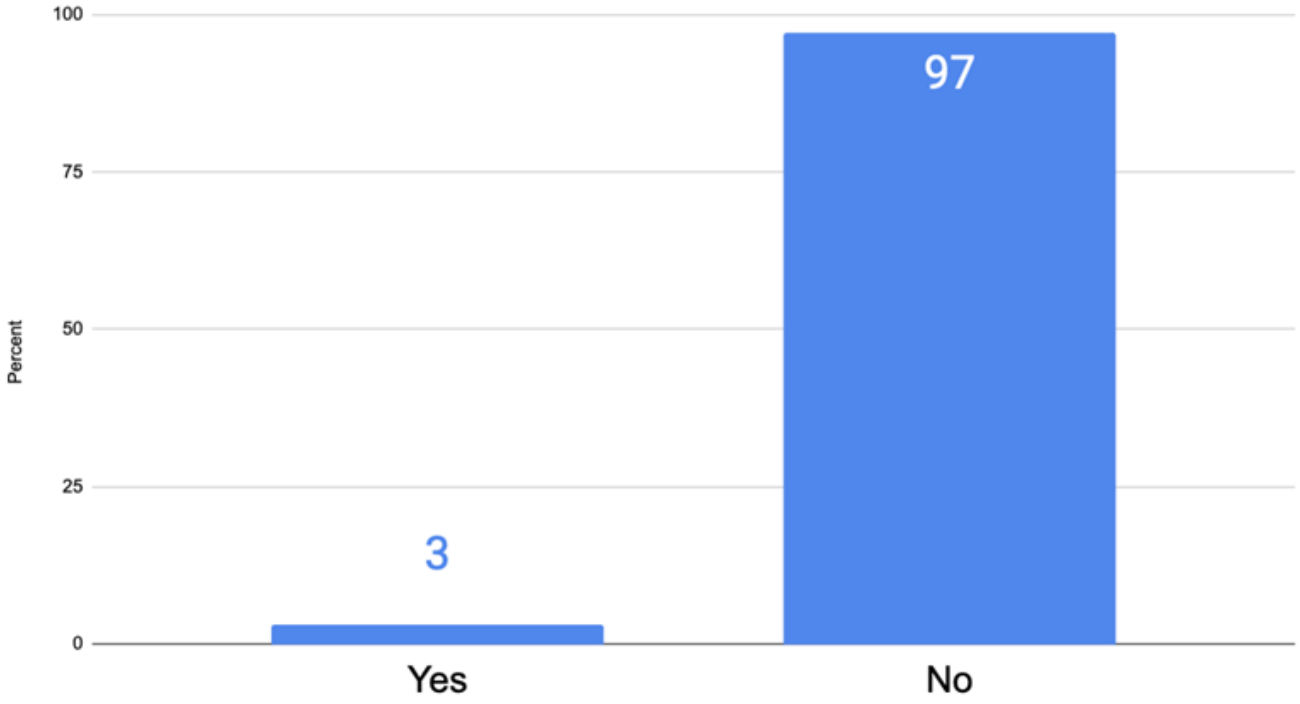
Chuuk Producers: Do you have a business plan?



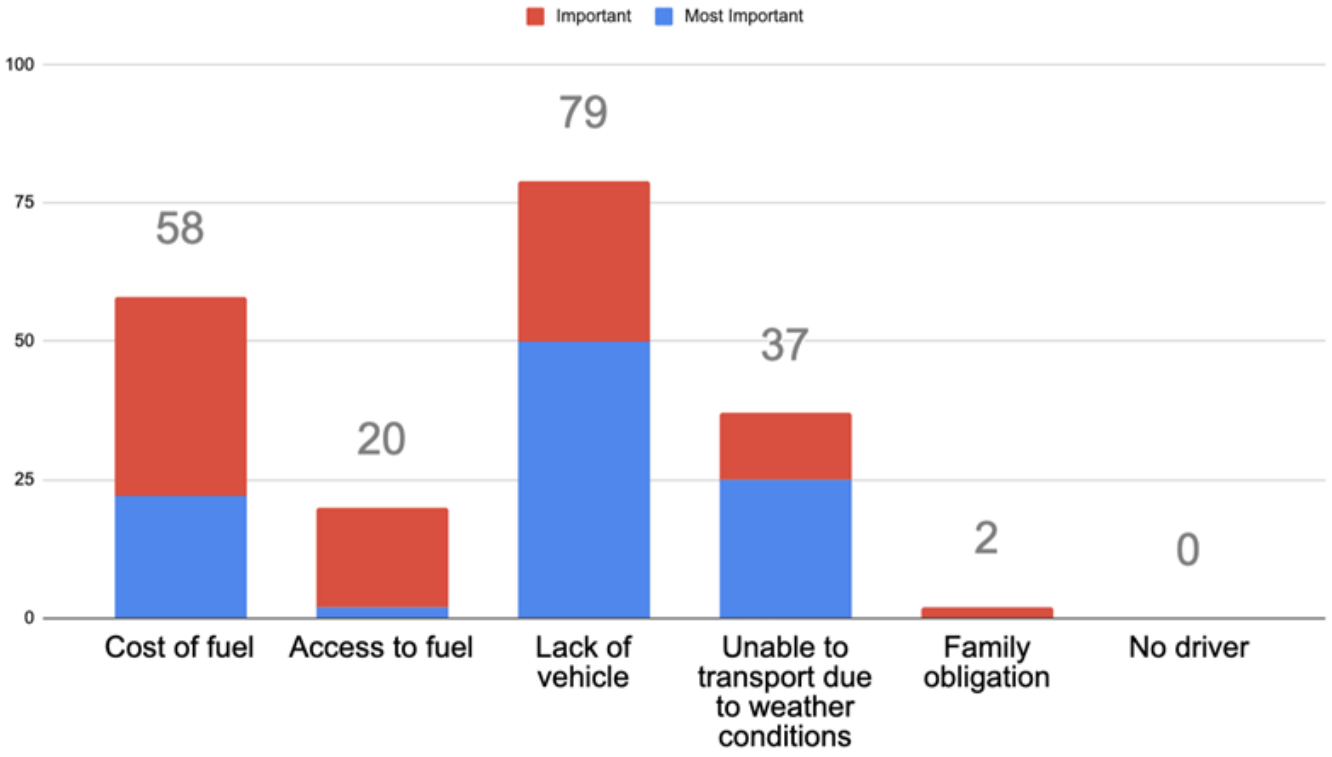
Chuuk Producers: Would you be willing to work with business advisors to create or improve an existing business plan?



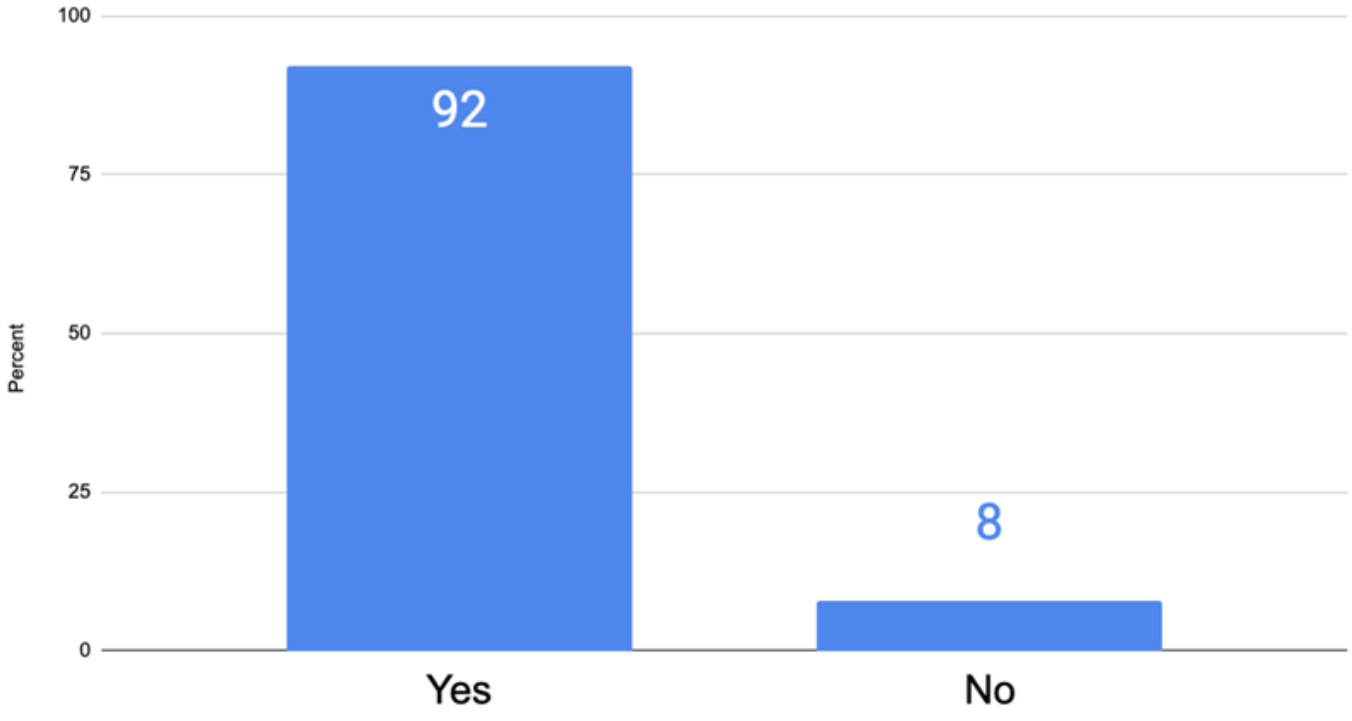
Chuuk Producers: Is transportation of your food products and food crops to market a serious constraint?



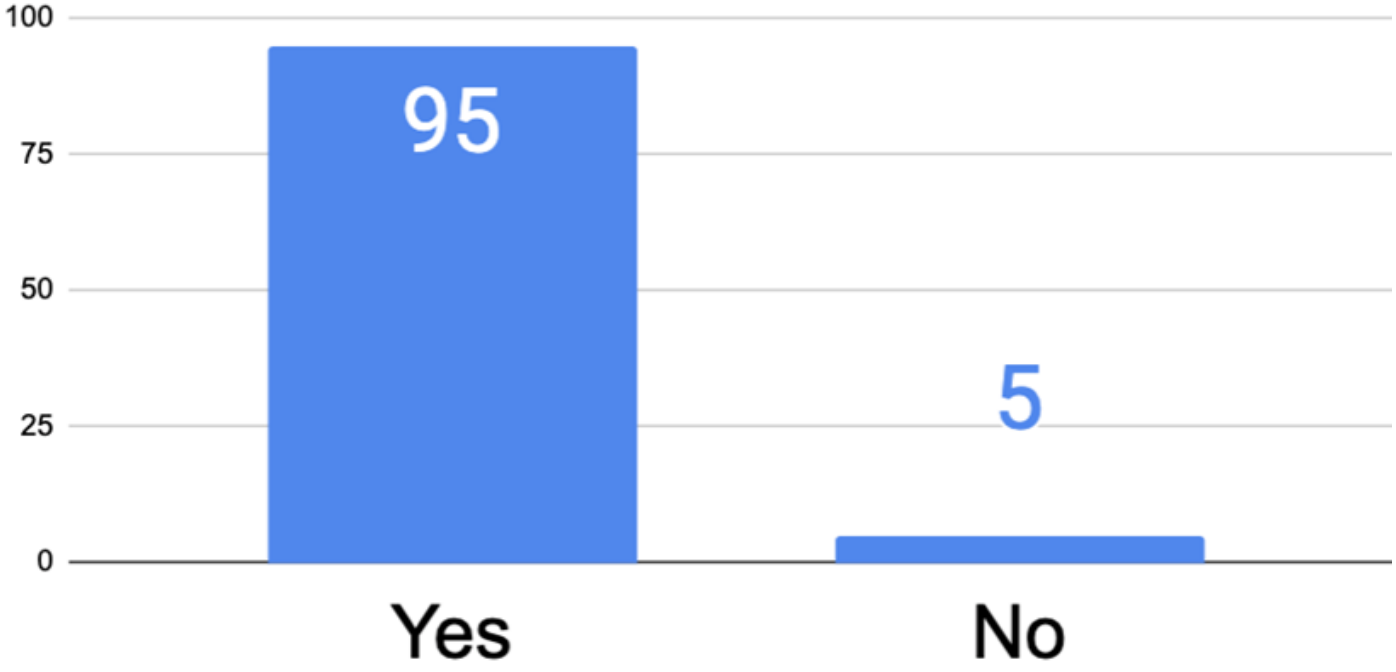
Chuuk Producers: How is transportation a constraint?



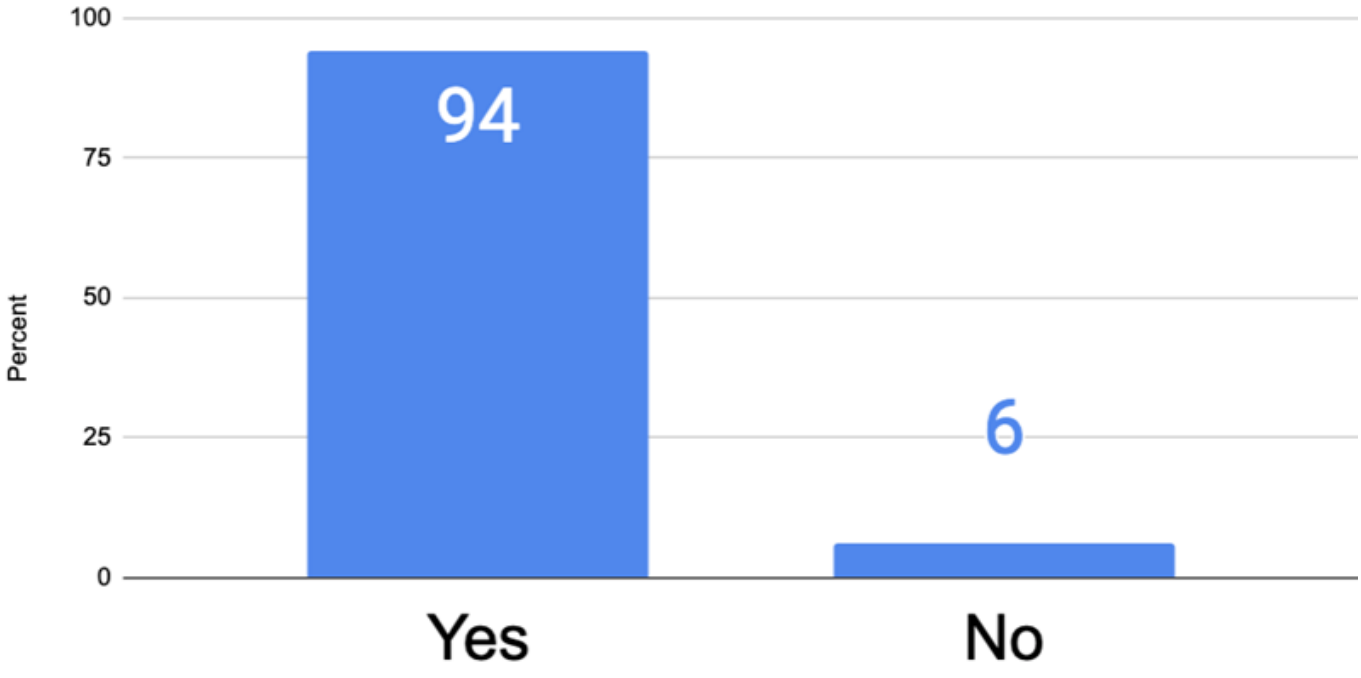
Chuuk Producers: Is lack of labor a serious constraint to your food harvesting?



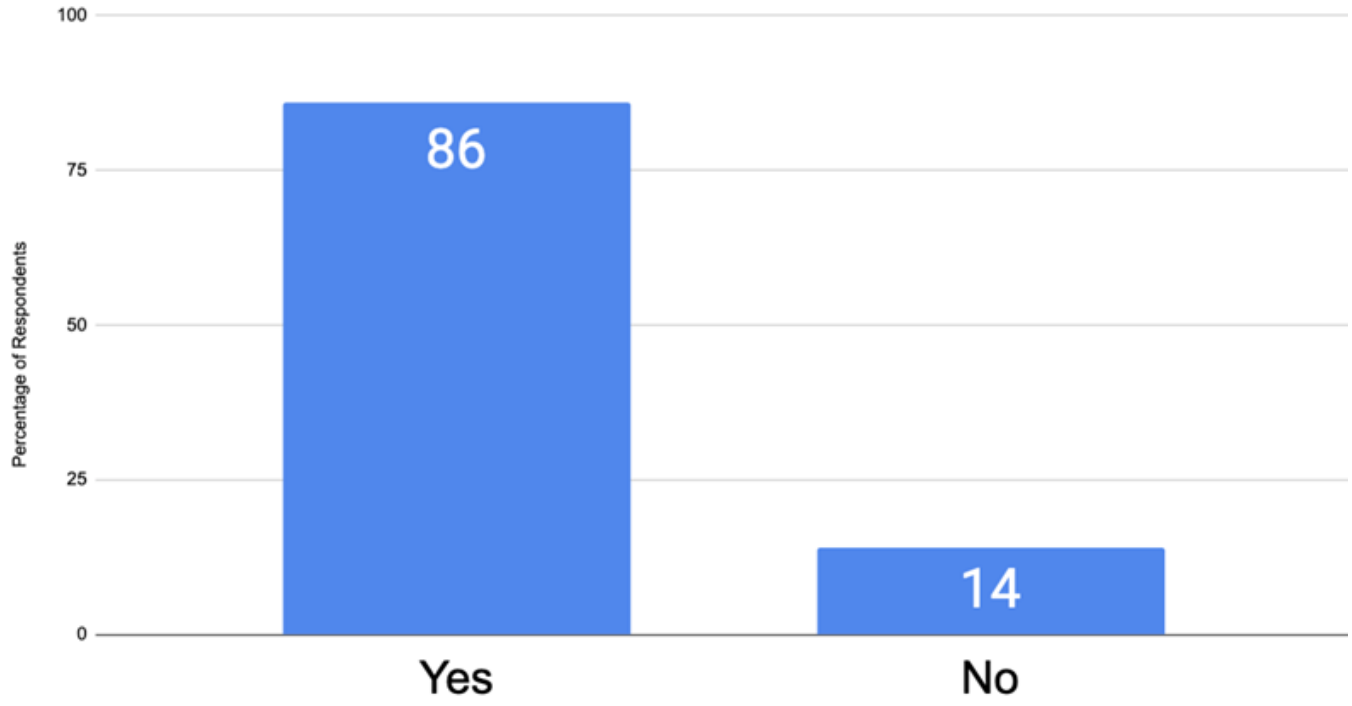
Chuuk Producers: Is lack of labor a serious constraint to your food production and packaging?



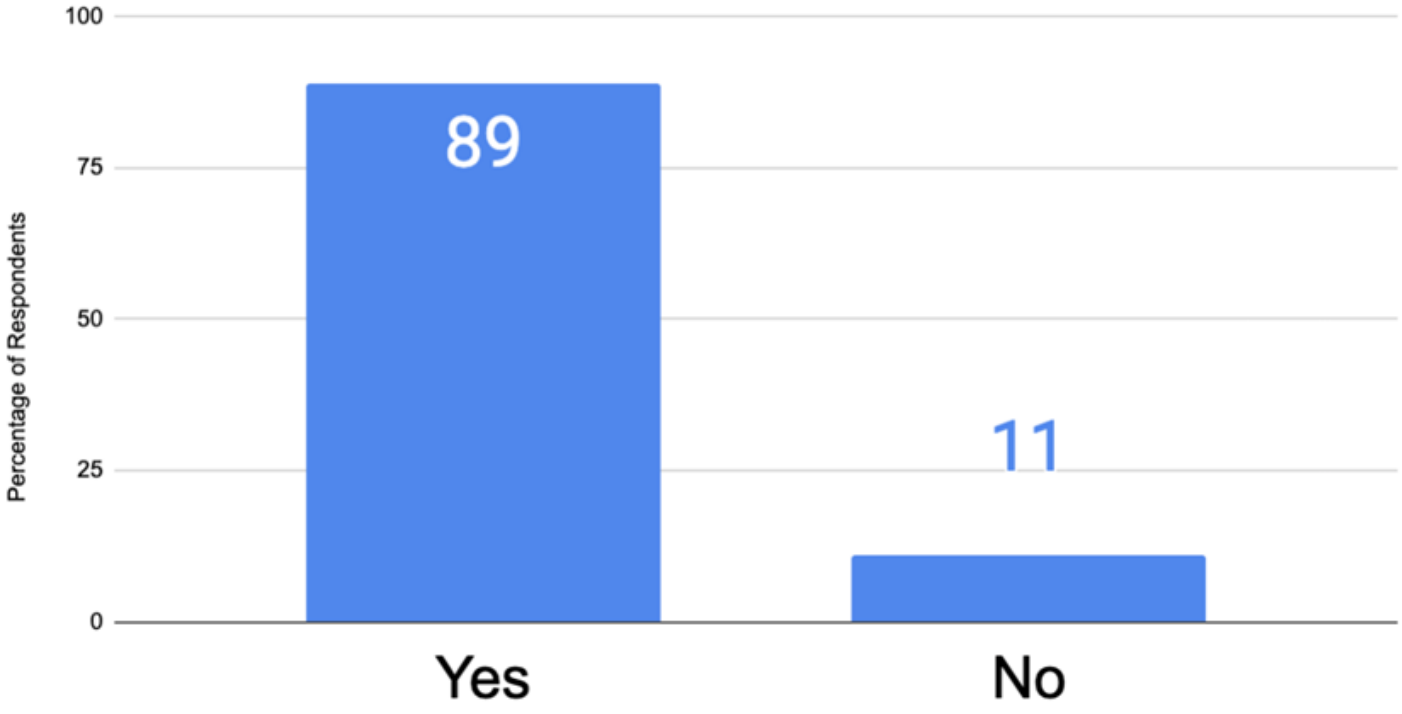
Chuuk Producers: Do you also sell your food products directly to customers?



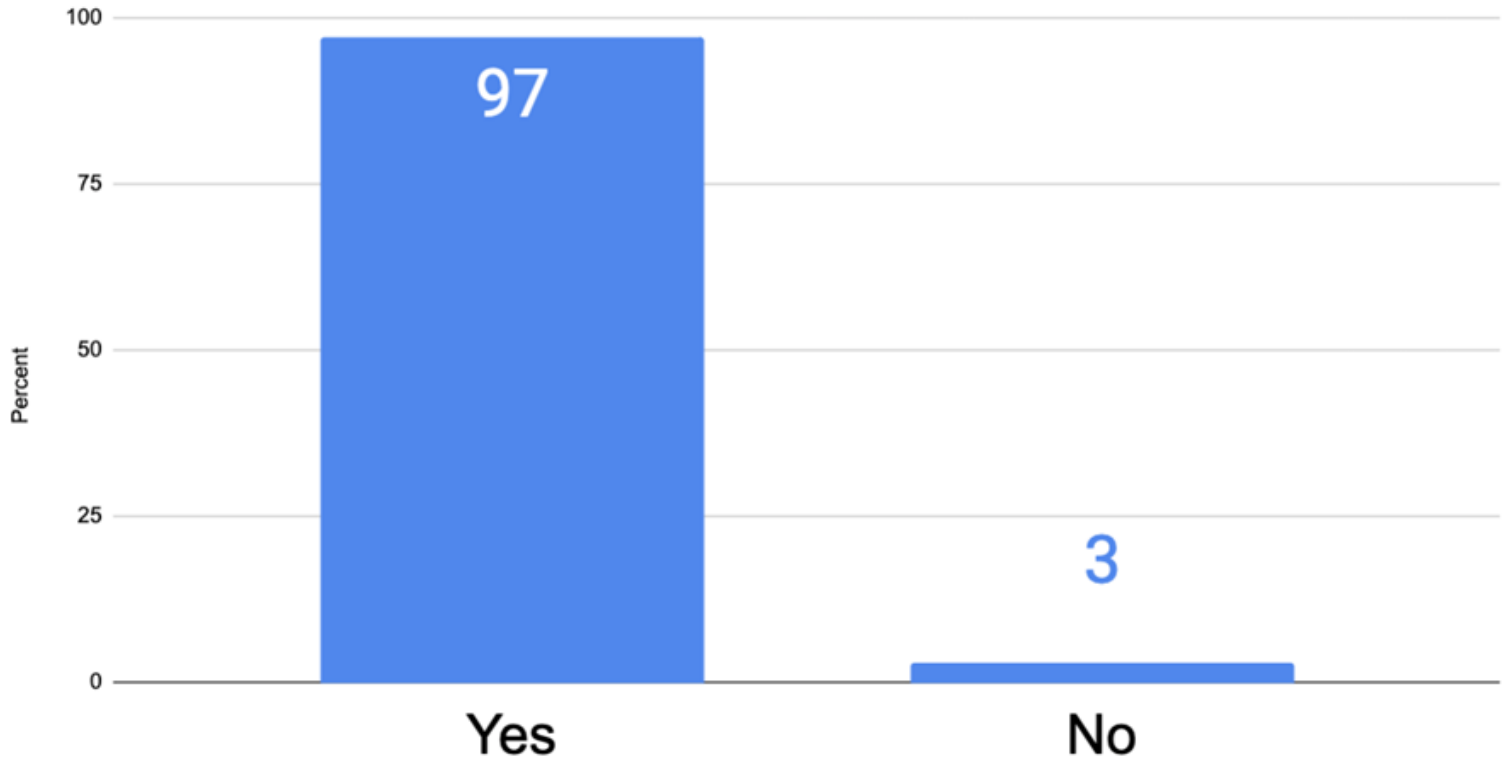
Chuuk Producers: Is lack of labor a serious constraint to the selling of your food products?



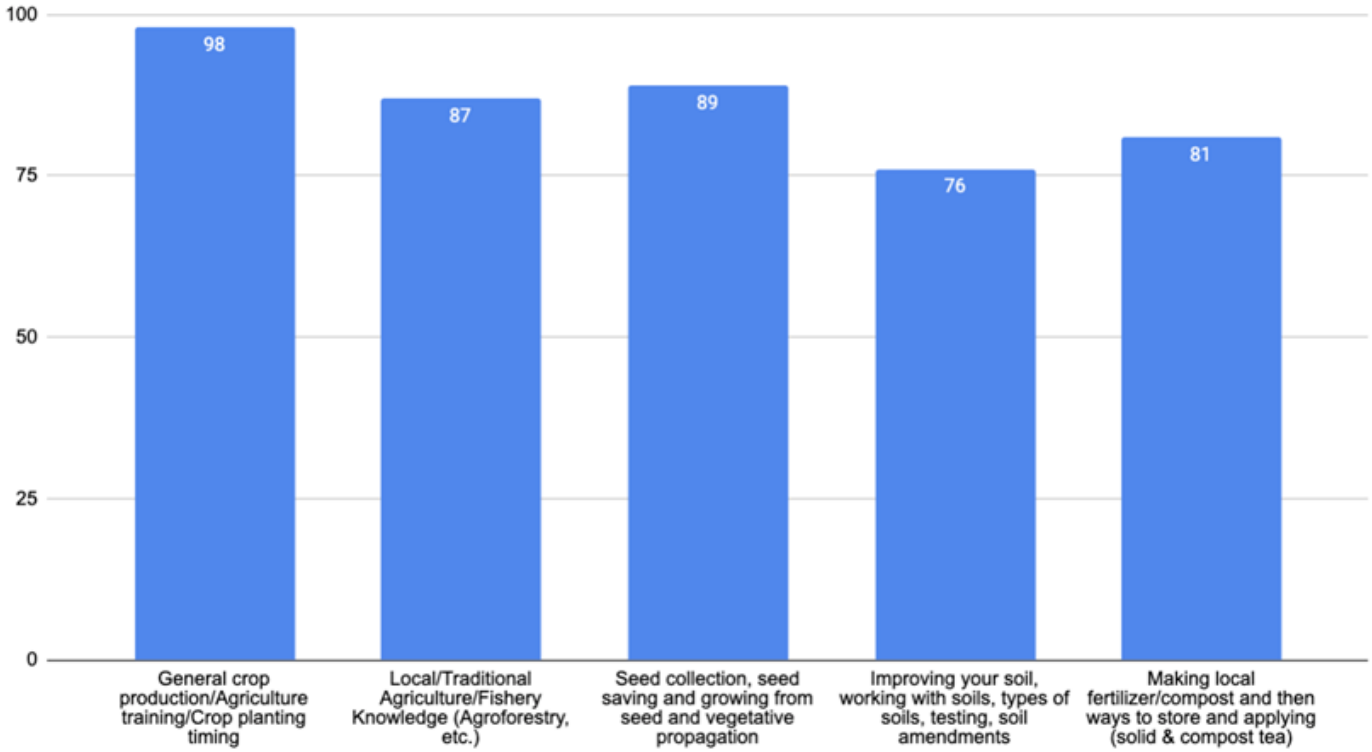
Chuuk Producers: Would you be interested in being trained in commercial food processing?



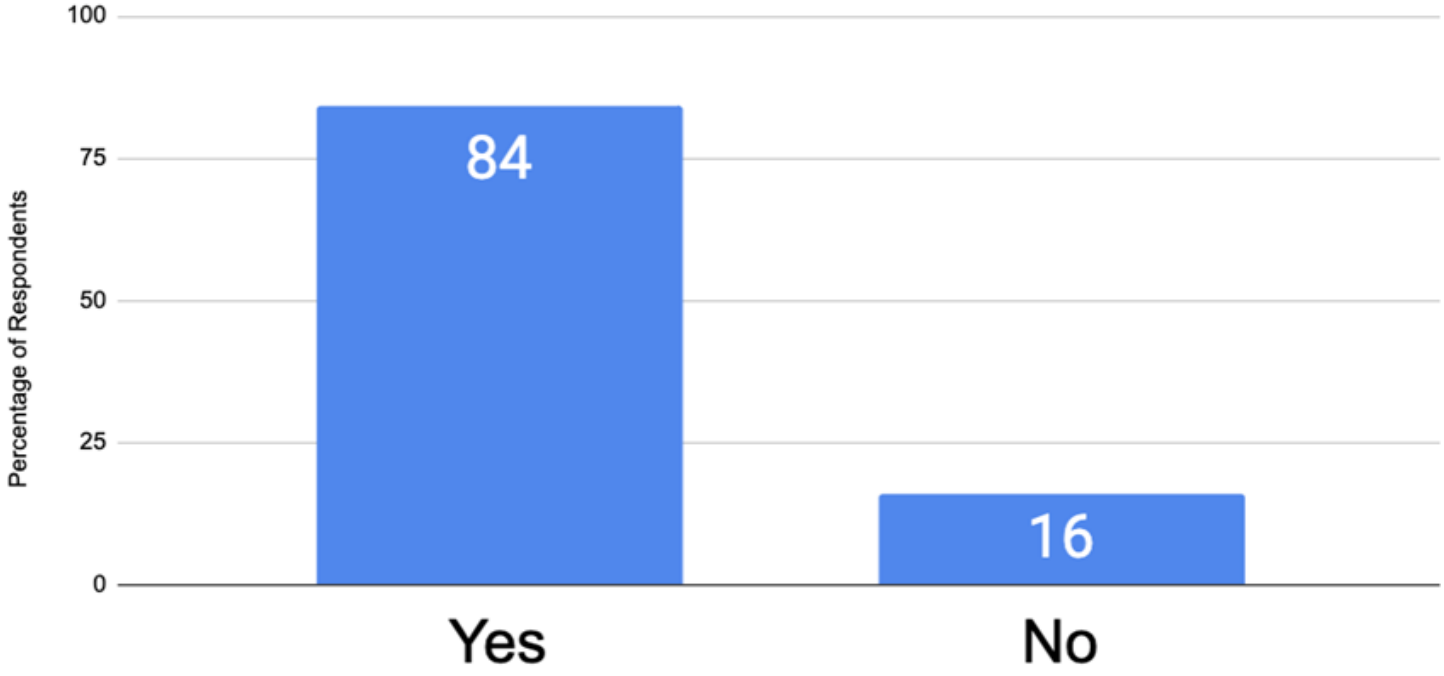
Chuuk Producers: Would you like any training to help you produce more food?



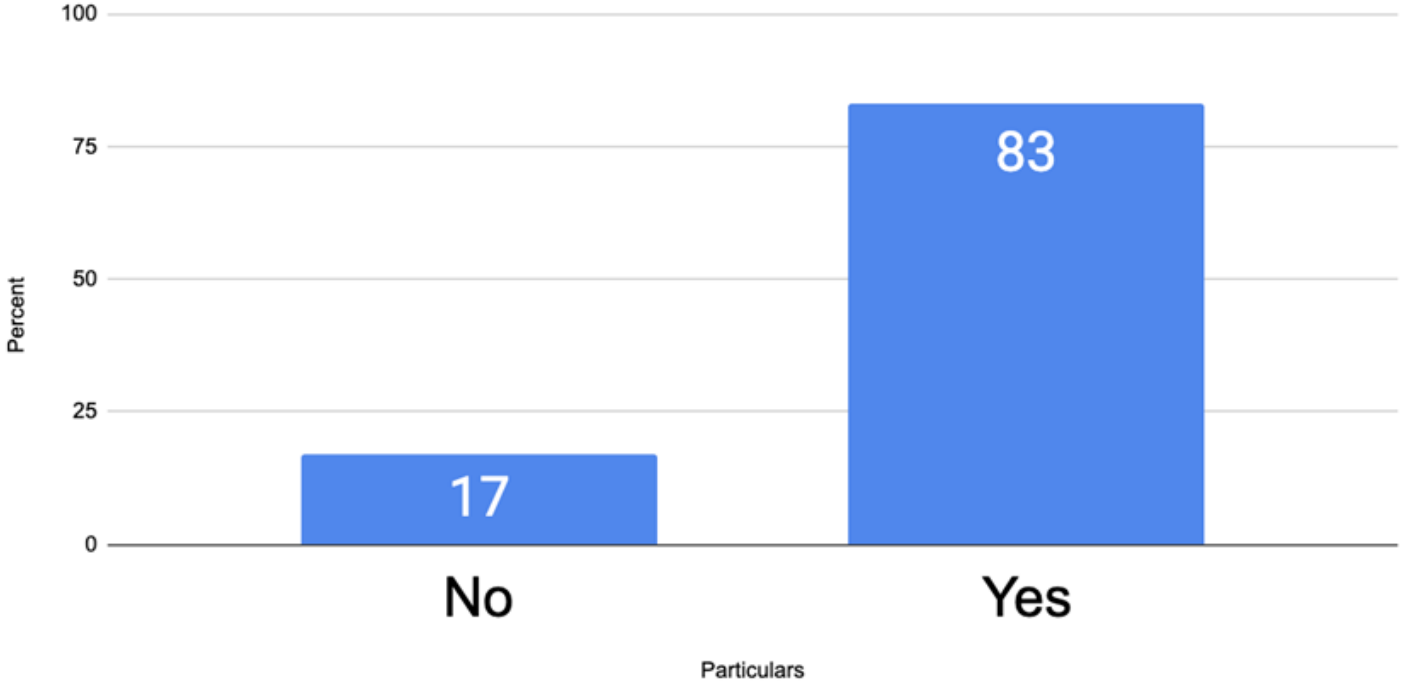
Chuuk Producers: What kinds of agricultural training would you like to receive?

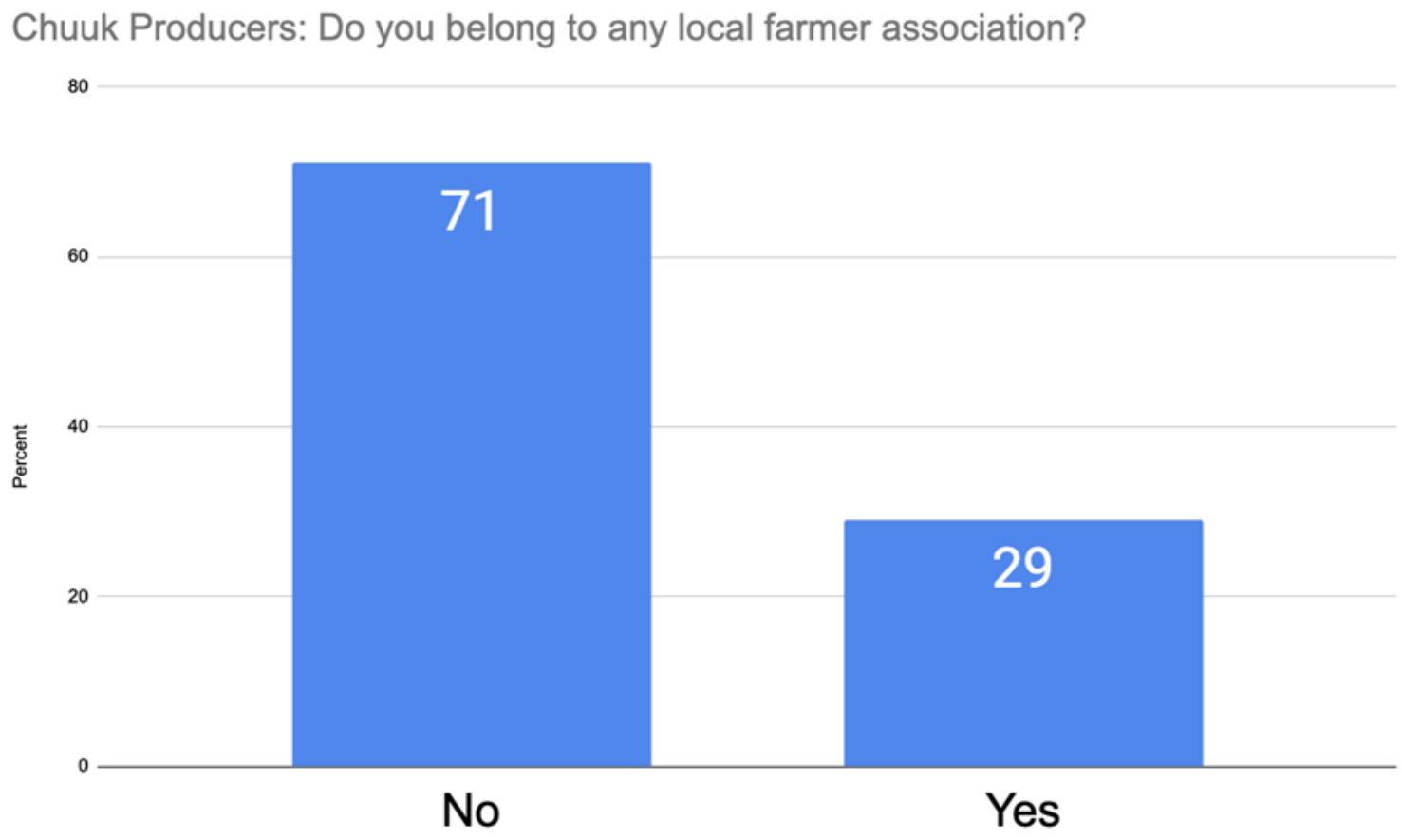


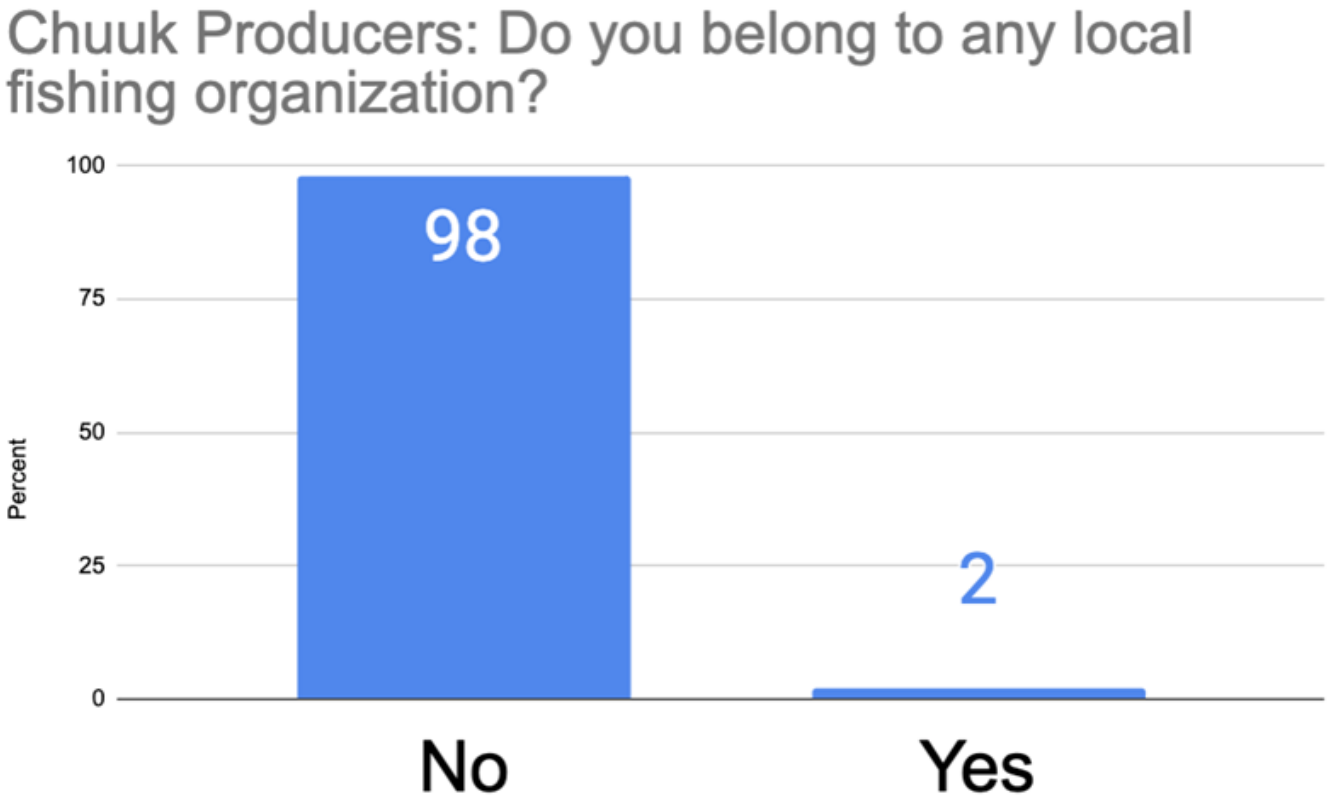
Chuuk Producers: Would you like to teach other food producers from your own experiences?



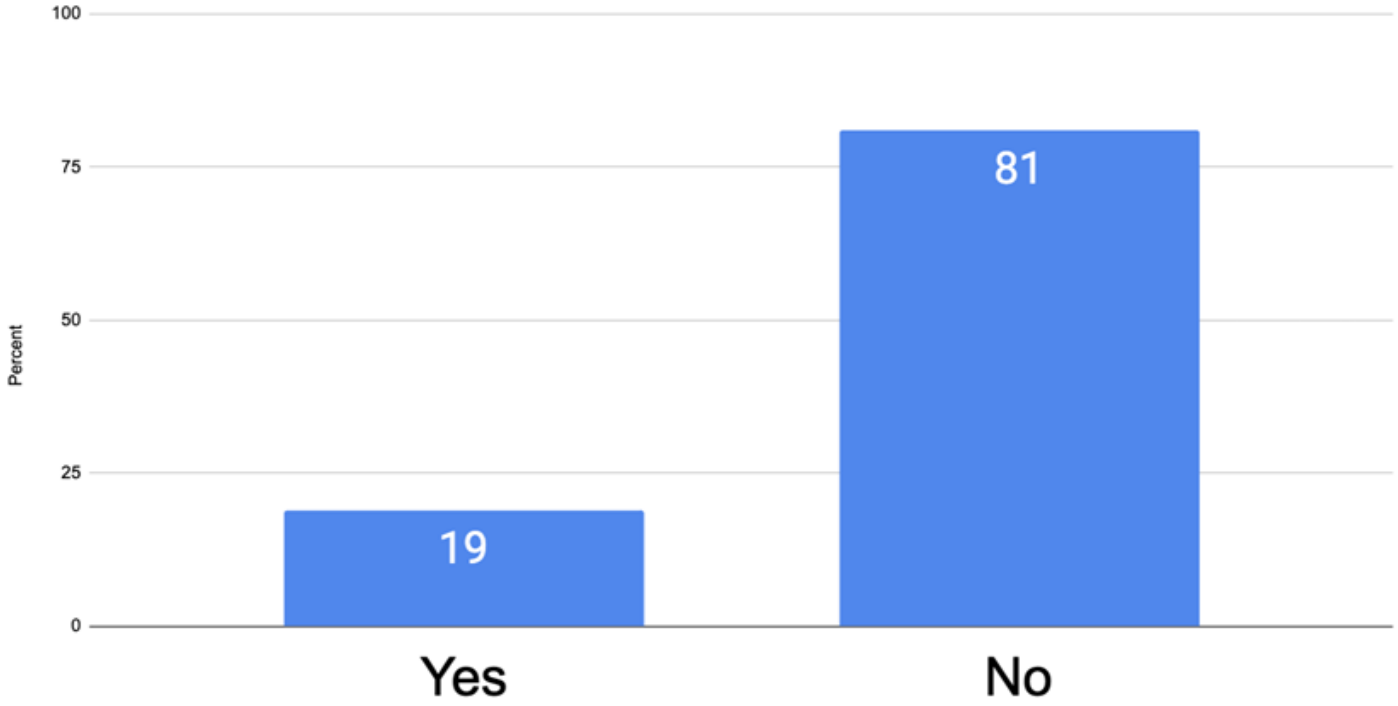
Chuuk Producers: Do you belong to any local community group?



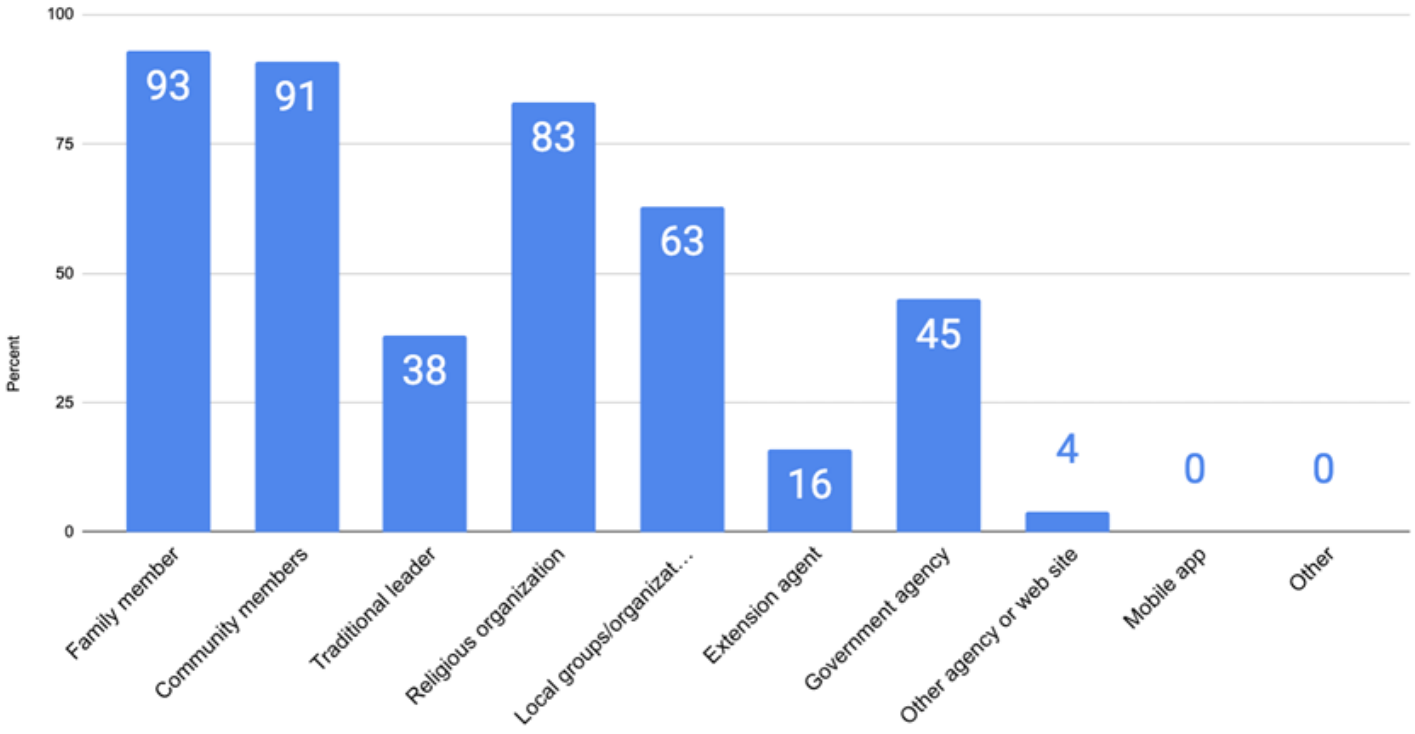

Chuuk Producers: Do you belong to any local farmer association?
80
60
40
20
0
Percent
71
29
No
Yes


Chuuk Producers: Do you belong to any local fishing organization?
100
75
50
25
0
Percent
98
2
No
Yes

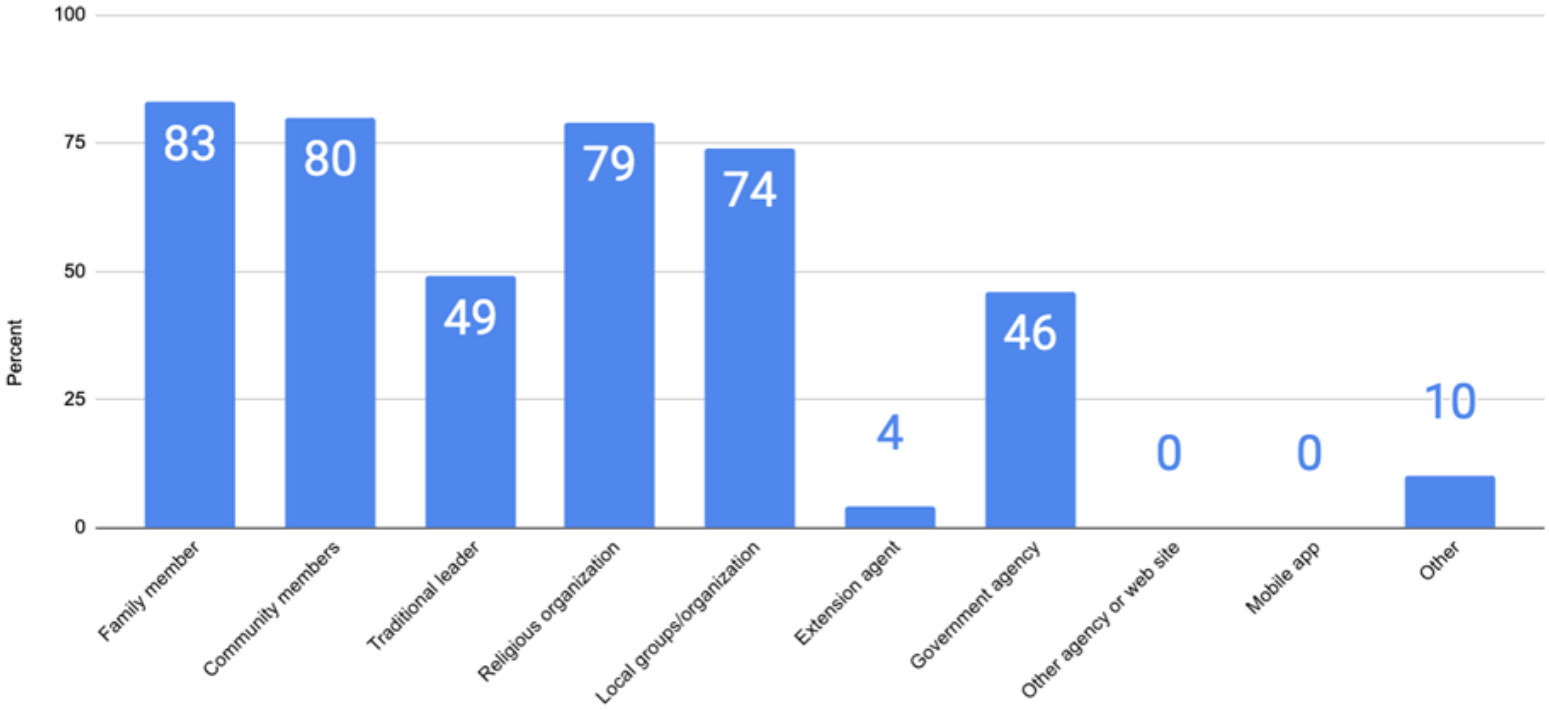
Chuuk Producers: Are you familiar with the State and National laws and policies that affect your food production?



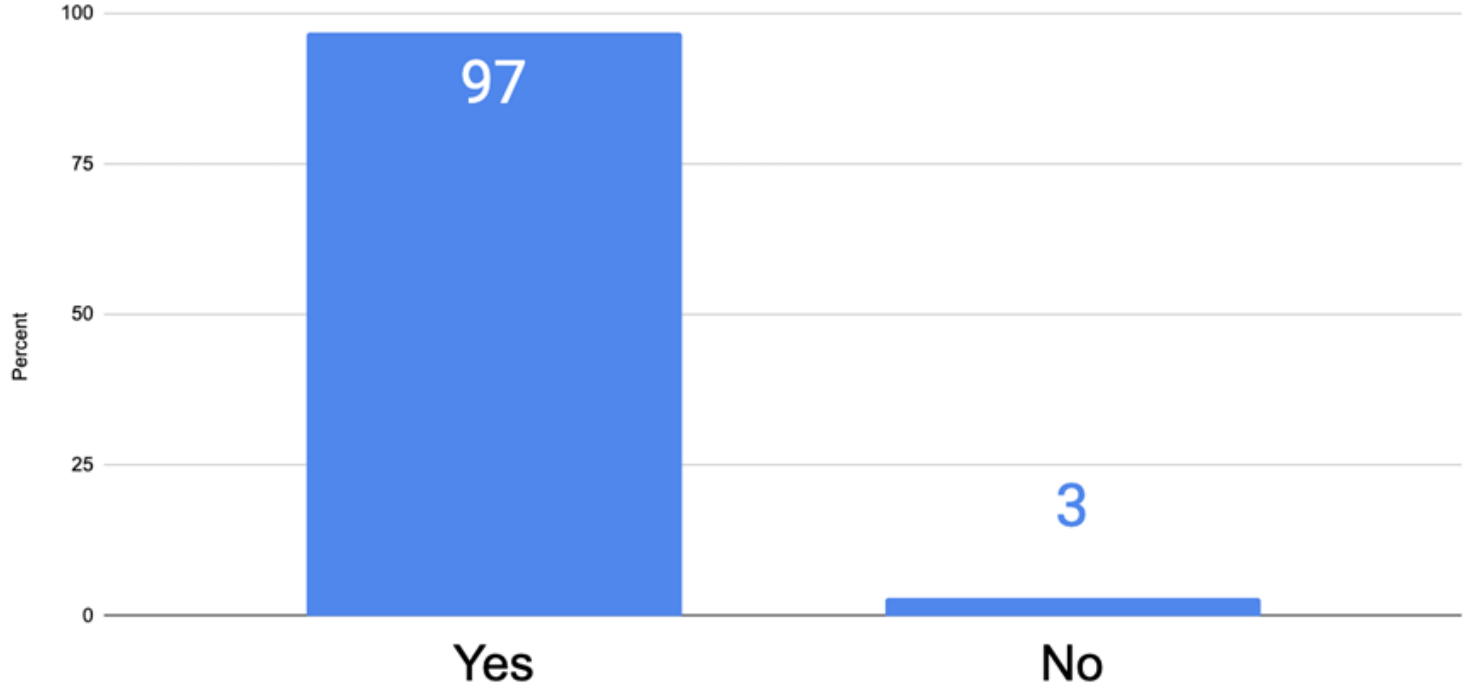
Chuuk Producers: If you need information about the State and National laws and policies, where would you go?



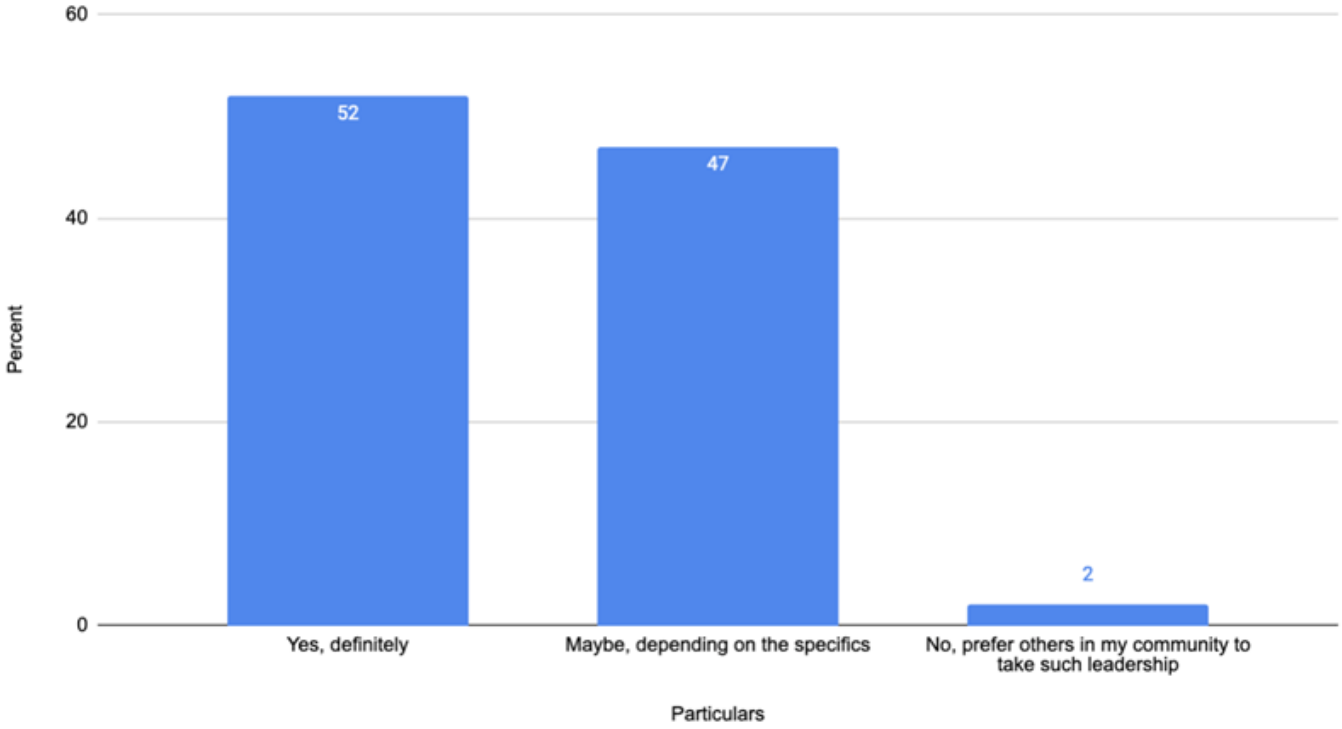
Chuuk Producers: If you need to communicate with the government leaders responsible for making laws/policies, where would you go?



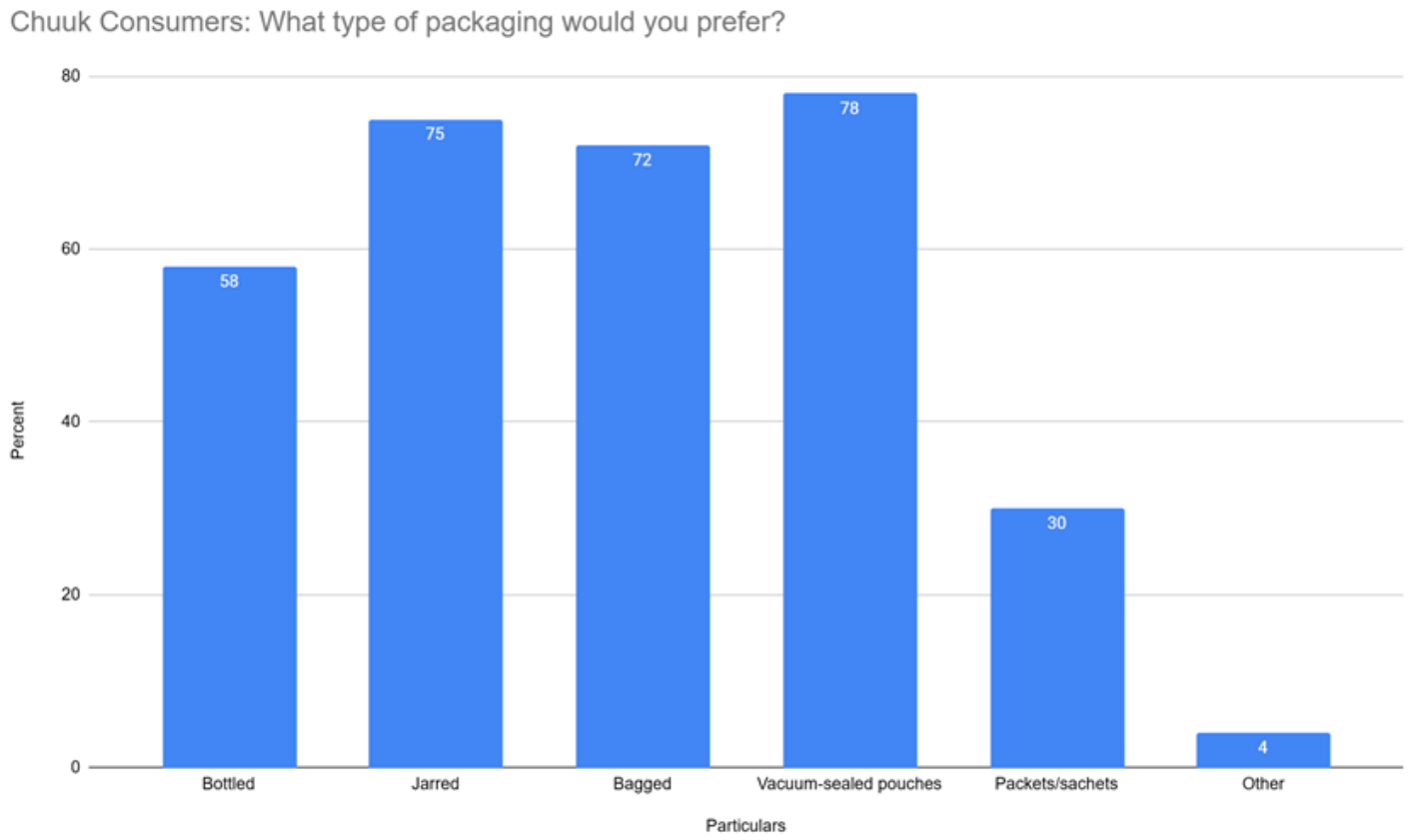
Chuuk Producers: Would you be interested in being more active in your community relative to preserving land, water resources?

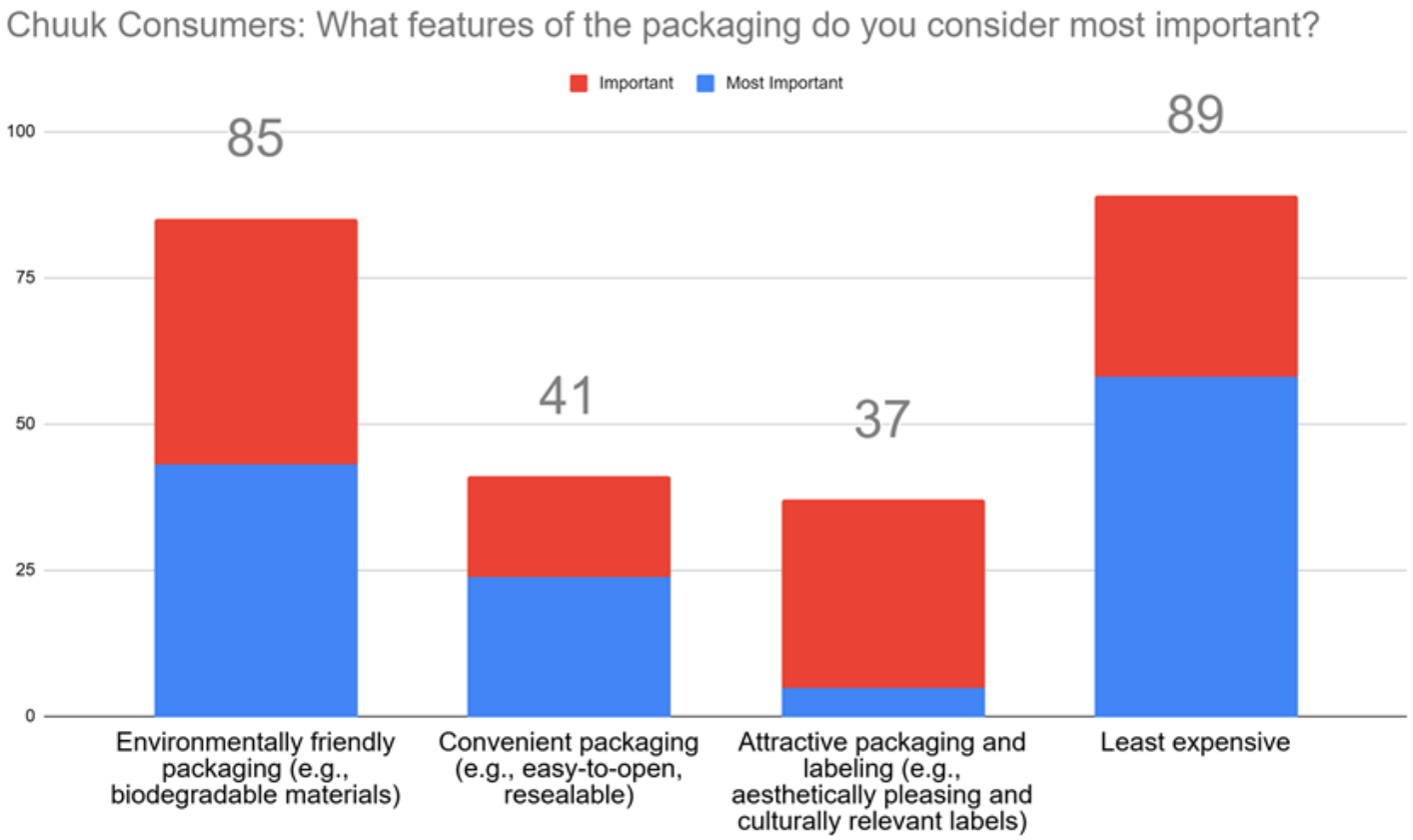


Chuuk Producers: Would you be interested/willing to participate in trainings and workshops that provide those skills?

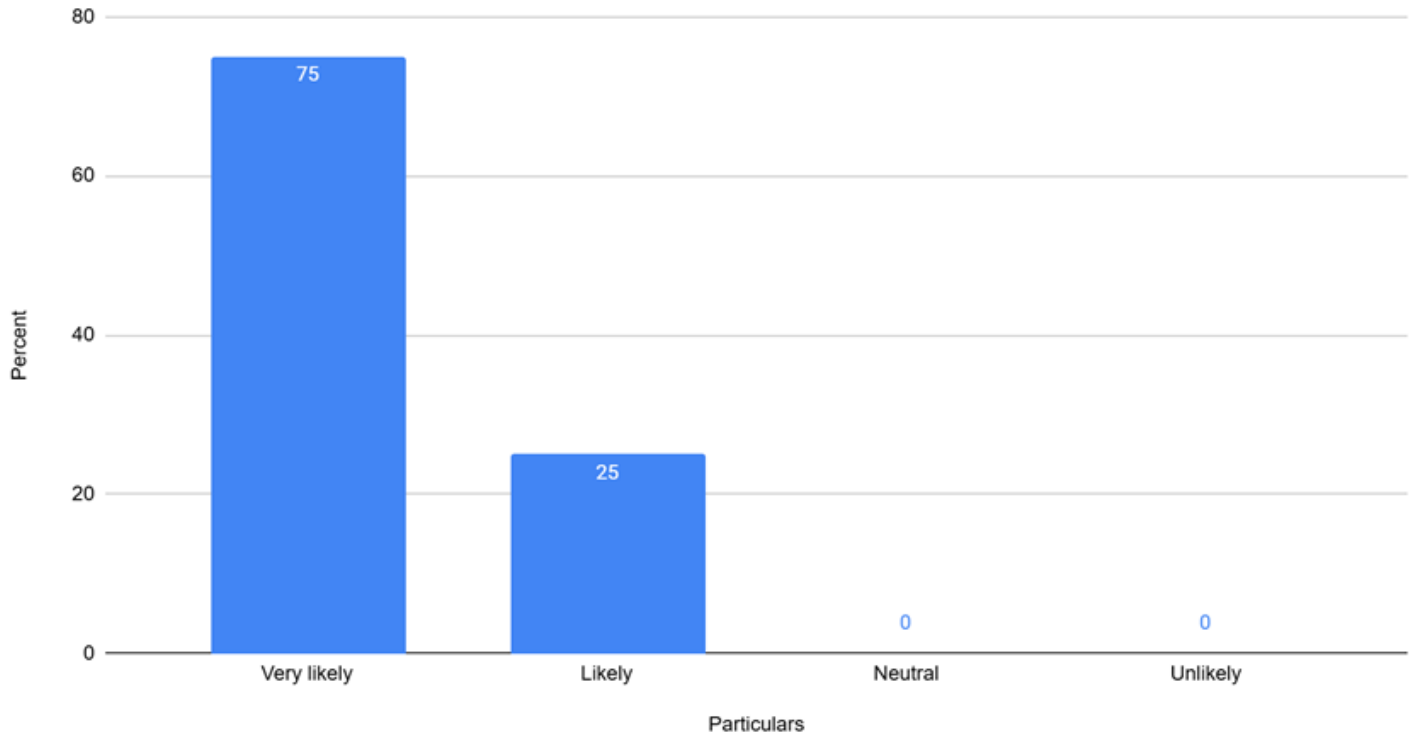


Federated States of Micronesia
Food Systems Solutions Project
FSS Survey Data Tables and Charts
Chuuk State
Consumers

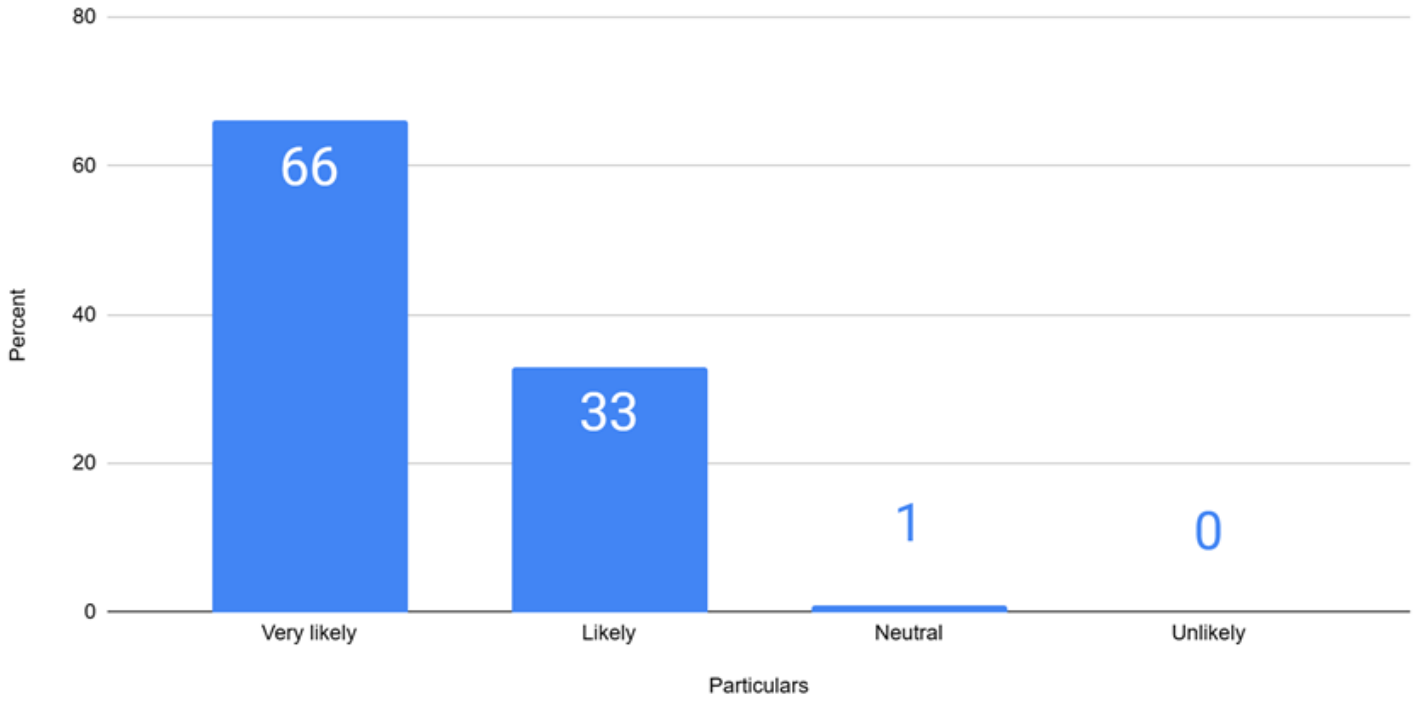

Chuuk Consumers: What type of packaging would you prefer?
80
60
40
20
0
Percent
58
75
72
78
30
4
Bottled
Jarred
Bagged
Vacuum-sealed pouches
Packets/sachets
Other
Particulars


Chuuk Consumers: What features of the packaging do you consider most important?
Important
Most Important
100
75
50
25
0
85
41
37
89
Environmentally friendly packaging (e.g., biodegradable materials)
Convenient packaging (e.g., easy-to-open, resealable)
Attractive packaging and labeling (e.g., aesthetically pleasing and culturally relevant labels)
Least expensive

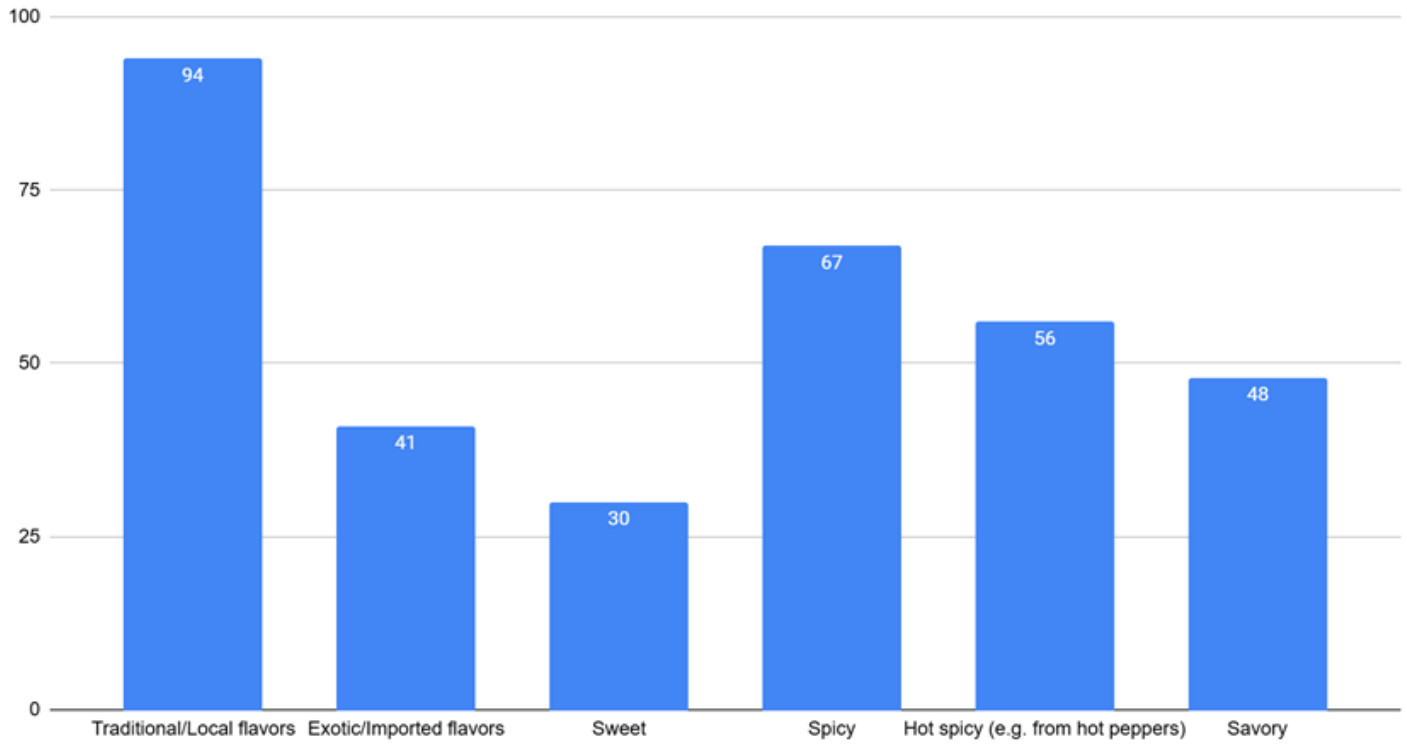
Chuuk Consumers: How likely are you to purchase locally processed foods if they are convenient, accessible and available?



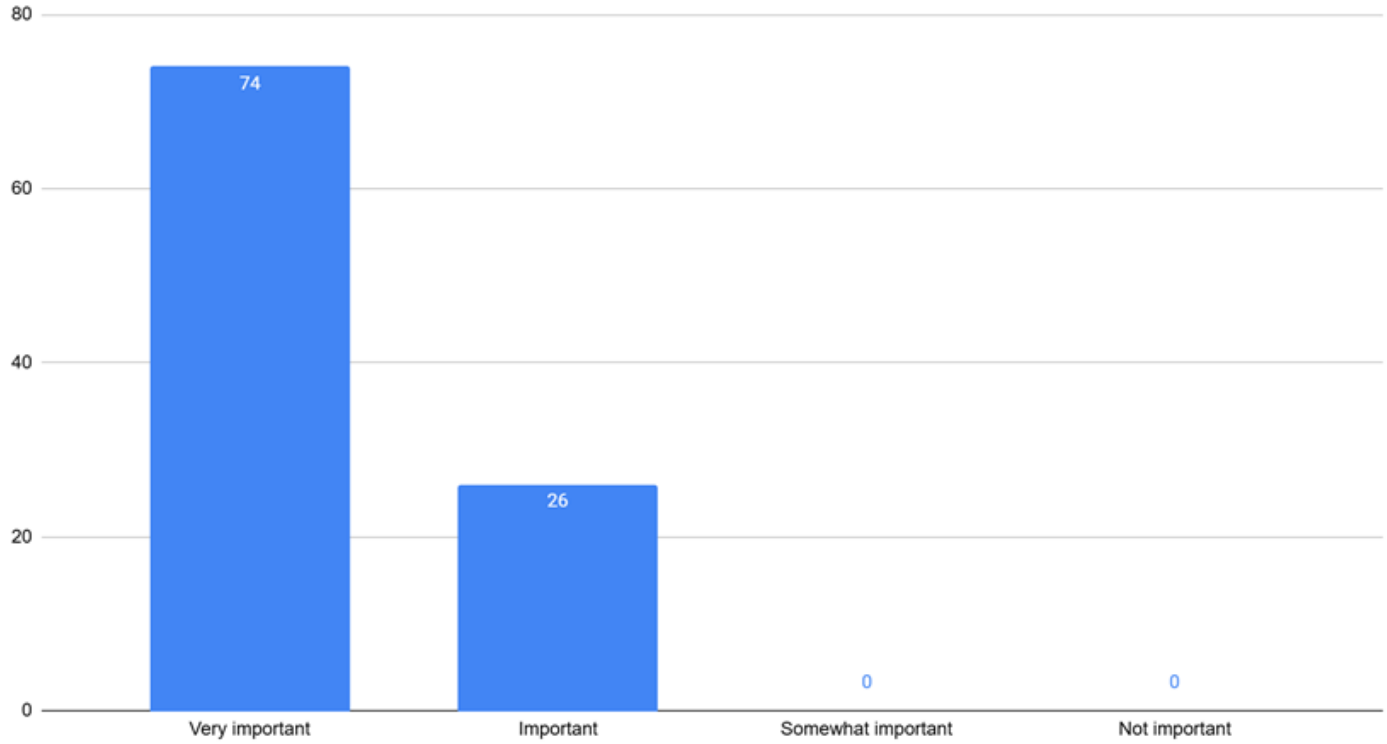
Chuuk Consumers: How likely are you to purchase locally processed food products if they are the same price and the same quality, as comparable imported products (example: local coconut oil versus imported cooking oils)?



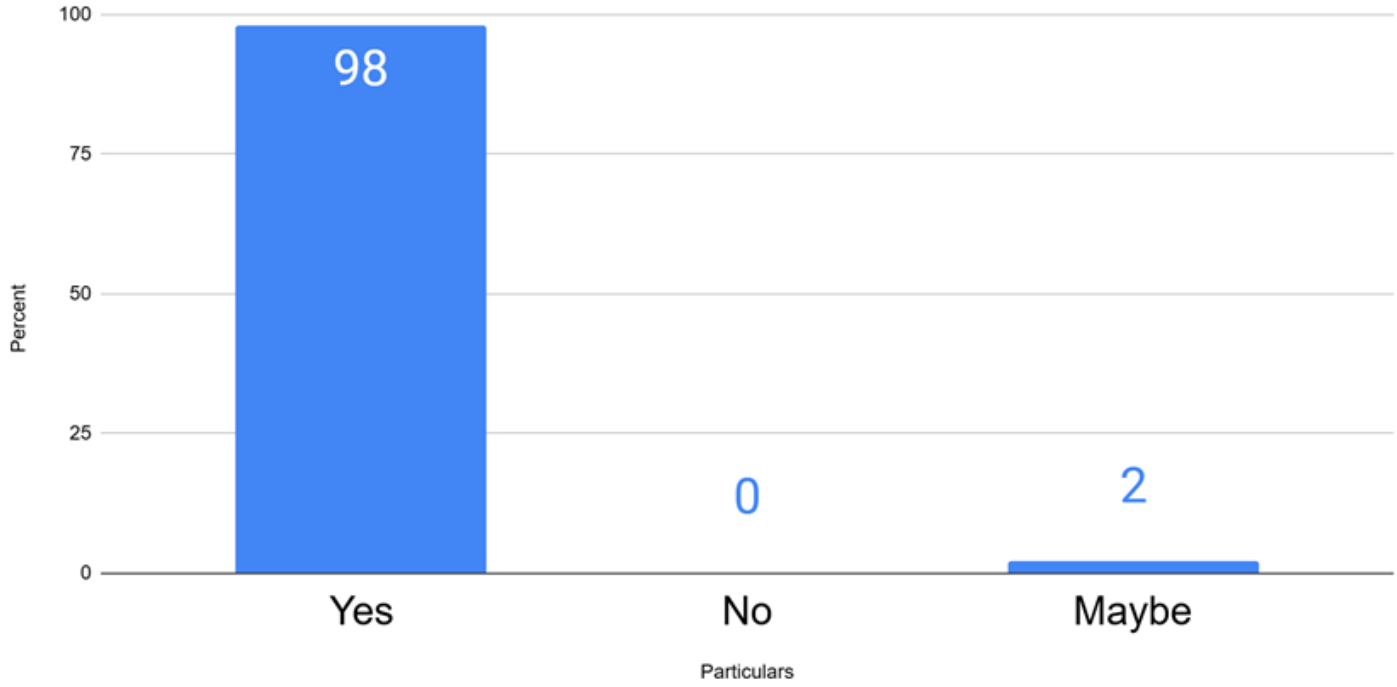
Chuuk Consumers: Which flavors or varieties of locally processed foods would you be most interested in?



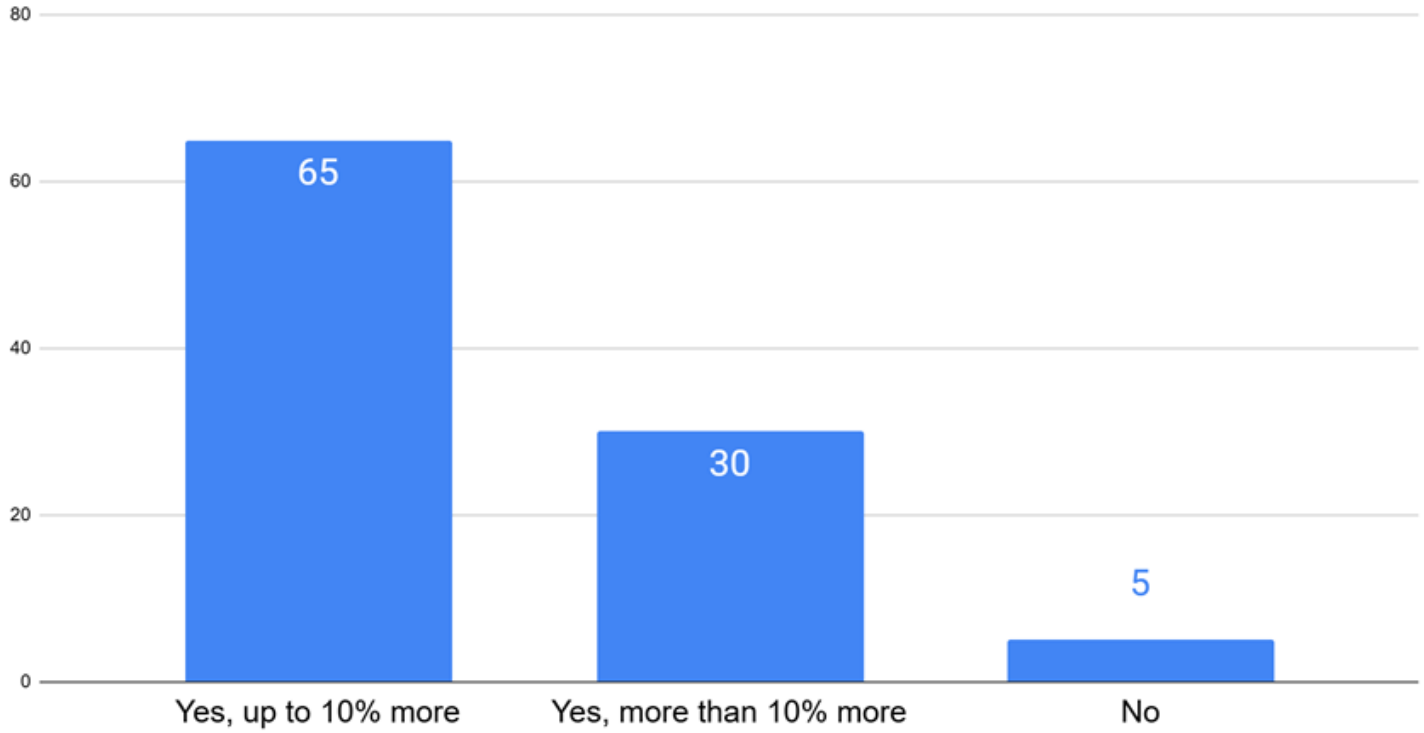
Chuuk Consumers: How important is it for you that locally processed foods are nutritious and contribute to a healthy diet?



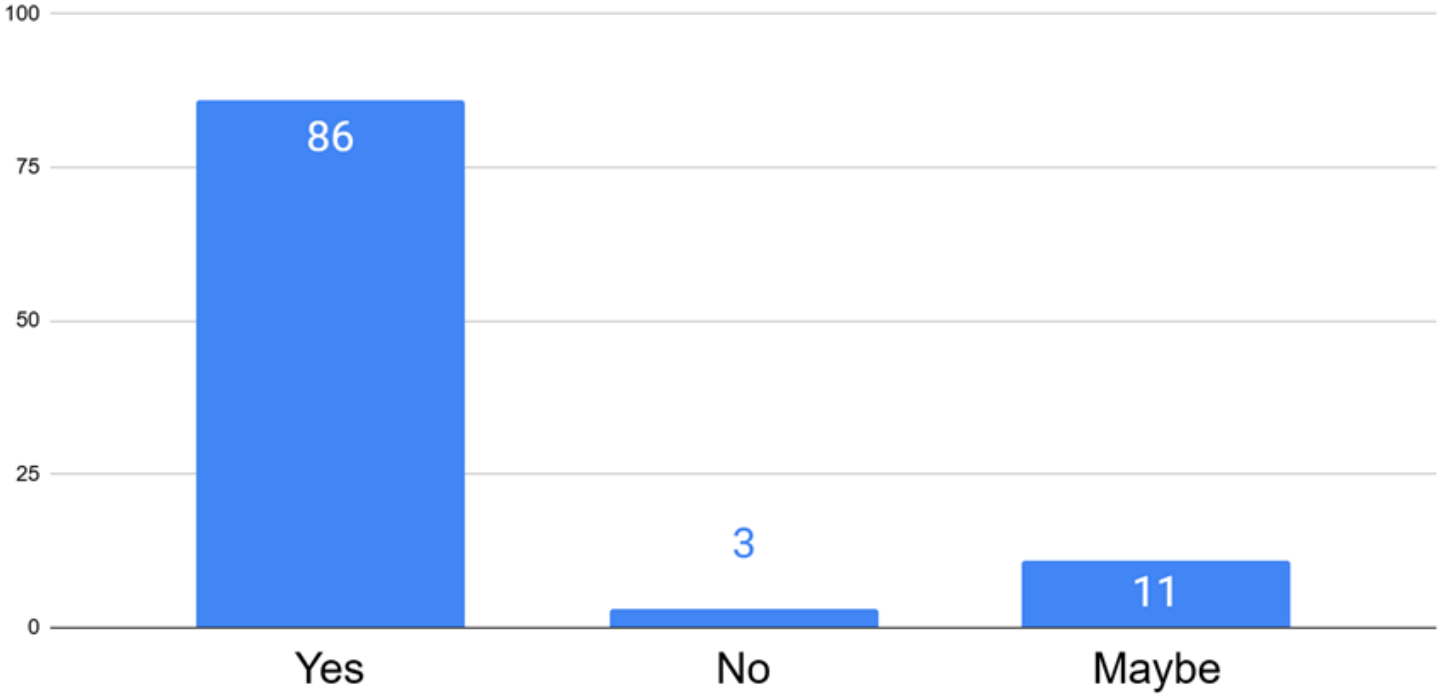
Chuuk Consumers: Would you support the purchasing of locally processed foods that contribute to community development or social causes (e.g., supporting local farmers, empowering women's groups)?



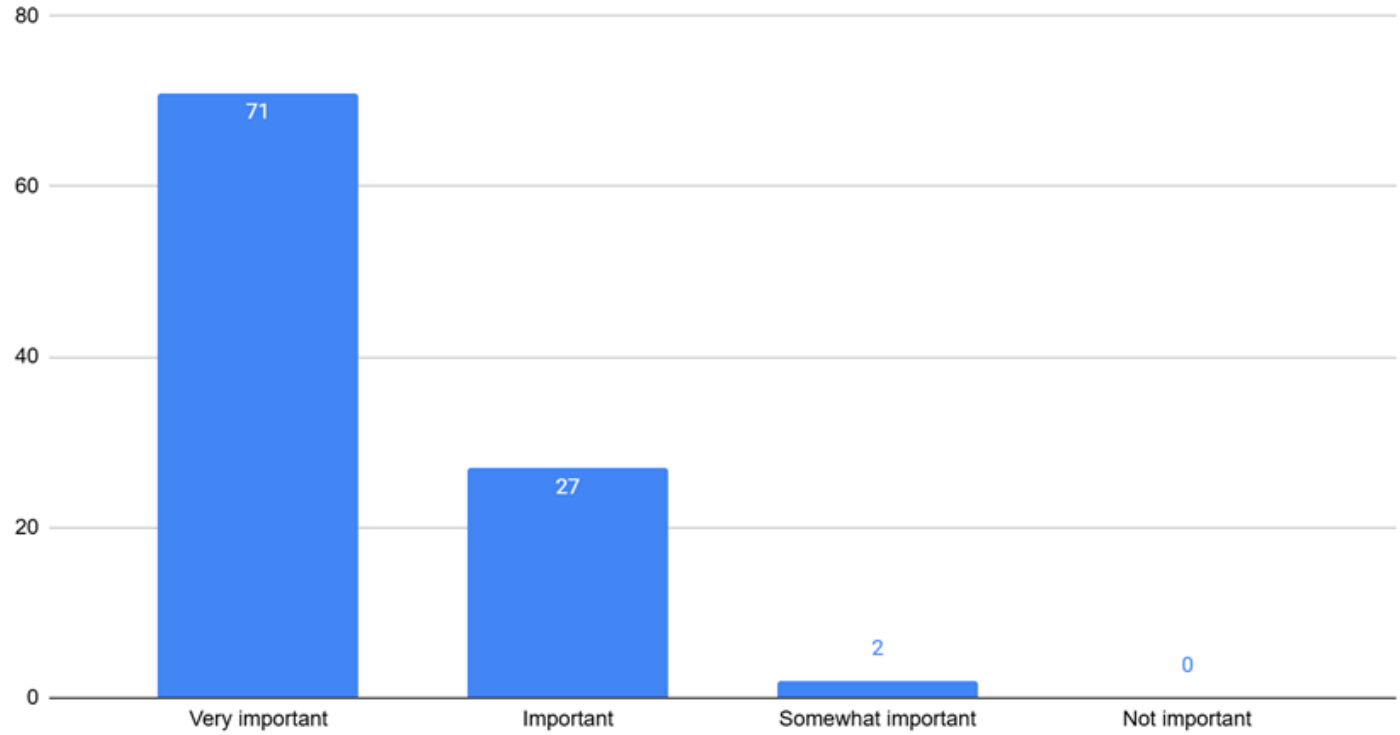
Chuuk Consumers: Would you be willing to pay more for products that support community/social causes?



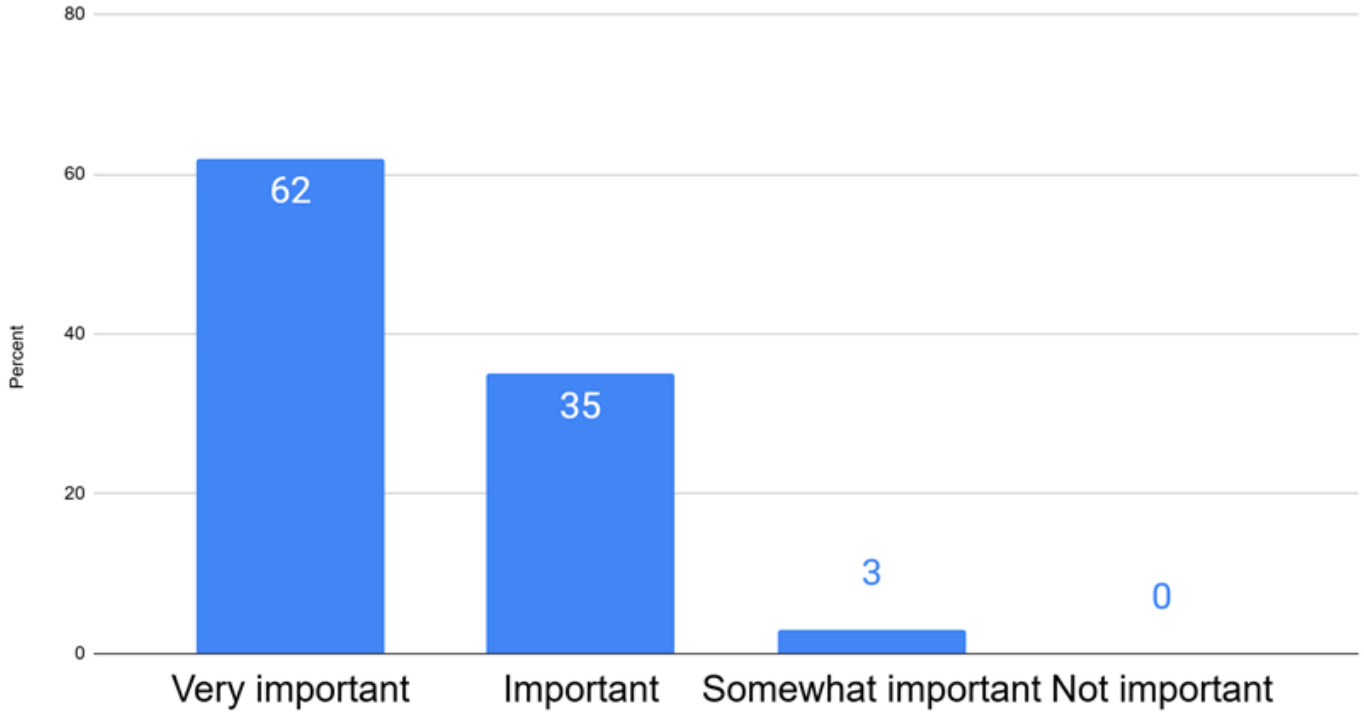
Chuuk Consumers: Would you participate in educational programs or workshops offered by the Food Innovation Center on local food processing techniques, cooking contests, nutrition programs, or culinary skills?



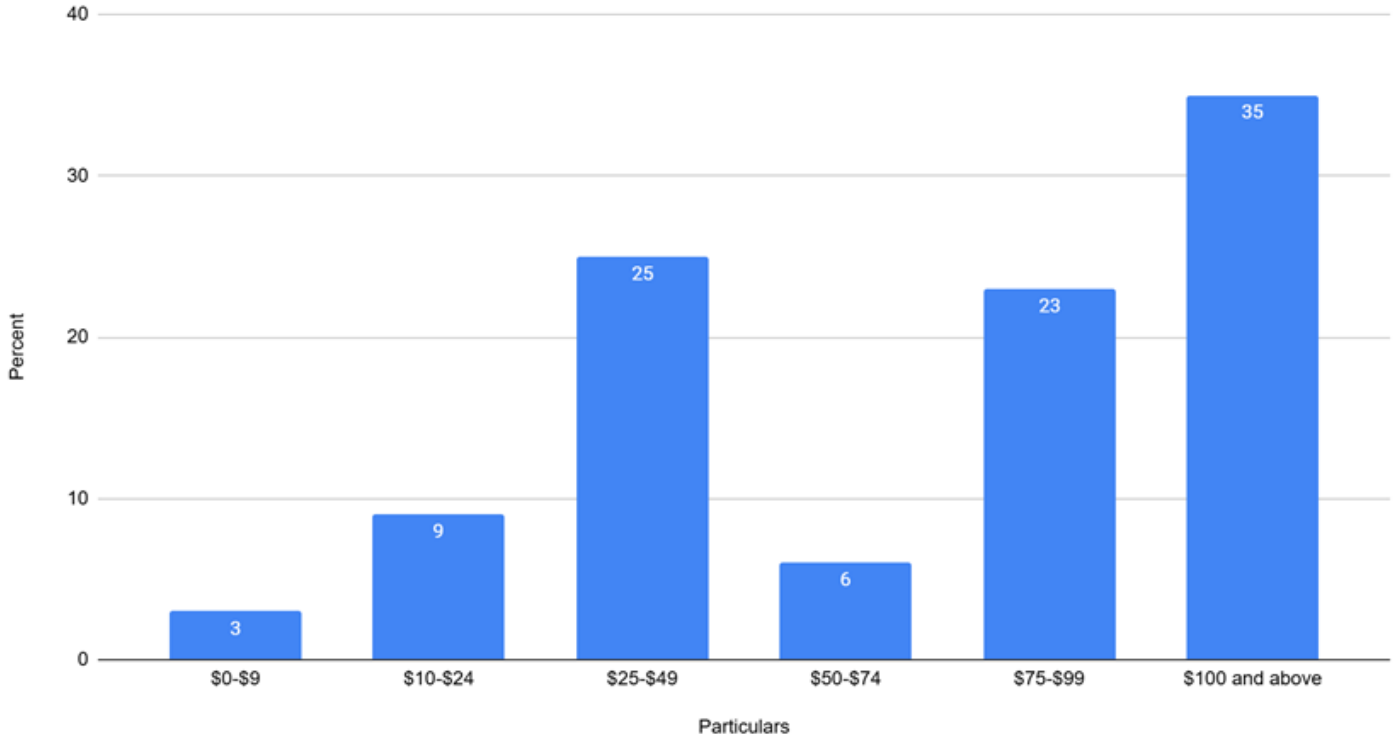
Chuuk Consumers: How important is it for you that locally processed foods have a long shelf life (does not easily spoil)?



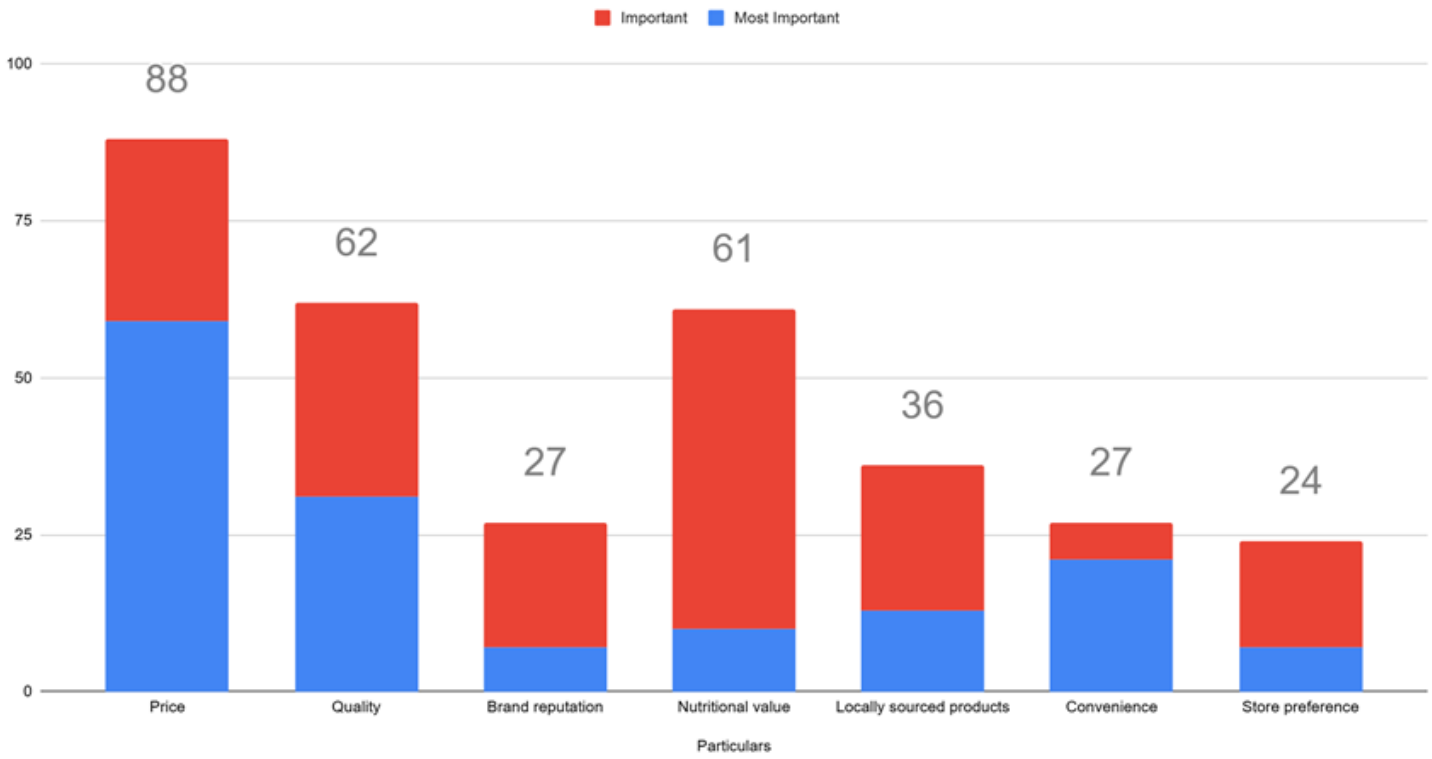
Chuuk Consumers: How important is it for you to have clear information on the nutritional content, ingredients, of your locally processed foods (labeling) (Example: How many calories, how much sugar, how much salt)?



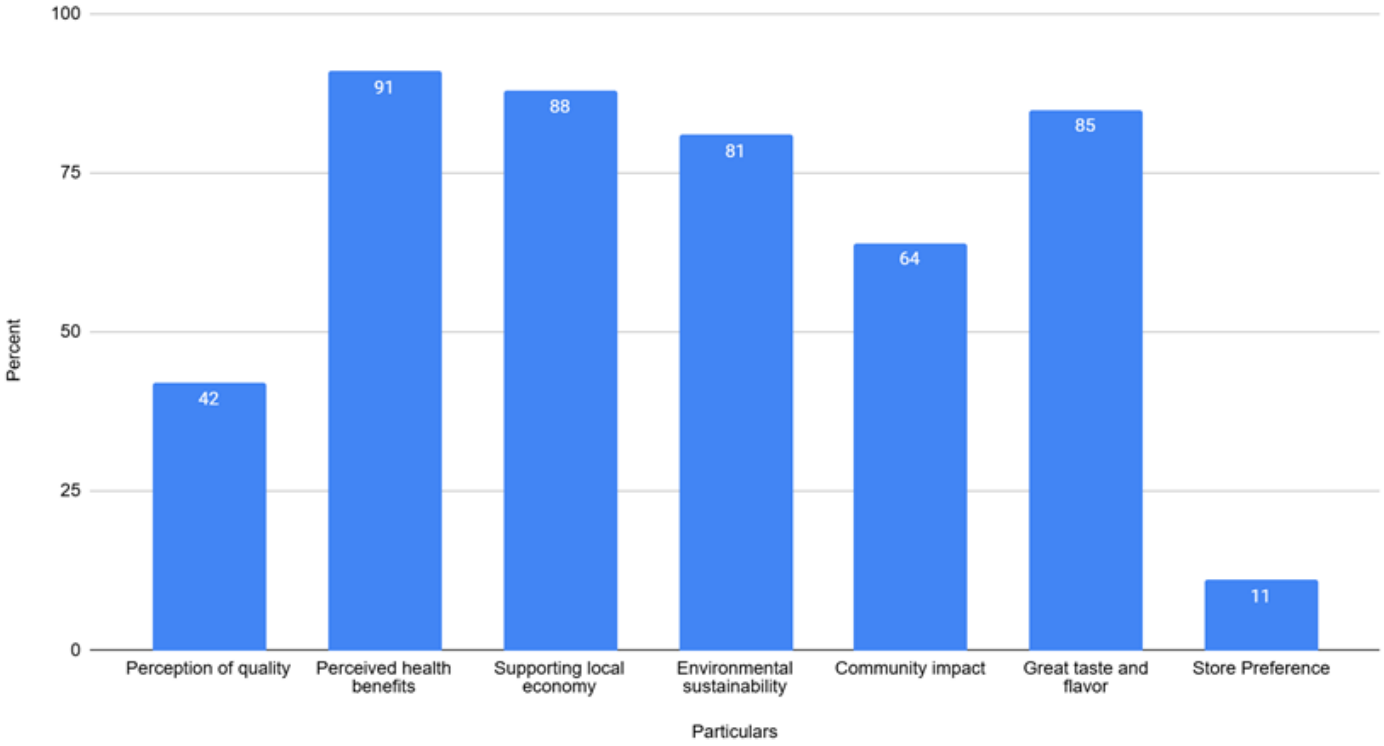
Chuuk Consumers: Approximately, how much money do you spend each bi-weekly on imported food?



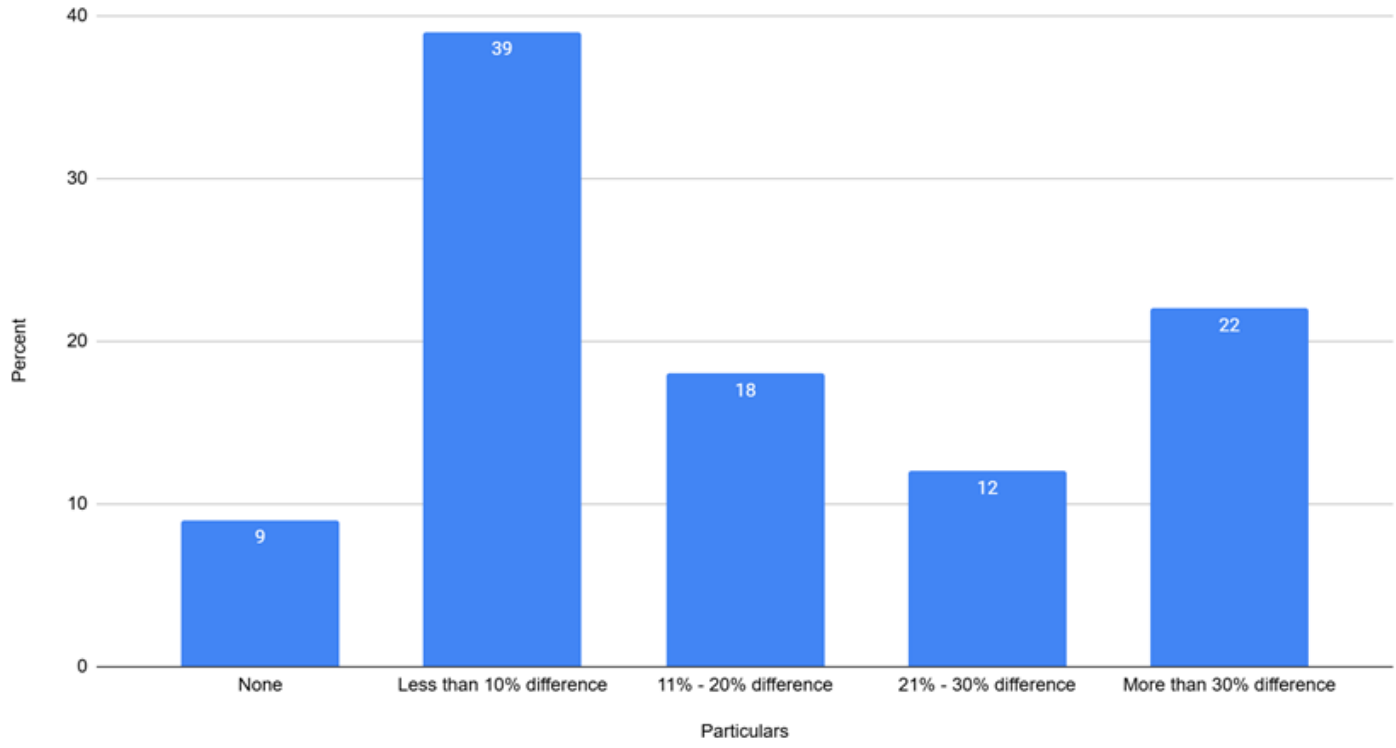
Chuuk Consumers: When it comes to purchasing food products, which of the following factors influence your spending decisions the most?



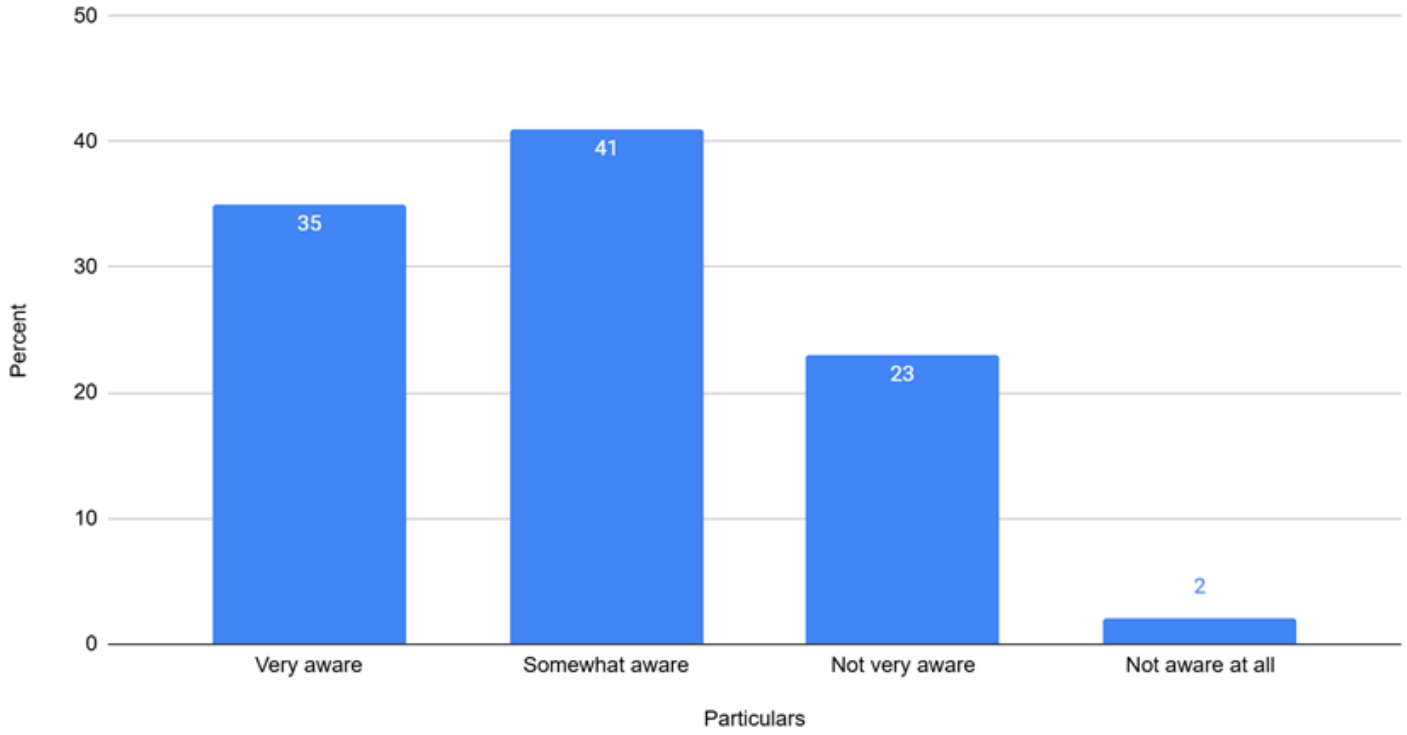
Chuuk Consumers: What factors would influence your willingness to pay more for local processed products?



Chuuk Consumers: How much of a price difference would deter you from purchasing locally processed products over an imported alternative?

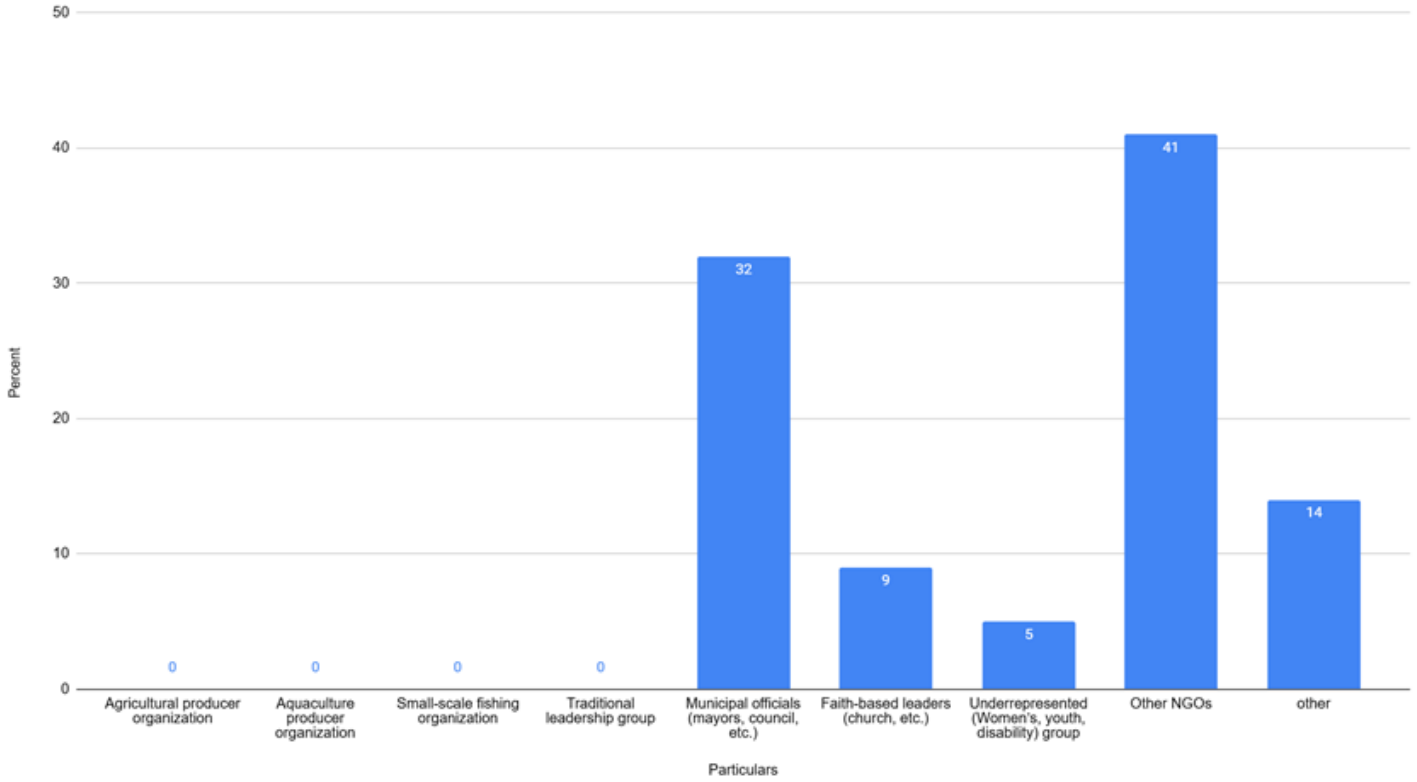


Chuuk Consumers: How aware are you of locally produced processed products currently available in your town, state and the FSM?

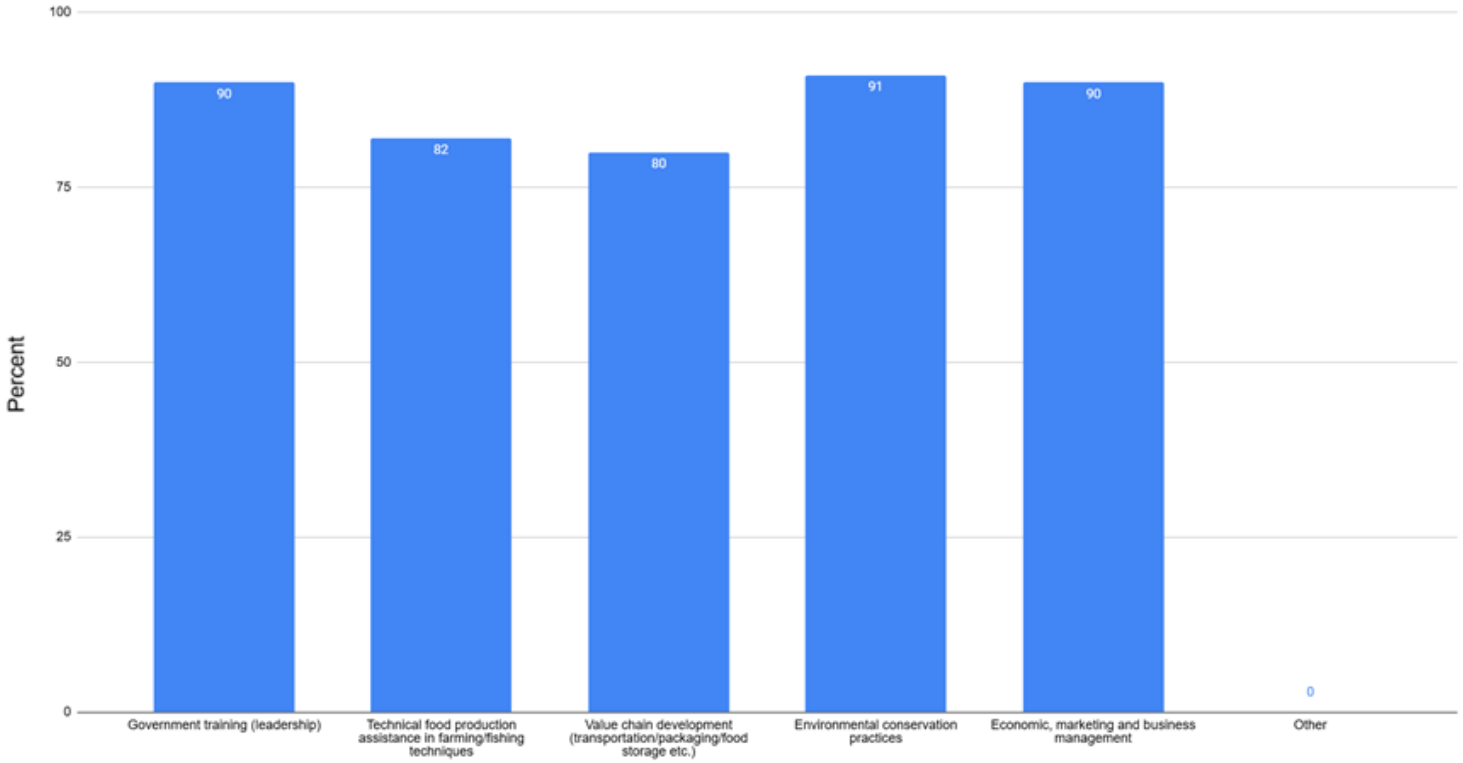


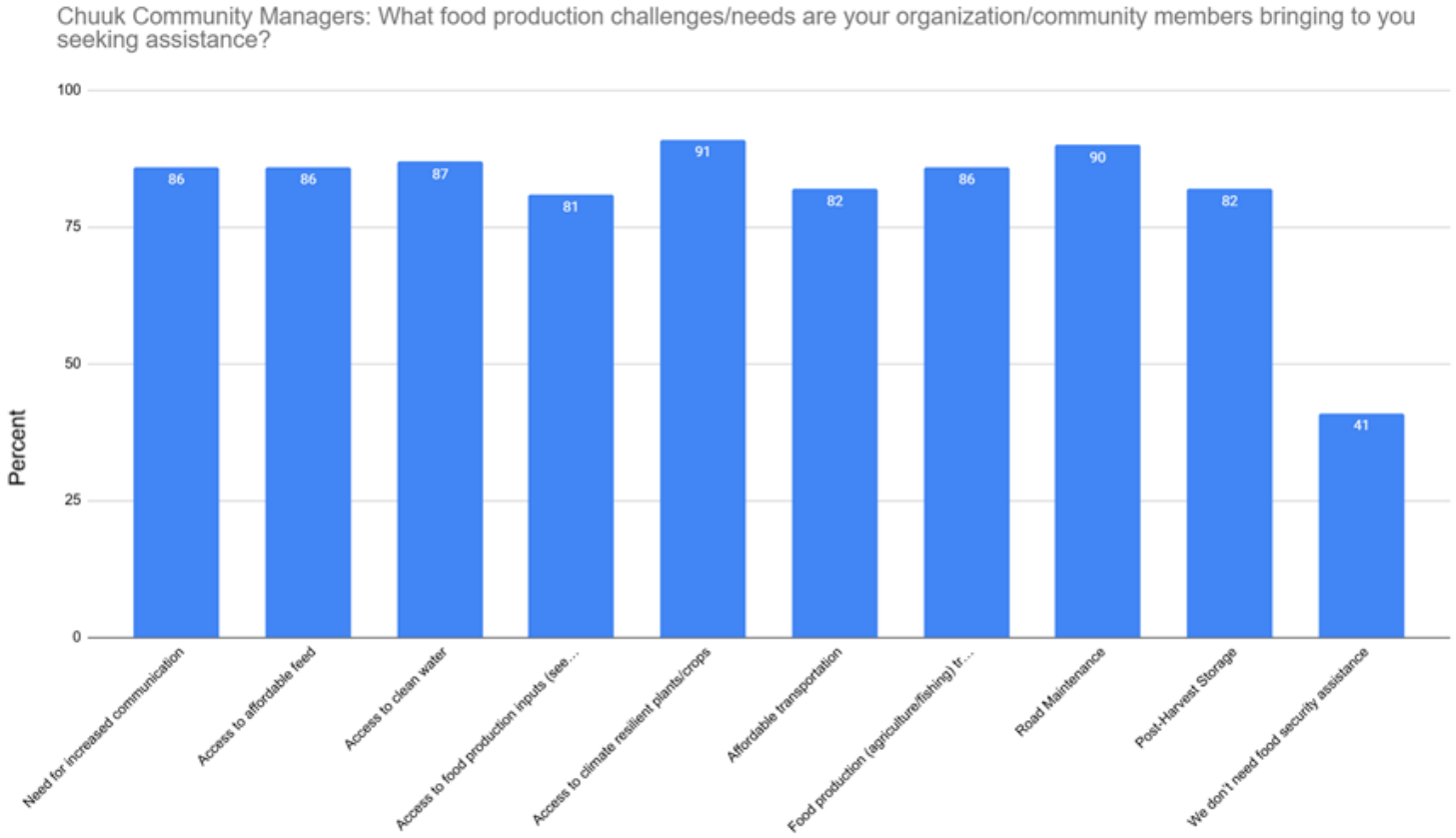
Federated States of Micronesia
Food Systems Solutions Project
FSS Survey Data Tables and Charts
Chuuk State
Community Managers

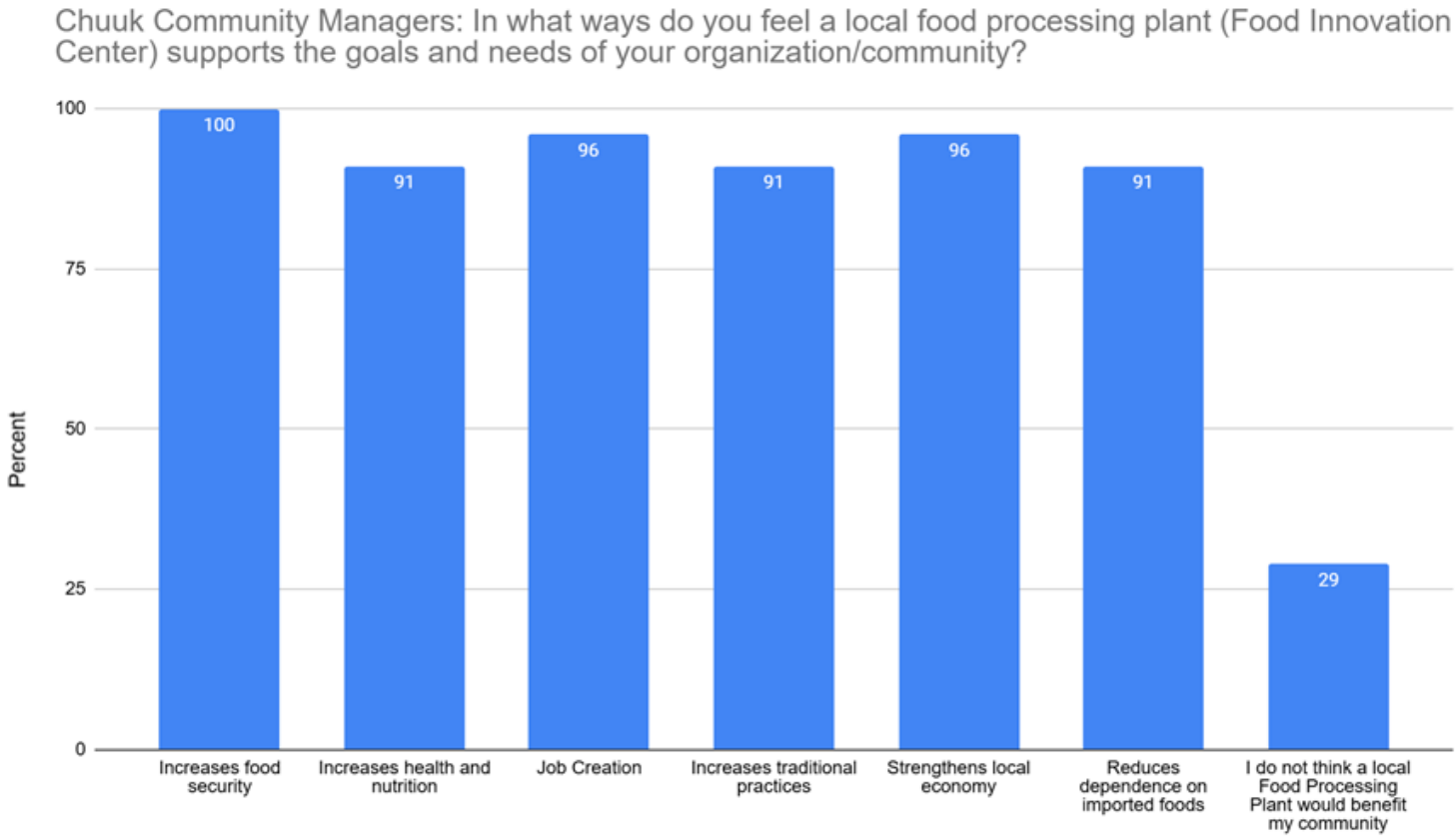
Chuuk Community Managers: What type of organization/group (NGOs) do you represent?



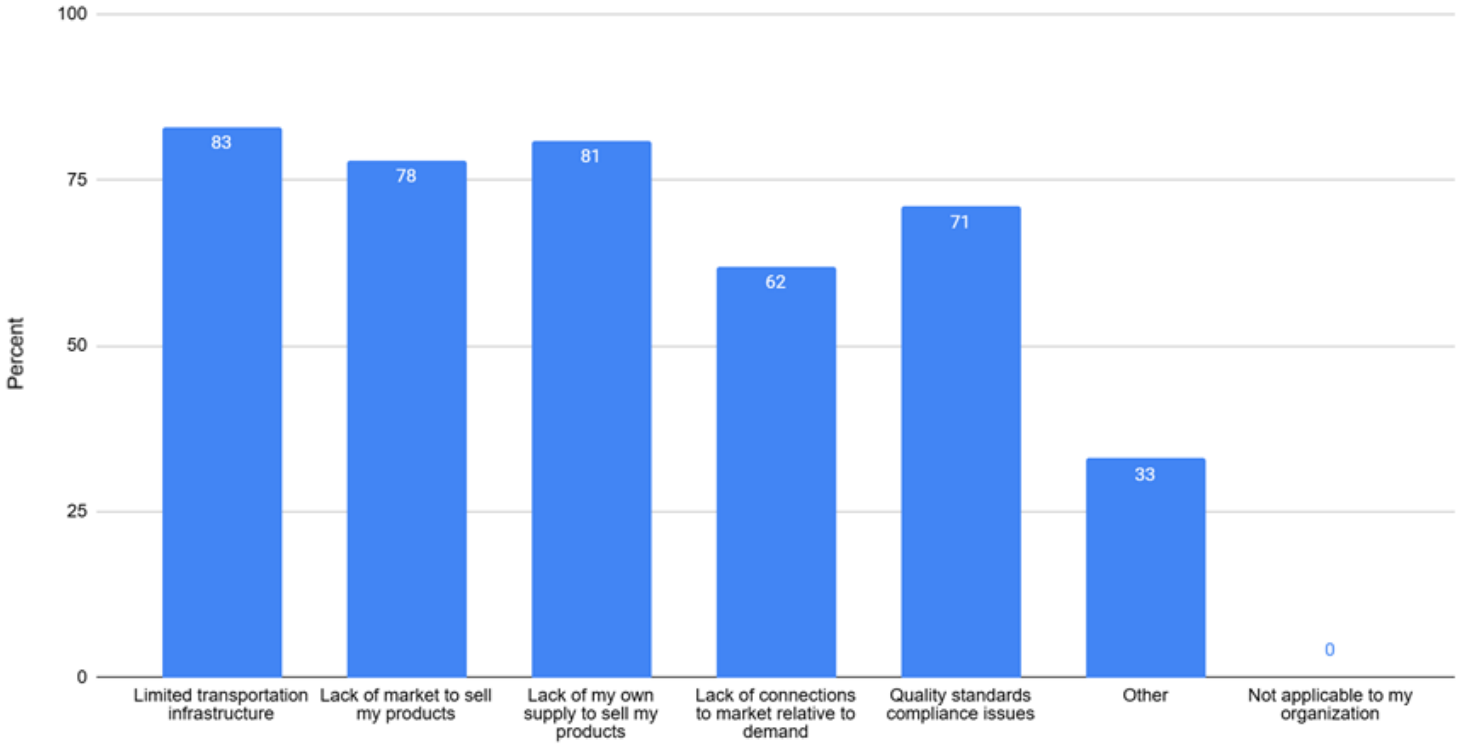
Chuuk Community Managers: What areas do you think your organization/community may need support for more effective management of your farming families and food producers?



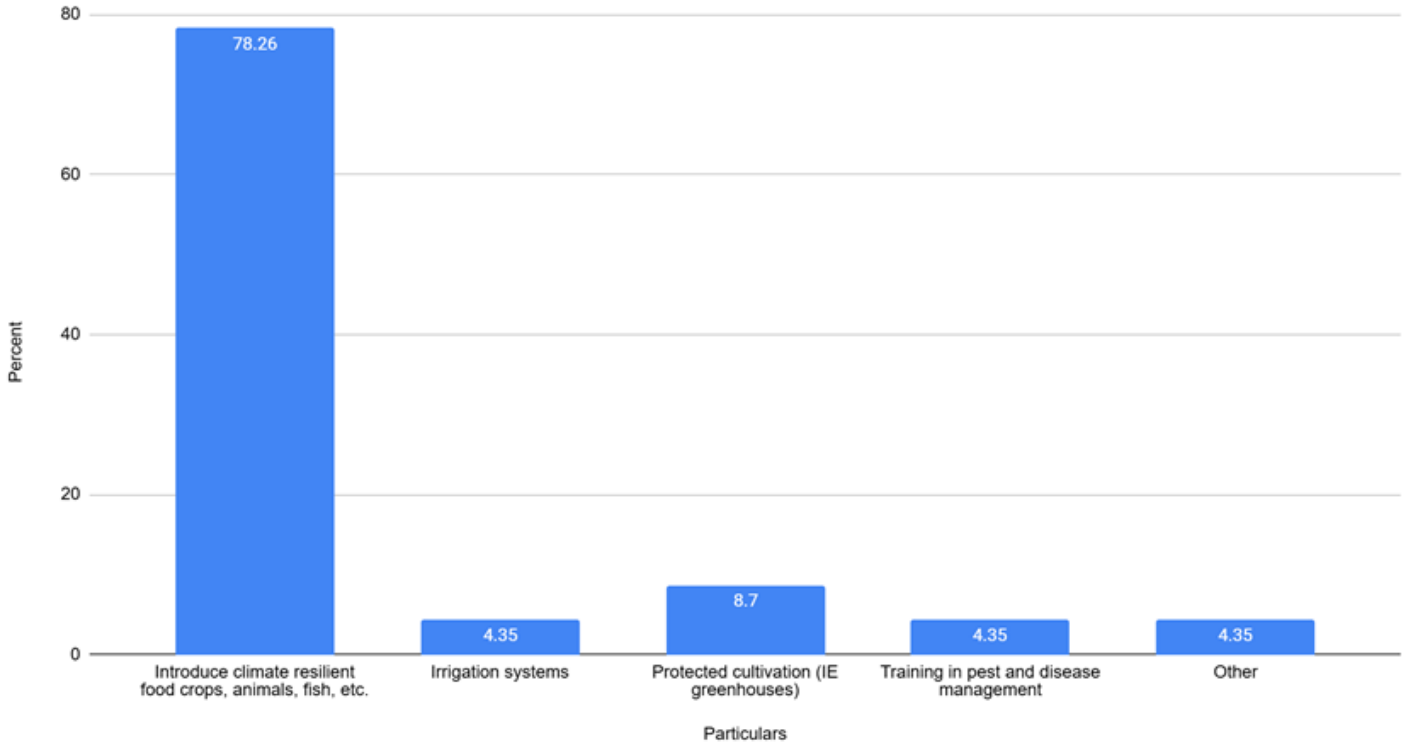

Chuuk Community Managers: What food production challenges/needs are your organization/community members bringing to you seeking assistance?
Percent
100
75
50
25
0
86
86
87
81
91
82
86
90
82
41
Need for increased communication
Access to affordable feed
Access to clean water
Access to food production inputs (see…
Access to climate resilient plants/crops
Affordable transportation
Food production (agriculture/fishing) tr…
Road Maintenance
Post-Harvest Storage
We don't need food security assistance


Chuuk Community Managers: In what ways do you feel a local food processing plant (Food Innovation Center) supports the goals and needs of your organization/community?
Percent
100
75
50
25
0
100
91
96
91
96
91
29
Increases food security
Increases health and nutrition
Job Creation
Increases traditional practices
Strengthens local economy
Reduces dependence on imported foods
I do not think a local Food Processing Plant would benefit my community

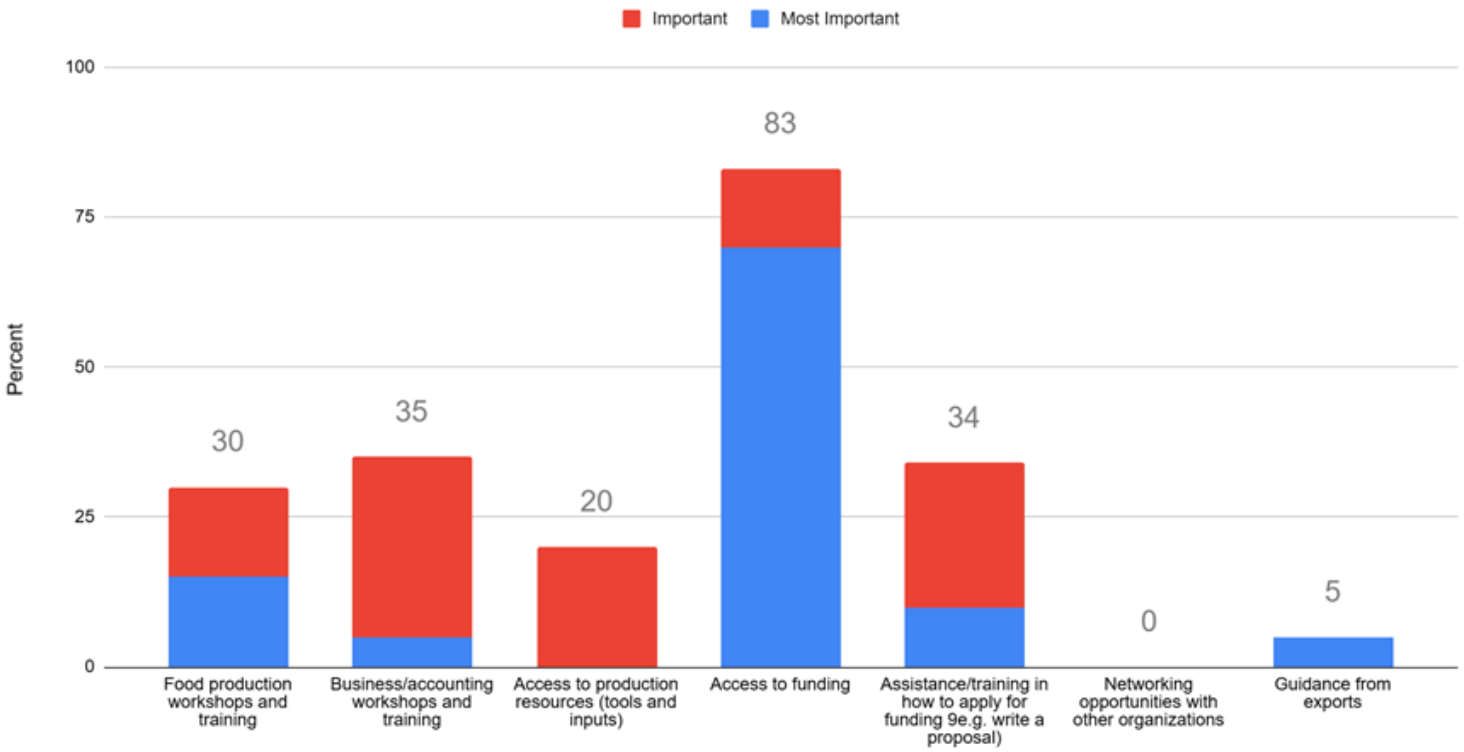
Chuuk Community Managers: What challenges does your organization/community face in accessing markets for your agricultural or aquatic products?



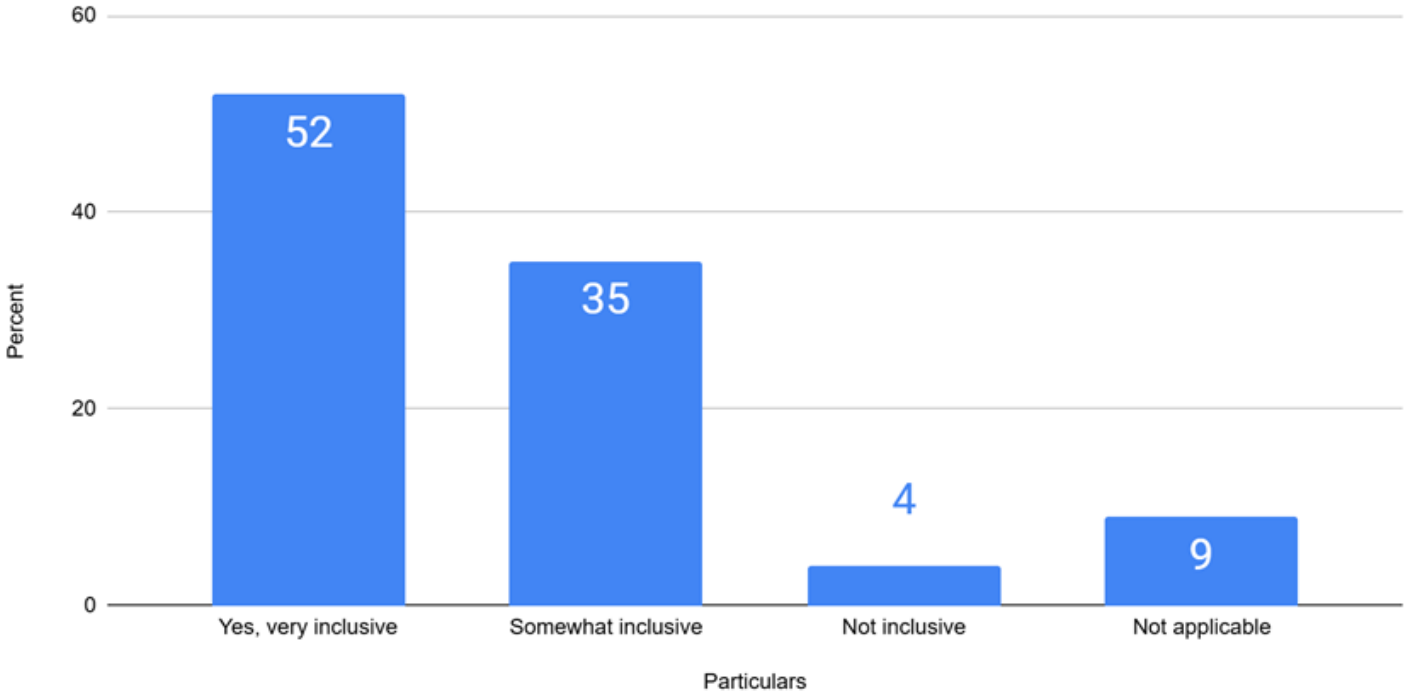
Chuuk Community Managers: What climate smart strategies would you be interested in employing to best support the needs of your organization/community?



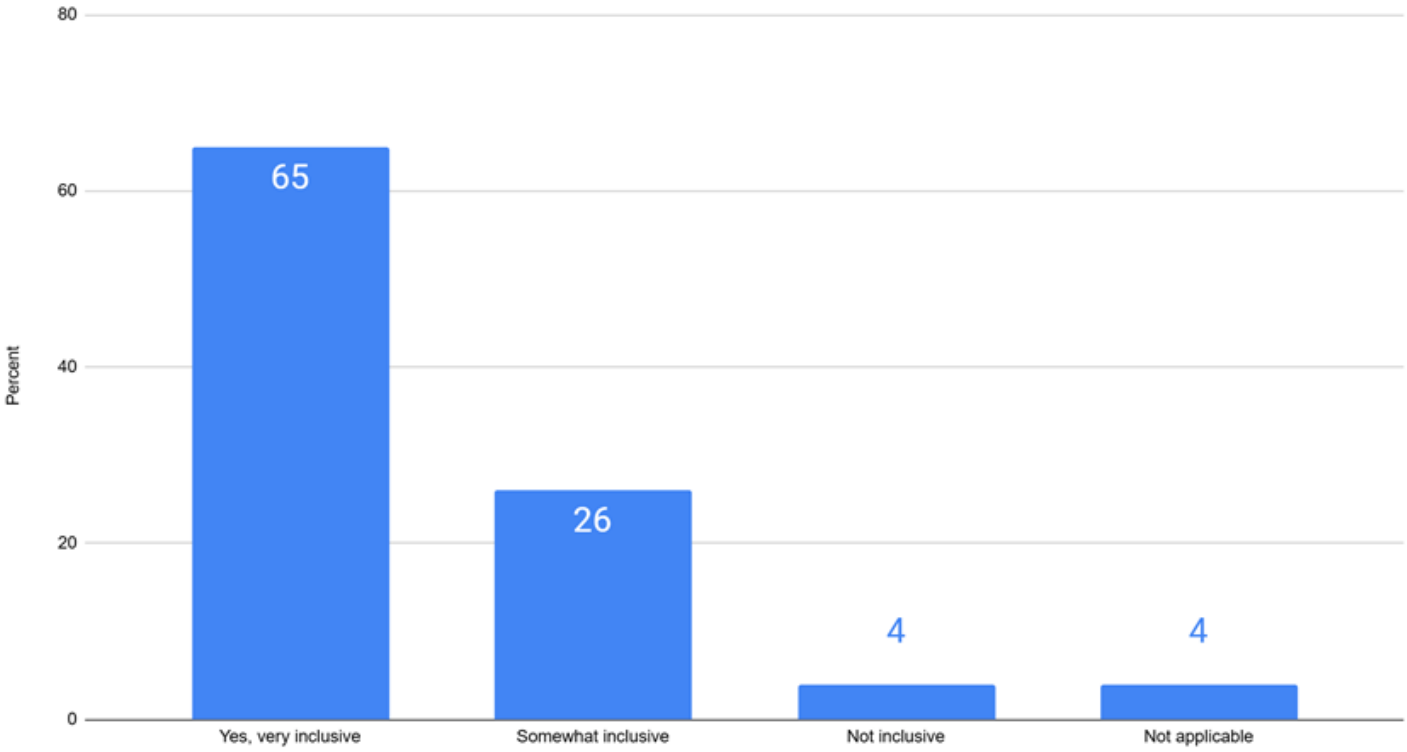
Chuuk Community Managers: What type of support do you feel would be most helpful to your food producers?



Chuuk Community Managers: Do you feel your organization/community is inclusive to differently-abled and senior citizens in decision-making processes and leadership roles?

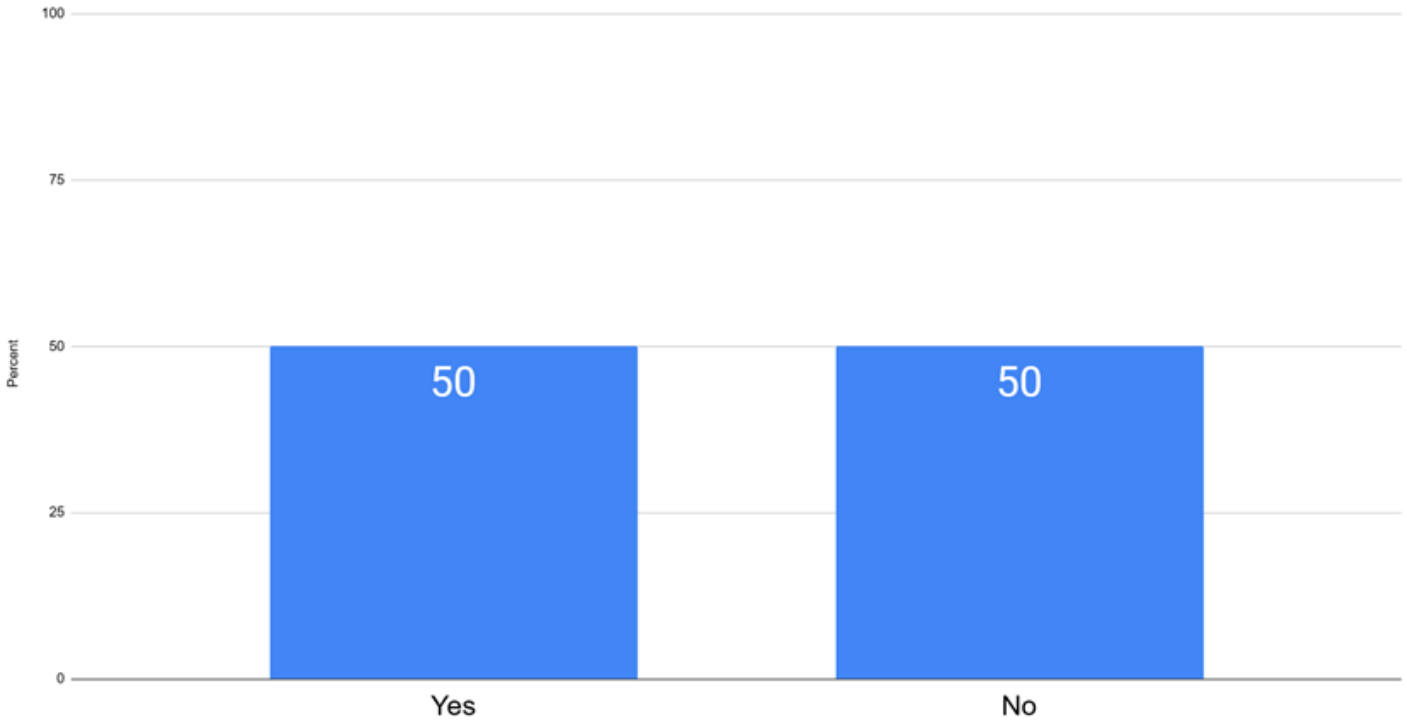


Chuuk Community Managers: Does your organization/community engage youth (ages 13-35) in training and participation?

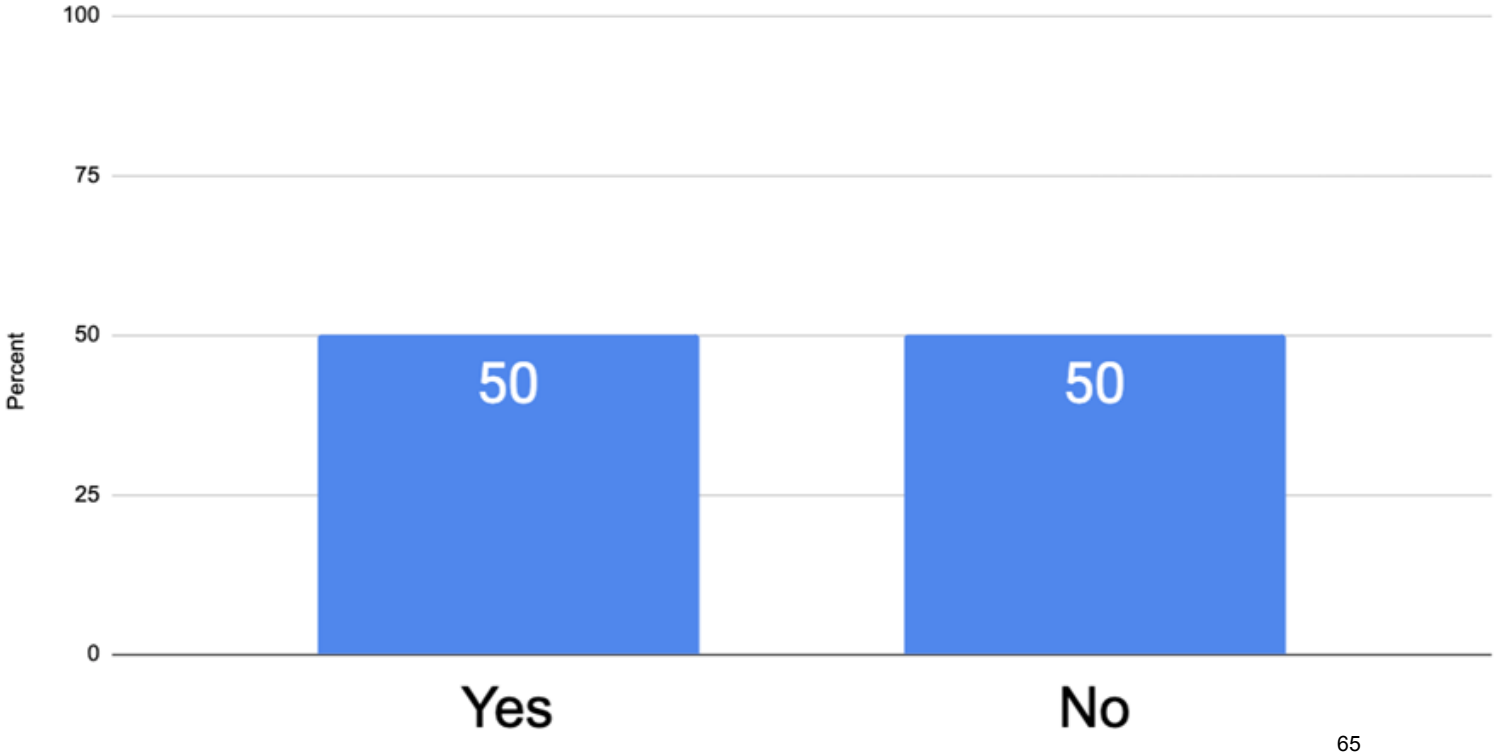


Federated States of Micronesia
Food Systems Solutions Project
FSS Survey Data Tables and Charts
Chuuk State
IIP & IT

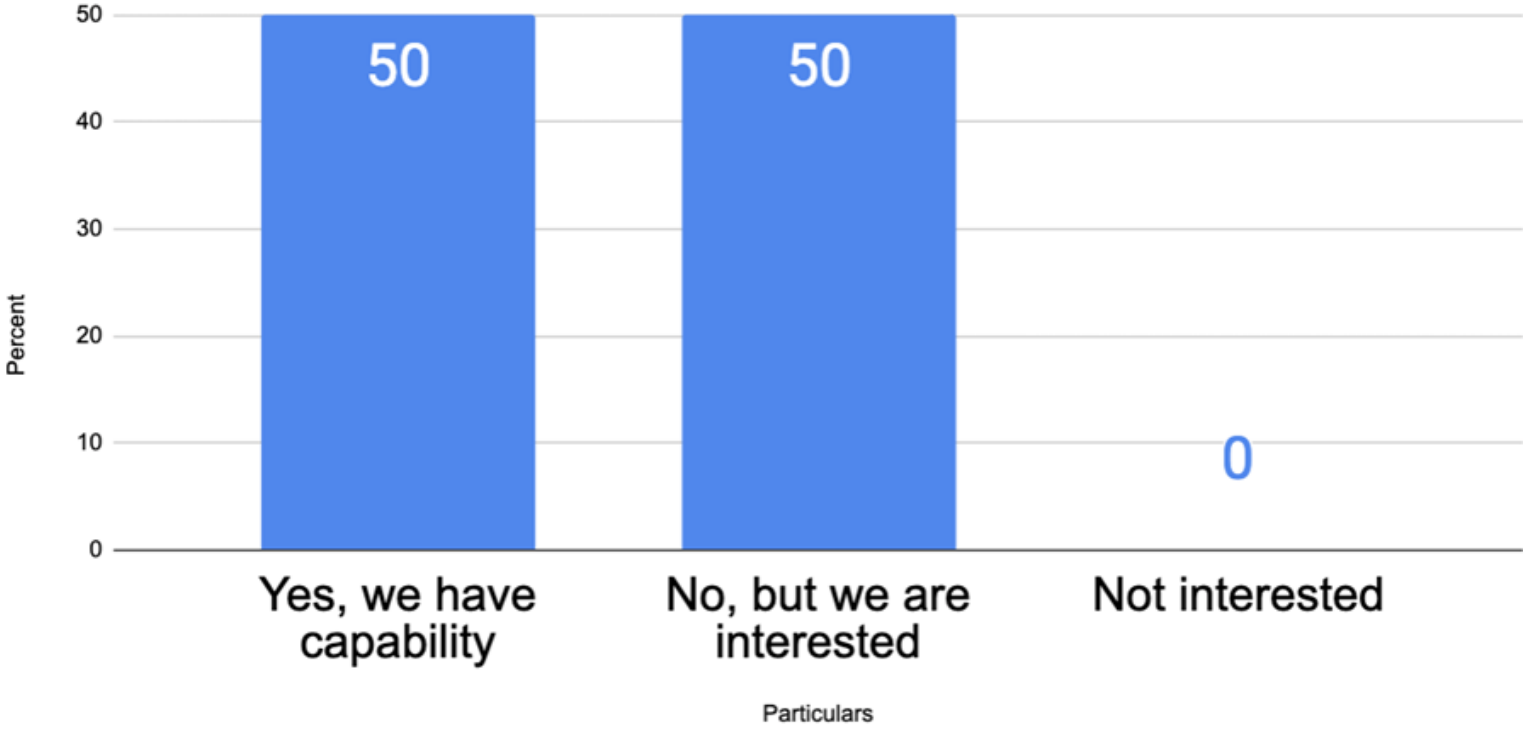
Chuuk IIP and IT: Is there now (using Emergency Responders or other specialized means) a way to utilize content delivery networks (CDNs), for example to distribute agricultural content across servers closer to the islands, reducing the distance data needs to travel?



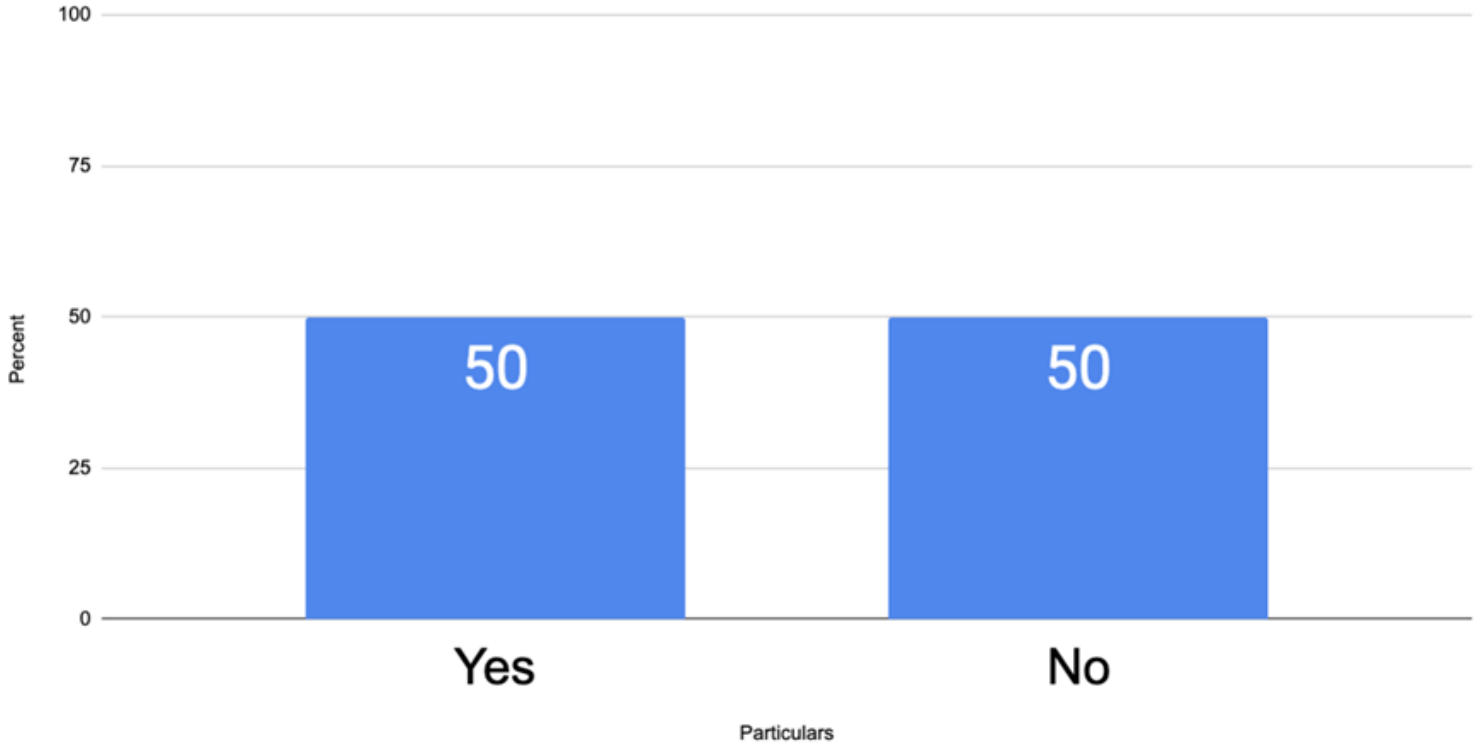
Chuuk IIP and IT: Do you already have or can you set-up voice-based hotlines with interactive voice response (IVR) systems to provide agricultural information and guidance?



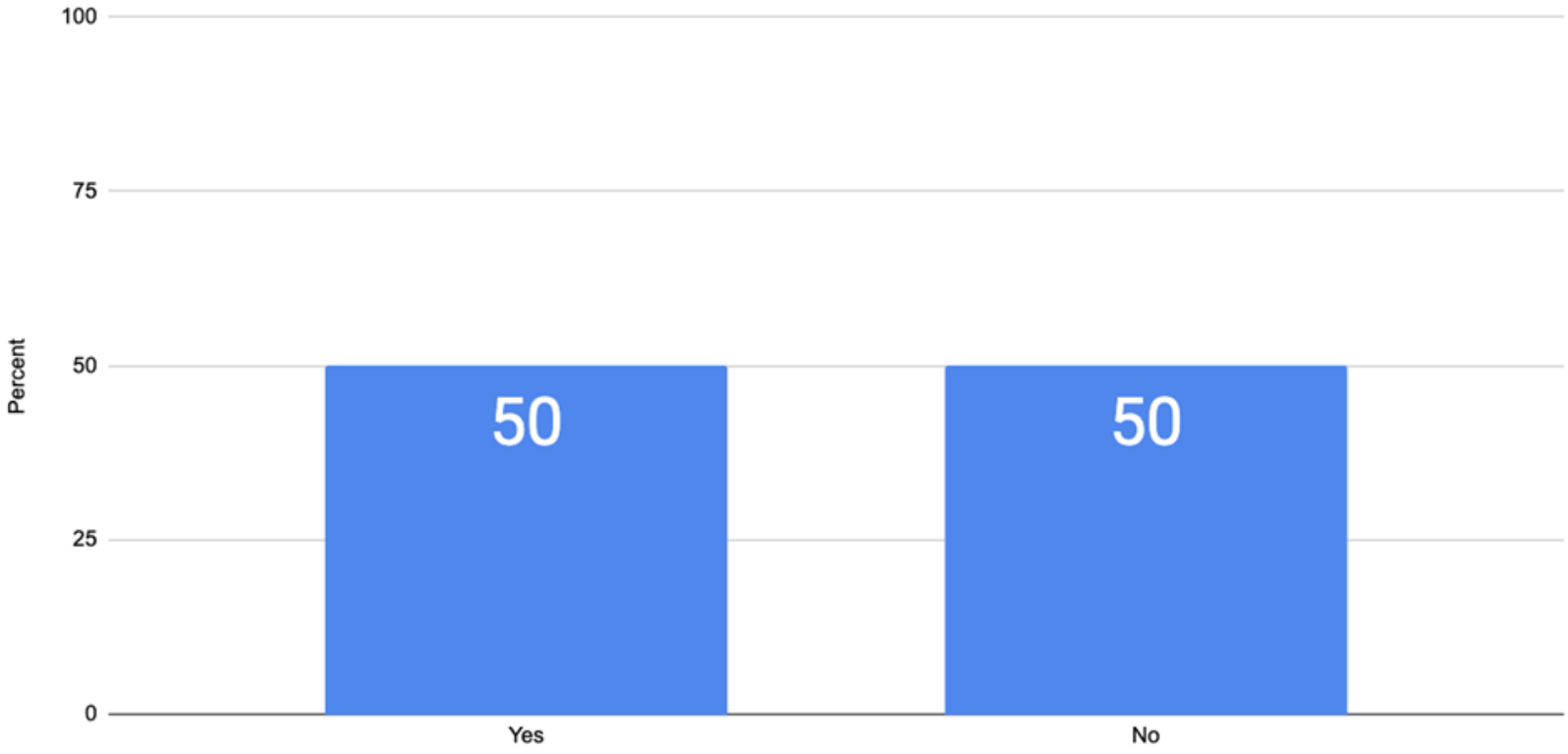
Chuuk IIP and IT: Do you have capability and interest in SMS-based systems to deliver agricultural information, market updates, and weather forecasts to growers and residents?



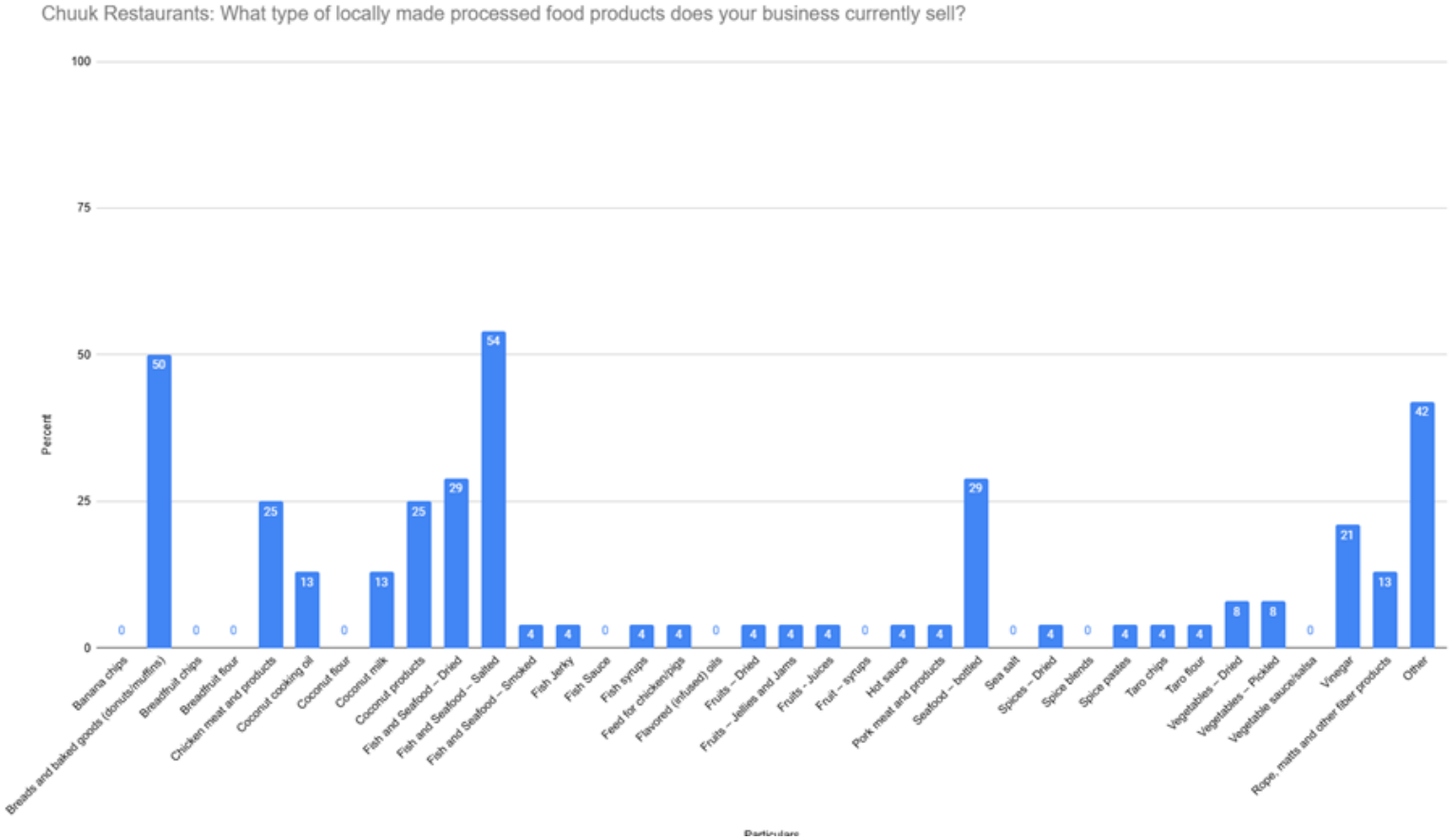
Chuuk IIP and IT: Does your company have plans to recommend the implementation of traffic management techniques, such as quality of service (QoS), to prioritize agricultural information dissemination over non-critical data?



Chuuk IIP and IT: Do you now use cloud-based solutions to enhance scalability and accessibility?



Federated States of Micronesia
Food Systems Solutions Project
FSS Survey Data Tables and Charts
Chuuk State
Restaurants


Chuuk Restaurants: What type of locally made processed food products does your business currently sell?
Percent
100
75
50
25
0
Particulars
Banana chips
Breads and baked goods (donuts/muffins)
Breadfruit chips
Breadfruit flour
Chicken meat and products
Coconut cooking oil
Coconut flour
Coconut milk
Coconut products
Fish and Seafood – Dried
Fish and Seafood – Salted
Fish and Seafood – Smoked
Fish Jerky
Fish Sauce
Fish syrups
Feed for chicken/pigs
Flavored (infused) oils
Fruits – Dried
Fruits – Jellies and Jams
Fruits - Juices
Fruit – syrups
Hot sauce
Pork meat and products
Seafood – bottled
Sea salt
Spices – Dried
Spice blends
Spice pastes
Taro chips
Taro flour
Vegetables – Dried
Vegetables – Pickled
Vegetable sauces/salsa
Vinegar
Rope, mats and other fiber products
Other
0
50
0
0
25
13
0
13
25
29
54
4
4
0
4
4
0
4
4
4
0
4
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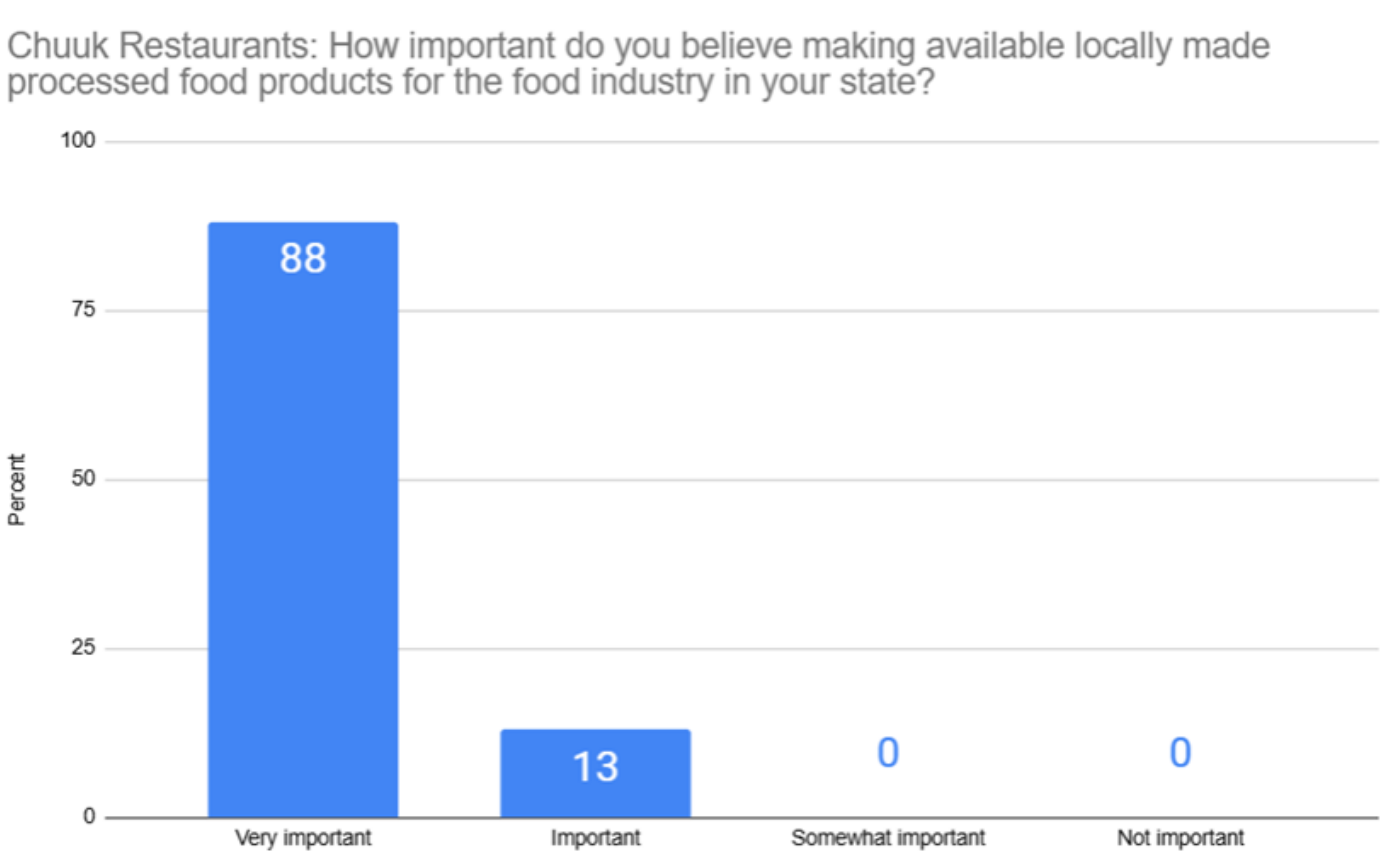
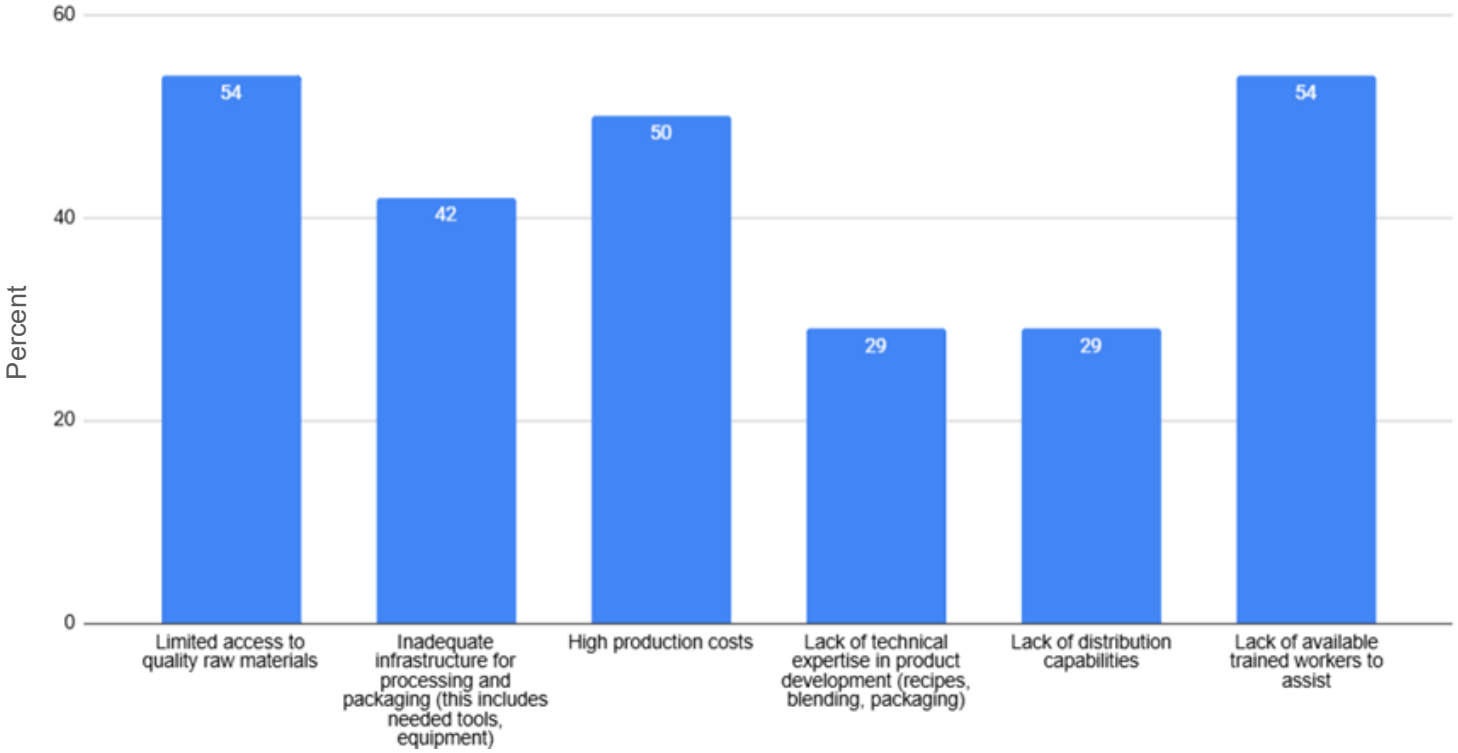
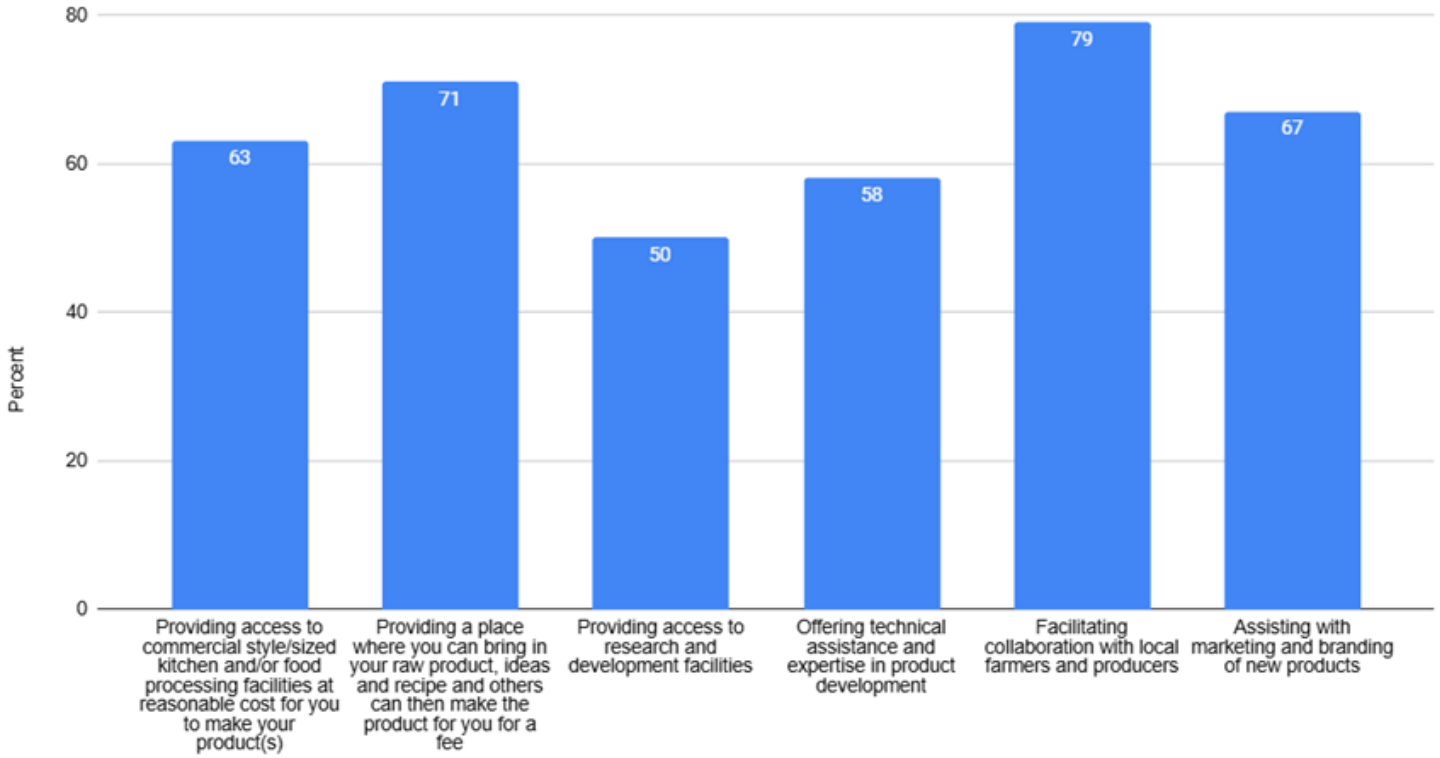
29
0
4
0
4
4
4
8
8
0
21
13
42


Chuuk Restaurants: How important do you believe making available locally made processed food products for the food industry in your state?
Percent
100
75
50
25
0
88
13
0
0
Very important
Important
Somewhat important
Not important

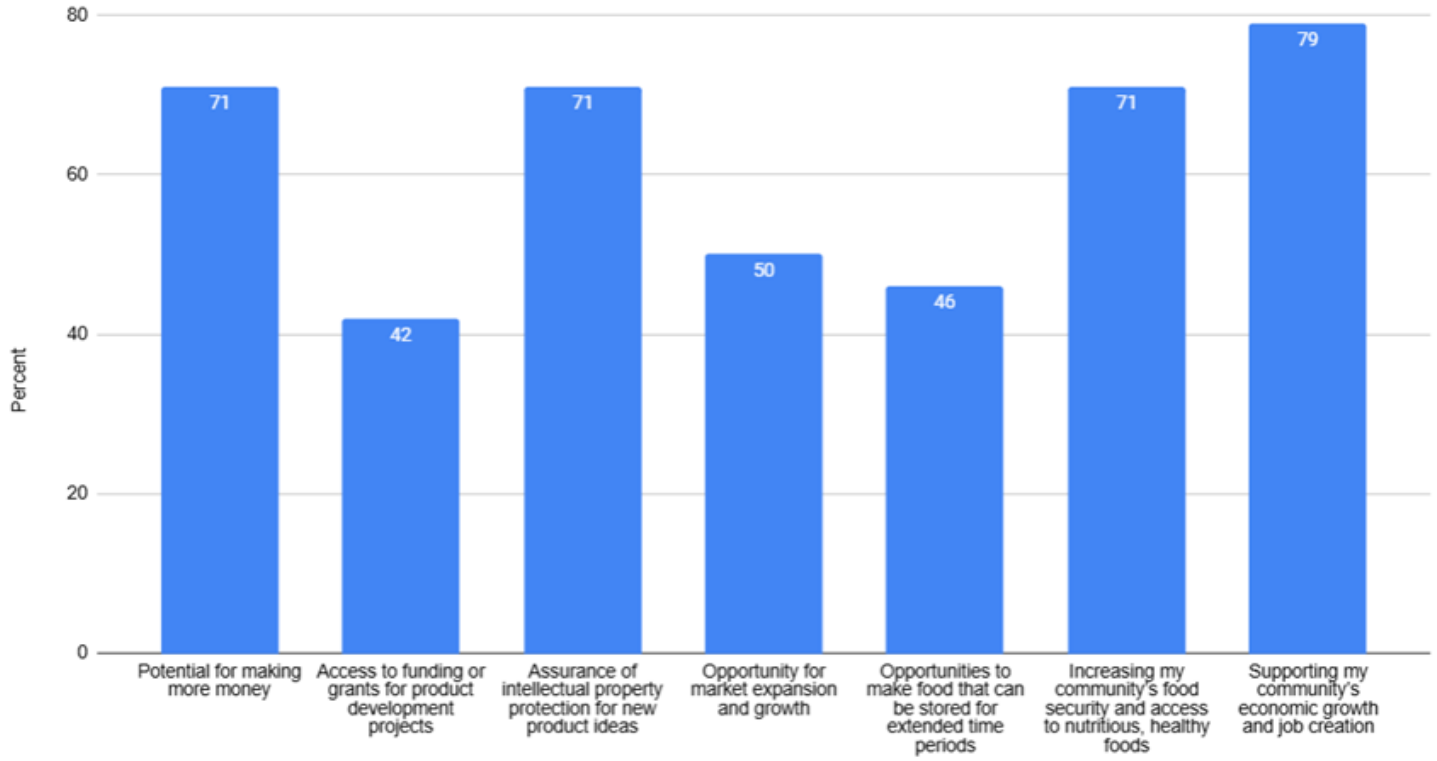
Chuuk Restaurants: What specific challenges do you face in sourcing or producing locally made processed food products in your state?



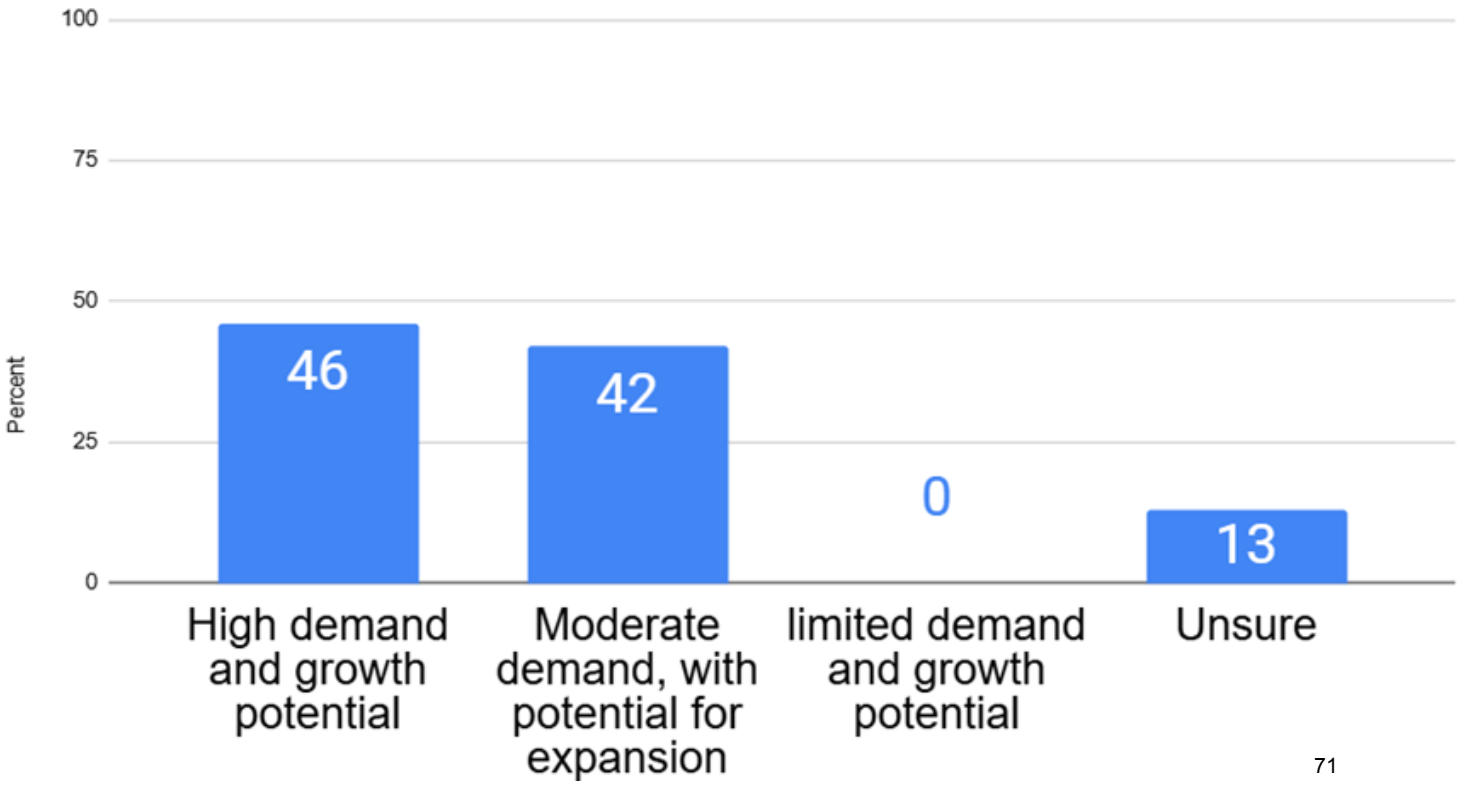
Chuuk Restaurants: How do you think a food innovation (or incubator) center could benefit your business and the food industry in your state?



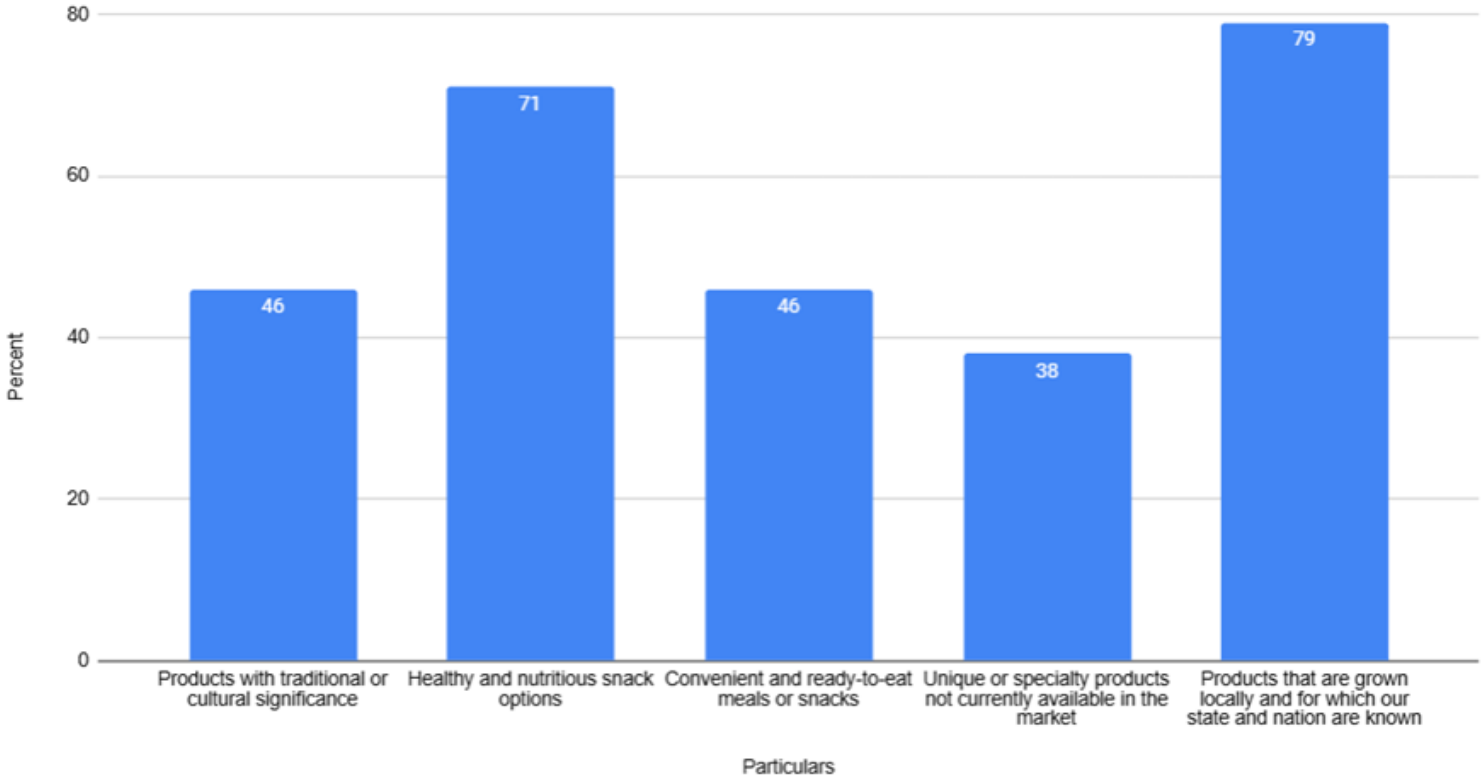
Chuuk Restaurants: Which factors would influence your willingness to collaborate with a food innovation center?



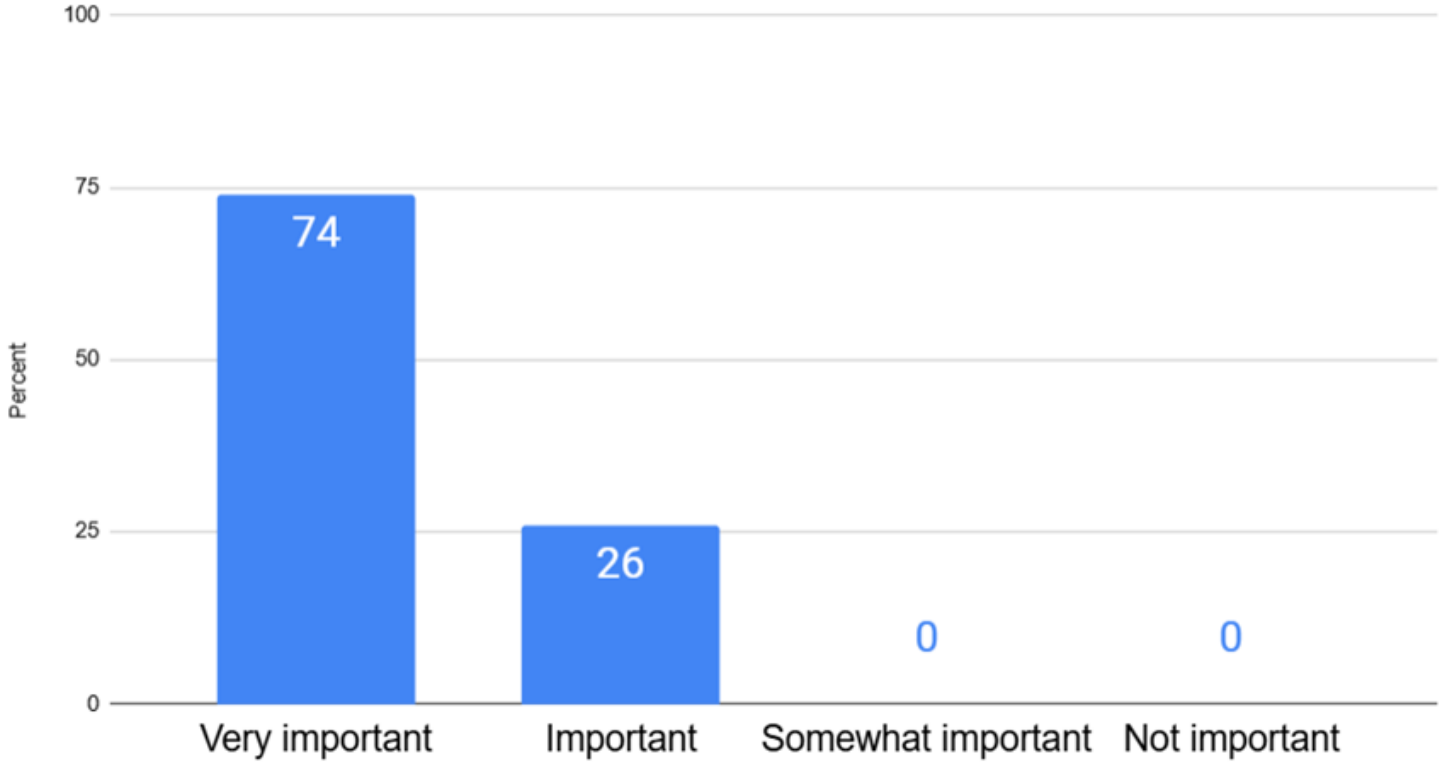
Chuuk Restaurants: How do you perceive the current demand for locally processed food products in your state and FSM?



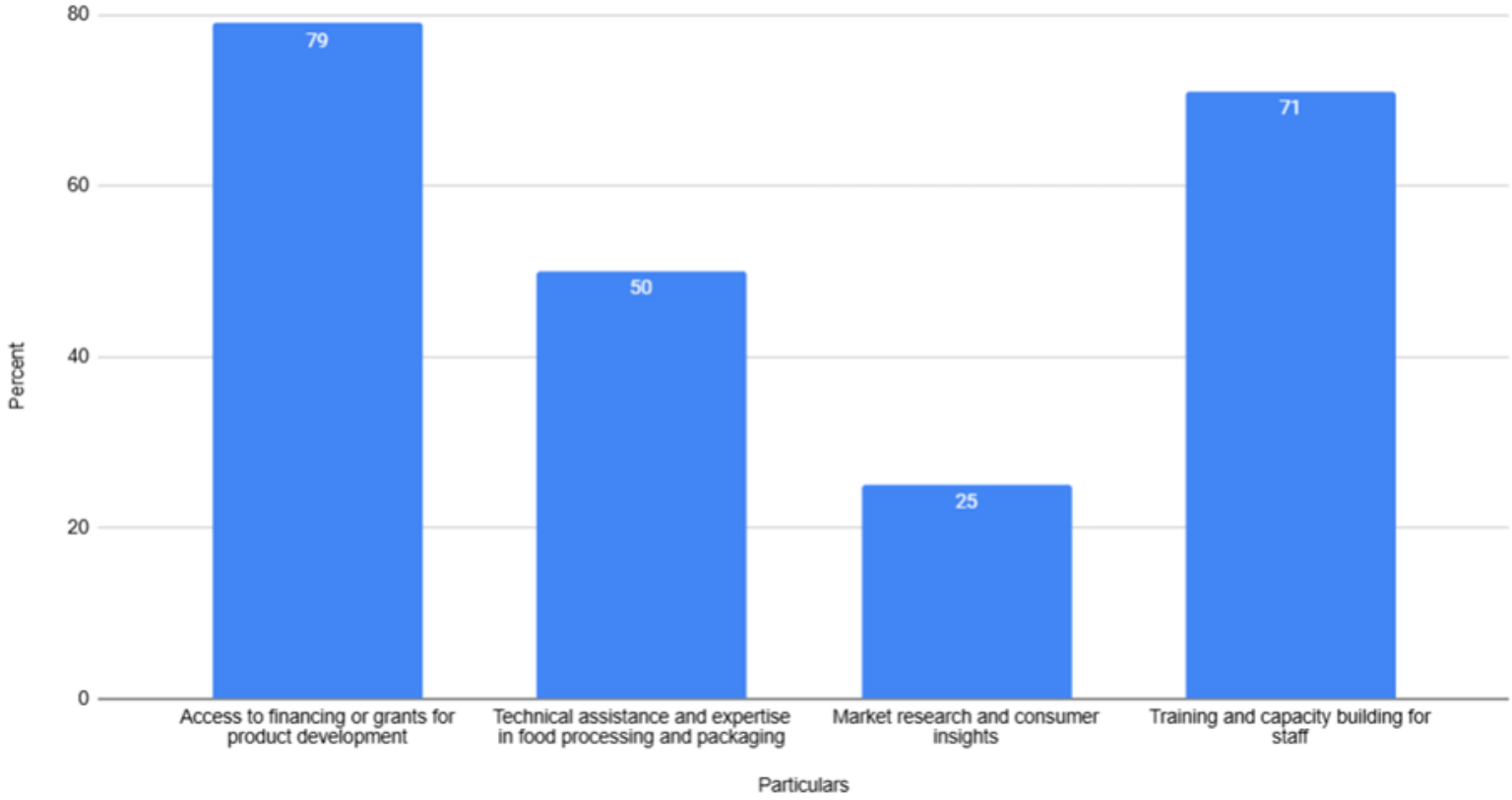
Chuuk Restaurants: What types of locally processed food products do you believe have the highest potential for success in your state and in the FSM market?



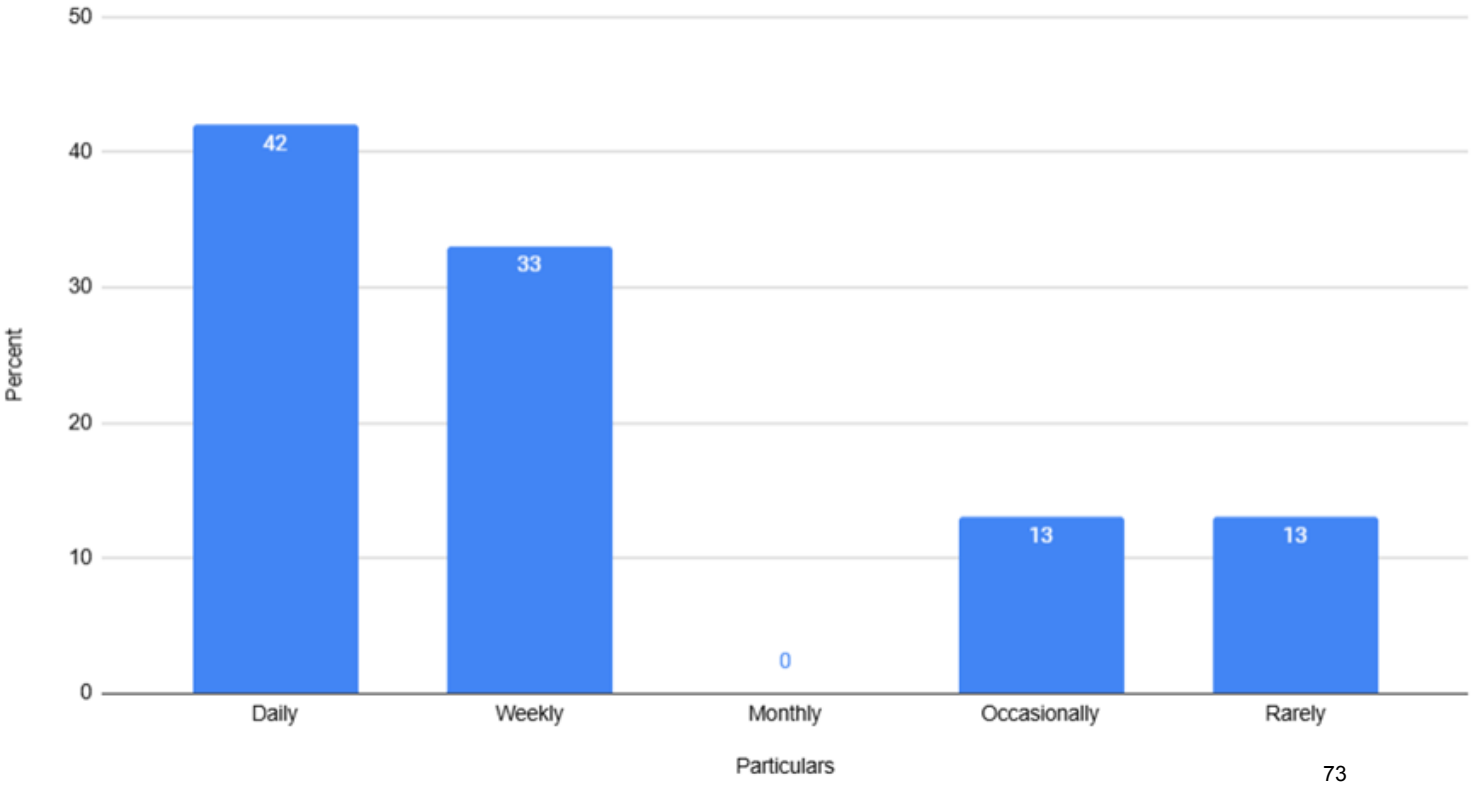
Chuuk Restaurants: How important do you think it is for locally made processed food products to incorporate locally sourced ingredients or flavors?



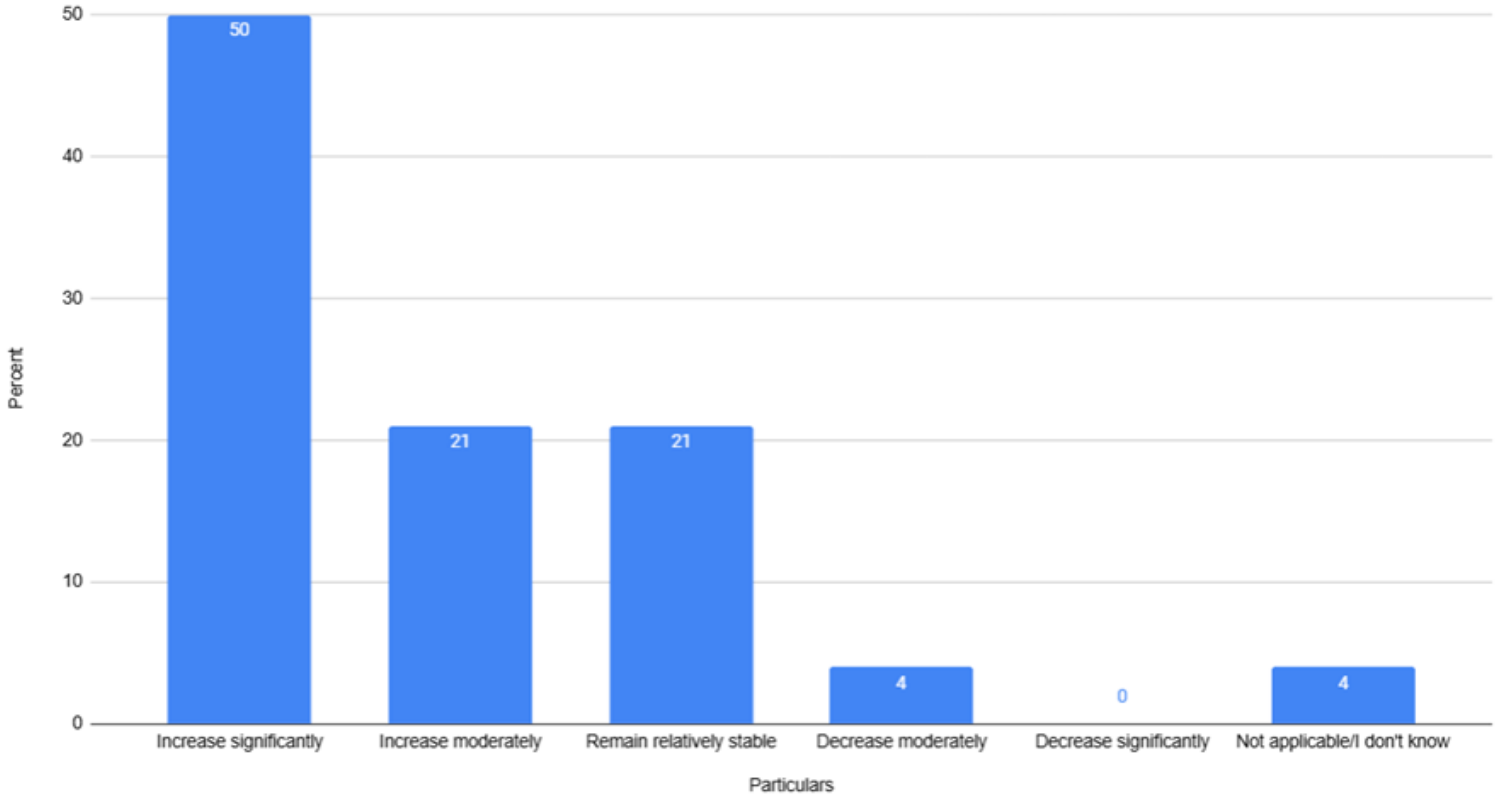
Chuuk Restaurants: What support or resources do you believe would be most beneficial for your business in developing and marketing new locally processed food products?



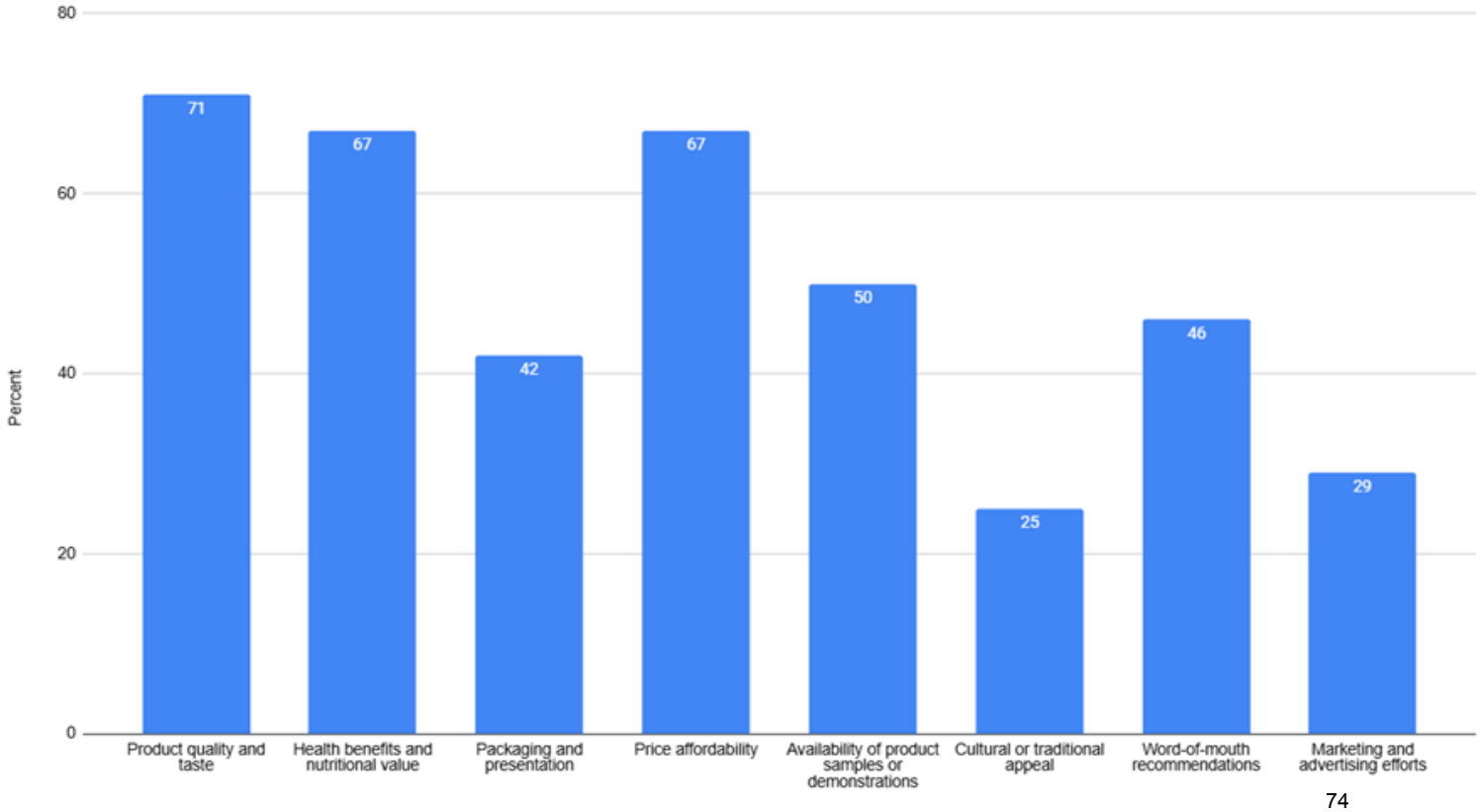
Chuuk Restaurants: On average, how frequently do your customers purchase locally processed food products from your store(s)?



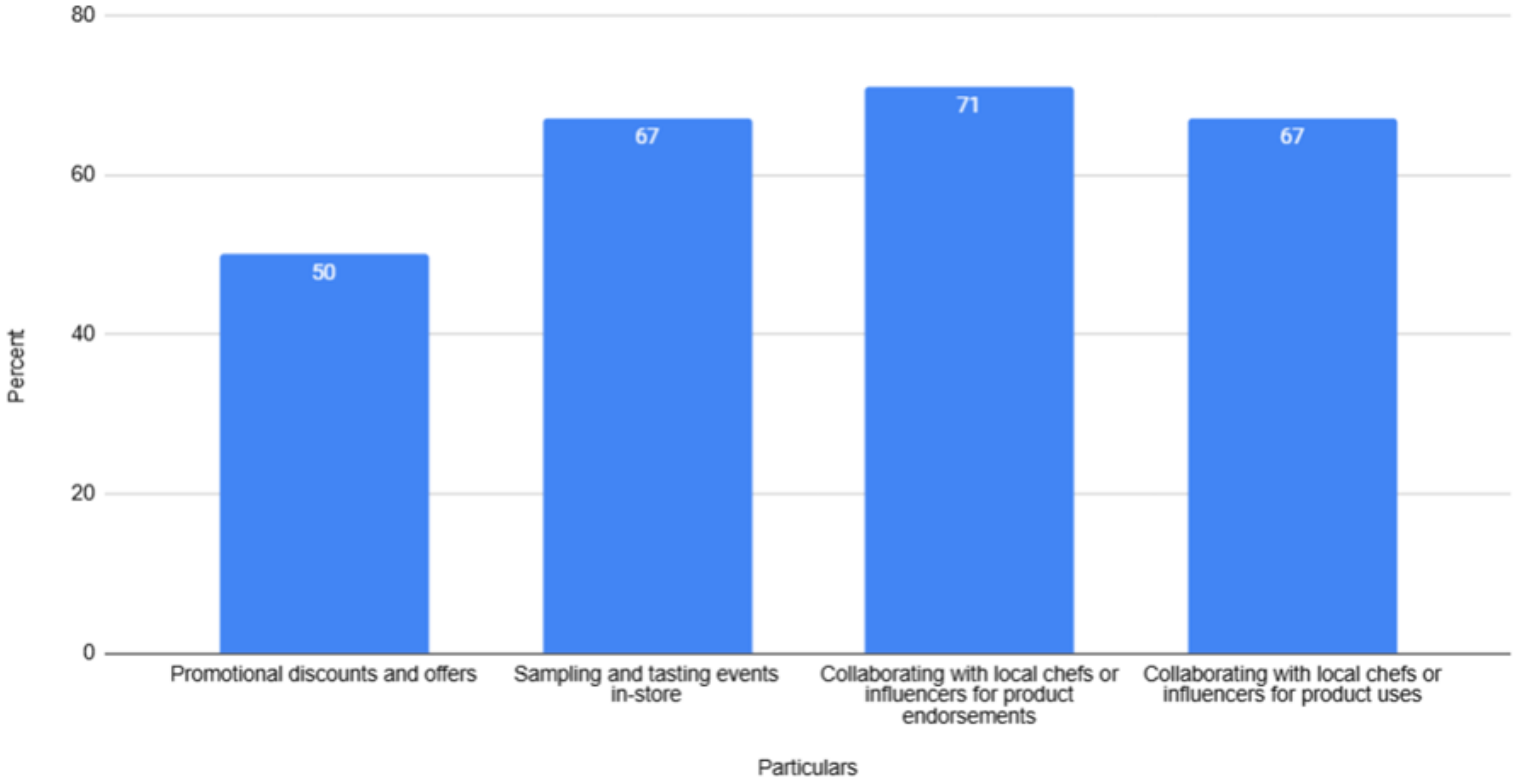
Chuuk Restaurants: How do you anticipate consumer demand for locally processed food products to change in the next 2-3 years in your state and the FSM?



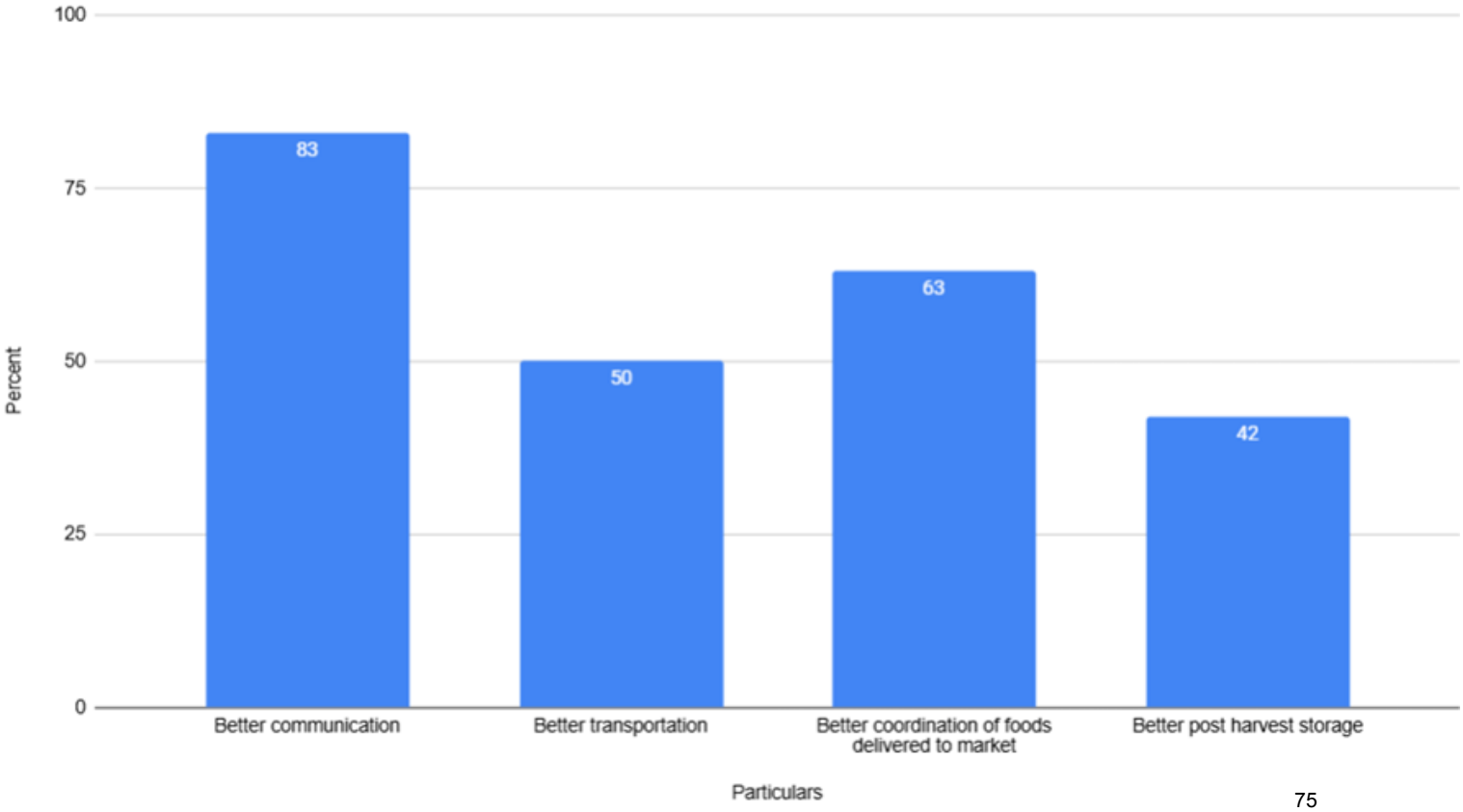
Chuuk Restaurants: What factors do you believe would influence consumers' willingness to try and purchase new locally processed food products?



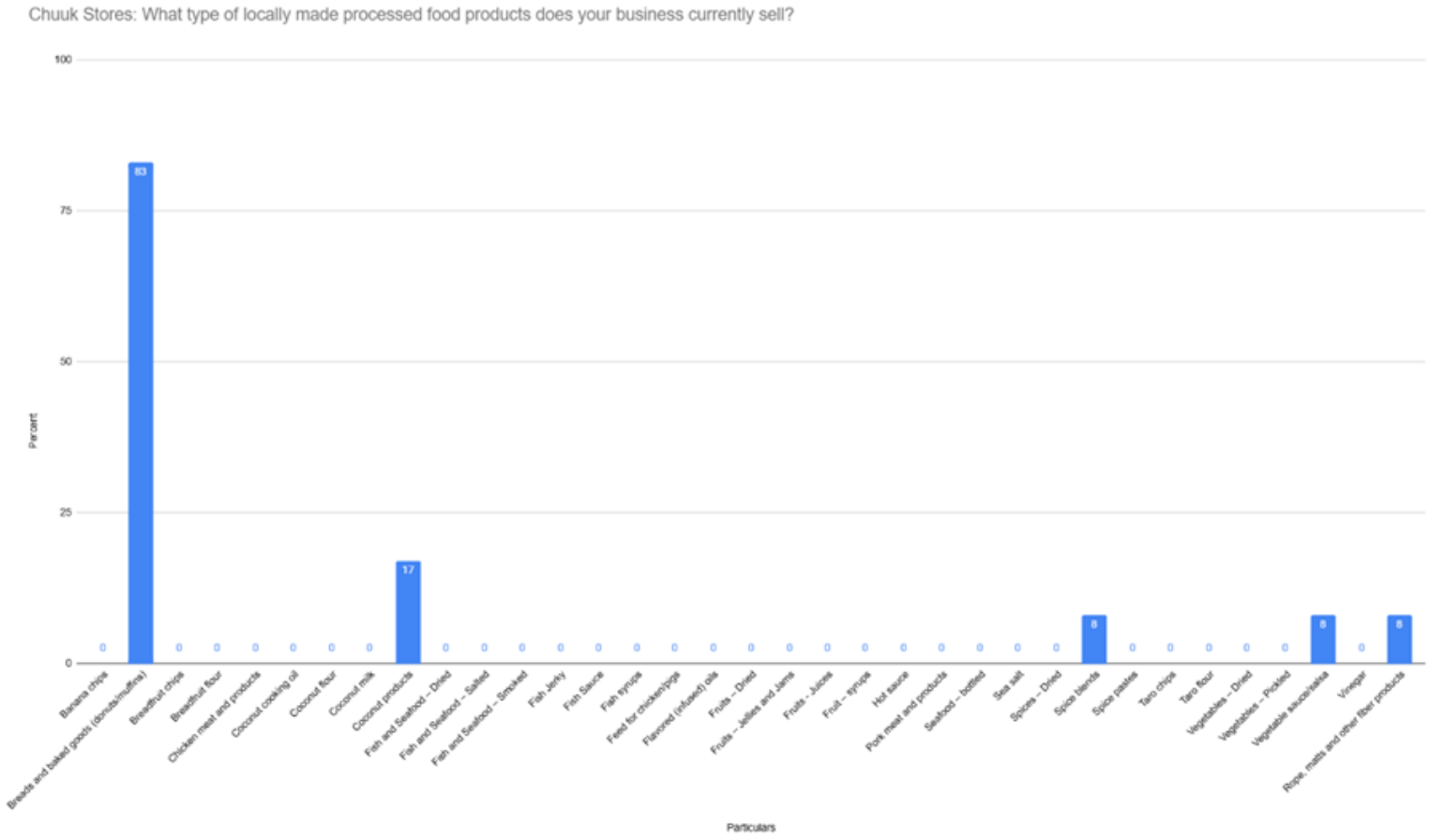
Chuuk Restaurants: What strategies would you recommend to increase consumer awareness and acceptance of new locally processed food products in FSM?



Chuuk Restaurants: What do you feel would strengthen your partnership with local food producers?

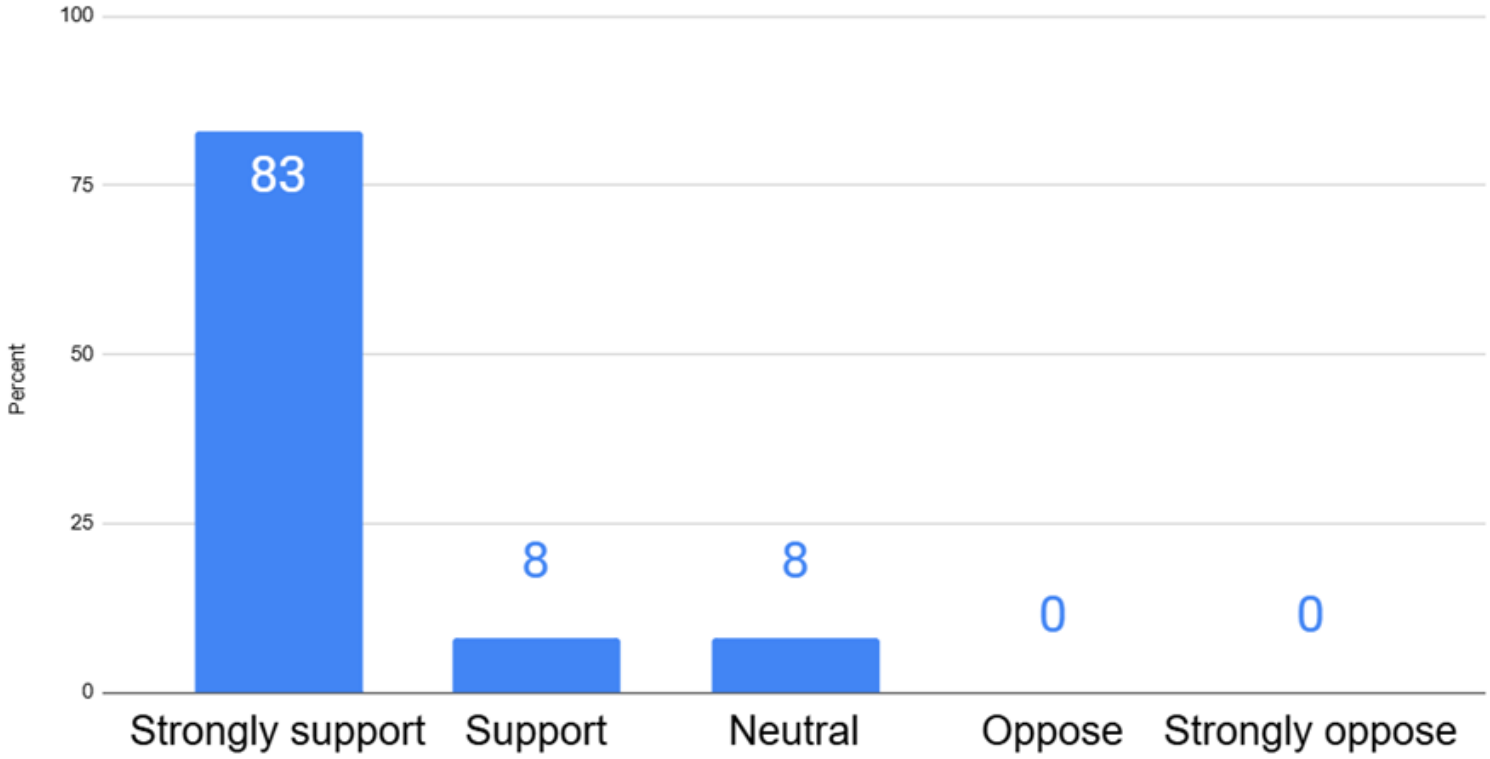


Federated States of Micronesia
Food Systems Solutions Project
FSS Survey Data Tables and Charts
Chuuk State
Stores

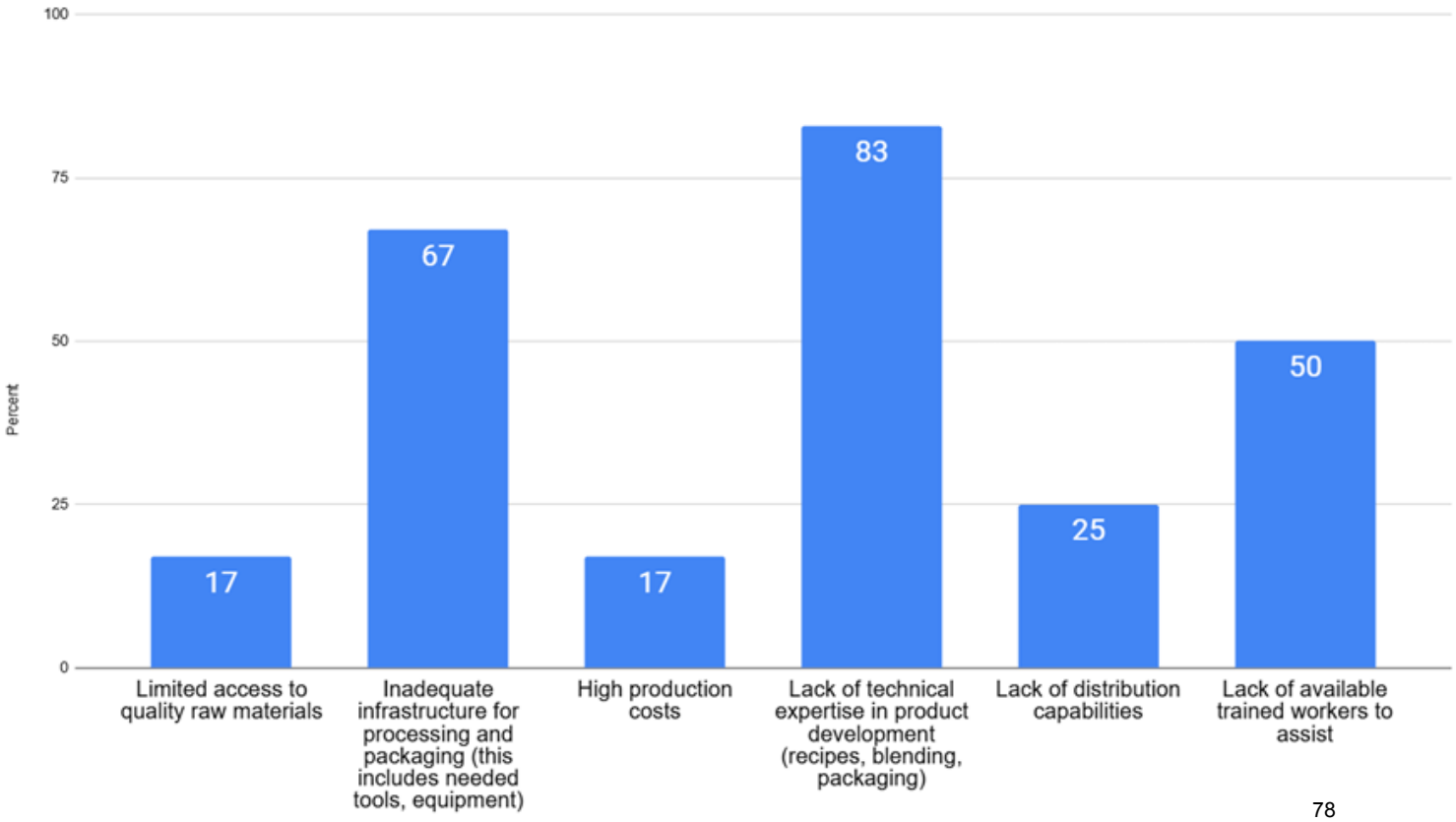

Chuuk Stores: What type of locally made processed food products does your business currently sell?
100
75
50
25
0
Percent
83
17
8
8
Banana chips
Breads and baked goods (donuts/muffins)
Breadfruit chips
Breadfruit flour
Chicken meat and products
Coconut cooking oil
Coconut flour
Coconut milk
Coconut products
Fish and Seafood – Dried
Fish and Seafood – Salted
Fish and Seafood – Smoked
Fish Jerky
Fish Sauce
Fish syrupe
Feed for chicken/pigs
Flavored (infused) oils
Fruits – Dried
Fruits – Jellies and Jams
Fruits - Juices
Fruit – syrupe
Hot sauce
Pork meat and products
Seafood – bottled
Sea salt
Spices – Dried
Spice blends
Spice pastes
Taro chips
Taro flour
Vegetables – Dried
Vegetables – Pickled
Vegetable sauce/salsa
Vinegar
Rope, matts and other fiber products
Particulars

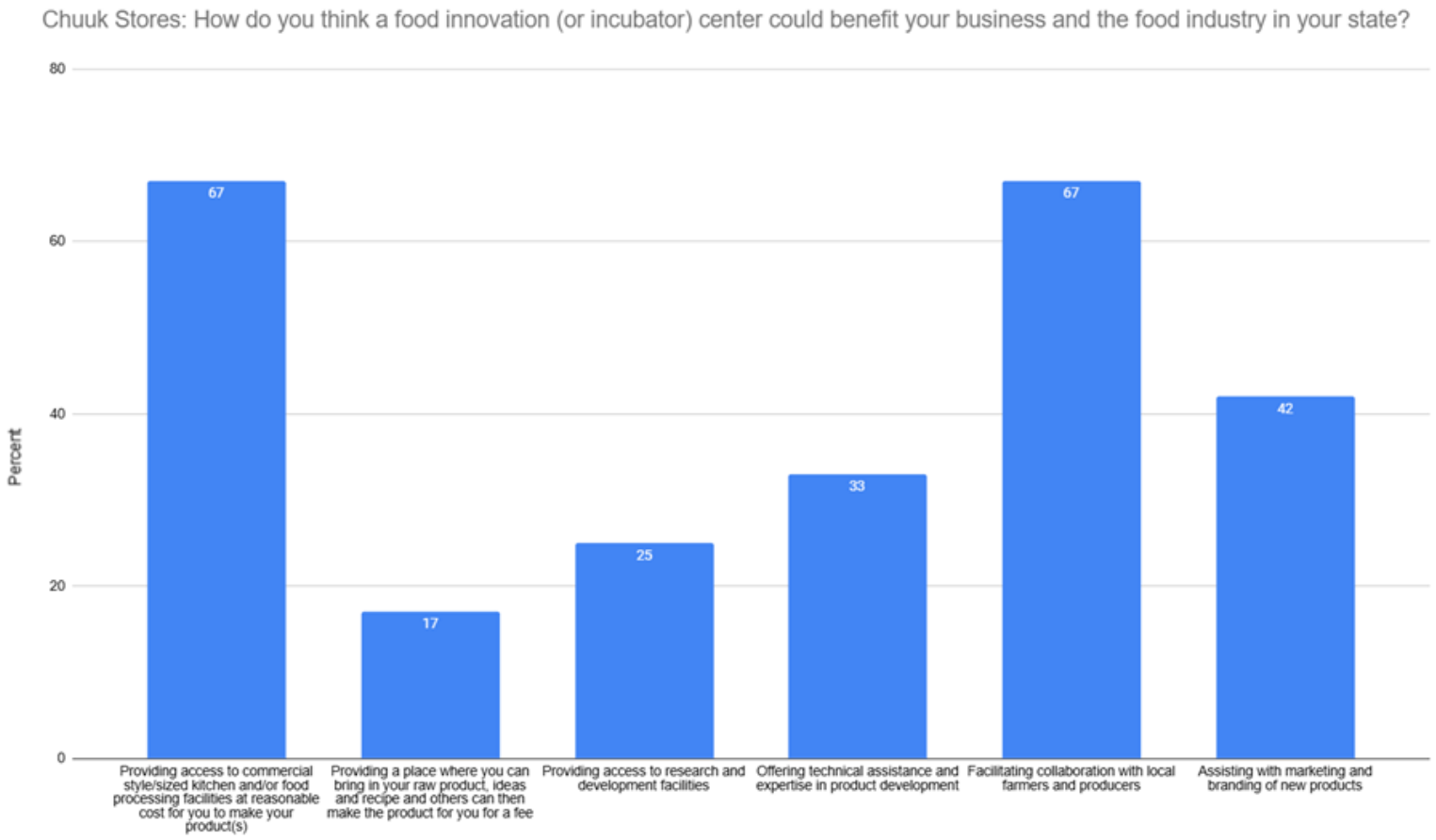

Chuuk Stores: How important do you believe making available locally made processed food products for the food industry in your state?
100
75
50
25
0
Percent
92
8
Very important
Important

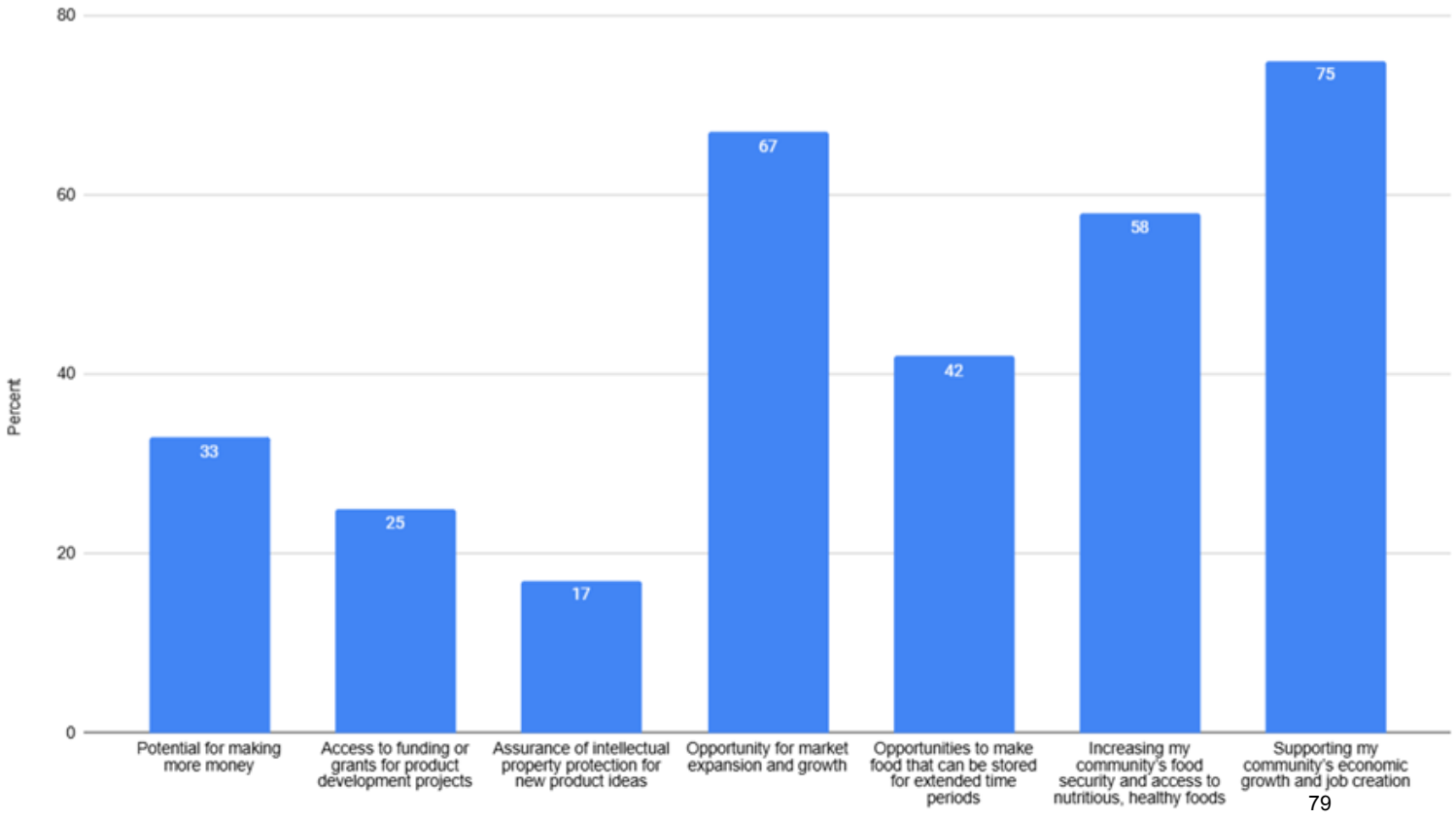
Chuuk Stores: Would you support the establishment of a food innovation (or incubator/shared commercial kitchen) center in your state focused on developing new locally made processed food products and/or assisting you and others in processing and producing local food products?



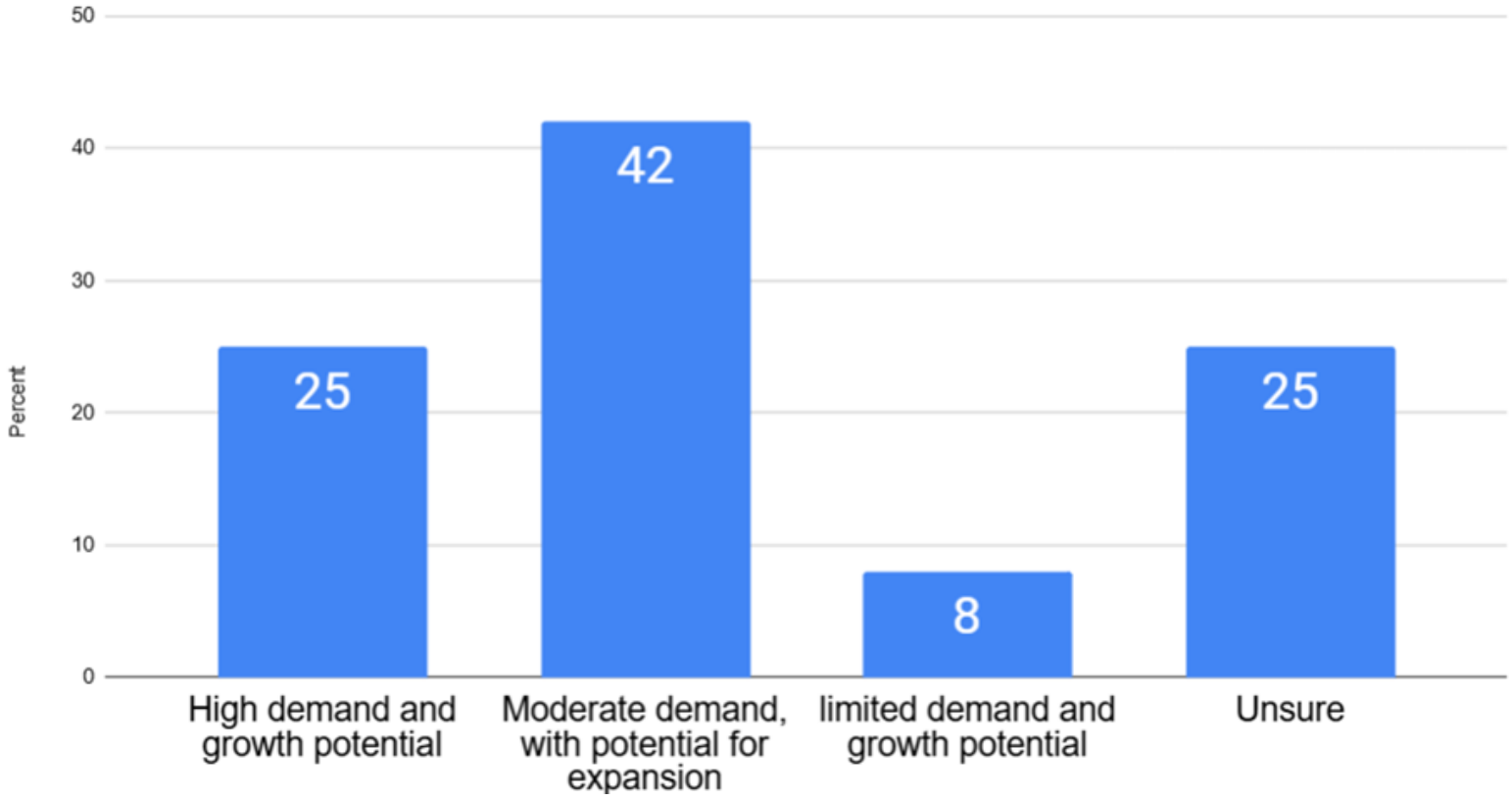
Chuuk Stores: What specific challenges do you face in sourcing or producing locally made processed food products in your state?



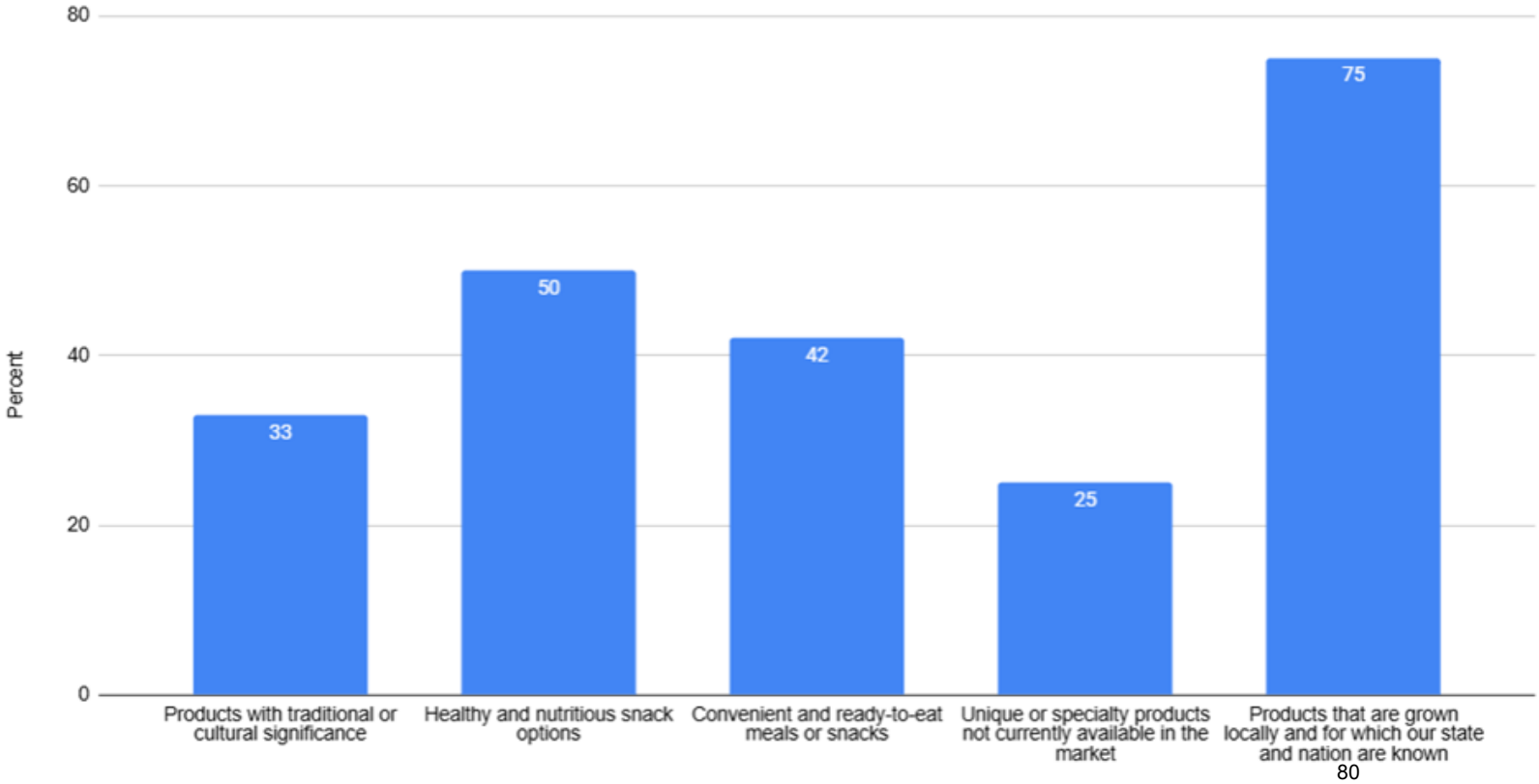

Chuuk Stores: How do you think a food innovation (or incubator) center could benefit your business and the food industry in your state?
Percent
80
60
40
20
0
67
17
25
33
67
42
Providing access to commercial style/sized kitchen and/or food processing facilities at reasonable cost for you to make your product(s)
Providing a place where you can bring in your raw product, ideas and recipe and others can then make the product for you for a fee
Providing access to research and development facilities
Offering technical assistance and expertise in product development
Facilitating collaboration with local farmers and producers
Assisting with marketing and branding of new products


Chuuk Stores: Which factors would influence your willingness to collaborate with a food innovation center?
Percent
80
60
40
20
0
33
25
17
67
42
58
75
Potential for making more money
Access to funding or grants for product development projects
Assurance of intellectual property protection for new product ideas
Opportunity for market expansion and growth
Opportunities to make food that can be stored for extended time periods
Increasing my community's food security and access to nutritious, healthy foods
Supporting my community's economic growth and job creation

Chuuk Stores: How do you perceive the current demand for locally processed food products in your state and FSM?

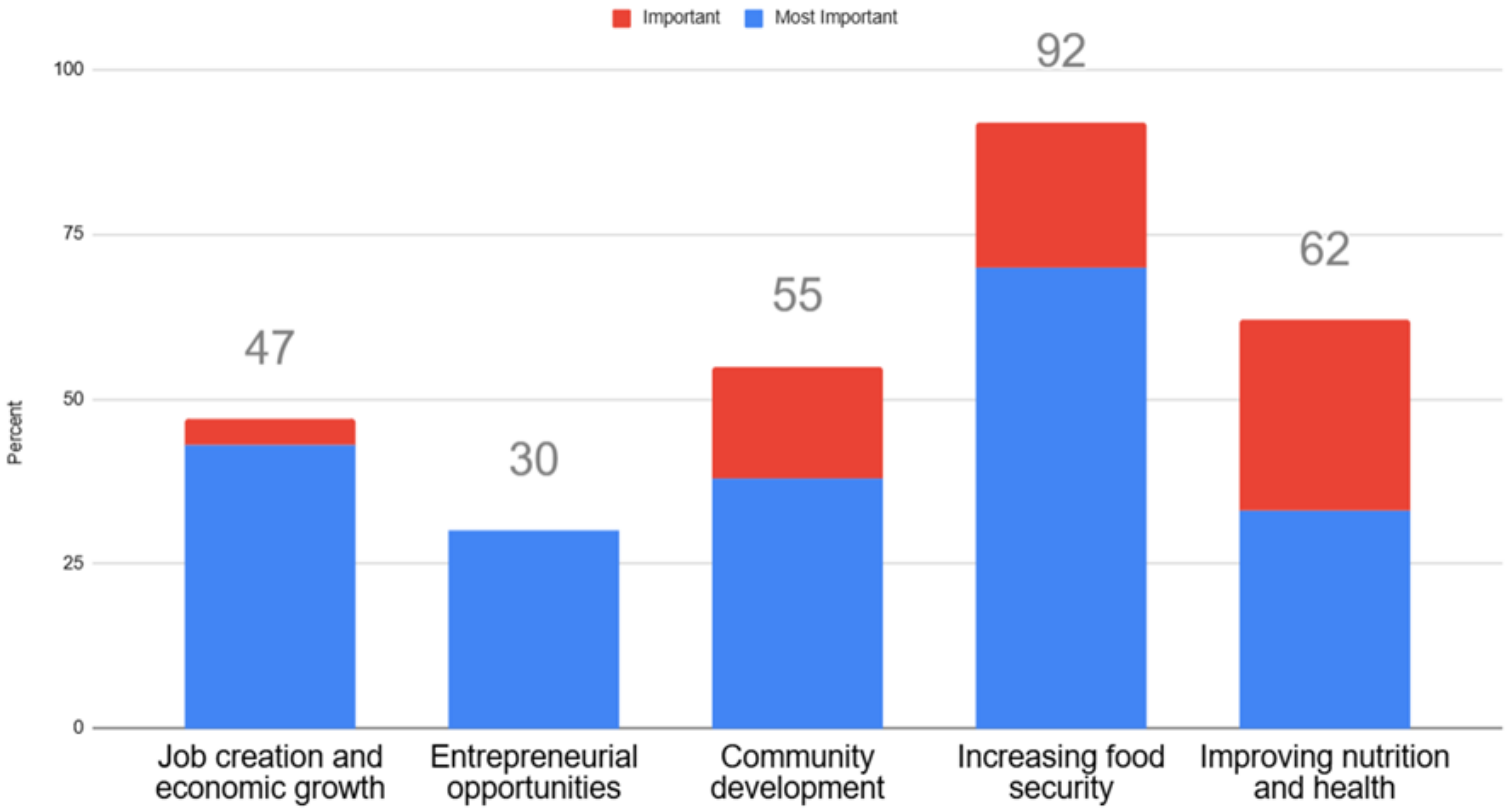


Chuuk Stores: What types of locally processed food products do you believe have the highest potential for success in your state and in the FSM market?

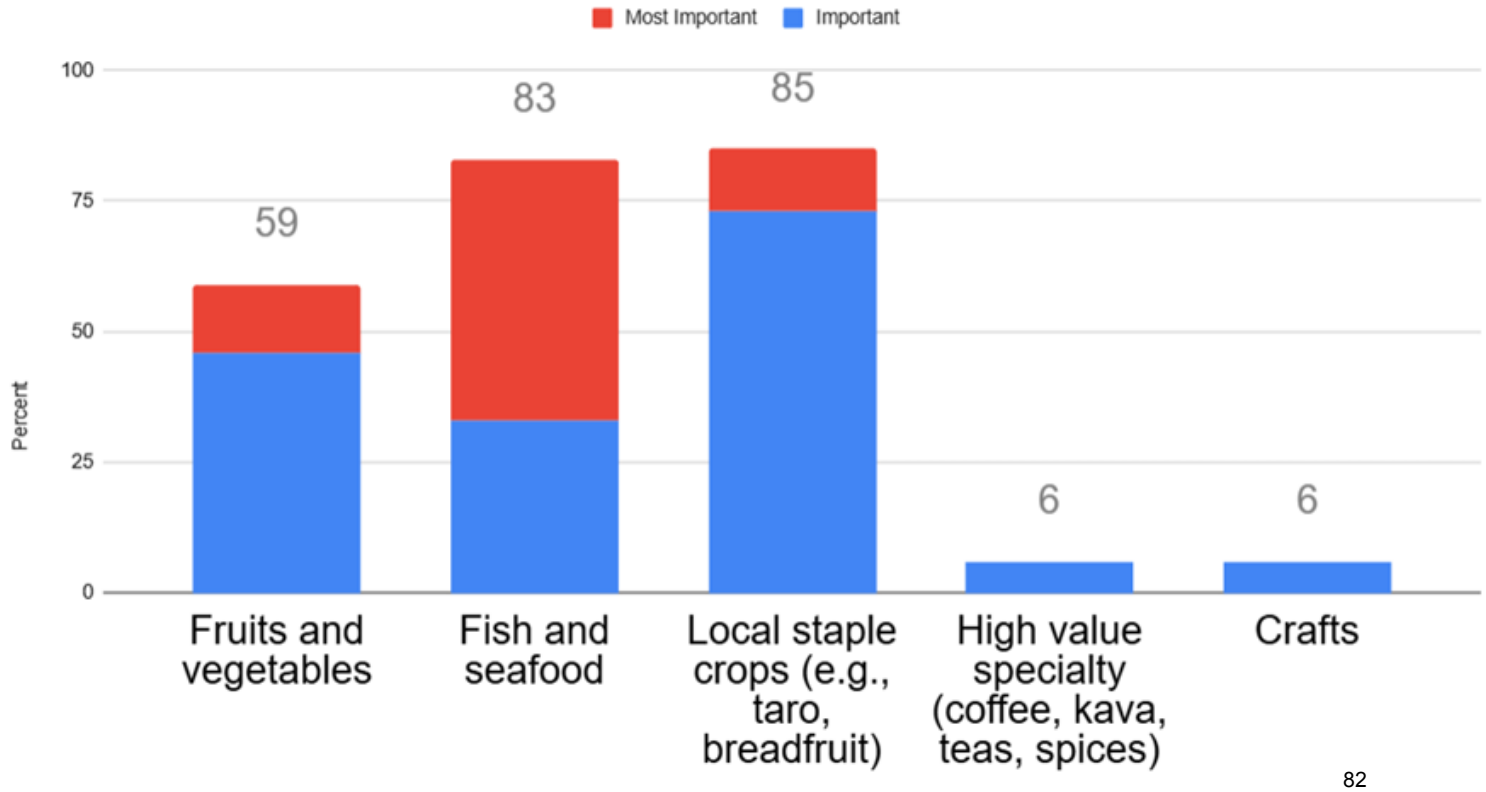


Federated States of Micronesia
Food Systems Solutions Project
FSS Survey Data Tables and Charts
Chuuk State
Policymakers

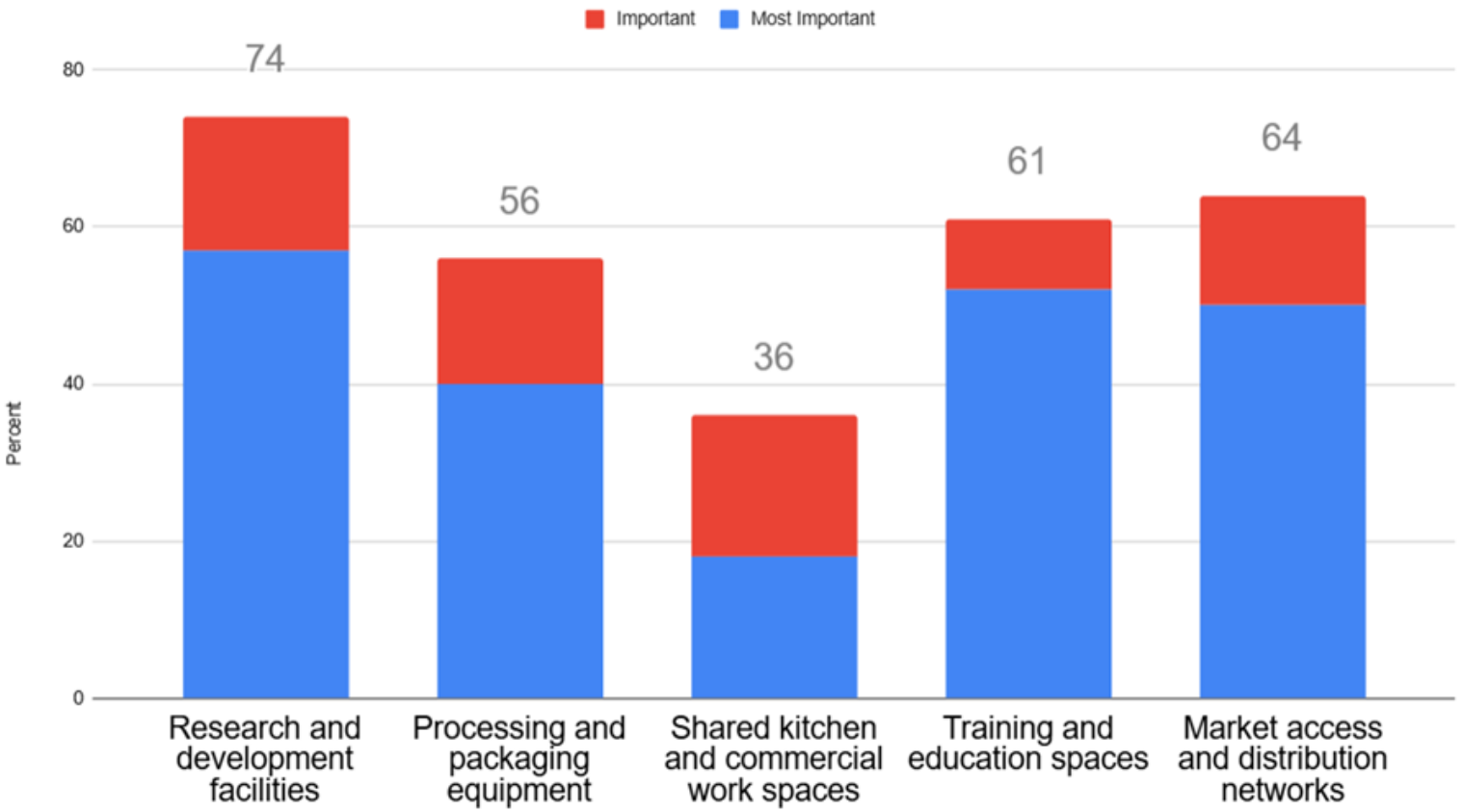
Chuuk Policymakers: What do you perceive as the primary benefit of establishing a Food Innovation Center in FSM (choose all that apply ranked in order of importance with 1 being most important)?



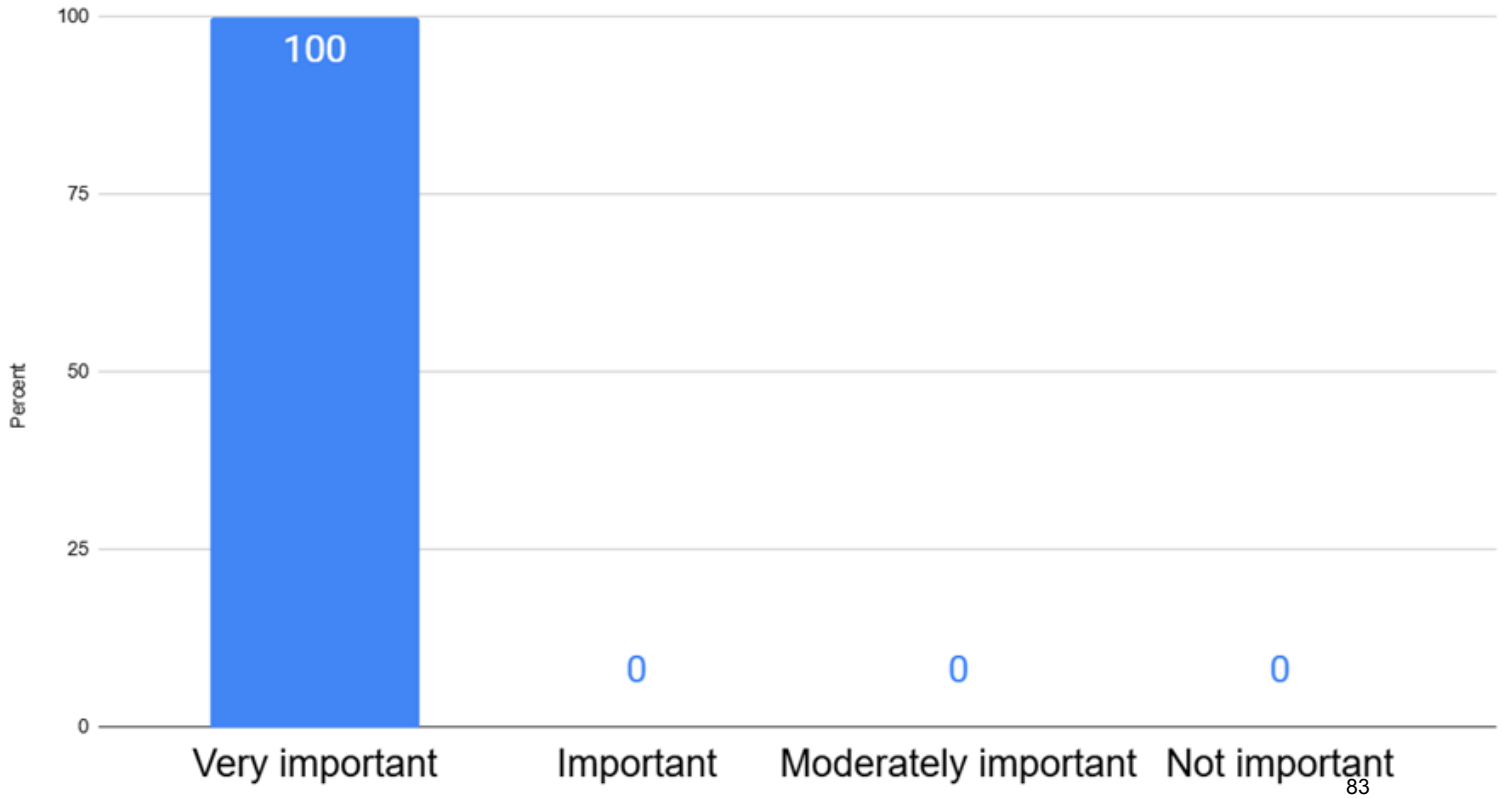
Chuuk Policymakers: Which types of locally processed foods should the center focus on?



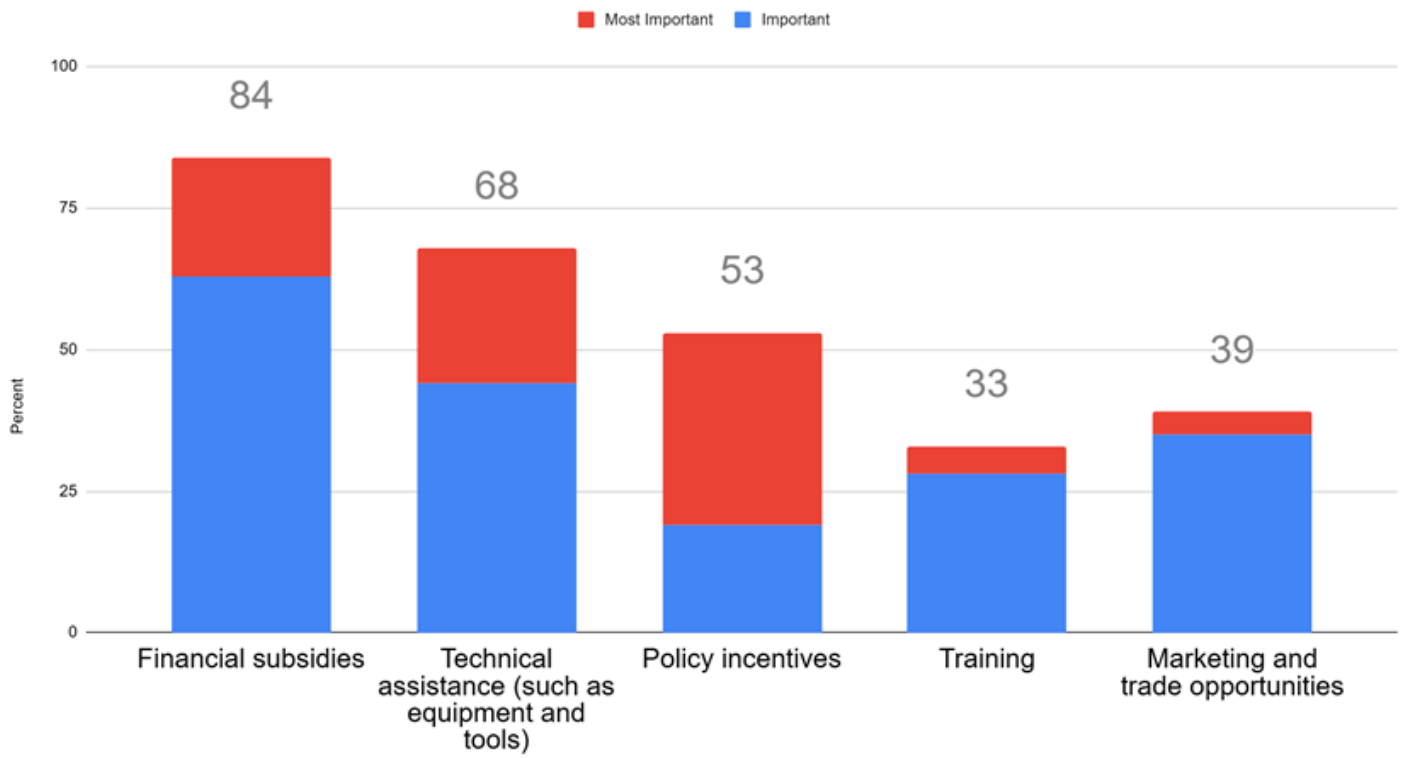
Chuuk Policymakers: What should be the key features of the Food Innovation Center?



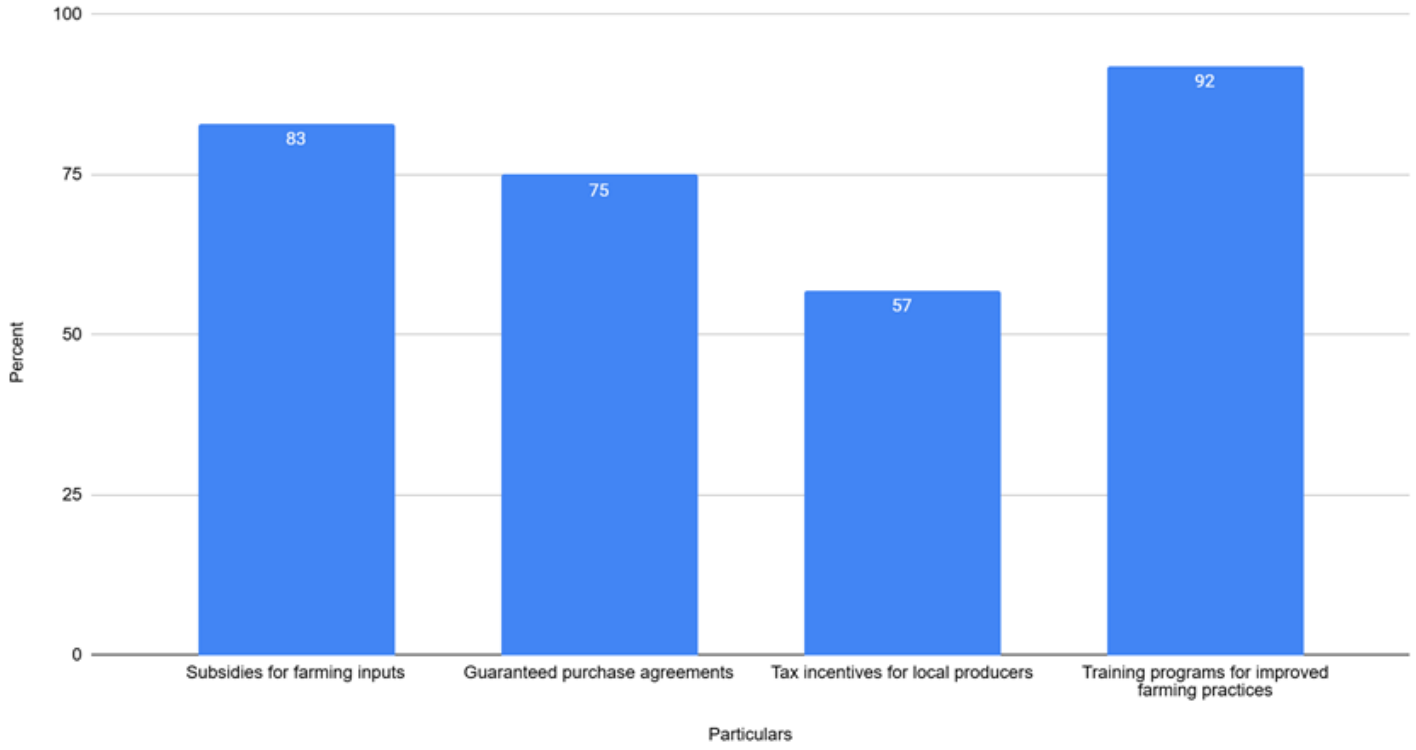
Chuuk Policymakers: How important is it to involve local farmers and producers in the planning of a Food Innovation Center?



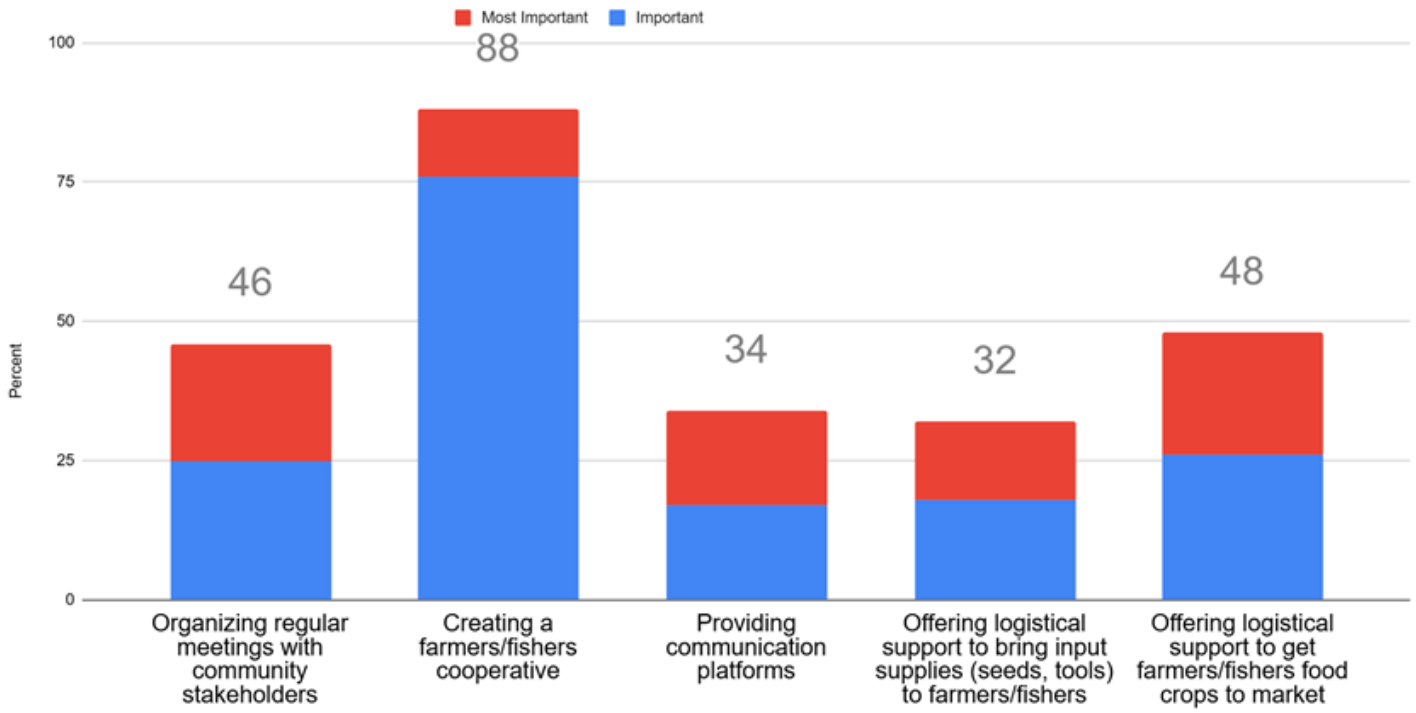
Chuuk Policymakers: What kind of support do you believe the government should provide to a Food Innovation Center?



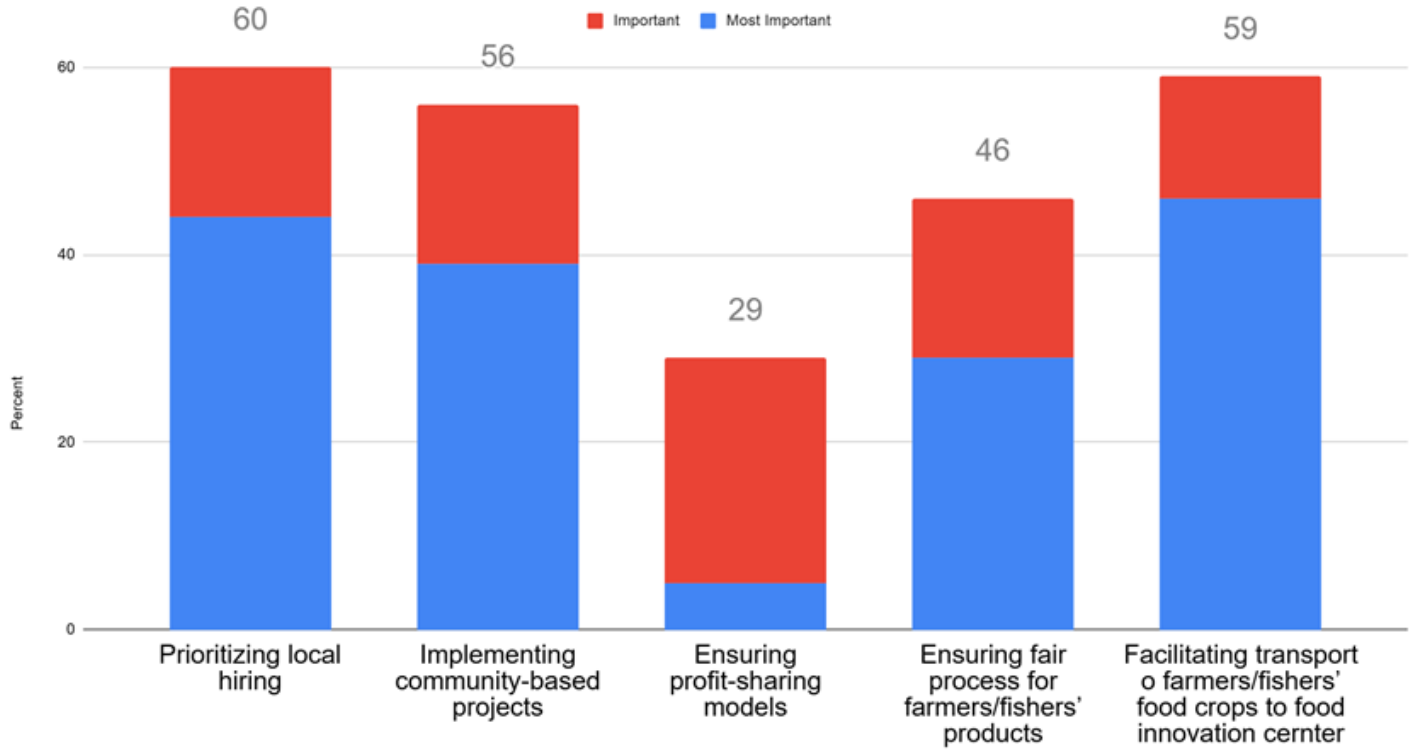
Chuuk Policymakers: What specific policies can support farmers in supplying raw materials to a Food Innovation Center?



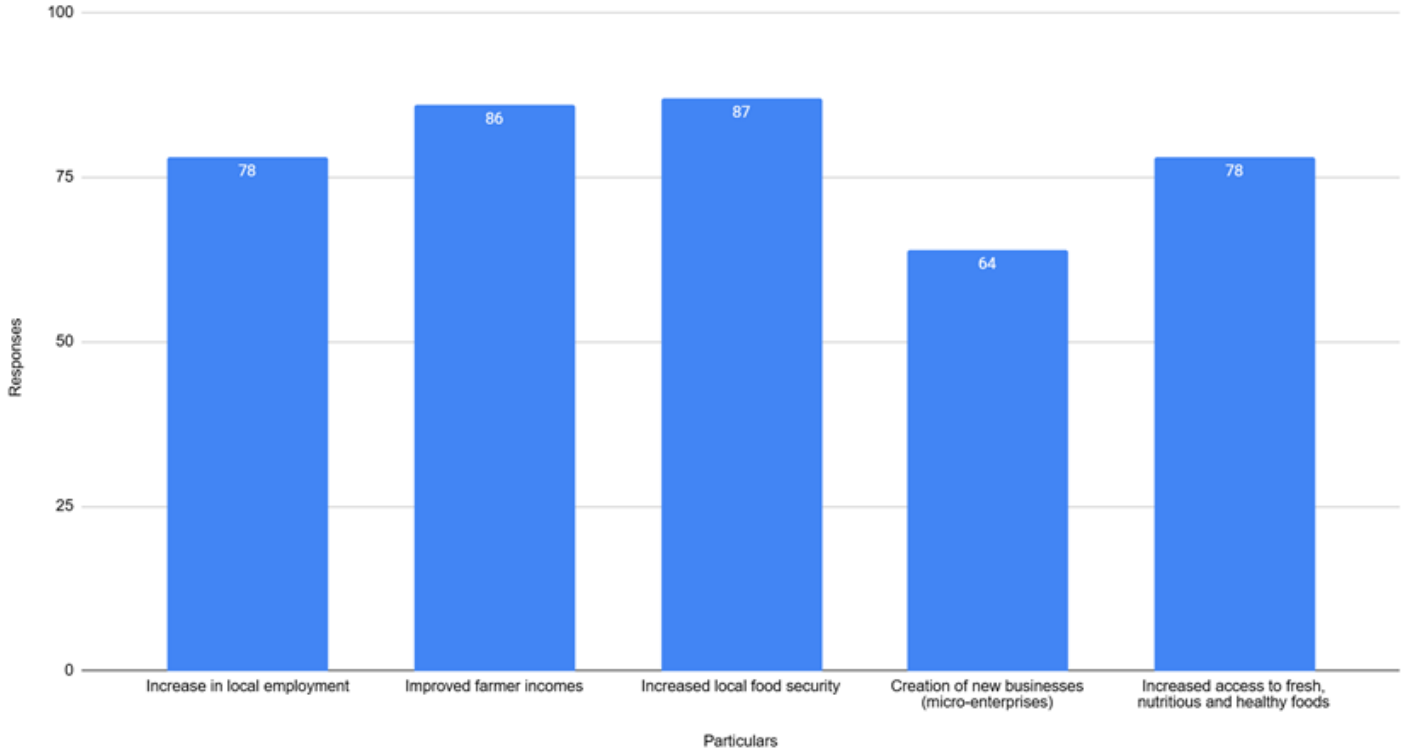
Chuuk Policymakers: How can policymakers facilitate collaboration between farmers and a Food Innovation Center?



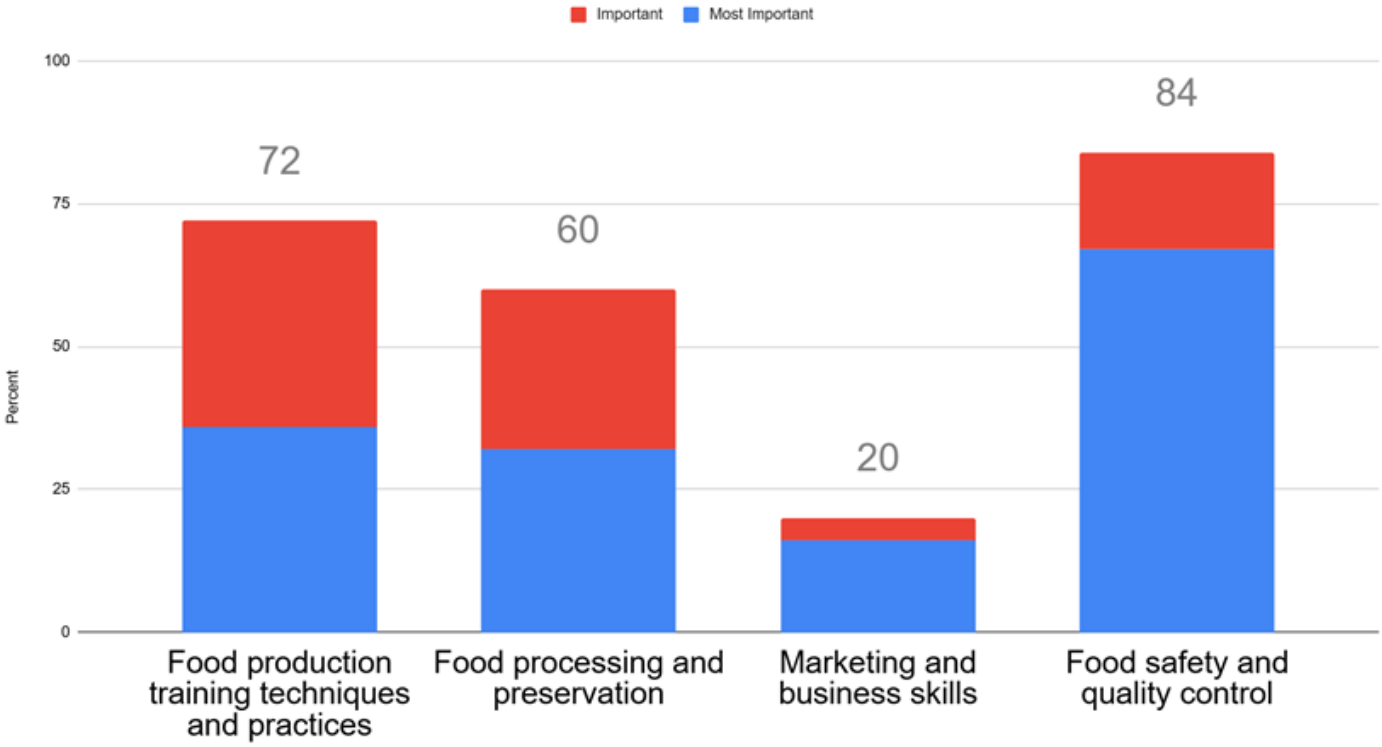
Chuuk Policymakers: What measures can be taken to ensure a Food Innovation Center benefits local communities?



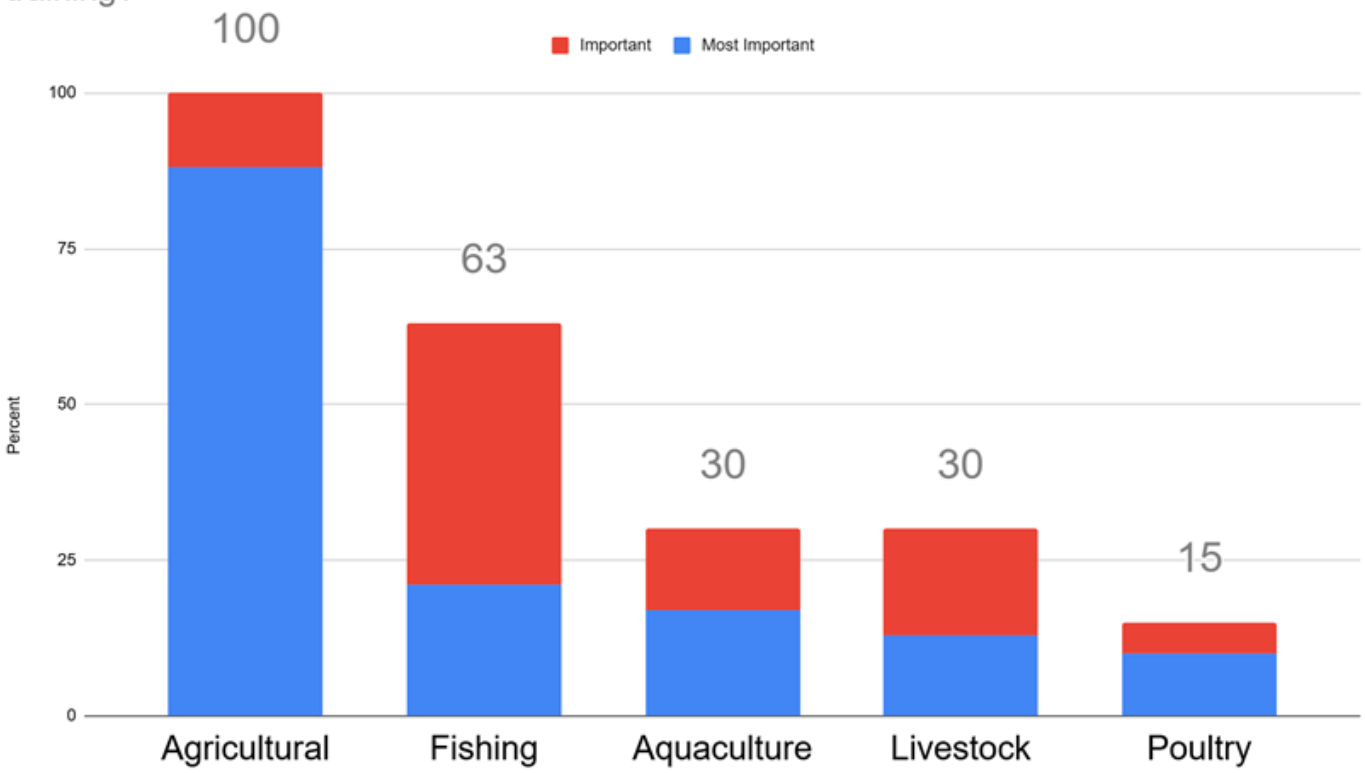
Chuuk Policymakers: How should the success of a Food Innovation Center be evaluated in relation to farmer and community benefits?



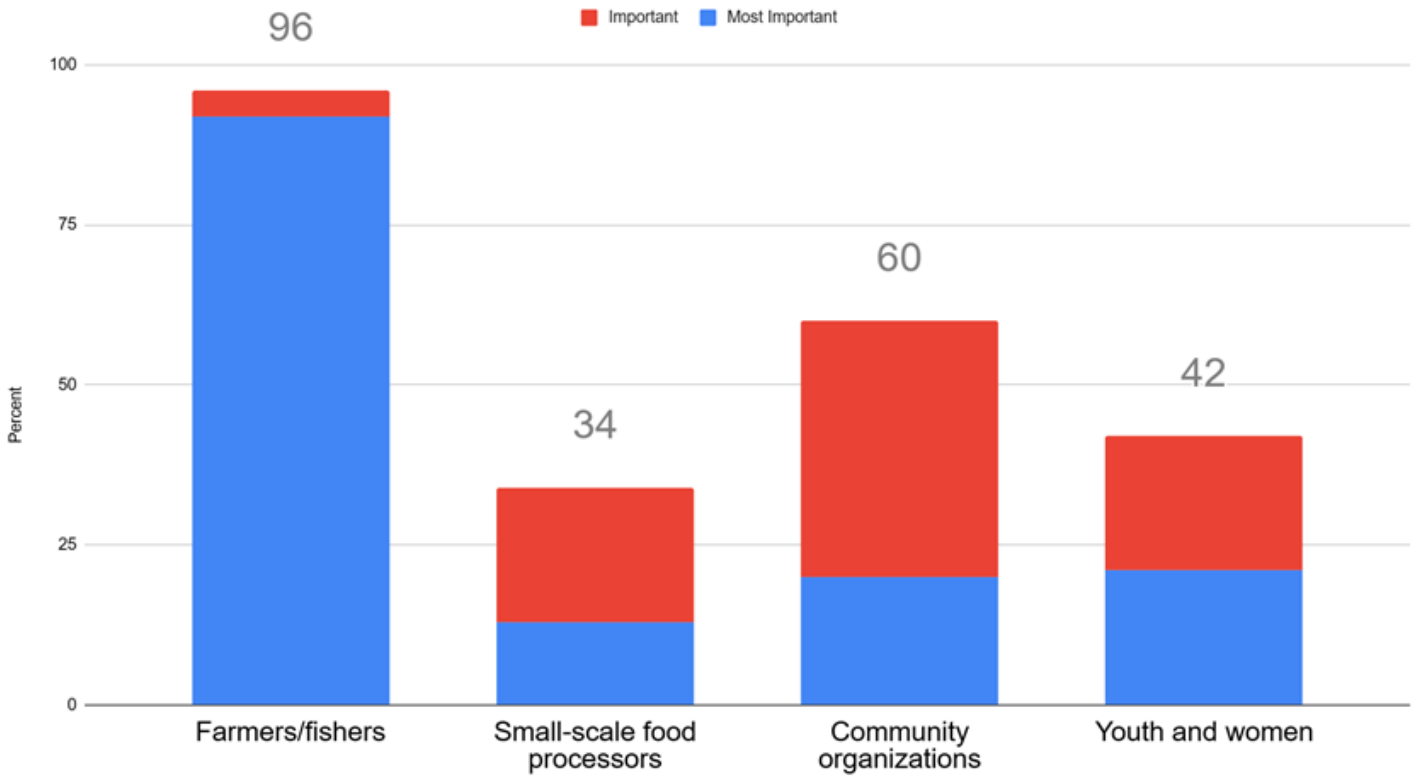
Chuuk Policymakers: What are the most critical areas for capacity building in the local food system?



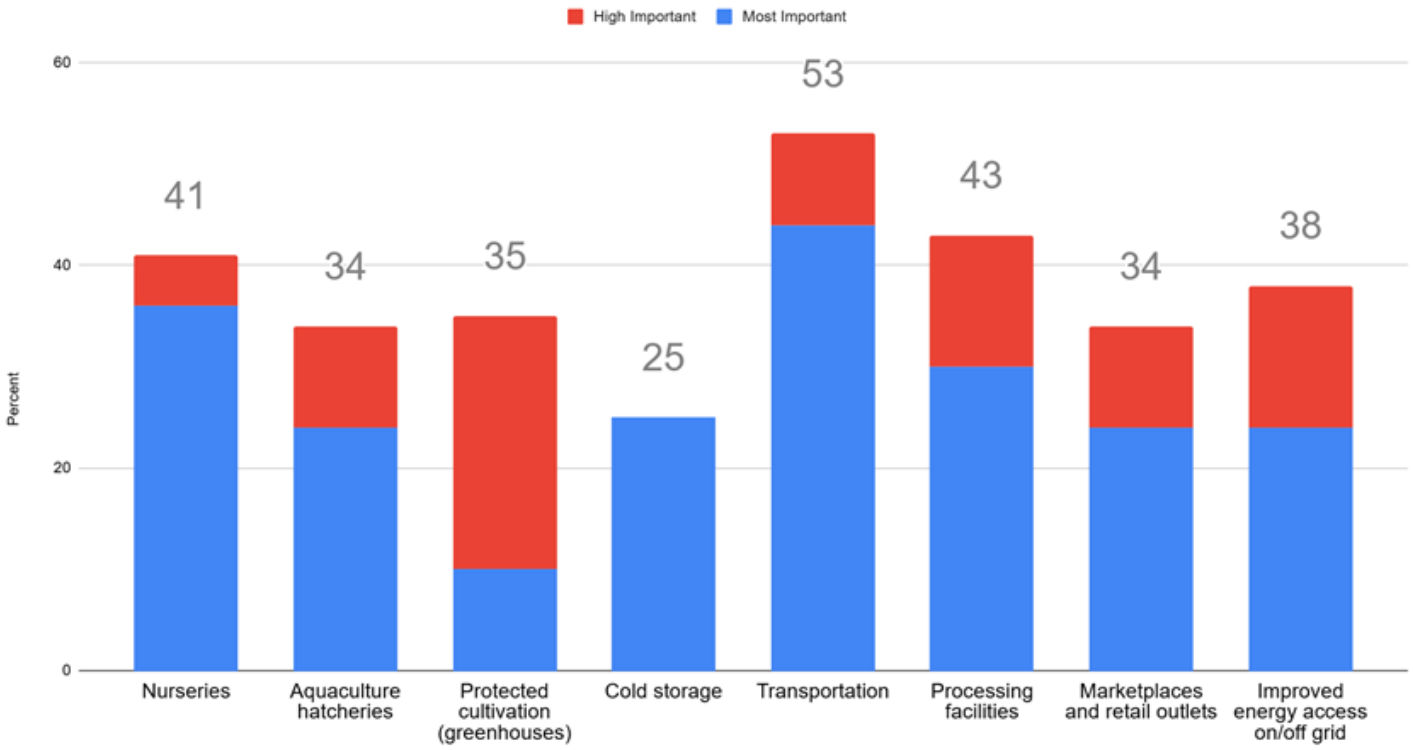
Chuuk Policymakers: To strengthen your local food system, which areas need most training?



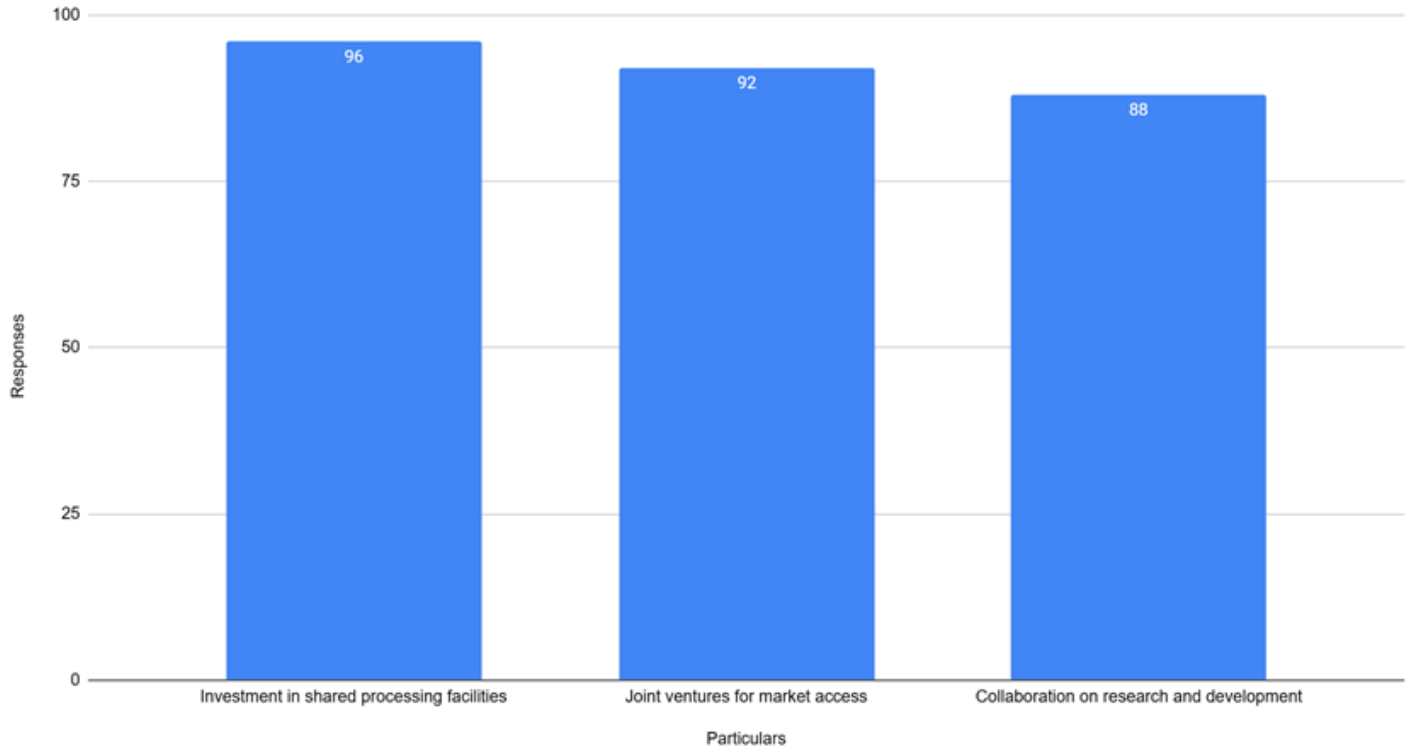
Chuuk Policymakers: Which groups should be prioritized for capacity building initiatives?



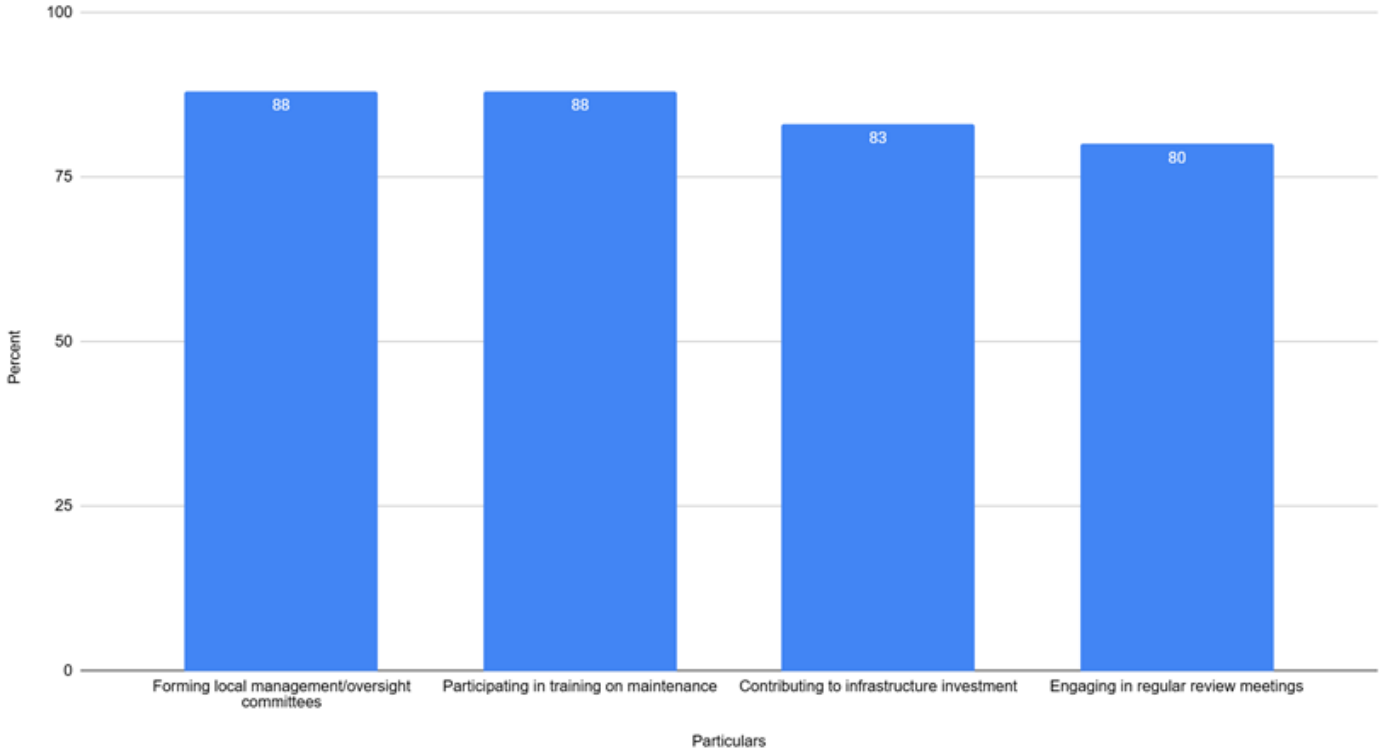
Chuuk Policymakers: What type of infrastructure investments are most needed to support the local food system?



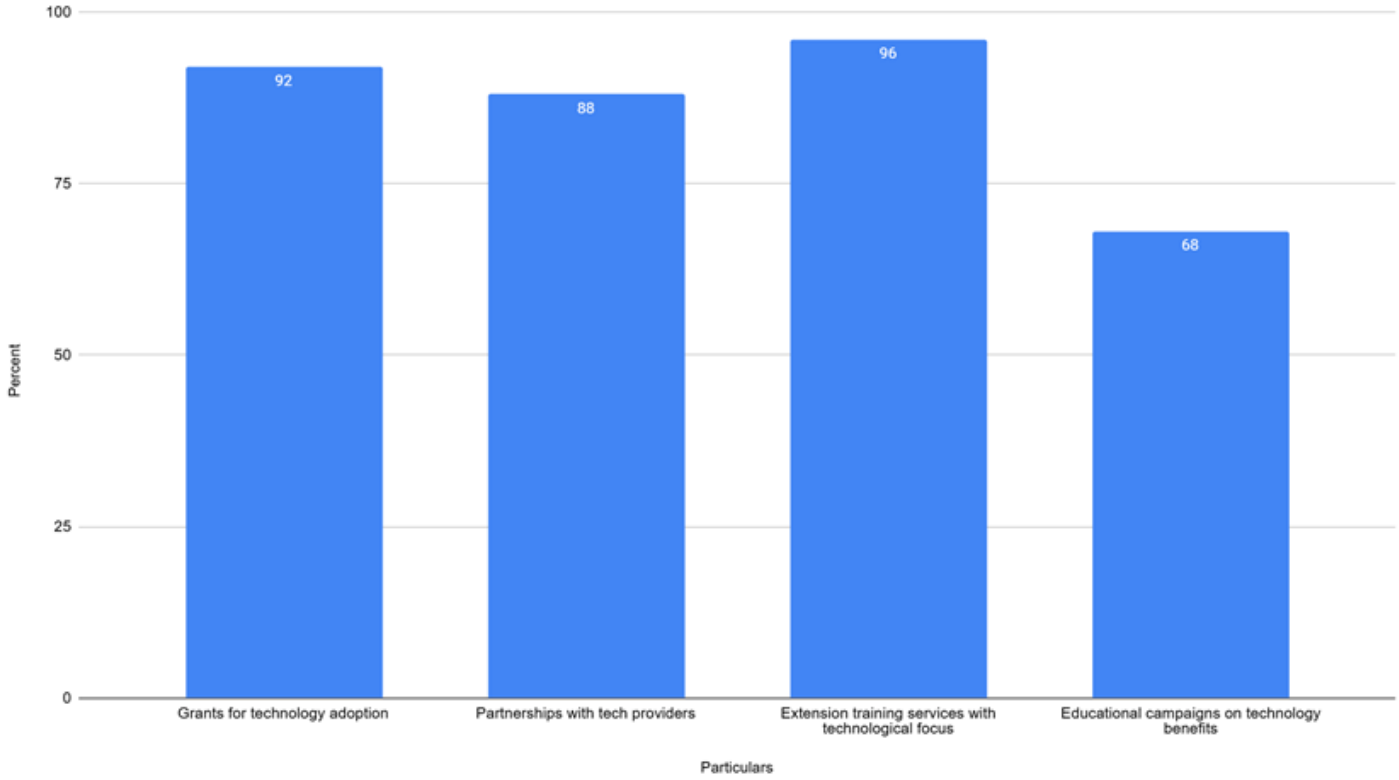
Chuuk Policymakers: What kind of public-private partnerships do you think are necessary to enhance food system infrastructure?



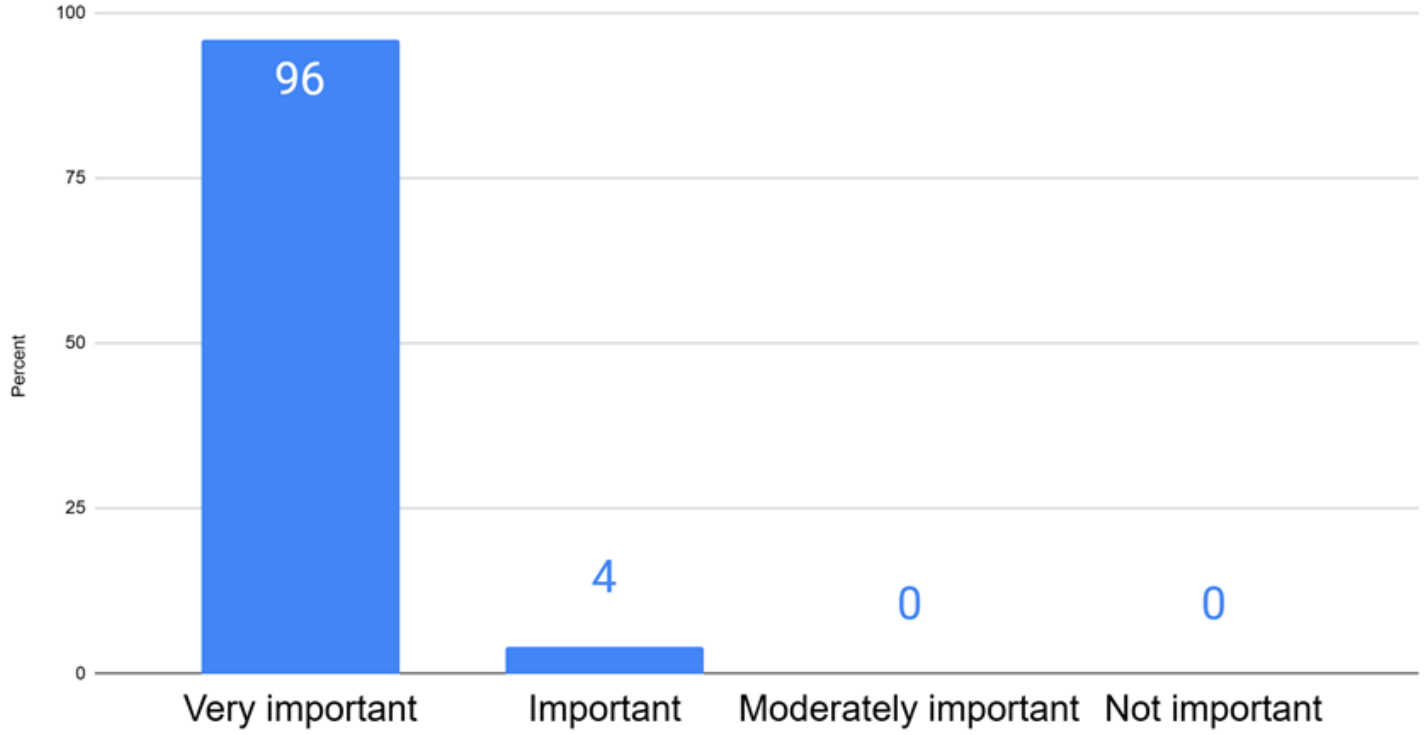
Chuuk Policymakers: What role should local communities play in the maintenance and management of new infrastructure?



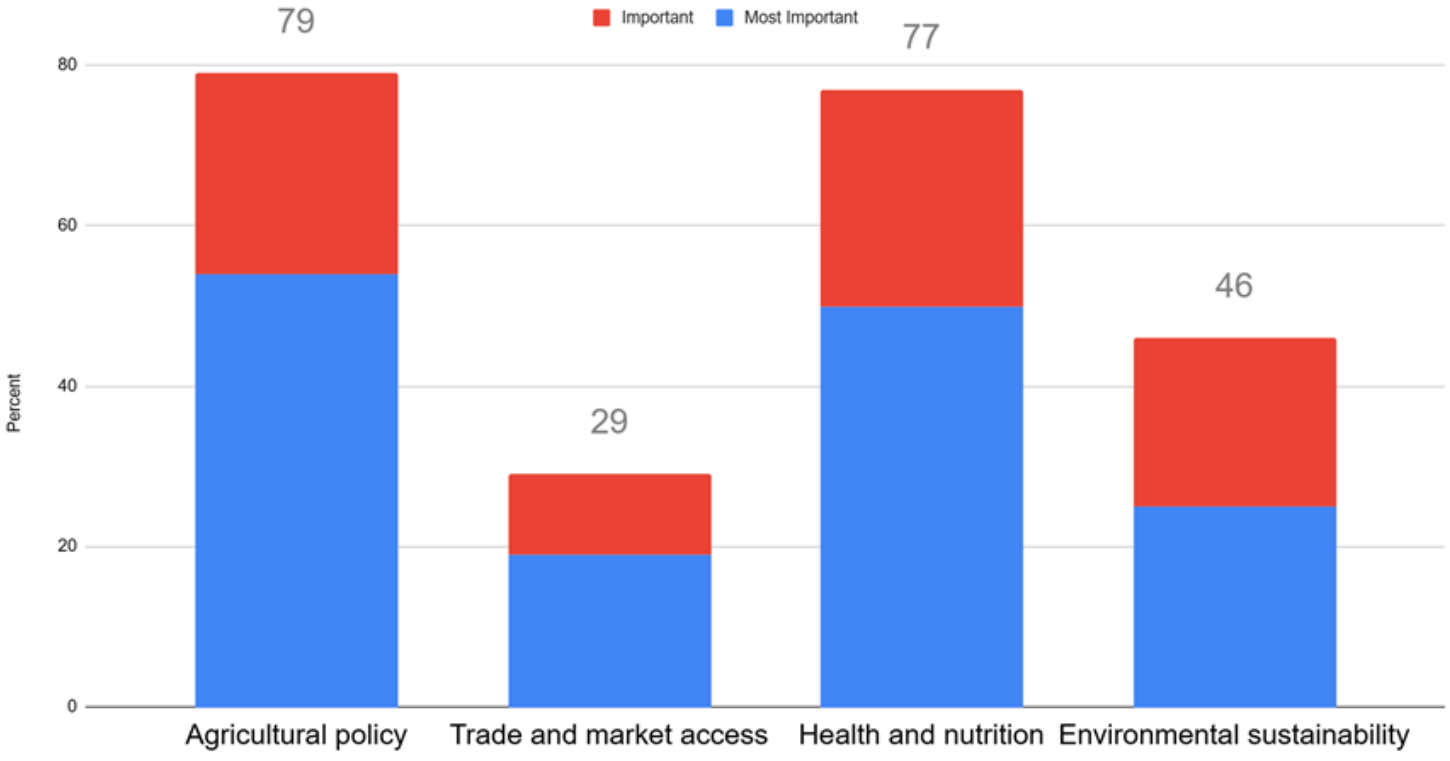
Chuuk Policymakers: What policies can promote the use of technology and innovation among local farmers?



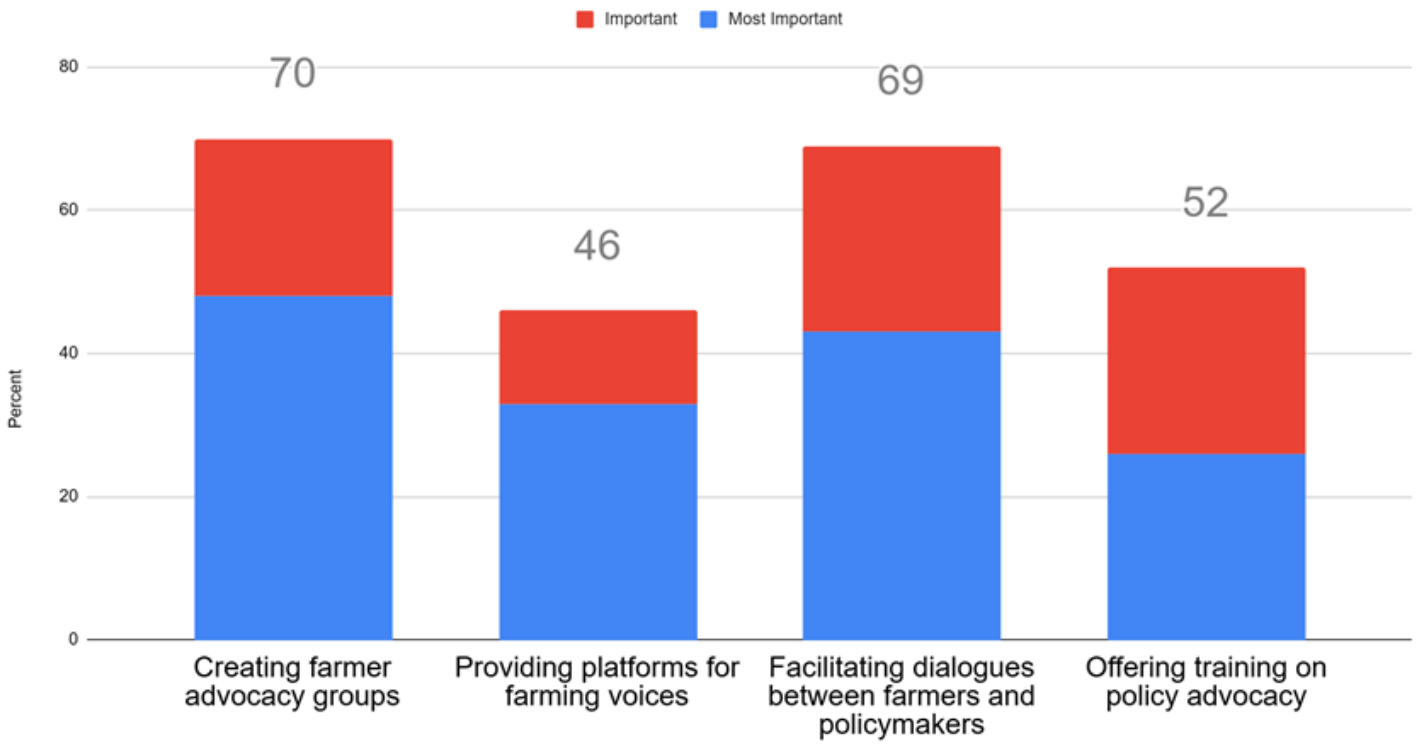
Chuuk Policymakers: How important is policy advocacy for successful and sustainable food system development?



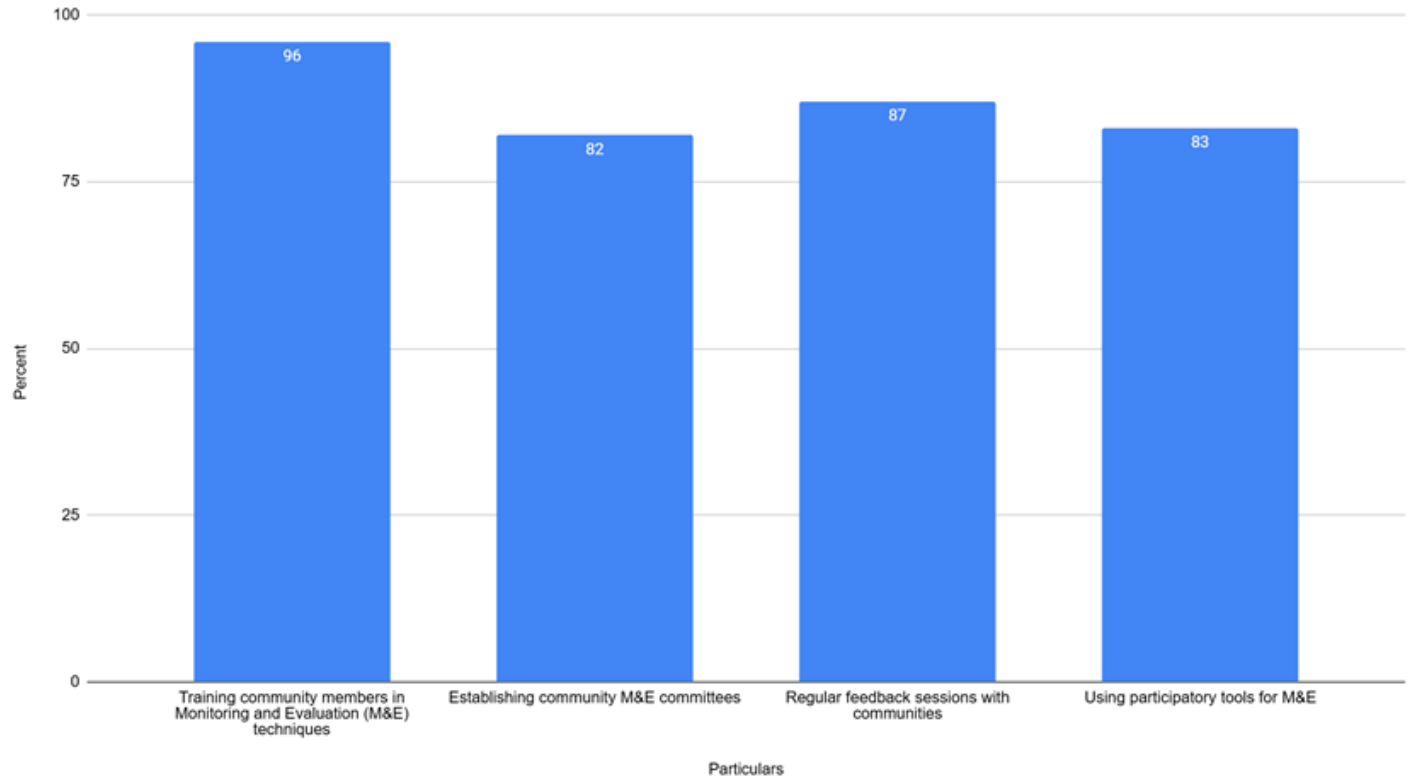
Chuuk Policymakers: Which policy areas should be prioritized to support successful and sustainable food system development?



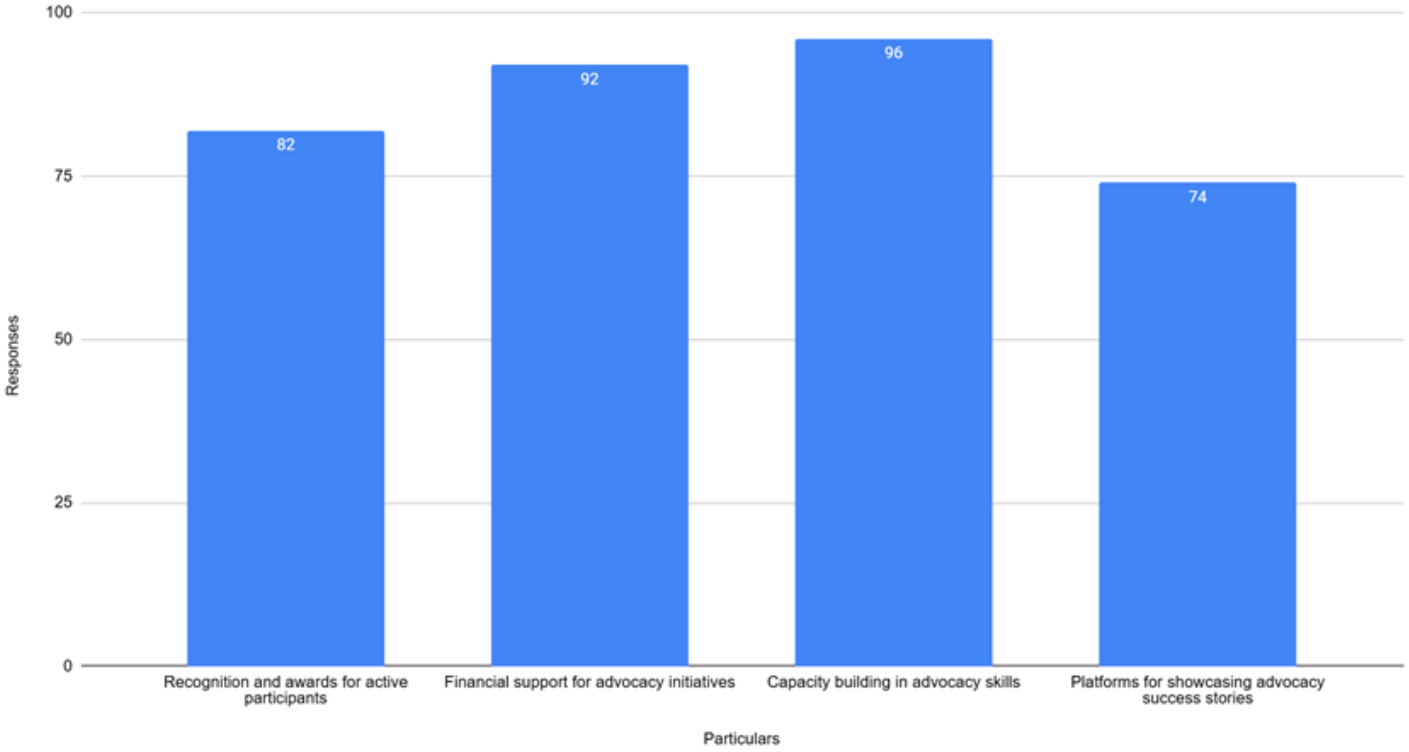
Chuuk Policymakers: How can policymakers assist farmers in advocating for better agricultural policies?



Chuuk Policymakers: How can community-based monitoring and evaluation be integrated into the project?

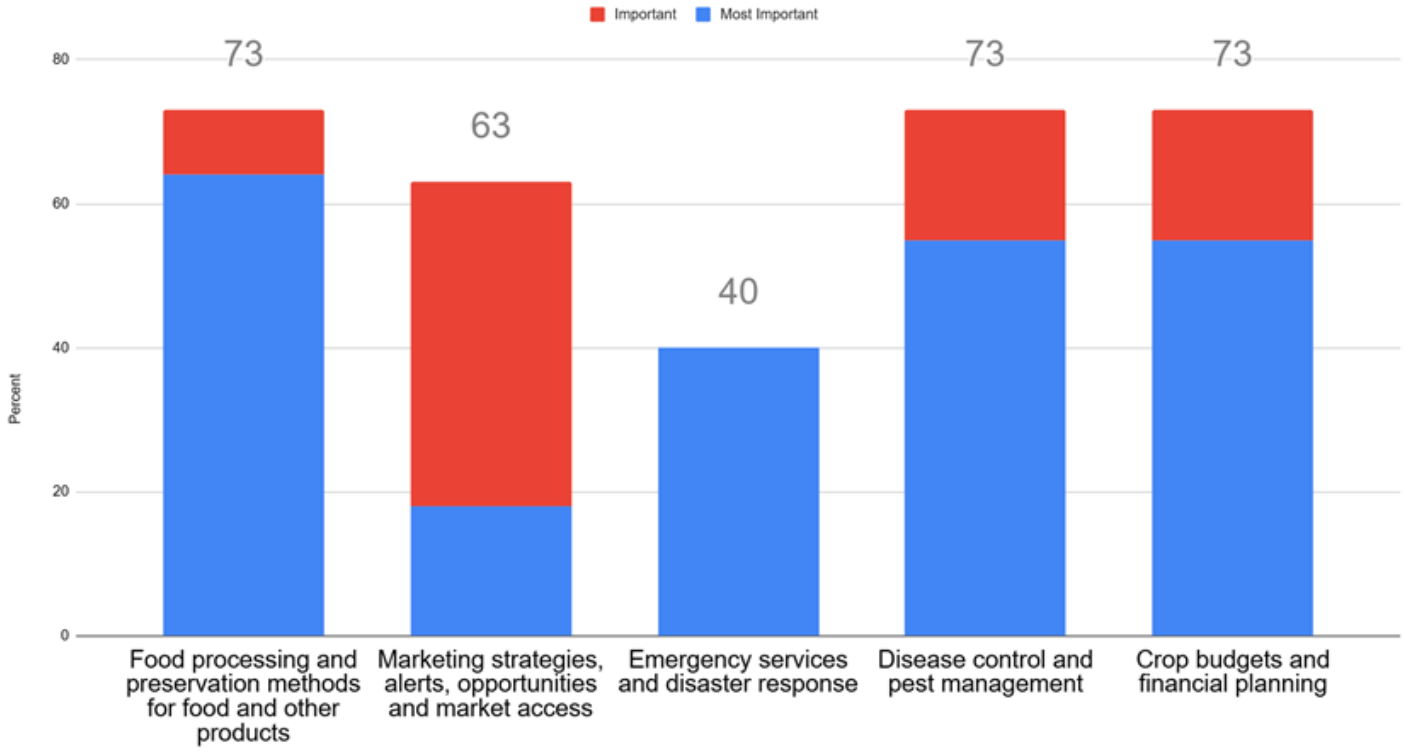


Chuuk Policymakers: What incentives can encourage community participation in policy advocacy related to food systems?

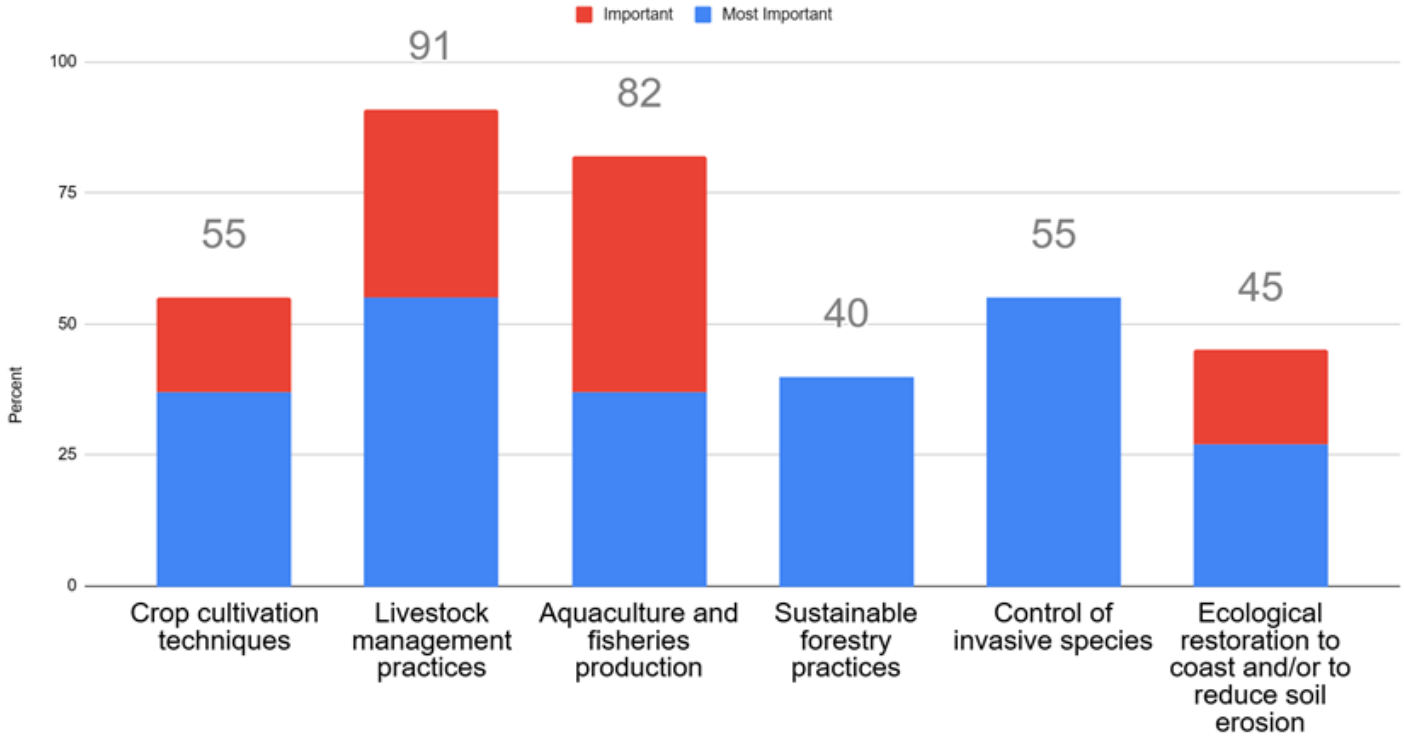


Federated States of Micronesia
Food Systems Solutions Project
FSS Survey Data Tables and Charts
Chuuk State
Information Content Providers

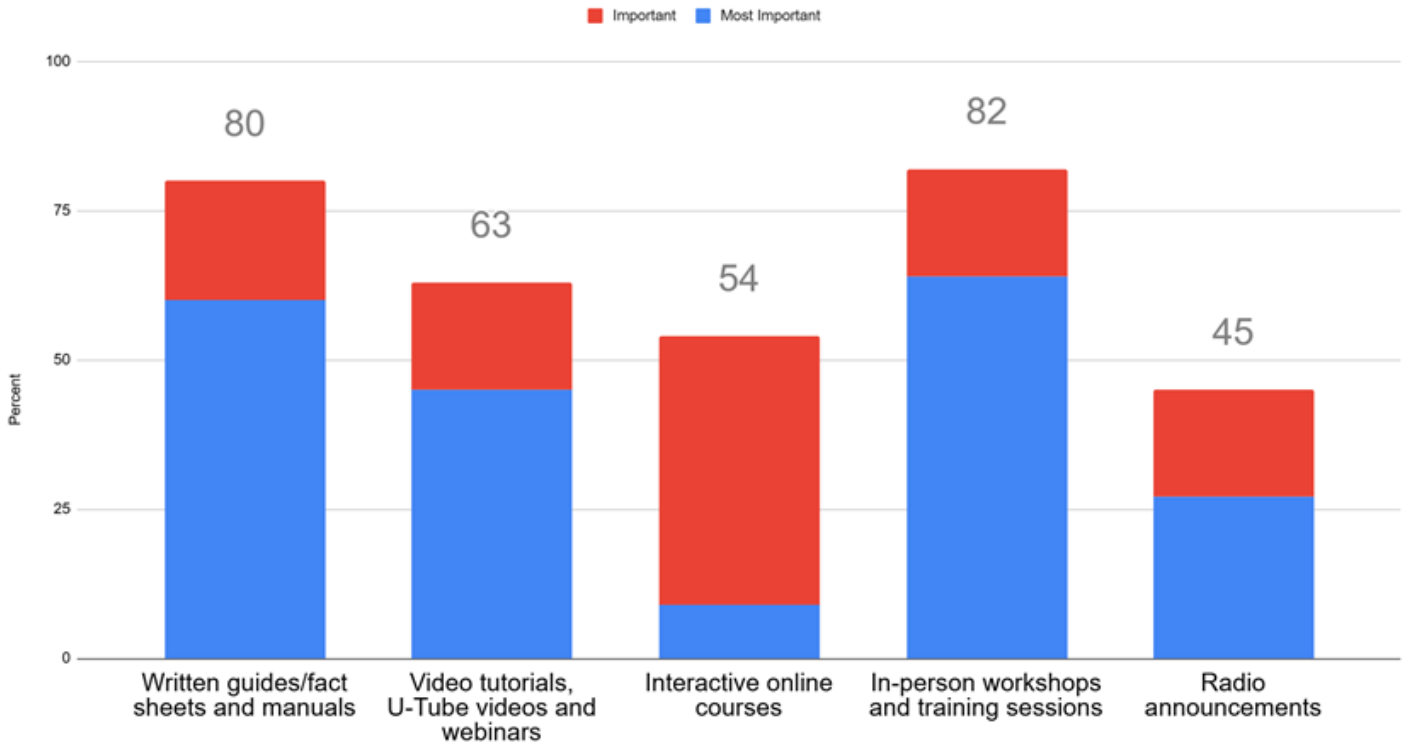
Chuuk Information Content Providers: What type of information do you believe is most critical to include in an electronic-based food systems information hub?



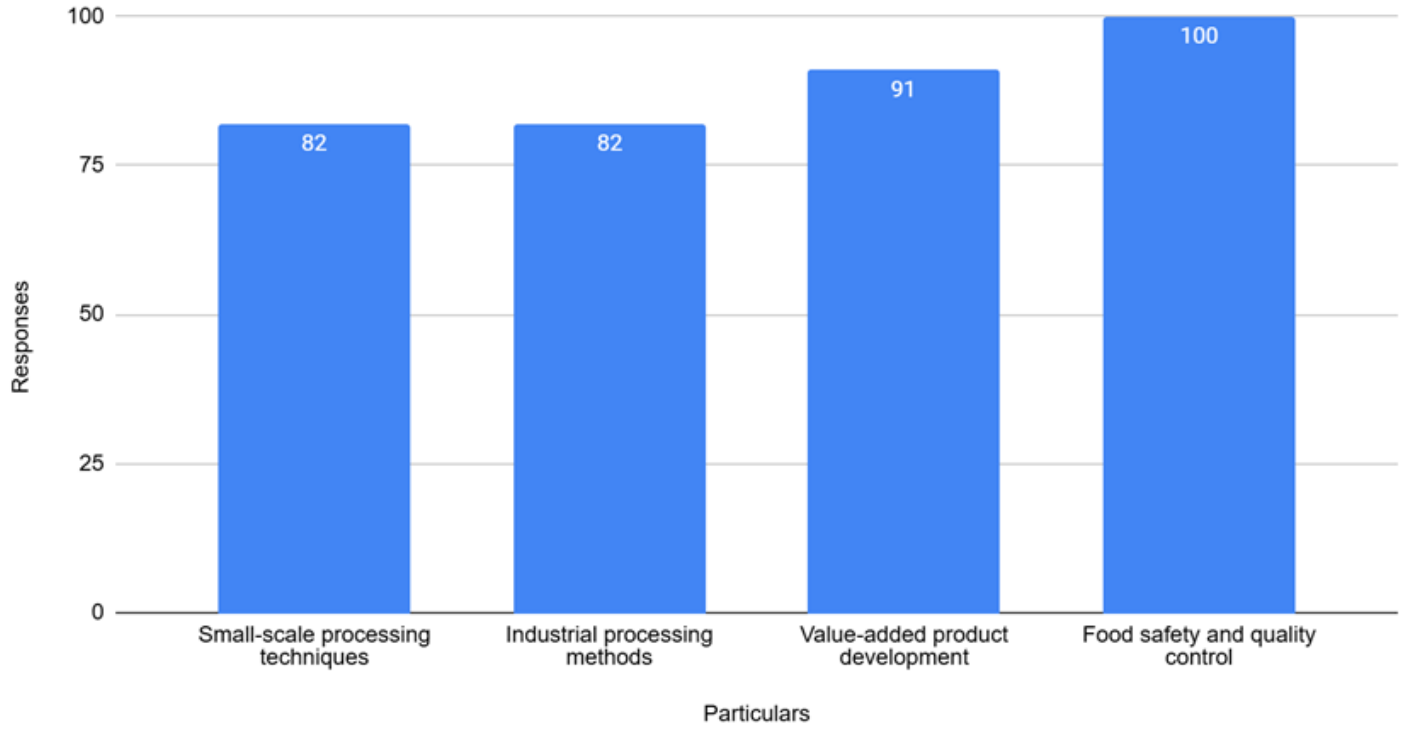
Chuuk Information Content Providers: What types of production information would be most valuable for farmers and producers?



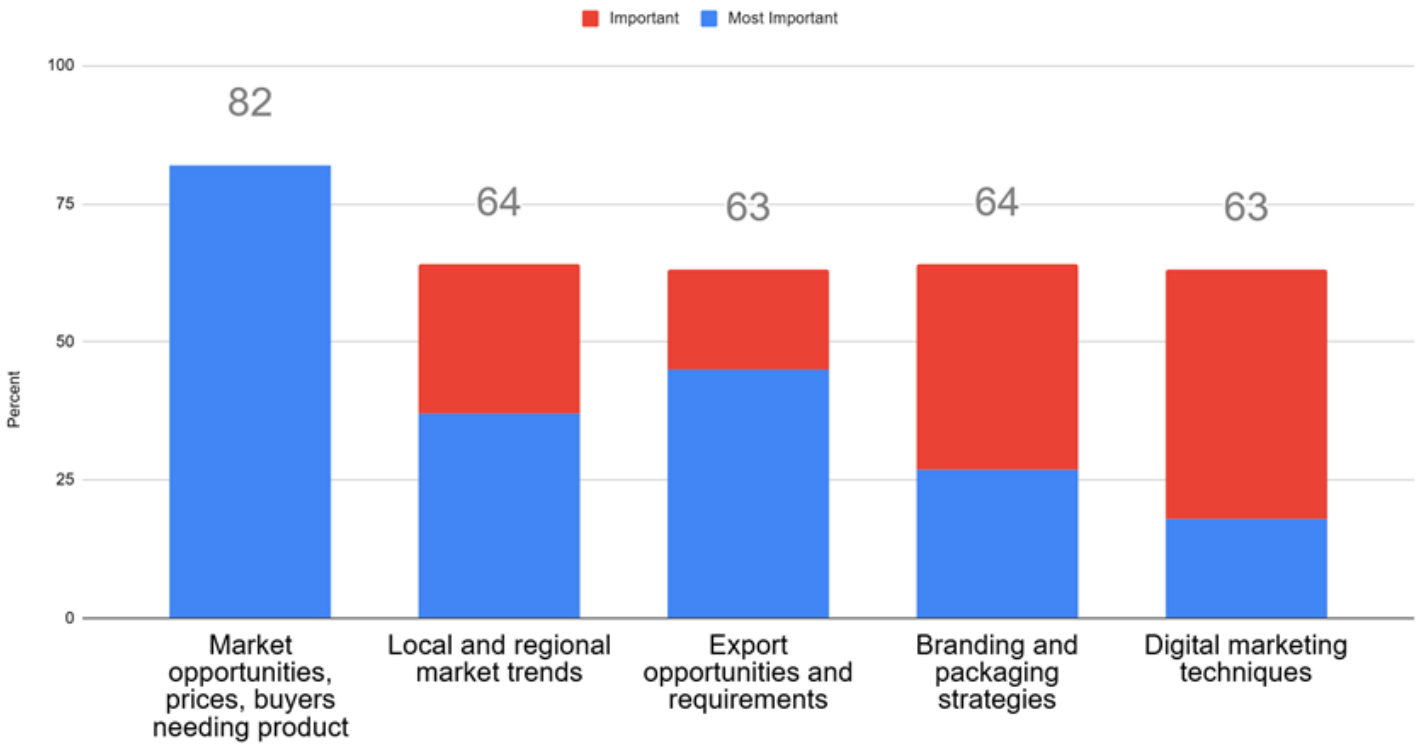
Chuuk Information Content Providers: Which formats would be most effective for presenting production information?



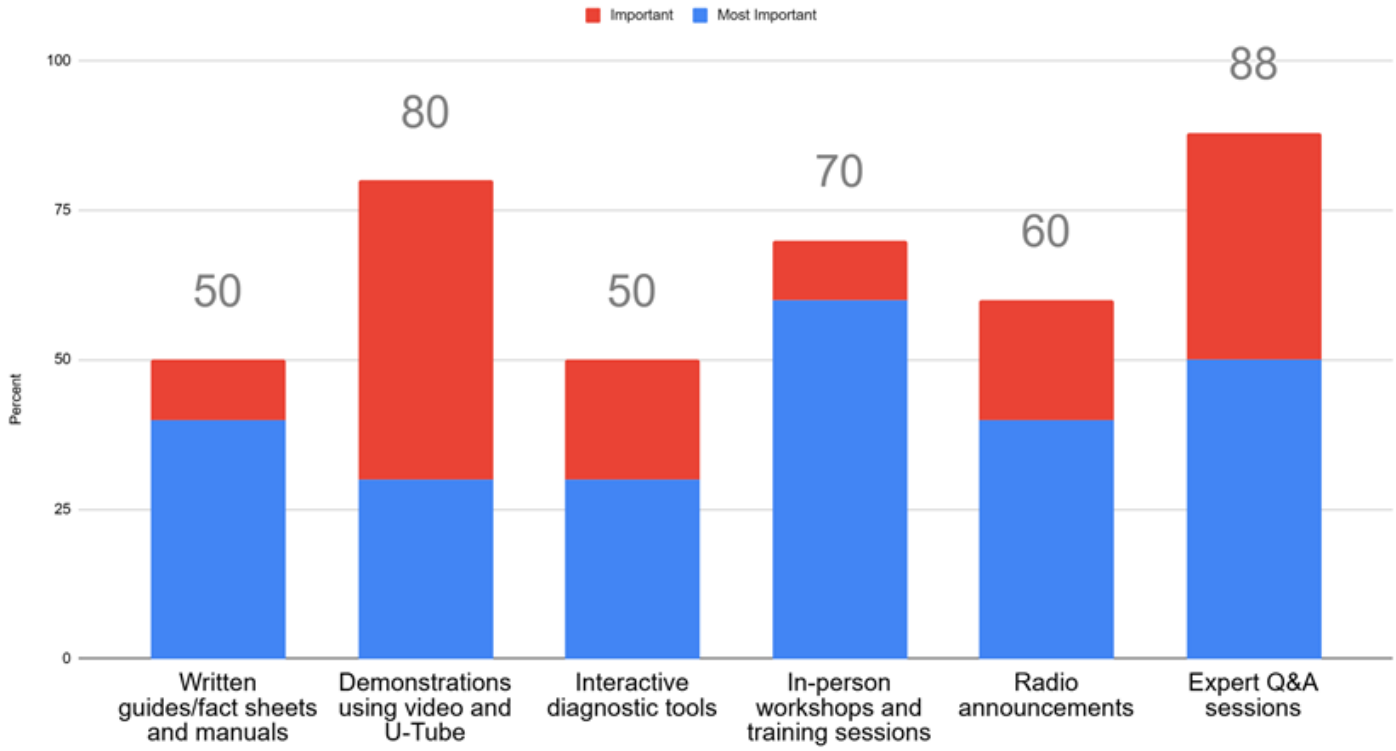
Chuuk Information Content Providers: What aspects of food processing should the information hub focus on?



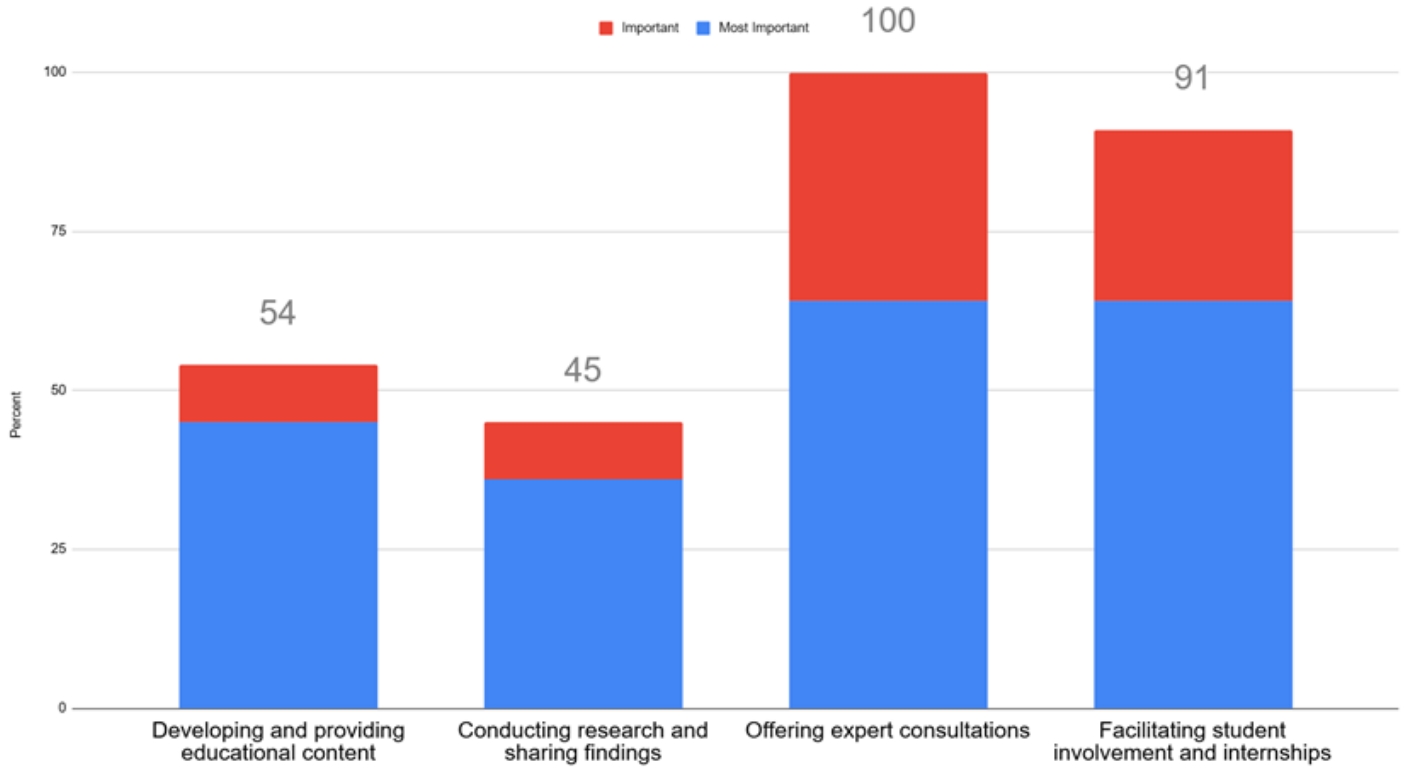
Chuuk Information Content Providers: What marketing information would be most helpful to local producers?



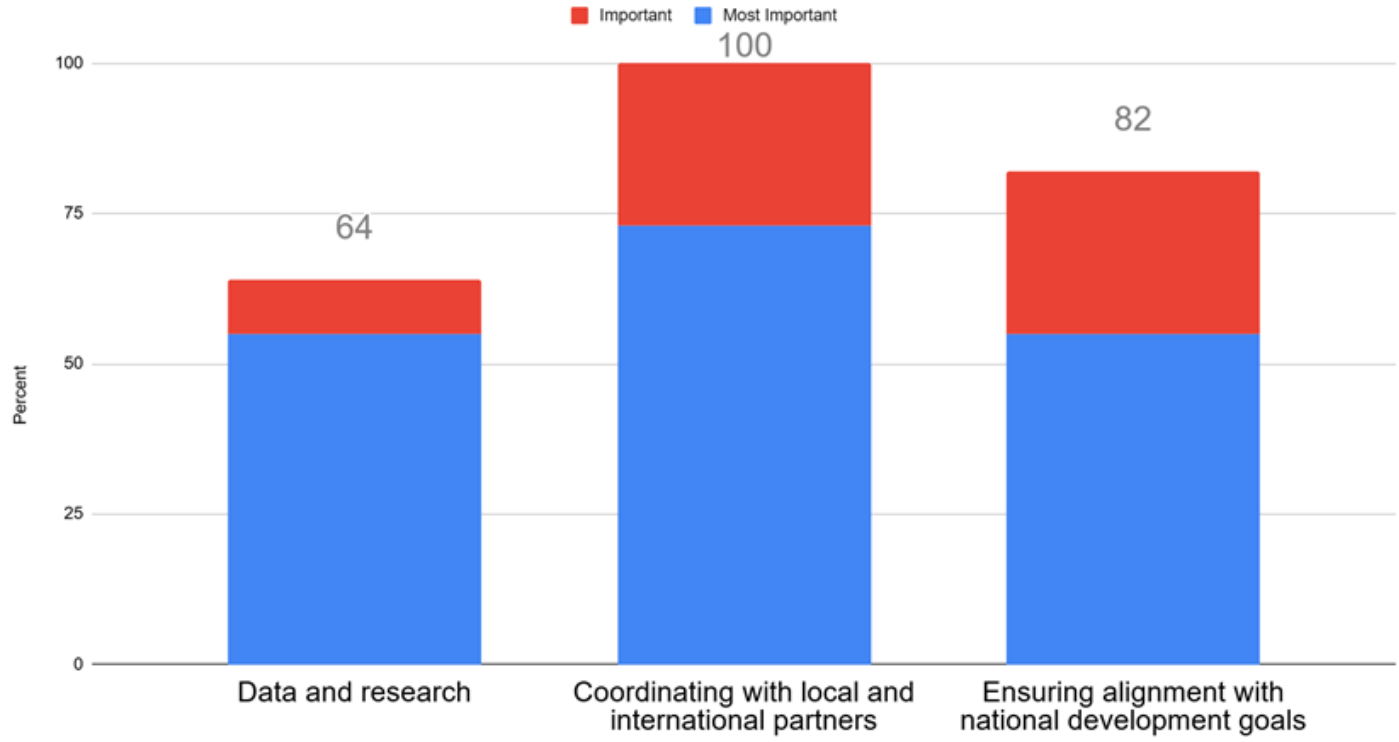
Chuuk Information Content Providers: What formats should be used to present disease control information?



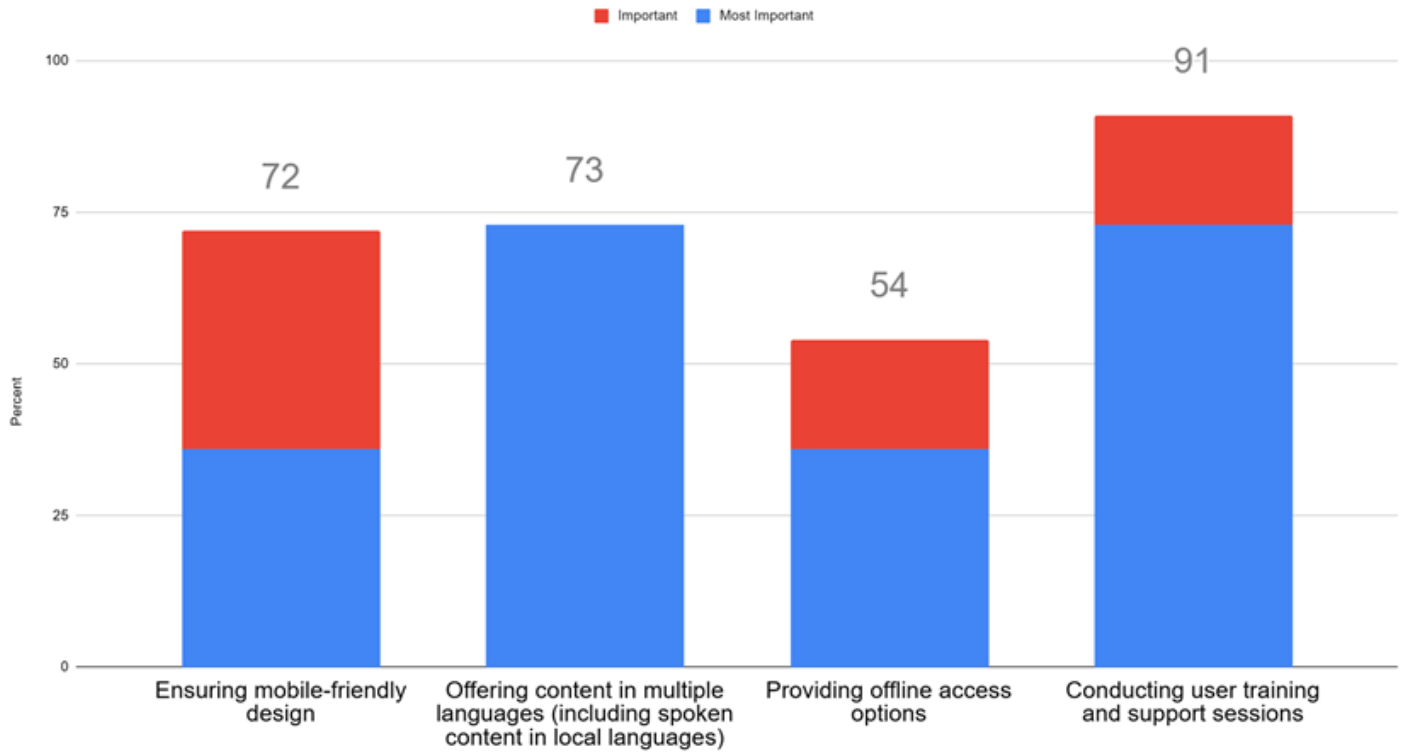
Chuuk Information Content Providers: How can educational institutions like the College of Micronesia contribute to the information hub?



Chuuk Information Content Providers: What role should state and national leaders in the departments of agriculture, marine, and forestry play in supporting the information hub?

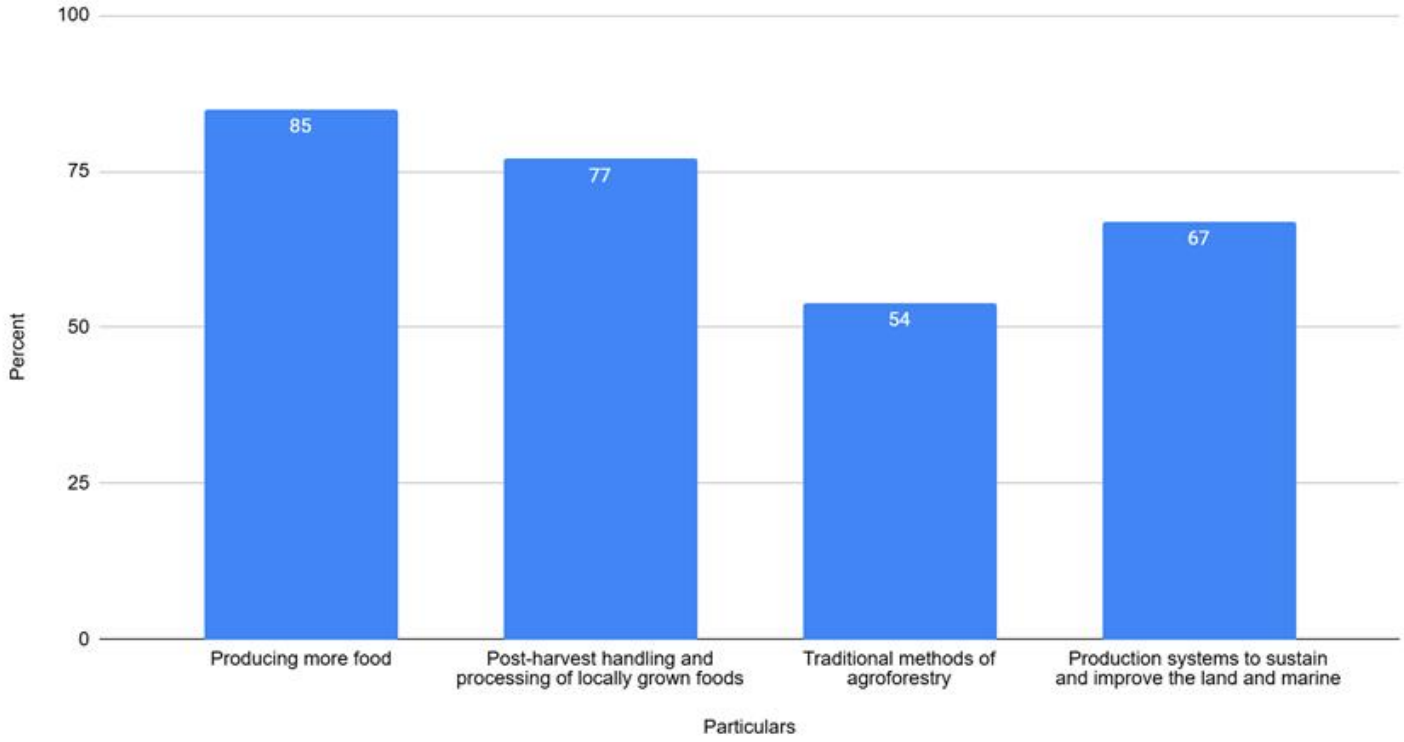


Chuuk Information Content Providers: What measures should be taken to ensure the information hub is accessible and useful to all potential users?

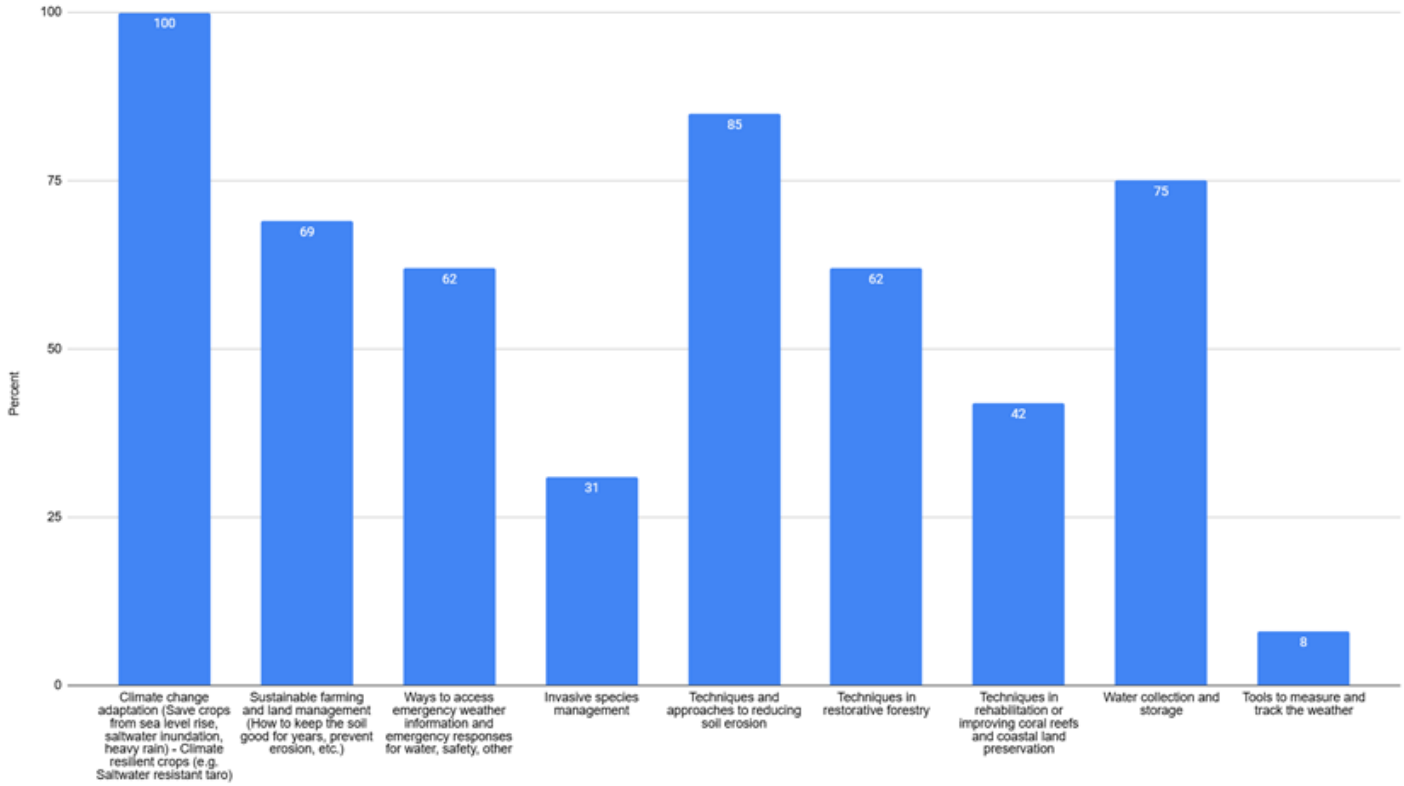


Federated States of Micronesia
Food Systems Solutions Project
FSS Survey Data Tables and Charts
Chuuk State
Trainers

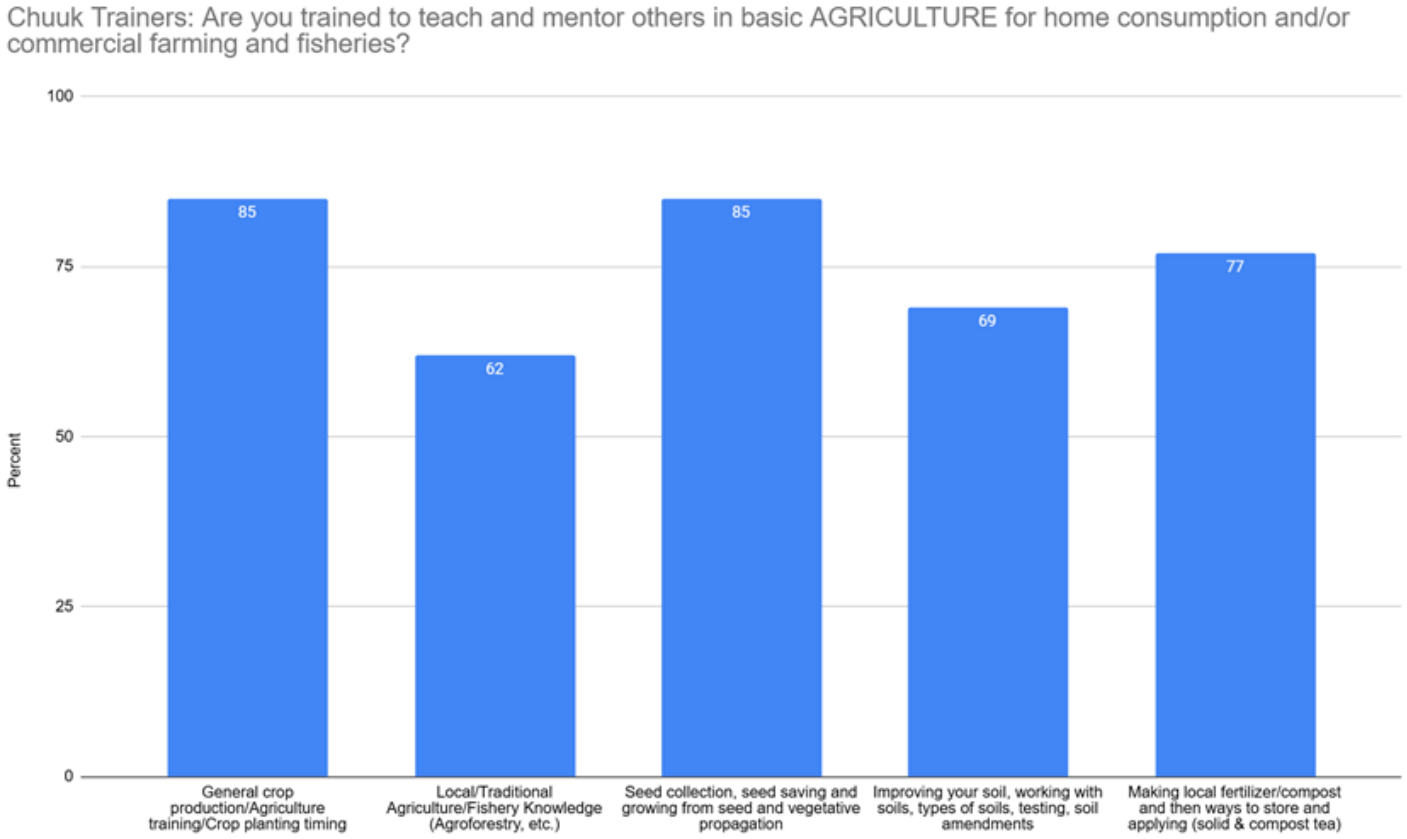
Chuuk Trainers: Are you prepared and have the needed training to assist families and others on?



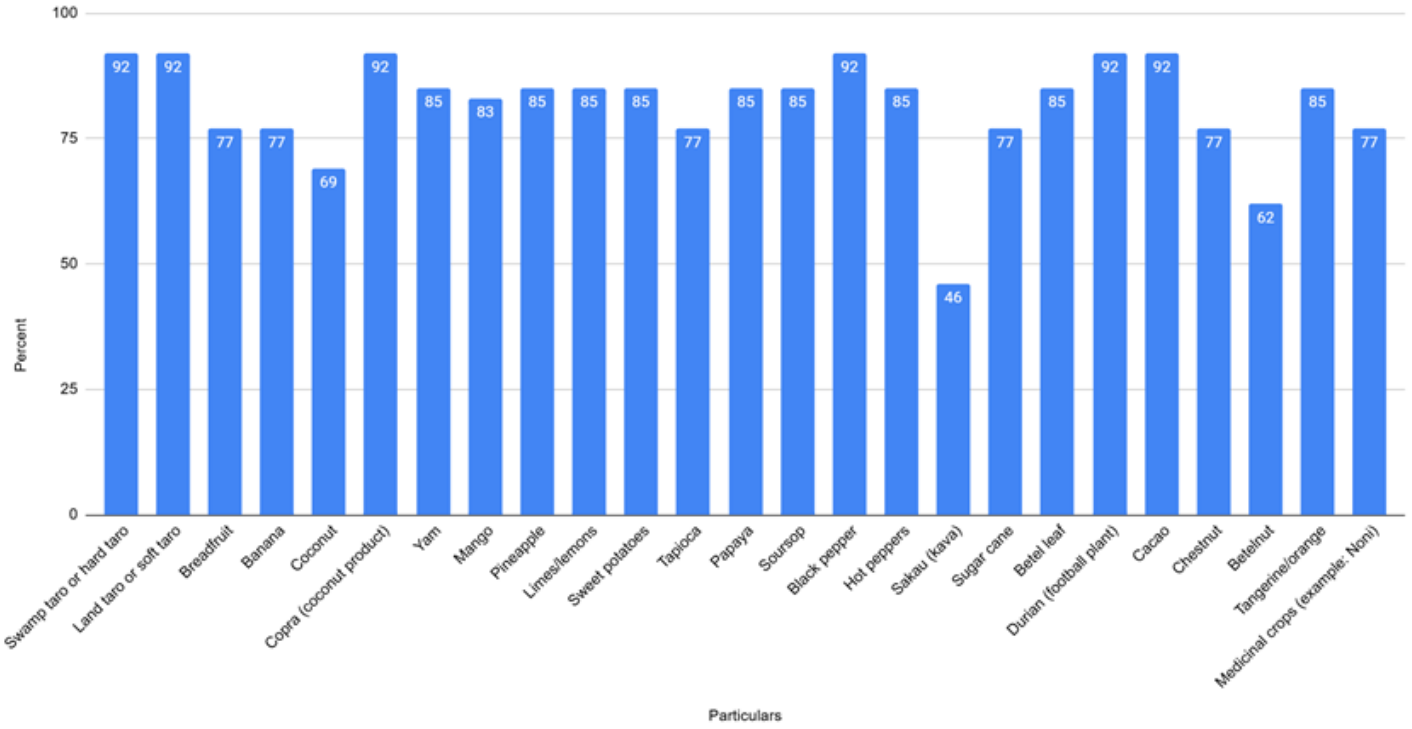
Chuuk Trainers: Are you trained to teach and mentor others on CLIMATE CHANGE?



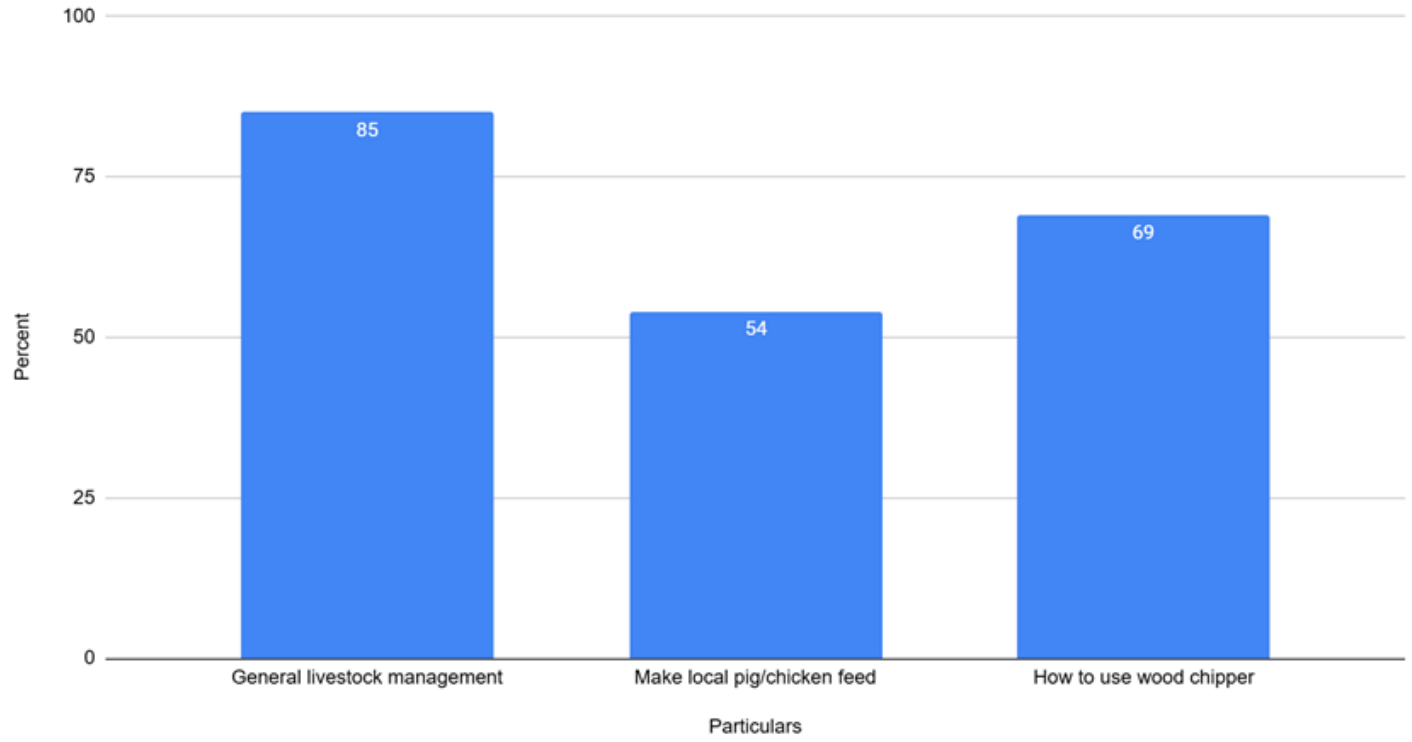

Chuuk Trainers: Would you be interested in taking workshops and trainings to get up to speed or better trained?
100
75
50
25
0
Percent
100
0
Yes
No


Chuuk Trainers: Are you trained to teach and mentor others in basic AGRICULTURE for home consumption and/or commercial farming and fisheries?
100
75
50
25
0
Percent
85
62
85
69
77
General crop production/Agriculture training/Crop planting timing
Local/Traditional Agriculture/Fishery Knowledge (Agroforestry, etc.)
Seed collection, seed saving and growing from seed and vegetative propagation
Improving your soil, working with soils, types of soils, testing, soil amendments
Making local fertilizer/compost and then ways to store and applying (solid & compost tea)

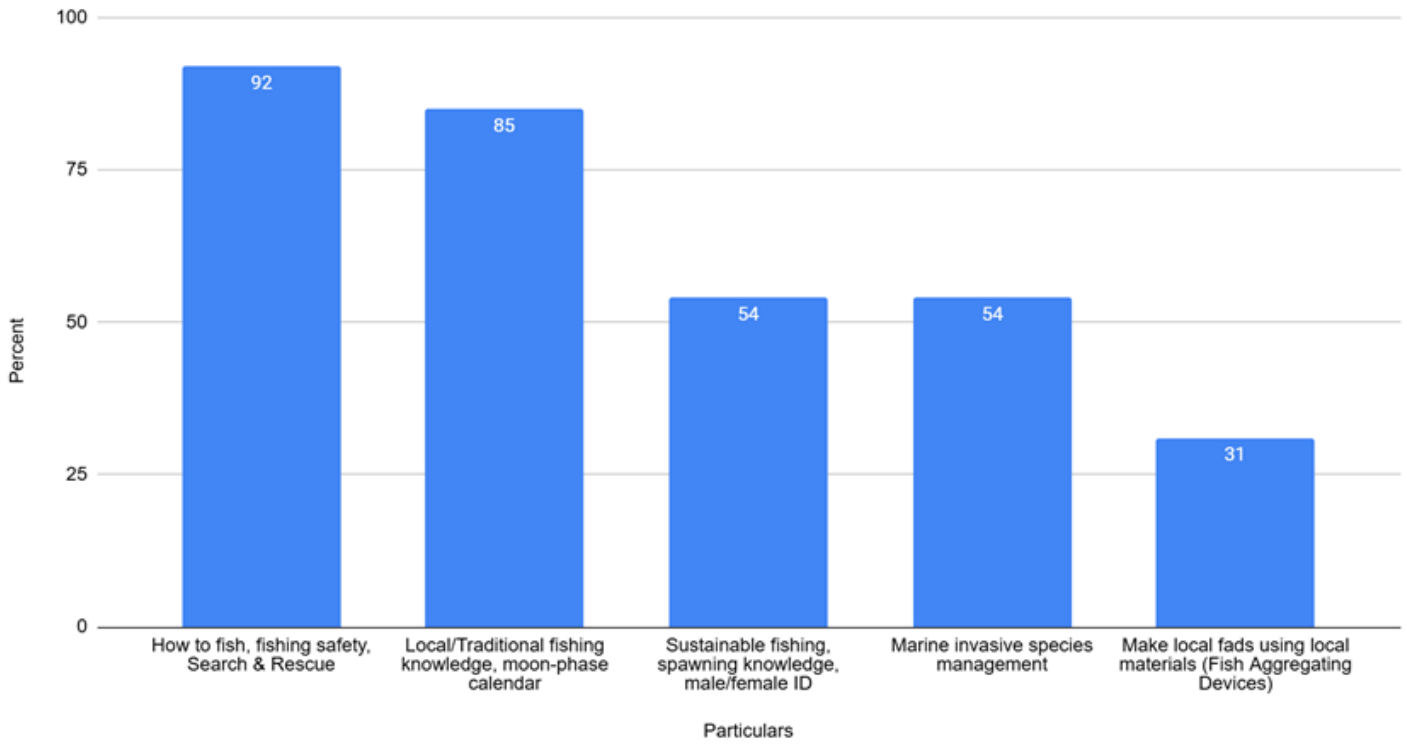
Chuuk Trainers: Do you have sufficient expertise and hands-on experience with each of the following crops do you want/need more training and information on growing, harvesting, processing of these specific crops (check or circle each that is of interest)



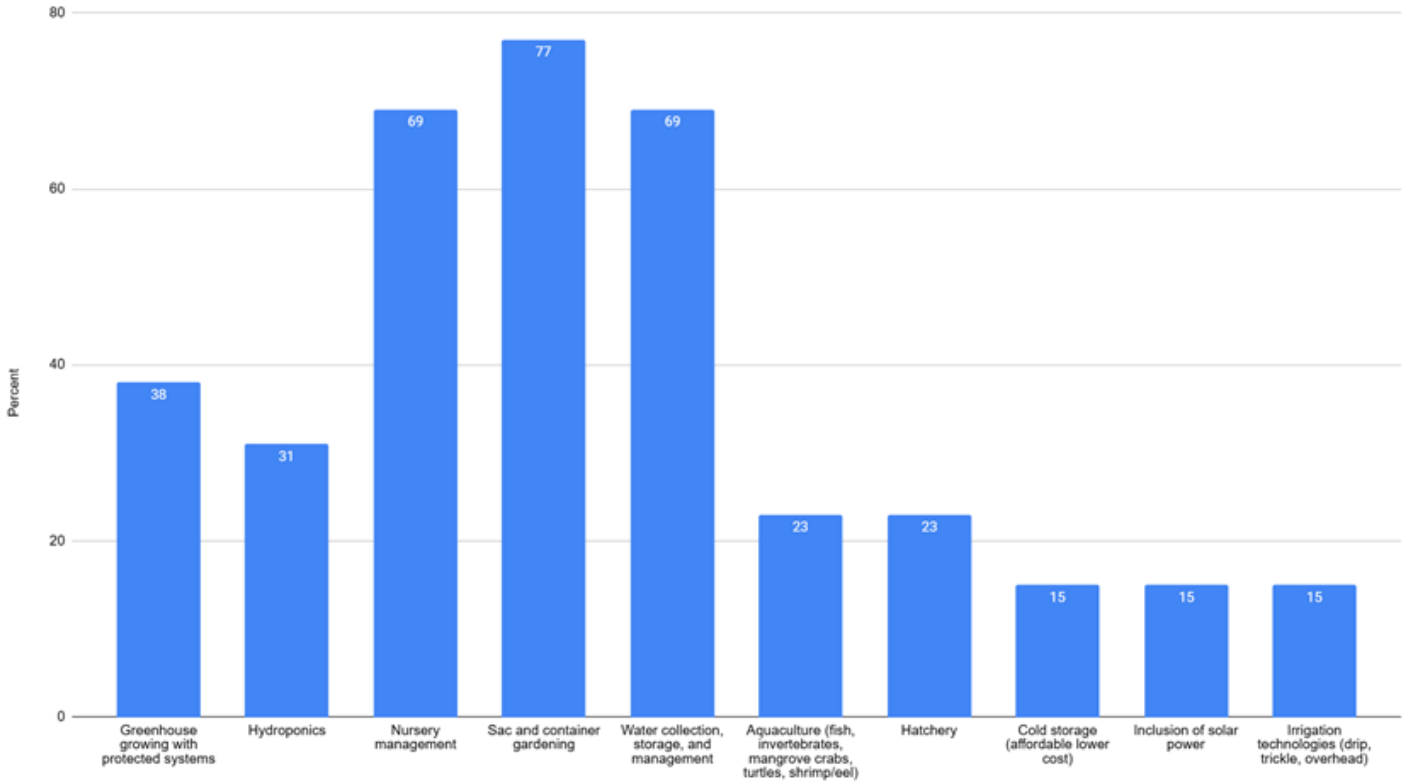
Chuuk Trainers: Do you have sufficient expertise and hands-on experience with each of the following: LIVESTOCK

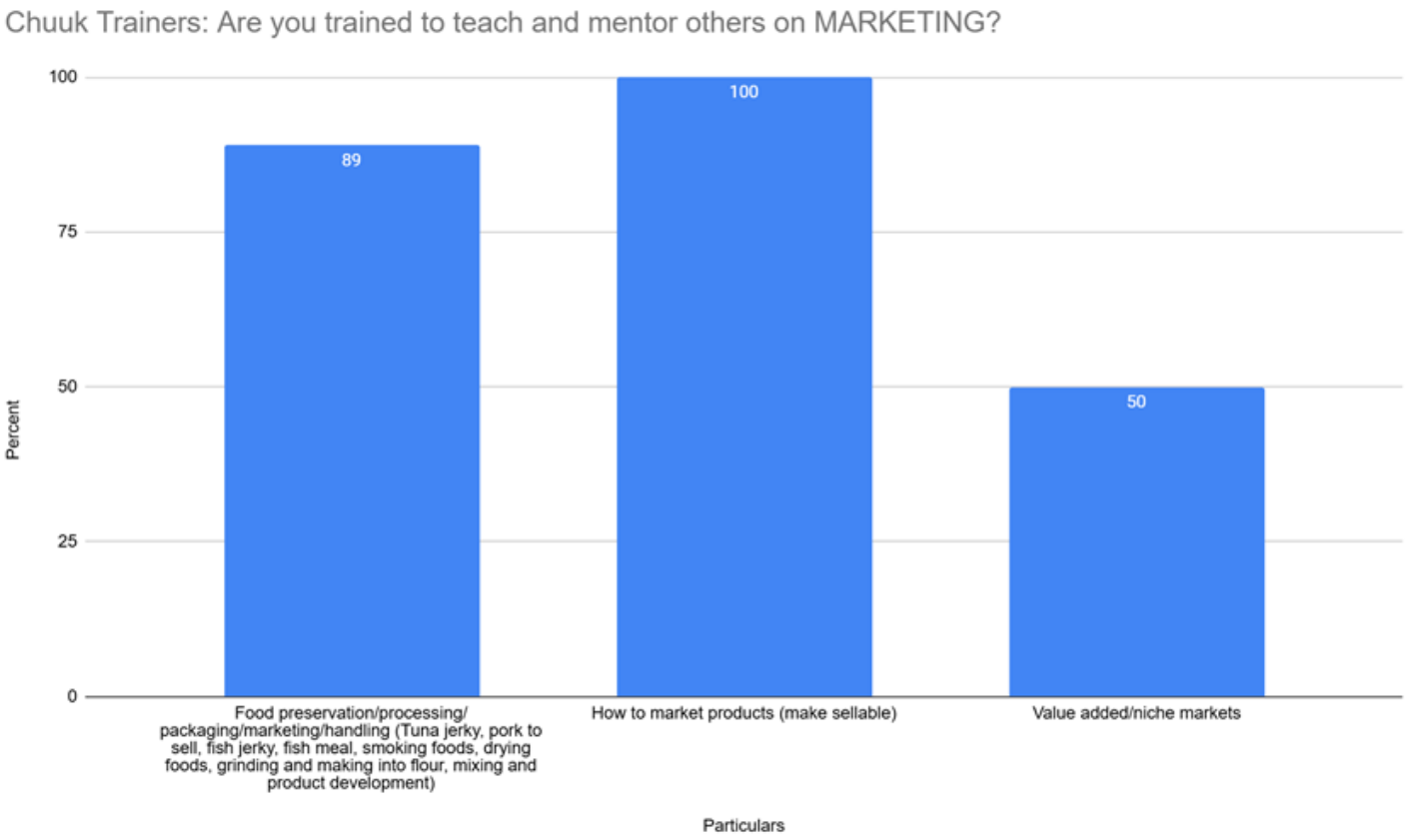


Chuuk Trainers: Do you have sufficient expertise and hands-on experience with each of the following: MARINE/AQUACULTURE



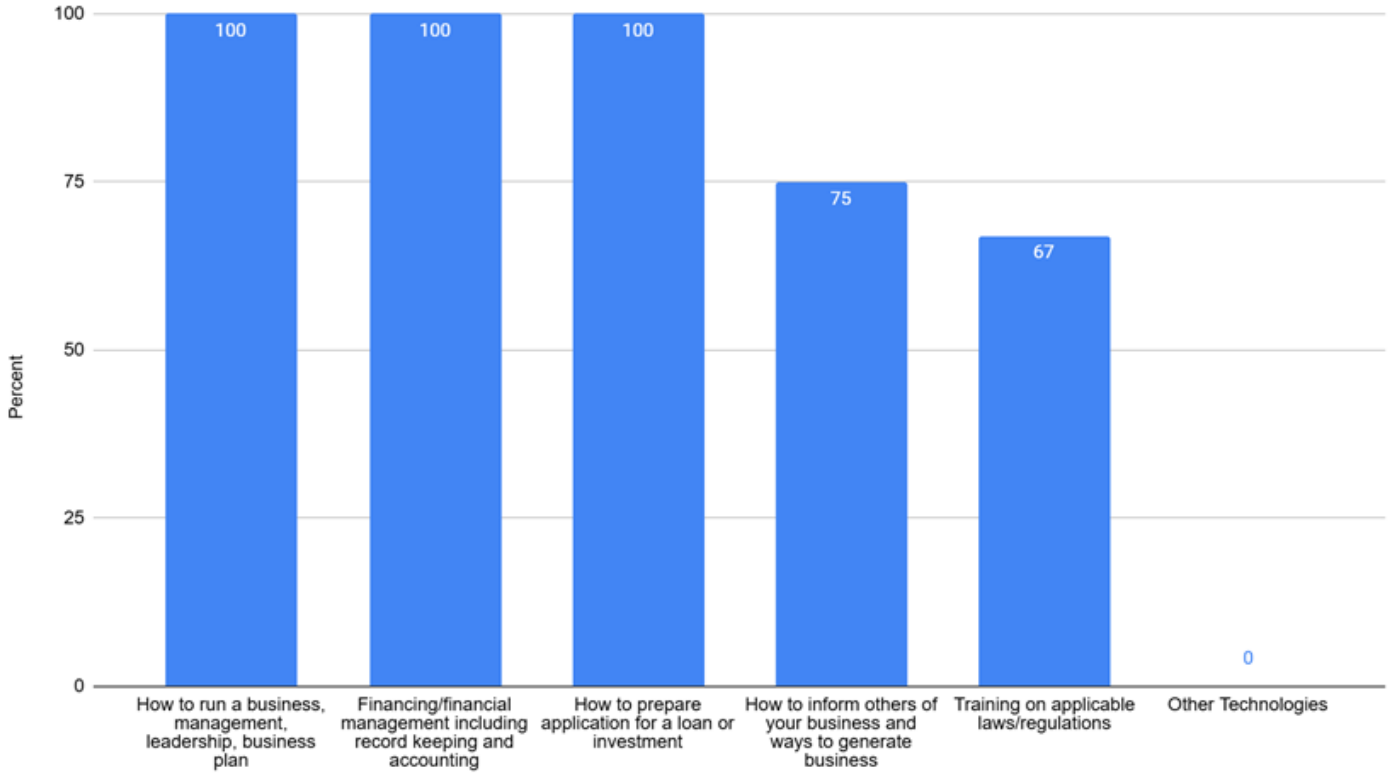
Chuuk Trainers: Are you trained to teach and mentor others on these TECHNOLOGIES?



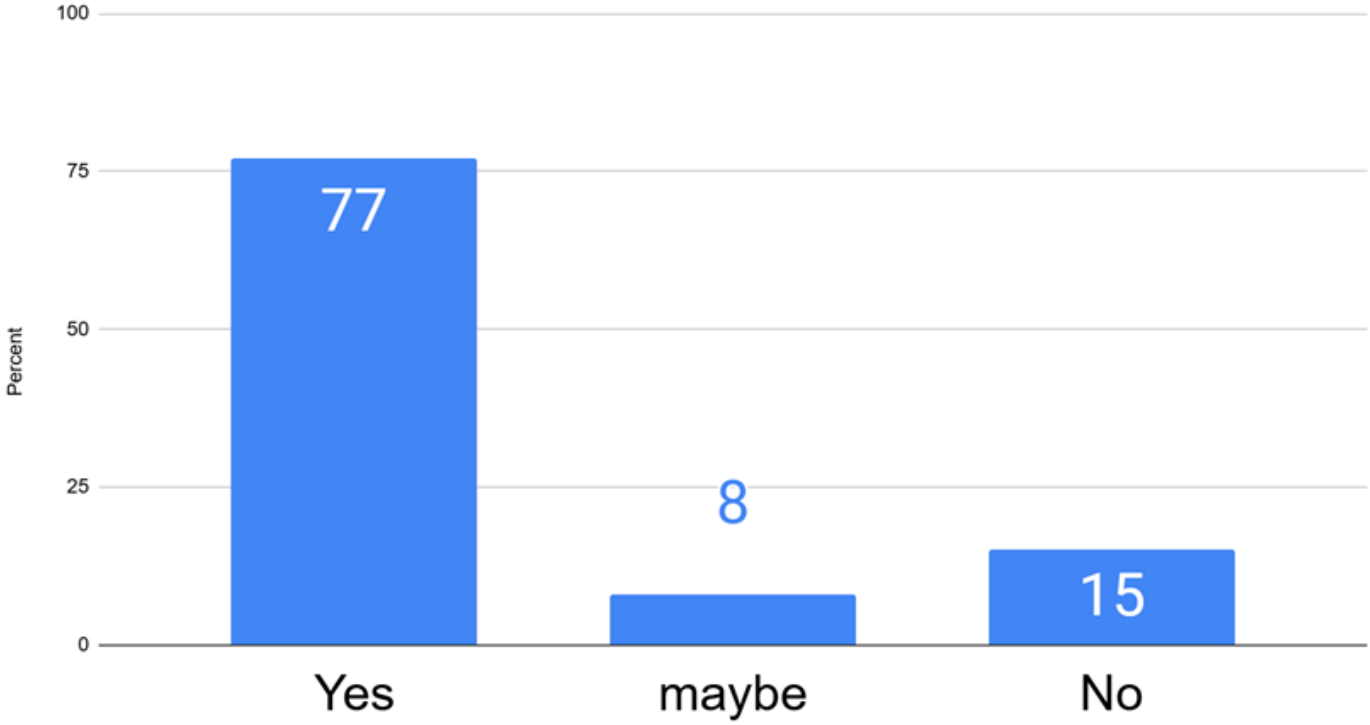

Chuuk Trainers: Are you trained to teach and mentor others on MARKETING?
100
75
50
25
0
Percent
89
100
50
Food preservation/processing/ packaging/marketing/handling (Tuna jerky, pork to sell, fish jerky, fish meal, smoking foods, drying foods, grinding and making into flour, mixing and product development)
How to market products (make sellable)
Value added/niche markets
Particulars


Chuuk Trainers: Are you trained to teach and mentor others on HEALTH AND NUTRITION relative to people and/or animals/poultry?
100
75
50
25
0
Percent
100
11
General health and nutrition
How to prepare (easy) dishes with local foods (fish)

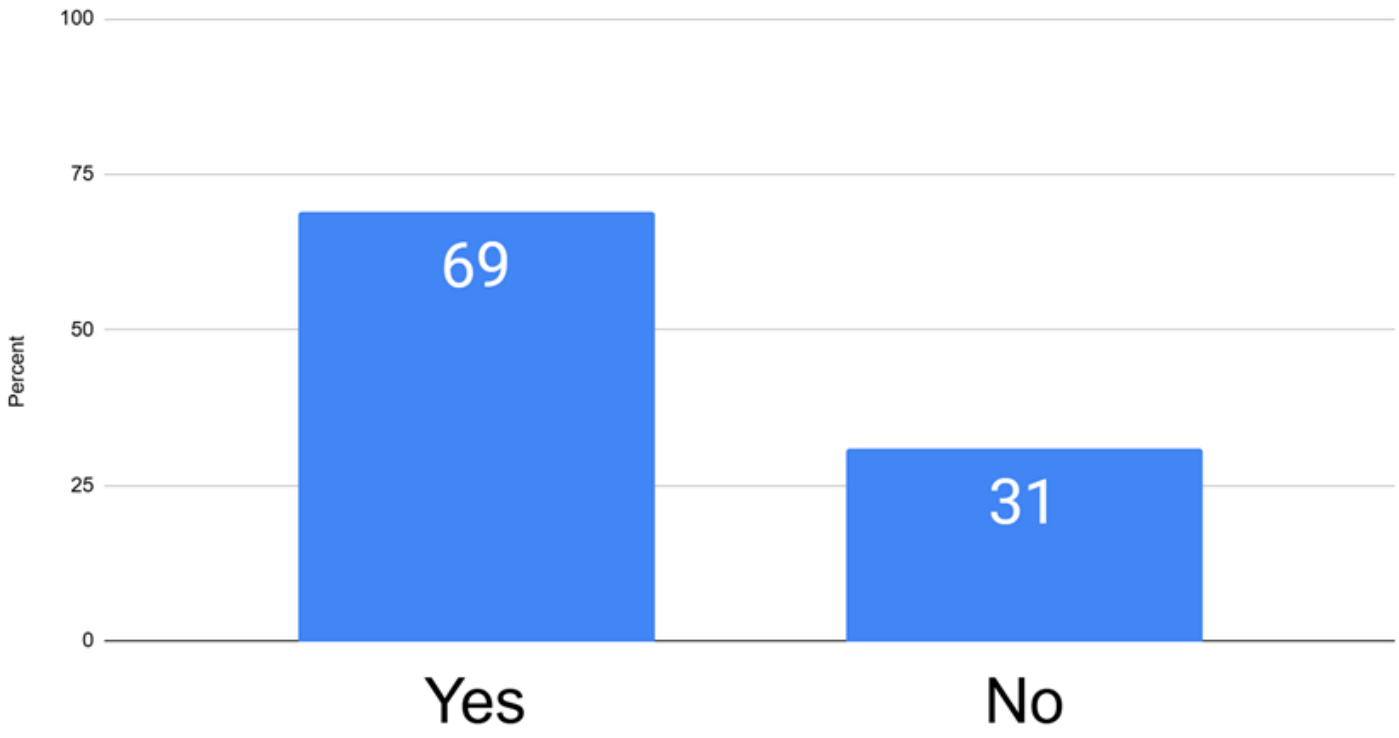
Chuuk Trainers: Are you trained to teach and mentor others on BUSINESS MANAGEMENT?



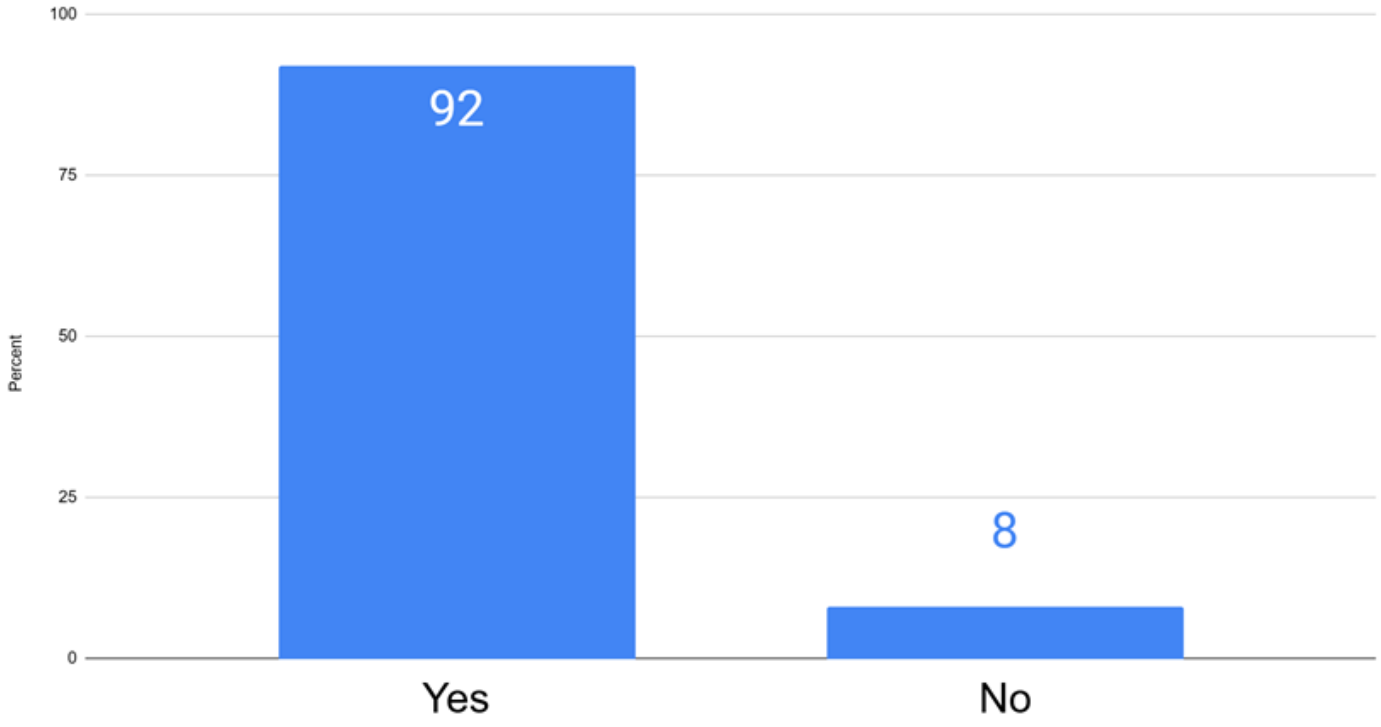
Chuuk Trainers: Would you be interested in further graduate studies, if you can still keep your job?



Chuuk Trainers: Would you be willing to spend some time overseas for such training (or does your work/family preclude that opportunity)?



Chuuk Trainers: Would you be willing to pursue online trainings and even graduate programs and certification programs on-line?



Federated States of Micronesia
Food Systems Solutions Project
Survey Results
Chuuk State

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Federated States of Micronesia
Food Systems Solutions Project
Chuuk Producer Survey Results

1. Food System Information

This section explores key aspects of food system information among Chuuk food producers, focusing on their access to and utilization of data on crop planning, weather conditions, pest and disease monitoring, market prices, and emergency notifications. The insights reflect both the current practices and the areas where additional resources could enhance producers' decision-making and operational planning.

Demographics

A total of 67 respondents contributed to the survey, representing food producers across Chuuk involved in agroforestry, cultivated farming, fishing, aquaculture, poultry, and livestock. Of these respondents, 42 percent identified as male, while 58 percent were female. The age distribution shows a considerable concentration of producers in the older age ranges: the largest group (39 percent) falls between the ages of 56 and 60, 31 percent are between 31 and 45, and only 16 percent are in the 18 to 30 age bracket. A smaller proportion, 13 percent, were over 60 years old. These demographics suggest that food production in Chuuk is dominated by more experienced producers, with limited representation from younger generations.

1.1 Crop Planning and Production Data

Access to crop planning and production data is essential for farmers to plan their activities, forecast yields, and manage resources effectively. According to the survey, 55 percent of producers have access to crop planning and production information, while 45 percent do not. Of those who have access, monthly updates are the most common frequency, utilized by 50 percent of respondents. Weekly access is the second most common at 29 percent, with 15 percent accessing the information seasonally. Only a small group, 3 percent, access crop planning data on a daily basis.

Producers' preferred frequency of access indicates a demand for more regular updates, with 32 percent expressing a desire for weekly updates and 38 percent preferring monthly access. This preference distribution suggests that while the existing access meets some of the needs, a gap remains in the availability of timely, regular crop planning information. The data reflects a need for tools and resources that can offer insights into crop production patterns, input availability, and yield predictions at intervals that align more closely with producers’ operational cycles.

1.2 Weather Information

Weather information is essential for producers to plan for and mitigate risks associated with adverse weather conditions. The survey data shows that 70 percent of producers currently have access to weather information, a significantly higher proportion compared to access levels for crop planning data. Among these, 45 percent access weather information weekly, making this the

most common frequency, followed by 32 percent who access it daily and 14 percent who rely on monthly updates.

Producers' preferences for weather information access reveal a strong inclination towards daily updates, with 39 percent indicating a need for daily access to this information. Meanwhile, 45 percent would prefer weekly access, and smaller percentages find monthly updates sufficient. The demand for daily weather updates highlights the importance of responsive weather services that can provide real-time data to producers, enabling them to adapt quickly to changes in weather patterns and minimize potential damage to their crops or livestock.

1.3 Pest and Disease Monitoring

Pest and disease monitoring is another critical area where timely information can significantly impact production outcomes. The data reveals that access to pest and disease monitoring information is limited, with only 21 percent of producers reporting that they currently have access to this type of data, while 79 percent lack this resource. For those who do have access, the frequency of usage varies. Most producers (33 percent) access pest and disease information on a monthly basis, reflecting the periodic nature of pest infestations and disease cycles. Smaller groups access this information daily (8 percent) or weekly (8 percent).

When asked about their preferred frequency of access, producers expressed a need for more frequent updates, with 18 percent desiring daily updates, 18 percent weekly, and the majority (27 percent) preferring monthly access. These preferences suggest that producers would benefit from consistent monitoring tools that provide timely updates to help them detect and control pest outbreaks or diseases as they arise, aligning information availability with the periodic nature of pest and disease cycles.

1.4 Market Prices

Access to market price information plays a key role in producers' decision-making and profitability, as it enables them to respond to market demand and optimize their sales strategies. The survey findings show that access to market price information is somewhat limited, with only 52 percent of respondents currently able to access this information, while 48 percent lack access. Among those with access, weekly updates are the most common (42 percent), followed by monthly updates (27 percent). Seasonal updates are less common, accessed by 8 percent, while 19 percent of producers access price data daily.

Producers' preferences for market price access reveal a strong demand for more frequent updates, with 39 percent indicating a need for daily access to this information, while 22 percent prefer weekly updates and 26 percent monthly. These preferences underscore the importance of timely market insights, which would allow producers to adjust their strategies in response to price fluctuations and seasonal demand. More frequent updates could provide producers with a better understanding of price trends, ultimately helping them make more informed decisions about when and where to sell their products.

1.5 Online Market Forecasting for Food Product Outputs

Producers also benefit from online market forecasting tools that help them anticipate future demand for food products and plan their outputs accordingly. Approximately 65 percent of

producers surveyed have access to market forecasting tools, while 35 percent do not. For those who use these tools, seasonal access is the most common, with 49 percent relying on seasonal forecasts, followed by 31 percent who access them monthly. Weekly access is less common, used by 13 percent of producers.

Producers' preferences for access reveal a desire for more frequent forecasting information, with 5 percent wanting daily updates, 8 percent weekly, and 36 percent preferring monthly updates. This distribution suggests that while current seasonal updates meet some needs, more frequent updates would enable producers to respond more effectively to market fluctuations, helping them plan for peak demand periods and optimize their market engagement.

1.6 Online Information on Food Production Inputs

Producers rely on online information about food production inputs, such as seeds, feed, live plants, and other essential supplies. This information is crucial for their operational planning and productivity. The survey data shows that 62 percent of producers have access to input-related information online, while 38 percent lack access. Among those with access, weekly access is the most common frequency, with 39 percent using it weekly, followed by 24 percent who access it monthly and 11 percent seasonally. Daily access is relatively rare, with only 3 percent of producers using this frequency.

Producers' preferences for access reveal a desire for more frequent updates, with 5 percent wanting daily updates, 42 percent weekly, and 26 percent monthly. These insights indicate that, while weekly information on inputs may be sufficient for some producers, a notable portion would benefit from daily updates to stay informed of availability and seasonal input demands. More frequent input information could enable producers to better plan for planting cycles, manage their resources effectively, and reduce risks associated with supply shortages.

1.7 Online Policy Updates

Policy updates, including changes to state and national regulations, are crucial for producers to remain compliant and leverage new opportunities in the food production sector. The survey shows that only 46 percent of producers currently have access to online policy updates, leaving 54 percent without this information. Access frequency is primarily yearly or seasonal, with 48 percent accessing updates yearly and 33 percent seasonally, while a smaller group (7 percent) uses monthly updates. Zero percent access policy updates daily, and 7 percent weekly.

Producers' preferred access frequency for policy updates indicates a variety of needs, with 0 percent favoring daily updates, 11 percent weekly, and 7 percent monthly, while most continue to see value in yearly (48 percent) or seasonal (33 percent) notifications. These preferences suggest that, while immediate updates may not be necessary for all policy matters, consistent access to policy information is essential for producers to remain informed about regulatory changes that could affect their operations.

1.8 Emergency Notifications

Emergency notifications regarding disease epidemics, safety issues, environmental hazards, and other adverse events are essential for ensuring the safety and preparedness of producers. The data shows that 71 percent of producers currently receive emergency notifications, while 29 percent

lack access to this critical information. Among those who receive emergency alerts, seasonal updates are the most common, with 39 percent accessing this information seasonally. A smaller proportion relies on daily (3 percent), weekly (16 percent), or monthly (23 percent) notifications.

Preferences for emergency notification frequency reveal a strong demand for real-time or near real-time access, with 8 percent of producers indicating a need for daily updates, 19 percent for weekly alerts, and 14 percent for monthly notifications. Forty-three percent prefer seasonal updates. These preferences underscore the importance of timely emergency information to help producers respond to sudden risks and protect their crops, livestock, and resources in the face of environmental challenges.

1.9 Online Risk Management Training

Producers also expressed interest in risk management training, including ongoing education on business strategies and other topics that can enhance their resilience. The survey reveals that 46 percent of producers currently have access to risk management training resources, while 54 percent do not. Of those who have access, the majority (40 percent) utilize this resource on a seasonal basis, with 8 percent using it weekly, and 24 percent relying on it monthly. 28 percent of respondents access this information yearly.

Producers' preferences reflect a demand for more regular training, with 24 percent preferring monthly opportunities, 12 percent weekly, and 36 percent desiring seasonal access to risk management resources. Twenty-eight percent want this information yearly. These insights suggest that producers value consistent training opportunities, which could equip them with the knowledge and tools to manage risk effectively, enhance productivity, and improve operational efficiency.

1.10 Notifications for Training Opportunities

Access to notifications on available training opportunities, such as food safety classes, seedling training, and skill-building sessions, is another area of interest for producers. The survey indicates that 59 percent currently receive notifications for training, while 41 percent do not. Among those with access, seasonal updates are the most common, used by 55 percent, while smaller groups receive monthly (27 percent), weekly (9 percent), or yearly (9 percent) notifications.

Producers' preferences reveal a significant demand for regular training notifications, with 15 percent requesting weekly alerts, 21 percent monthly, and 54 percent preferring seasonal updates. This preference distribution highlights the value producers place on consistent access to training information, allowing them to plan for skill-building opportunities that align with their schedules and operational needs.

1.11 Cell Phone and Internet Access

Cell phone and internet access are fundamental for producers to receive timely information, training notifications, and emergency alerts. A significant majority (68 percent) of producers own a cell phone, while 32 percent do not. Among those with cell phones, 26 percent spend over $40 per month on cellular data, indicating that data costs are a considerable factor for many.

Internet access is also widespread, with 71 percent of producers connected to the internet, though most rely on cell phones as their primary means of access. High connectivity costs, combined with limited access in certain areas, highlight the need for more affordable and reliable data options, or community access points that can ensure all producers have equal access to vital online resources for managing their operations.

The data from Chuuk producers highlights both strengths and gaps in access to critical food system information. Overall, while producers have reasonable access to weather updates (70 percent) and emergency notifications (71 percent), access to other essential information areas, such as crop planning (55 percent), market prices (52 percent), and pest and disease monitoring (21 percent), is more limited. This uneven access affects their ability to plan, make timely decisions, and mitigate risks effectively.

Producers express a clear demand for more frequent and timely updates across most information categories, particularly for crop planning, weather, market prices, and emergency notifications. Regular access to these data points would enable producers to respond more flexibly to changing conditions, optimize their sales strategies, and safeguard their production against environmental or market shifts. While monthly updates are the most common access frequency currently available, there is a notable preference for daily and weekly updates, especially for weather, market prices, and emergency alerts, underscoring a need for more responsive, real-time information services.

Connectivity through cell phones and internet access, while generally available to most producers, comes with high costs, which may limit some producers' ability to access online resources regularly. Expanding access to affordable data services or establishing community access points could help bridge this gap, ensuring all producers can stay informed and responsive.

In summary, the Food System Information section illustrates that while some resources are accessible, there is a critical need to improve the frequency and coverage of information services to better meet producers' operational needs. Enhanced access to timely, relevant data, supported by infrastructure improvements and affordable connectivity options, would empower Chuuk producers to make more informed, resilient, and profitable decisions in their food production activities.

2. Food Innovation Center

The Food Innovation Center is designed to support Chuuk producers by enhancing local food processing capabilities. This section provides an analysis of producers' interests, preferences, and expectations for locally processed foods, including potential products, processing methods, pricing, packaging, training needs, distribution channels, and export potential. The insights gained offer valuable guidance for structuring services and support at the Center to align with the needs and goals of Chuuk's agricultural community.

2.1 Interest in Locally Processed Foods

Survey data reveals significant interest among Chuuk producers in developing various locally processed foods. The most popular products include banana chips, which are favored by 98 percent of respondents, and breadfruit chips, supported by 95 percent. Coconut-based products also show strong interest, with 68 percent expressing an intention to produce coconut oil, and 63 percent interested in coconut flour. Traditional preserved foods also attract attention: 53 percent are interested in making coconut milk, while other processed coconut products are of interest to 43 percent.

In addition to coconut and breadfruit products, 41 percent of producers are interested in making dried fish, while salted fish (43 percent) and smoked fish (25 percent) also receive considerable interest. Producers see these processed seafood products as valuable additions to the local diet, highlighting the potential for expanding these offerings into markets where demand for preserved seafood exists. Lesser, yet notable interests include pork products (39 percent) and hot sauces (30 percent), which reflect Chuuk producers' openness to diverse processing options. The varied interests across fruits, seafood, and livestock products indicate a strong potential for the Food Innovation Center to support a broad range of locally processed products.

2.2 Preferred Processing Methods

The survey reveals a clear preference for traditional, small-scale processing methods, with 93 percent of producers favoring these methods over more industrial approaches. This preference aligns with Chuuk producers’ familiarity with traditional tools and techniques that fit with cultural practices and available resources. Another notable preference is for producers to use their own equipment on their land, with 88 percent expressing interest in this independent processing approach, which provides control over production quality and timing.

A cooperative or shared processing model also appeals to some, with 47 percent indicating interest in contributing fresh produce to a collective processing effort. About 27 percent of producers are open to using shared, local equipment at a central facility, while 48 percent are interested in working with industrial-scale processors to manage both processing and marketing. These preferences suggest a range of processing models that the Food Innovation Center can support, from self-sufficient small-scale operations to collaborative community-based processing, ensuring that producers have flexible options to meet their needs.

2.3 Consumer Price Expectations

Pricing is a critical factor for making locally processed foods accessible while ensuring fair returns for producers. The majority of producers (62 percent) believe that the most appropriate price range for locally processed foods is between $1 and $5 per unit, aligning with a goal of affordability. Meanwhile, 26 percent estimate that consumers would be willing to pay between $6 and $10 per unit, suggesting that certain specialty items, such as packaged seafood or coconut-based products, may command slightly higher prices due to processing costs or unique attributes.

Only a small group, 2 percent, feel that pricing above $20 per unit is feasible, likely reflecting luxury or labor-intensive items. Another 8 percent anticipate consumers would pay between $11 and $20 for select products. These price expectations underscore the need for market research to

identify optimal price points, helping producers balance consumer accessibility with sustainable income levels.

2.4 Packaging Preferences

The choice of packaging is essential not only for preserving product quality but also for enhancing market appeal. The survey data shows that a majority (74 percent) of producers favor biodegradable packaging materials, such as banana leaves, which aligns with their commitment to environmental sustainability. Vacuum-sealed pouches are also highly favored, with 87 percent of producers preferring this packaging type for its ability to extend shelf life and maintain freshness—an essential feature for dried and smoked products.

Other packaging preferences include glass jars, supported by 71 percent of producers, which are well-suited for jams, sauces, and pickled items where product visibility is important. Plastic bags are relatively popular, with 75 percent and 73 percent, respectively, favoring these options. The preference for eco-friendly materials and vacuum-sealed options reflects both the producers' environmental awareness and their practical needs for maintaining product quality during storage and distribution.

2.5 Use of Local Ingredients

An overwhelming 92 percent of producers prioritize using local ingredients in their processed food products, underscoring their commitment to supporting the local economy and reducing reliance on imports. Local ingredients not only help in cost reduction but also ensure that products resonate with consumers who value traditional flavors and familiar ingredients. By sourcing locally, producers can enhance the sustainability of the food processing sector and strengthen community ties.

However, 8 percent of respondents remain undecided about using local ingredients, possibly due to concerns about availability and quality consistency. This highlights an opportunity for the Food Innovation Center to facilitate local ingredient supply chains and ensure that producers have reliable access to high-quality raw materials year-round.

2.6 Perceived Market Potential

The perceived market potential for locally processed foods is generally positive among Chuuk producers, with 47 percent seeing high demand for these products both within and beyond the local market. This optimistic outlook suggests that many producers are confident in their ability to appeal to local consumers with traditional, culturally significant foods. Another 44 percent of respondents view demand as moderate, envisioning steady but limited growth potential, which may reflect niche market appeal or regional constraints.

Conversely, 9 percent of respondents see limited market potential, indicating that some producers may be cautious about the viability of processed foods due to potential barriers such as price sensitivity among local consumers or competition with imported goods. These perspectives suggest that while producers are optimistic, market research and outreach efforts are necessary to fully realize the demand potential for Chuuk's processed foods.

2.7 Infrastructure and Equipment Needs

Producers identify several critical infrastructure and equipment needs to support efficient food processing. Key requirements include dehydrators (46 percent), which are essential for producing a variety of dried products such as banana chips and dried fish. Stainless steel tables (81 percent) and commercial ovens (52 percent) are also in high demand, providing the necessary space and tools for safe food processing. Additionally, cold storage (72 percent) and freezer facilities (80 percent) are important for preserving perishable products like seafood and coconut-based foods, ensuring product quality and safety.

Further equipment needs mentioned include vacuum sealers, packaging machines, and labeling tools, which would streamline processing operations and help producers create market-ready products. The survey highlights a strong need for accessible infrastructure to allow producers to meet quality standards and scale their operations effectively.

2.8 Challenges in Production and Processing

Several barriers currently limit producers' ability to expand their operations. Limited infrastructure and access to necessary equipment are among the most significant challenges. High production costs are also a concern as producers navigate expenses associated with sourcing inputs, processing, and packaging.

Other challenges include labor shortages, as many producers struggle to find skilled labor or balance production demands with other responsibilities. Seasonal availability of ingredients presents an additional obstacle, requiring producers to work around natural growing cycles and weather conditions. Together, these limitations highlight the need for targeted infrastructure investments and shared resources that can reduce production burdens on individual producers and promote community collaboration.

2.9 Training and Technical Assistance

Training and technical assistance are crucial for enabling Chuuk producers to develop high-quality, market-ready food products. Survey results indicate that 76 percent of producers are interested in training related to food processing techniques, quality control, and business planning. Key areas of interest include risk management, food safety, and packaging design, which are essential for establishing a sustainable and profitable food processing sector.

About 88 percent of producers also expressed a need for technical and financial assistance in terms of training, access to technology, marketing, and other strategies to help them reach production goals. An additional 8 percent of producers reported that they might need assistance in these areas, if given more information regarding the trainings and financial supports available. These preferences indicate a demand for a structured training program that combines practical and theoretical instruction, ideally at a local facility equipped to support diverse learning needs.

2.10 Distribution and Marketing Channels

Effective distribution and marketing are critical for reaching broader consumer bases and increasing the viability of Chuuk’s food processing sector. According to the survey, 98 percent of producers see local markets as the primary distribution channel, aligning with the community-focused nature of Chuuk’s food system. Supermarkets and grocery stores are also viable options, with 73 percent of respondents interested in these outlets for selling their products.

Additionally, direct-to-consumer sales, such as through farm stands and community events, appeal to many producers who value personal connections with their customers. A smaller percentage (28 percent) are open to exploring specialty food stores and online sales platforms, which could provide access to niche markets but may require further marketing support and infrastructure. Social media and word-of-mouth are the most common marketing tools used by producers, but there is a noted need for training in digital marketing and branding to enhance visibility and consumer reach.

2.11 Export Potential

The potential for exporting Chuuk's locally processed foods is moderate, with 35 percent of producers expressing interest in expanding to markets beyond their local region. Producers recognize opportunities to tap into demand within other Federated States of Micronesia (FSM) regions and possibly beyond FSM, particularly for products with a long shelf life, such as dried fruits, preserved seafood, and coconut products.

However, challenges related to regulatory compliance, transportation costs, and logistics present obstacles to export readiness. Producers emphasize the need for government support and training in export requirements, as well as access to cold storage and efficient transportation networks. Approximately 52 percent of producers indicate they would be more likely to pursue export opportunities if these logistical challenges were addressed, showing cautious optimism about expanding into new markets with the appropriate support.

Summary of Food Innovation Center

The Food Innovation Center has significant potential to support Chuuk's food producers by facilitating a wide range of processing and marketing activities. Producers show a diverse range of interests in processed foods, particularly in traditional products such as banana chips, breadfruit chips, and preserved seafood. Small-scale, traditional processing methods are strongly preferred, reflecting the cultural alignment and practical accessibility of these techniques for Chuuk's producers.

Key infrastructure needs include dehydrators, cold storage, and packaging equipment, which would enable producers to meet market standards and extend the shelf life of their products. Interest in training and technical assistance is high, with producers seeking skills in food safety, packaging, and risk management. Producers primarily view local markets as their main distribution channels, though there is also moderate interest in exporting, contingent on support to address regulatory and logistical challenges.

By addressing these needs and preferences, the Food Innovation Center can empower Chuuk's producers to enhance product quality, expand market reach, and contribute to the region's economic sustainability. The data highlights that with the right resources and infrastructure, the Center can play a transformative role in building a thriving local food processing industry.

3. Training and Infrastructure Development

3. Training and Infrastructure Development

This section explores the training needs and infrastructure requirements of Chuuk producers, highlighting their interest in commercial food processing, food safety, and agricultural skills that can enhance food production. The insights provided here underscore the connection between effective training initiatives and the development of infrastructure to support skill acquisition and improve productivity.

3.1 Interest in Commercial Food Processing Training

The survey reveals a high level of interest in training for commercial food processing, with 89 percent of producers expressing a desire to learn these skills. This strong interest highlights the producers' awareness of the potential value that food processing skills can add to local products, enhancing marketability, increasing shelf life, and generating income.

Producers also show interest in learning specific processing methods that align with their traditional food practices, indicating that training programs should blend local knowledge with commercial techniques. The data points to a need for facilities that are well-equipped for hands-on learning, enabling producers to immediately apply these skills. A dedicated training space within the Food Innovation Center could allow for group workshops where producers can collaborate, share insights, and develop best practices collectively. This approach would empower them to advance food processing at both individual and community levels.

3.2 Essential Skills for Food Safety

Food safety training is another primary area of interest, with 96 percent of producers indicating they want to learn food safety skills. Food safety is critical for producers to ensure the health and well-being of consumers and protect their reputation in the market. Producers recognize that mastering food safety principles enables them to produce high-quality food products that meet local and international standards.

Training in food safety would likely cover topics such as contamination prevention, proper storage techniques, and compliance with regulatory standards, which are essential for successful commercial food production. For effective food safety training, infrastructure should include hygienic processing facilities with stainless steel surfaces, ample washing stations, and temperature-controlled storage rooms. A well-equipped environment would allow producers to implement food safety measures practically, learning through hands-on experience. Furthermore, ongoing access to food safety equipment, such as sanitizers and thermometers, would help producers maintain these standards independently, ultimately contributing to a culture of food safety and consumer trust.

3.3 Quality Control and Food Sorting

Quality control training is highly valued by producers, with 94 percent expressing interest in skills related to food sorting, grading, and quality assessment. Quality control is crucial for ensuring that products meet specific standards, ensuring uniformity in appearance and quality, and maintaining customer satisfaction and brand consistency.

For effective quality control training, infrastructure that includes inspection tables, sorting belts, and grading tools would be essential. This equipment would enable producers to practice sorting and quality assessment in a controlled environment. Additionally, cold storage or refrigeration units are valuable for preserving freshness in products awaiting sorting or further processing, particularly for perishable items like fruits and vegetables. By investing in a processing center with dedicated space for quality control training, producers can learn best practices that they can replicate on their farms or within cooperatives, supporting product consistency and marketability across Chuuk.

3.4 Food Preparation and Preservation

Interest in food preparation and preservation techniques is widespread among Chuuk producers, with 86 percent showing interest in food preparation training and 75 percent in preservation methods. Food preparation skills provide producers with a foundation for creating processed foods that are safe, high-quality, and appealing to consumers, while preservation techniques help extend shelf life, reduce waste, and diversify product offerings.

Training in preservation methods such as drying, pickling, and canning would be especially beneficial for producers looking to create products with longer shelf lives that can withstand market fluctuations. Infrastructure to support this training should include equipment like food dehydrators, drying racks, and containers suitable for different preservation methods. Additionally, access to vacuum sealers and other packaging equipment is essential to ensure that preserved foods maintain quality over time. By providing producers with the tools and knowledge to extend product shelf life, the training center could enable them to scale their operations and provide a wider range of products to the market.

3.5 Cooking and Packaging Skills

Cooking and packaging skills are also of high interest, with 76 percent of producers expressing interest in cooking techniques and 86 percent in packaging. Cooking training would enable producers to expand their product offerings, potentially incorporating ready-to-eat or pre-prepared foods that cater to consumers seeking convenience. Meanwhile, packaging training would empower producers to create attractive, functional packaging that preserves product quality and aligns with consumer expectations.

Infrastructure for these training areas should include industrial-grade cooking appliances, such as ovens, steamers, and grills, along with various types of packaging machines like vacuum sealers, labelers, and automated packers. A training center with these facilities would allow producers to practice cooking techniques in a realistic production environment and experiment with packaging options. By investing in infrastructure that supports cooking and packaging training, the center would enable producers to diversify their offerings and enhance the market appeal of their products.

3.6 Additional Training in Agriculture and Sustainable Practices

Sustainable agricultural practices are essential for long-term food production in Chuuk, and 98 percent of producers expressed interest in agricultural training to improve their food production capacity. Key areas of interest include climate adaptation, soil management, and sustainable

farming techniques. Training in climate-resilient crop management, sought by 88 percent of respondents, is essential for producers facing increasing risks from sea-level rise, saltwater intrusion, and other climate impacts. Additionally, 73 percent of producers indicated interest in sustainable practices like crop rotation, water conservation, and soil health maintenance.

Supporting these agricultural training needs requires infrastructure such as demonstration plots, greenhouses, and soil testing laboratories. Demonstration plots would allow producers to observe and practice sustainable techniques in a controlled environment, including climate-resilient methods and innovative planting strategies. Greenhouses offer a protected setting where producers can learn about controlled-environment agriculture, while soil testing labs provide valuable insights into soil health and nutrient management. By investing in infrastructure that supports sustainable agriculture training, Chuuk can ensure that producers not only gain theoretical knowledge but also develop practical skills for managing resources responsibly and maintaining productivity.

3.7 Local and Traditional Agriculture Knowledge

There is substantial interest in traditional agricultural knowledge, with 87 percent of producers interested in learning about local agroforestry, fishery practices, and other traditional methods. Local and traditional agricultural knowledge offers valuable insights into sustainable, community-centered food production that aligns with Chuuk's environmental and cultural context. Such training would help producers preserve and integrate traditional practices, enhancing both biodiversity and resilience in food systems.

Infrastructure that supports traditional knowledge training could include forested areas for agroforestry demonstrations, fish ponds for practicing traditional aquaculture methods, and access to traditional tools and materials. Creating a space where traditional practices are honored and actively taught could facilitate knowledge transfer between generations, empowering producers to use holistic, community-centered approaches to food production that align with environmental sustainability.

3.8 Livestock Management and Feed Production

Training in livestock management is essential for many Chuuk producers, with 92 percent seeking skills in general livestock care and 65 percent expressing interest in feed production for pigs and chickens. Training in livestock care would equip producers with essential knowledge in areas such as animal nutrition, health monitoring, and breeding practices, which are crucial for maintaining healthy livestock and supporting sustainable food production.

For effective livestock training, infrastructure should include dedicated facilities for livestock housing, feed production equipment (e.g., grinders and mixers), and tools for health management. Facilities equipped with feed production capabilities enable producers to create locally sourced diets, reducing dependency on external inputs. Access to these resources can help producers lower costs, improve animal welfare, and ensure that their livestock operations align with community standards for sustainability and resource management.

3.9 Marine and Aquaculture Skills

Marine and aquaculture skills are of particular interest to Chuuk producers involved in fisheries. This training area would cover essential practices such as safe fishing techniques, stock management, and basic aquaculture methods, all of which contribute to sustainable yields and support responsible marine resource management.

To support marine and aquaculture training, infrastructure such as coastal training sites, fish ponds, and hatcheries would provide hands-on learning opportunities. Coastal facilities allow producers to practice safe and sustainable fishing practices, while fish ponds and hatcheries enable them to explore aquaculture techniques in a controlled environment. Access to this infrastructure would enable Chuuk producers to develop their aquaculture skills, enhancing the sustainability of local fishery operations and supporting both environmental stewardship and community livelihoods.

3.10 The Role of Infrastructure in Supporting Training Initiatives

Infrastructure plays a crucial role in supporting effective training programs. Beyond traditional classroom settings, multi-functional facilities that include real-world processing, agricultural, and marine environments allow producers to learn through practical application. Investing in facilities that provide hands-on training opportunities not only improves learning outcomes but also strengthens Chuuk's local food processing sector by empowering producers with the tools they need to expand production and enhance product quality.

Essential infrastructure for supporting training initiatives includes processing stations, sanitizing areas, and demonstration plots for agricultural practices, along with cold storage and marine training facilities. By equipping training centers with these resources, Chuuk can foster innovation and collaboration among producers, allowing them to test new methods, adapt to local conditions, and share insights within the community. This practical training infrastructure would enable producers to build skills across food processing, agricultural management, and marine resource use, strengthening the local food system's resilience and sustainability.

Summary of Training and Infrastructure Development

The survey data indicates strong interest among Chuuk producers in training and infrastructure that supports commercial food processing, food safety, and sustainable agriculture. High demand exists for food processing and safety skills, which are essential for creating high-quality, market-ready products. Producers also value training in sustainable practices, traditional knowledge, and livestock management, indicating a commitment to environmental stewardship and long-term productivity.

Infrastructure investments that support hands-on learning, such as processing stations, agricultural demonstration plots, and marine facilities, are essential for effective training. By equipping the Food Innovation Center with these resources, Chuuk can provide producers with the skills and tools they need to increase productivity, enhance product quality, and support community-based food systems.

4. Community Management and Policy Advocacy

4. Community Management and Policy Advocacy

The "Community Management and Policy Advocacy" section emphasizes the importance of community support, sustainable practices, policy guidance, and infrastructure in helping producers advance their food processing operations. This section examines the various ways producers engage with their community, their perceptions of sustainable practices, the support they require from government bodies, and the feedback mechanisms that guide their decisions. Additionally, it reviews producers' need for shared resources, such as storage facilities and processing equipment, which enhance community cooperation and optimize production.

4.1 Community Involvement in Food Production

Community involvement plays a critical role in the success of food production and processing activities, as it strengthens collaboration, promotes knowledge sharing, and fosters collective resilience. The data reveals that 63 percent of producers consider community support to be "very important" in their vision for food production, reflecting a strong desire for community-centered approaches that prioritize local development and shared resources.

Another 16 percent of respondents view community involvement as important, although it may not be their top priority. This perspective suggests that while these producers recognize the value of community collaboration, they may prioritize individual or business-specific goals. Meanwhile, a small percentage (9 percent) feel that community involvement is not important, possibly due to limited time or resources to engage actively with the community. The overall data shows that community engagement is widely valued, and initiatives to strengthen this involvement could benefit the majority of producers, enhancing both food security and economic opportunities in the region.

4.2 Sustainable Practices and Environmental Responsibility

Sustainability is a high priority for the majority of producers, with 55 percent indicating that sustainable practices, such as waste reduction, resource conservation, and local ecosystem support, are essential to their food production processes. This commitment to sustainability demonstrates a forward-looking approach among producers who understand that environmentally responsible practices contribute to the long-term health of their communities and natural resources.

Another 28 percent of respondents believe sustainability is somewhat important, though not their primary focus. These producers may adopt sustainable practices selectively, possibly due to resource constraints or competing priorities. A smaller portion, 2 percent, report uncertainty about the importance of sustainable practices. This group may require additional guidance or education on the benefits of sustainability, including how it can improve soil health, support biodiversity, and reduce costs over time. Infrastructure that promotes sustainable practices—such as composting systems, rainwater collection, and solar-powered processing equipment—could support these producers in adopting eco-friendly methods, making sustainability more accessible and feasible.

4.3 Government Support and Policy Advocacy

Producers express a strong need for government support to enhance their production capabilities and navigate regulatory requirements. The most desired form of government assistance is financial support, with 74 percent of producers identifying grants, subsidies, and loans as the most beneficial types of support. This reflects the high costs associated with expanding operations, acquiring equipment, and meeting compliance standards.

In addition to financial support, 23 percent of producers prioritize technical assistance and training to help them meet quality and safety standards. This group recognizes that additional training in food processing, packaging, and regulatory compliance could improve profitability and market access. Another 3 percent of respondents believe that access to markets is the most valuable form of government assistance, suggesting that some producers need help connecting with buyers and establishing consistent sales channels.

4.4 Feedback Mechanisms and Market Insights

Producers rely on various feedback mechanisms to gather insights from consumers, helping them improve product quality and align with market preferences. Direct consumer feedback, such as in-person surveys and informal conversations, is the most common method, used by 86 percent of producers. This approach enables producers to engage directly with customers, gaining valuable insights into their preferences, satisfaction levels, and potential areas for improvement. Building trust through direct feedback can also foster customer loyalty and encourage repeat business.

Another 6 percent of producers use social media to monitor consumer opinions and engage with their audience. Social media offers a convenient platform for reaching a wide audience, gathering feedback, and promoting products, making it a valuable tool for producers looking to expand their market presence. Additionally, 2 percent of producers analyze sales data to assess consumer demand, tracking metrics such as purchase frequency, seasonal trends, and product popularity to make informed production decisions. A smaller group (2 percent) participate in fairs and cooking competitions to gather feedback, where they can showcase their products and gauge consumer reactions in real-time. Collectively, these feedback mechanisms help producers stay attuned to consumer needs, adapt their offerings, and strengthen their market position.

4.5 Shared Resources: Storage Facilities and Equipment

Shared resources, such as storage facilities and processing equipment, are vital for supporting community-based food production. According to the data, 88 percent of producers would use a food storage facility if one were provided in their municipality or community. Access to storage facilities allows producers to preserve their products for longer, reduce waste, and manage inventory more effectively. Producers' storage preferences vary, with 78 percent expressing interest in dry storage, 71 percent in cold storage, and 86 percent in frozen storage. These options cater to different product types, from fresh produce to frozen seafood, helping producers meet diverse storage needs.

Cold and frozen storage are especially valuable for perishable goods, such as fruits, vegetables, and dairy, ensuring product quality and extending shelf life. Communal storage facilities can also foster cooperation among producers, who can share resources, reduce individual costs, and support each other in managing inventory. Access to shared storage benefits both individual

producers and the local food system, as it allows products to be stored safely until they are ready for distribution, supporting market stability and resilience.

4.6 Interest in Collaborations and Joint Processing Initiatives

Collaboration among producers is widely supported, with 74 percent expressing interest in working with other local stakeholders on joint processing or marketing initiatives. This enthusiasm for collaboration reflects producers' awareness of the benefits that come from pooling resources, sharing knowledge, and leveraging each other’s strengths. Collaborative processing and marketing initiatives can reduce operational costs, improve product quality, and expand market reach, making it easier for small-scale producers to compete with larger businesses.

A smaller portion of producers (17 percent) are open to collaboration but remain cautious, suggesting they may need further guidance on how joint initiatives could benefit their operations. These producers may be concerned about managing shared responsibilities or retaining control over their products. However, with structured partnerships and clear roles, these concerns can be mitigated, making collaboration a viable and attractive option. Community infrastructure, such as shared processing facilities, marketing resources, and distribution networks, is essential for supporting collaborative efforts, reducing production burdens on individual producers, and strengthening the local food processing sector.

4.7 Challenges in Sourcing Local Ingredients

Producers face several challenges in sourcing local ingredients, which impacts their ability to produce food consistently. The most significant issues are limited availability of certain ingredients, and transportation issues, affecting 90 and 93 percent of producers, respectively. The limitation in ingredient availability may be due to seasonal fluctuations, geographic constraints, or inconsistent supply chains, which make it difficult for producers to plan and manage their operations. Transportation issues also hinder ingredient sourcing for, making it difficult to move ingredients from farms to processing facilities or markets

Seasonal fluctuations present an additional challenge, reported by 71 percent of producers, as certain crops are only available during specific times of the year. These seasonal cycles can disrupt production schedules, requiring producers to find alternative ingredients or adjust their product offerings. Another significant barrier is limited storage options, which affect 80 percent of producers who may lack the facilities to stockpile ingredients or preserve surplus products. . Maintaining consistent quality is another challenge, affecting 40 percent of producers, as inconsistent raw material quality can impact the final product’s appeal and consumer satisfaction. Addressing these challenges will require coordinated efforts to improve infrastructure, streamline supply chains, and provide financial support, ensuring that producers have reliable access to high-quality ingredients.

4.8 Openness to Innovation and Consumer Preferences

Producers show strong interest in exploring innovative techniques or recipes for locally processed foods, with 75 percent indicating they are always open to innovation. This openness reflects a proactive approach to meeting evolving consumer preferences, as producers recognize

the value of adapting products to align with market trends. Innovations may include experimenting with new recipes, incorporating unique flavors, or using alternative ingredients to appeal to health-conscious or environmentally aware consumers.

Another 17 percent of producers are open to innovation based on feasibility and market demand, indicating a cautious yet flexible approach. Only 8 percent prefer to adhere to traditional methods exclusively, perhaps due to familiarity with established practices or a desire to maintain cultural authenticity in their products. Supporting producers' openness to innovation requires a policy environment that encourages experimentation, along with resources for product development. Test kitchens, research labs, and pilot processing facilities would enable producers to experiment with new methods safely and efficiently, helping them differentiate their products and cater to diverse consumer segments.

Summary of Community Management and Policy Advocacy

The survey data underscores the critical role of community support, sustainable practices, government assistance, and collaboration in strengthening Chuuk's local food processing sector. Most producers value community involvement and sustainable practices, viewing them as essential components of a resilient food system. Producers also express a strong need for government support, particularly in the form of financial assistance, technical training, and regulatory guidance.

Shared resources, such as communal storage facilities and processing equipment, are widely desired, as they reduce individual costs, foster cooperation, and improve product management capabilities. Interest in collaboration and joint processing initiatives is high, reflecting producers' recognition of the benefits associated with collective efforts. However, challenges remain in sourcing local ingredients, with producers highlighting issues related to availability, seasonal fluctuations, and transportation constraints.

The data also shows that producers are generally open to innovation, particularly when it aligns with consumer preferences. By investing in infrastructure that supports innovation, community involvement, and sustainable practices, Chuuk can create a thriving local food processing sector that benefits both producers and consumers. Government policies that focus on providing financial resources, training, and simplified regulations can further support Chuuk producers, enhancing their ability to compete and succeed in an evolving market environment.

Federated States of Micronesia
Food System Solutions Project
Chuuk Consumer Survey Results
Consumer Preferences and Willingness to Pay for Locally Processed Products

Introduction

The planned Food Innovation Center in Chuuk is envisioned to boost local food processing and community empowerment by aligning products with the distinct preferences and cultural values of Chuuk's consumers. This report explores various aspects of consumer preferences, including demographic insights, product and packaging choices, pricing expectations, purchasing attitudes, and social responsibility in consumer decisions. By understanding the local market's needs, the Food Innovation Center can position itself as a meaningful resource for the community, helping to build a sustainable, locally driven food processing initiative.

1. Demographic Profile of Respondents

The demographic breakdown of survey respondents provides an essential foundation for understanding their preferences. A total of 67 Chuuk consumers participated in the survey, with a slight gender skew: 52 percent of respondents are female, while 48 percent are male. This near balance in gender representation indicates that locally processed food products could appeal equally to both men and women, suggesting a broad consumer base for the Food Innovation Center.

The age distribution shows that the largest group of respondents (46 percent) falls between the ages of 56 and 60, followed by 31 percent in the 31-45 range. This middle-aged and older demographic indicates a consumer base that likely has established food preferences rooted in traditional Chuuk cuisine. Additionally, their stable income levels may enable consistent purchasing of locally processed foods, particularly those that meet their cultural and dietary needs.

The younger segment of 18-30-year-olds accounts for 19 percent of the respondents. This group, while smaller, represents a vital demographic interested in convenience and new experiences. They may be more willing to try innovative or fusion products, expanding the Center's potential reach. A small percentage (3 percent) of respondents are over 60, a demographic that often values traditional flavors and convenience. This profile suggests that the Food Innovation Center should prioritize products that cater to middle-aged and older consumers but also remain adaptable to engage younger individuals who may bring new interests and preferences to the table.

2. Consumer Interest in Locally Processed Food Products

Chuuk consumers display diverse interests in locally processed foods, with significant demand for products derived from familiar, culturally significant ingredients. Traditional snacks like banana chips are popular, with 76 percent of respondents expressing interest, reflecting the popularity of accessible, local snack options. Breadfruit chips, favored by 87 percent, emerge as the most popular item, underscoring the cultural importance of breadfruit in Chuuk cuisine and its versatility as a processed product.

Coconut-based products also have strong appeal, with 73 percent of respondents interested in coconut cooking oil and 70 percent in coconut milk. These items are often integral to traditional recipes and daily meals, highlighting the need for the Food Innovation Center to include coconut products in its offerings. Interest in flour alternatives, such as breadfruit flour (60 percent) and coconut flour (55 percent), indicates a demand for gluten-free or culturally relevant flours, possibly driven by an increasing awareness of health-conscious diets.

Seafood products, such as dried fish (75 percent) and salted fish (60 percent), are also highly regarded, reflecting the role of seafood in Chuuk's diet and the cultural value of preserved fish. However, certain categories show limited interest: only 15 percent of respondents are interested in fish syrups, and 18 percent in flavored oils. This disparity suggests that while traditional products have strong appeal, certain categories may require further education or quality enhancements to gain traction in the local market. By focusing on popular items like breadfruit and coconut products while exploring innovations in less popular categories, the Food Innovation Center can align its offerings with consumer preferences while fostering curiosity about new products.

3. Packaging Preferences and Important Packaging Features

Chuuk consumers show clear preferences for specific types of packaging that align with practical considerations, especially regarding product freshness and environmental impact. Among the packaging options, vacuum-sealed pouches are the most favored, with 78 percent of respondents choosing this option. This preference highlights the importance of freshness-preserving packaging, which is essential in Chuuk's humid climate, where products can spoil quickly without adequate packaging.

Bagged packaging is also popular, preferred by 72 percent of respondents, suggesting that consumers appreciate packaging that is easy to handle and transport. Jarred packaging appeals to 75 percent of respondents, indicating a demand for durable containers that can be resealed and potentially reused, aligning with the community's interest in sustainability and practicality. Bottled packaging, favored by 58 percent, shows a moderate level of interest, likely due to its suitability for liquid products like coconut oil, though it is not as popular as vacuum-sealed or bagged options.

Regarding essential packaging features, 43 percent of respondents prioritize eco-friendly materials, and 42 percent consider them important, reflecting a widespread concern for environmental responsibility. This preference aligns with global trends toward sustainable packaging and suggests that Chuuk consumers are willing to support products packaged in eco-conscious materials. Convenience is also highly valued, with 24 percent of respondents viewing

easy-to-open or resealable options as the most important feature, and 17 percent marking it as important. Meanwhile, aesthetic appeal ranks lower in importance, with only 5 percent viewing it as essential and 47 percent considering it somewhat important. This insight emphasizes the need for the Food Innovation Center to focus on practical and sustainable packaging that caters to local storage needs rather than prioritizing visual appeal.

4. Pricing Expectations and Factors Affecting Purchase Decisions

Price sensitivity is a significant factor for Chuuk consumers, who prefer affordable options when it comes to locally processed foods. Seventy percent of respondents consider $5 or less per unit a reasonable price, suggesting that products should be priced within this range to attract a broad audience. An additional 22 percent are comfortable with prices between $5 and $10, indicating some openness to premium pricing for high-quality items or larger quantities. Only 7 percent of respondents find prices between $10 and $20 acceptable, and none support prices above $20, underlining the importance of maintaining accessible price points.

Price is the top purchasing consideration for Chuuk consumers, with 59 percent rating it as the most important factor in their decision-making. Quality is also critical, with 31 percent of respondents considering it the primary factor. Nutritional value ranks third, with 10 percent marking it as most important, indicating that health benefits play a role in consumer choices but are secondary to cost and quality. Factors such as brand reputation and convenience are less influential, suggesting that consumers are less concerned with branding and more focused on obtaining affordable, high-quality foods that meet their dietary needs. For the Food Innovation Center, striking a balance between affordability and quality will be essential to meet the purchasing priorities of Chuuk consumers.

5. Importance of Fresh, Locally Sourced Ingredients and Health Benefits

Fresh, locally sourced ingredients are extremely important to Chuuk consumers, with 81 percent rating them as very important and 19 percent marking them as important. This strong preference reflects a community-oriented mindset, where consumers value food products that support local agriculture, reduce dependency on imports, and maintain freshness. This finding aligns with the objectives of the Food Innovation Center, which aims to support local food systems and strengthen Chuuk’s economic resilience.

Health benefits also play a crucial role in purchasing decisions. Seventy-four percent of respondents consider it very important that locally processed foods contribute to a healthy diet, while 26 percent regard it as important. This high level of interest in health benefits suggests that products emphasizing nutritional value, minimal processing, and natural ingredients could have significant appeal. For the Food Innovation Center, emphasizing health benefits on packaging and promotional materials can help attract health-conscious consumers and meet Chuuk's growing interest in nutrition-focused local foods.

6. Purchase Likelihood Based on Convenience, Accessibility, and Flavor Preferences

Convenience and accessibility are key factors that increase the likelihood of consumers purchasing locally processed foods in Chuuk. Seventy-five percent of respondents indicated they

were very likely to buy these products if they were easy to access, while the remaining 25 percent were likely to do so. This finding underscores the need for the Food Innovation Center to prioritize accessible distribution channels, such as local markets, to ensure products reach consumers where they typically shop.

Flavor preferences also significantly impact purchasing decisions. Traditional and local flavors resonate most strongly with consumers, with 94 percent expressing interest. This preference highlights a deep cultural connection to familiar flavors, emphasizing the need for the Food Innovation Center to prioritize products that reflect Chuuk's culinary heritage. Spicy flavors are also popular, with 67 percent of respondents indicating interest, along with 56 percent who favor hot spicy flavors and 48 percent who prefer savory options. Exotic or imported flavors have limited appeal, with only 41 percent showing interest, reinforcing that traditional flavors will likely have the broadest market appeal among Chuuk consumers.

7. Frequency and Location of Purchase

Chuuk consumers show a strong potential for high purchase frequency, which is promising for the local food processing sector. Forty-seven percent of respondents indicated they would likely buy locally processed foods weekly, while 45 percent reported they would buy them daily. This frequent purchasing pattern suggests that locally produced foods, if well-received, could become staples in Chuuk households, leading to a steady demand for products from the Food Innovation Center.

In terms of preferred purchasing locations, local markets are overwhelmingly favored, with 100 percent of respondents indicating a preference for these community-oriented spaces. No respondents expressed a preference for supermarkets, roadside stands, or online platforms, emphasizing that the Food Innovation Center should focus on partnerships with local markets and other accessible community distribution points. This preference for community-centered purchasing locations aligns with the importance of familiarity and accessibility in Chuuk's consumer habits.

8. Willingness to Support Social Causes and Pay Extra

The survey reveals a strong willingness among Chuuk consumers to support locally processed foods that contribute to social causes, such as supporting local farmers and women's groups. Ninety-eight percent of respondents expressed willingness to buy such products, indicating that consumers are open to socially responsible purchases that strengthen the community. Additionally, 65 percent of respondents are willing to pay up to 10 percent more for these socially impactful products, while 30 percent are willing to pay more than 10 percent.

This positive inclination towards community-oriented purchases highlights an opportunity for the Food Innovation Center to build a brand centered around social responsibility. Marketing products as supporting local initiatives can increase consumer appeal and loyalty, particularly among those willing to pay extra to support their community. These findings suggest that integrating social impact into the Center's brand identity could differentiate its products and attract consumers who prioritize community-focused values.

9. Payment Preferences and Importance of Product Shelf Life

Cash is the dominant payment method among Chuuk consumers, with 89 percent preferring it for transactions. Credit or debit cards are less favored, with only 9 percent expressing a preference for them, and mobile payment options received no interest. These preferences indicate that cash-based sales are essential for aligning with local practices and maximizing consumer convenience, as cash remains the most familiar and accessible form of payment in Chuuk.

Product shelf life is another important factor for consumers. Seventy-one percent of respondents consider it very important for locally processed foods to have a long shelf life, while 27 percent find it important. This emphasis on shelf life likely reflects the tropical climate in Chuuk, where durable products are advantageous for withstanding humidity and minimizing waste. For the Food Innovation Center, ensuring long shelf life through effective preservation methods and quality packaging will be critical to satisfying consumer expectations and reducing product spoilage.

10. Awareness and Preference for Local Over Imported Products

Consumer awareness of locally processed foods in Chuuk is relatively high, with 35 percent of respondents reporting they are very aware and 41 percent indicating they are somewhat aware. This level of familiarity reflects a growing acceptance of locally processed products, suggesting that consumers are increasingly aware of the benefits of supporting the local economy.

Preferences for local over imported products are strong, with 52 percent of respondents stating they always prioritize local options and 43 percent often doing so. This inclination toward local products indicates a supportive consumer base receptive to homegrown initiatives. Additionally, 66 percent of respondents indicated they would be very likely to choose locally processed foods over imported goods if price and quality were comparable, highlighting a substantial market opportunity for the Food Innovation Center to promote Chuuk-produced foods.

11. Nutritional Content and Product Labeling

Clear information on nutritional content and ingredients is important to Chuuk consumers, with 62 percent considering it very important and 35 percent marking it as important. This indicates that transparent labeling can increase consumer trust and appeal, especially to health-conscious individuals who value knowing what is in their food. For the Food Innovation Center, emphasizing nutritional value on packaging and marketing materials could meet consumer demand for transparency and support health-oriented product positioning.

12. Factors Influencing Willingness to Pay More for Local Products

Health benefits are a primary motivator for Chuuk consumers willing to pay a premium for local products. Ninety-one percent of respondents would pay more if products offered clear health advantages, reflecting a strong community interest in health and wellness. Supporting the local economy is another powerful motivator, with 88 percent of respondents willing to pay more to benefit local producers. Environmental sustainability also influences willingness to pay extra, with 81 percent of respondents expressing interest in supporting sustainably produced goods.

These factors indicate that emphasizing quality, health, and social impact will enhance premium pricing acceptance and strengthen brand appeal among Chuuk consumers.

13. Consumer Spending on Imported and Local Foods

Chuuk consumers report substantial spending on imported foods, averaging $198 bi-weekly, with 35 percent spending $250 or more. In contrast, bi-weekly spending on local foods averages $94, with the largest group (38 percent) spending between $100 and $149. This spending pattern highlights an opportunity for the Food Innovation Center to capture a greater share of consumer spending by offering local alternatives that meet quality and value standards. Redirecting spending from imported to local foods could boost Chuuk's economic resilience and reduce dependency on external markets.

Summary

This analysis of Chuuk consumer preferences, spending habits, and values demonstrates strong support for a Food Innovation Center. Consumers show clear preferences for traditional flavors, sustainable packaging, locally sourced ingredients, and affordability. Price and quality are primary considerations, with environmental and social values also significantly influencing consumer choices. Consumers' willingness to support local development and health-focused products suggests that the Food Innovation Center can find success by aligning its offerings with these values. By emphasizing accessibility, sustainability, and cultural relevance, the Center has the potential to foster local economic growth and contribute positively to Chuuk's community well-being.

Federated States of Micronesia
Food Systems Solutions Project

Community Management and Development in Chuuk: An In-Depth Needs Assessment

Introduction

This report offers a detailed assessment of Chuuk's community management systems, focusing on the challenges, strategies, and needs identified through a survey of local organizations. The findings reflect the pressing need for improved governance, technical assistance, and infrastructural support. These insights are critical for developing strategies to empower farming families, enhance food security, and ensure economic and environmental resilience.

1. Demographic Profile and Organizational Representation

The survey revealed that 70 percent of respondents were male, while 30 percent were female, highlighting a notable gender imbalance in community leadership roles. This disparity underscores the need for targeted efforts to encourage greater female participation in leadership. Increasing women's involvement can lead to more diverse perspectives in decision-making and enhance the inclusivity of governance structures. Addressing this gap is vital for fostering gender equity and ensuring that the needs and insights of all community members are represented.

Age distribution among respondents showed that 52 percent were aged 31-45, forming the majority and reflecting a middle-aged leadership base with significant experience and stability. Thirty percent of respondents were aged 56-60, representing seasoned leaders who bring valuable knowledge and expertise but may soon transition out of active roles. Younger leaders, aged 18-30, accounted for only 9 percent of respondents, raising concerns about the long-term sustainability of leadership in Chuuk. This underrepresentation of youth suggests an urgent need to cultivate future leaders by engaging young individuals in leadership development programs. Similarly, 9 percent of respondents were over 60, indicating limited active participation from older generations, which may be influenced by mobility challenges or other constraints.

In terms of organizational affiliation, 41 percent of respondents represented NGOs, underscoring the significant role of these organizations in community development. Municipal officials constituted 32 percent of respondents, reflecting the centrality of local governance in community activities. Faith-based leaders accounted for 9 percent, while underrepresented groups such as women's, youth, and disability-focused organizations made up only 5 percent. Alarmingly, no respondents represented agricultural producer organizations, aquaculture groups, or small-scale fishing organizations, which are key sectors in Chuuk's economy and food security. This absence indicates a critical gap in representation and suggests the need for outreach to these sectors to ensure their inclusion in future community management discussions.

2. Frequency and Regularity of Meetings

The survey found that 52 percent of organizations reported holding monthly meetings, reflecting a consistent and structured approach to member engagement and project planning. This frequency allows organizations to stay updated on issues, maintain accountability, and foster collaboration among members. Thirty-five percent of respondents reported meeting weekly, indicating an even higher level of engagement and the need for frequent coordination, possibly driven by pressing operational demands or ongoing projects. Quarterly meetings were reported by 13 percent of organizations, which may reflect challenges in maintaining regular engagement due to resource limitations or logistical constraints.

Notably, no organizations reported holding annual meetings, suggesting a collective prioritization of more frequent interactions. The emphasis on monthly and weekly meetings points to a proactive approach to governance and project implementation. However, it also raises questions about whether these organizations have adequate resources to sustain such levels of activity. Strengthening the capacity of organizations to support regular meetings could enhance their effectiveness in addressing community needs and implementing development initiatives.

3. Identified Needs for Effective Community Management

The survey highlighted leadership training as the most pressing need, with 90 percent of respondents identifying it as essential. This overwhelming demand underscores the importance of equipping leaders with governance skills to enhance decision-making, accountability, and overall management effectiveness. Strengthened leadership capacity is fundamental to addressing community challenges and fostering sustainable development.

Eighty-two percent of respondents emphasized the need for technical assistance in farming and fishing techniques, reflecting the importance of adopting sustainable practices to improve productivity and resilience. This finding highlights the critical role of technical expertise in addressing food security challenges and supporting local economies.

Value chain development, including transportation, packaging, and storage, was identified as a priority by 80 percent of respondents. These logistical aspects are crucial for enhancing the marketability of local products, reducing post-harvest losses, and expanding market access for producers. Addressing these needs can significantly improve the economic viability of farming and fishing activities.

Environmental conservation practices were prioritized by 91 percent of respondents, indicating a strong recognition of the need to balance development with sustainability. This commitment to conservation reflects the community's understanding of the interconnectedness between environmental health and long-term economic and food security.

Additionally, 90 percent of respondents highlighted the importance of economic, marketing, and business management training. This response underscores the necessity for capacity-building programs that enable community members to manage resources effectively, access markets, and achieve financial sustainability. Collectively, these findings reveal a diverse range of needs that require an integrated approach to support community management effectively.

4. Food Production Challenges and Community Needs

The survey highlighted several significant challenges impacting food production in Chuuk. Improved communication was identified as a critical need by 86 percent of respondents. This underscores the importance of fostering better coordination among farmers, local organizations, and stakeholders. Enhanced communication channels can facilitate the sharing of knowledge and resources, which are vital for addressing production inefficiencies and strengthening community food systems.

Access to clean water was emphasized by 87 percent of respondents as a pressing issue. This high percentage reflects the inadequacy of current water infrastructure in meeting the needs of both agricultural and domestic activities. The lack of clean water directly affects crop irrigation, livestock care, and food processing, underscoring the need for investment in water harvesting systems and community-wide water management strategies.

Eighty-one percent of respondents pointed to the need for improved access to production inputs such as seeds, tools, and plants. This finding highlights a widespread challenge faced by local farmers, who struggle to maintain productivity due to the unavailability or high cost of these essential resources. Addressing this issue would require creating supply chains that ensure the timely and affordable availability of agricultural inputs.

Transportation was identified as a barrier by 82 percent of respondents, revealing the logistical difficulties in moving goods from production sites to markets. Poor access to transportation contributes to post-harvest losses, limits market access, and increases the cost of farming operations. Additionally, 90 percent of respondents indicated that road maintenance is a major concern. Inadequate infrastructure further exacerbates transportation issues, creating bottlenecks that hinder economic growth and food distribution in Chuuk.

Training in modern agricultural techniques was identified as a priority by 86 percent of respondents. This highlights the need for programs that equip farmers with knowledge of sustainable practices, pest management, and advanced farming methods to increase productivity and adapt to environmental changes. Furthermore, 91 percent of respondents emphasized the importance of developing climate-resilient crops to combat the challenges posed by climate change. These findings collectively illustrate the interconnected logistical, technical, and infrastructural issues that require immediate intervention to improve food production systems in Chuuk.

5. Perceptions of Good Governance

The survey responses provided a detailed view of what constitutes good governance in the eyes of the respondents. Transparency was a key element highlighted by 90 percent of respondents, emphasizing the necessity for leaders to communicate clearly and share information equitably. Respondents stressed that transparency builds trust and ensures that community members understand their rights, resources, and the decisions made on their behalf.

Accountability was another critical component of good governance, cited by 85 percent of respondents. This reflects the community's expectation that leaders take responsibility for their actions and decisions, particularly in managing public resources and implementing community projects. Respondents associated accountability with fairness, reliability, and the ability to deliver on commitments.

Inclusivity was highlighted by 78 percent of respondents, who emphasized the importance of ensuring that all community members, particularly marginalized groups, have a voice in governance. Inclusive leadership creates a sense of ownership and collaboration, fostering trust and collective action.

Community participation was emphasized by 74 percent of respondents as an essential governance attribute. Respondents believed that participatory decision-making processes allow for more informed and effective policies that reflect the diverse needs of the population. Many also noted that involving community members in governance decisions can increase transparency and accountability.

The concept of leaders as "servants" of the community resonated with 80 percent of respondents, who underscored the importance of ethical leadership and responsiveness to community needs. Respondents described leaders as responsible for guiding their communities toward shared goals while upholding integrity and ethical standards. Collectively, these insights provide a robust framework for strengthening governance structures in Chuuk, focusing on transparency, inclusivity, and community-centered leadership.

6. Supporting Local Food Producers and Addressing Challenges

The survey responses revealed several deeply entrenched challenges faced by local food producers in Chuuk. Funding emerged as a critical concern, with 88 percent of respondents identifying it as a major issue. The inability to secure financial resources for tools, seeds, and other essentials significantly limits the productivity of farmers. Additionally, 85 percent of respondents indicated that the lack of funding also hinders the implementation of technical support programs, reducing opportunities for skill development and innovation in food production.

Climate change was identified as a major challenge by 90 percent of respondents. This high percentage reflects the significant impact of changing weather patterns, including prolonged droughts and saltwater intrusion, on farming and fishing practices. Respondents called for immediate adaptation strategies, such as the introduction of climate-resilient crops and the establishment of protective infrastructure to mitigate environmental damage.

Eighty-two percent of respondents highlighted inadequate transportation as a key logistical barrier. This issue limits the movement of produce from farms to markets and increases operational costs for local producers. Poor road conditions and a lack of reliable vehicles exacerbate this problem, contributing to post-harvest losses and reduced economic opportunities.

The lack of technical expertise was cited as a barrier by 79 percent of respondents, who noted that many farmers lack the skills to adopt modern, sustainable agricultural practices. Respondents emphasized the importance of training programs in areas such as pest management, crop diversification, and soil conservation to address this knowledge gap.

Market access challenges were highlighted by 77 percent of respondents, who noted difficulties in connecting with broader markets and complying with quality standards. These issues prevent producers from fully capitalizing on their products and restrict their ability to expand operations.

Addressing these challenges would require investments in supply chains, quality assurance programs, and market linkage initiatives.

To address these challenges, 83 percent of respondents recommended capacity-building initiatives and collaborative efforts between community organizations, government agencies, and NGOs. These solutions would provide the technical, financial, and infrastructural support needed to empower local producers and create a resilient food production system in Chuuk.

7. Community Interest in Producing for a Food Processing Plant

The survey revealed that 87 percent of respondents expressed strong interest in participating in a food processing plant initiative, provided they receive appropriate training and resources. This high level of enthusiasm reflects the community's recognition of the economic and social benefits that such a facility could bring to Chuuk. It indicates a willingness to engage in larger-scale agricultural activities that extend beyond subsistence farming, provided that the necessary support is in place.

Training emerged as a crucial factor for participation, with a majority of respondents emphasizing the need for capacity-building programs to develop the skills required for commercial-scale production. While 87 percent of respondents indicated interest contingent upon training, only 13 percent felt prepared to engage without additional training. This highlights the gap in technical expertise and the community's reliance on external support to transition successfully to commercial agricultural production.

None of the respondents expressed disinterest in producing for a food processing plant, which underscores the strong alignment between the community's aspirations and the potential for economic development. The benefits identified by respondents included job creation, enhanced food security, and reduced dependence on imported foods. For instance, 96 percent of respondents identified job creation as a key advantage, highlighting the potential for new employment opportunities across farming, processing, and distribution sectors.

Additionally, respondents noted that the plant could serve as a platform to preserve traditional farming and food preparation practices. By providing a structured outlet for locally grown produce, the facility could strengthen cultural heritage while enhancing economic opportunities. Challenges such as the need for reliable infrastructure, access to raw materials, and compliance with food safety standards were also identified. However, respondents believed that with proper planning and investment, these challenges could be overcome, paving the way for a transformative project that would enhance livelihoods and food systems resilience in Chuuk.

8. Anticipated Benefits of a Local Food Processing Plant

The survey revealed unanimous support for a local food processing plant, with 100 percent of respondents identifying its potential to improve food security. This overwhelming consensus highlights the community's awareness of the critical role that a processing facility could play in creating a stable and consistent supply of locally produced foods. By reducing reliance on imported goods, the plant could help address food shortages and strengthen Chuuk's resilience to global market fluctuations.

Improving health and nutrition was identified as a significant benefit by 91 percent of respondents. They emphasized that a processing plant could offer access to nutrient-rich, locally sourced food products, addressing malnutrition and promoting better dietary practices. Respondents also noted the potential to integrate traditional food preservation techniques into the processing plant's operations, which could align with cultural values and support the preservation of Chuuk's heritage.

Ninety-six percent of respondents viewed job creation as a critical outcome of the initiative. They highlighted that a processing plant would generate employment across various sectors, including agriculture, food processing, logistics, and administration. This would not only reduce unemployment but also provide stable income sources for many families in the community.

Another key benefit identified by 96 percent of respondents was the potential to boost economic activity by establishing a value-added processing chain. The facility would enable farmers and fishers to secure better prices for their products, increasing household incomes and encouraging further investment in agriculture and fisheries.

The ability to reduce dependence on imported foods was cited by 91 percent of respondents, emphasizing the plant's potential to promote food sovereignty. However, 9 percent of respondents expressed concerns about the potential disruption of traditional practices and unforeseen challenges. These concerns underscore the importance of careful planning and the need for a collaborative approach to ensure that the processing plant integrates seamlessly with existing community systems and values.

9. Barriers to Market Access and Participation in Decision-Making

Eighty-three percent of respondents identified limited transportation infrastructure as a significant barrier to market access. This finding underscores the logistical challenges faced by food producers in moving goods from remote farming and fishing areas to central markets. Poor road conditions and a lack of reliable vehicles further exacerbate these issues, increasing costs and reducing the viability of local products.

Supply shortages were highlighted by 81 percent of respondents, who pointed to the lack of access to critical inputs such as seeds, tools, and fertilizers as a significant constraint. This limitation prevents farmers from scaling up production to meet market demand and reduces their economic opportunities.

Seventy-one percent of respondents identified compliance with quality standards as a challenge, reflecting the difficulties producers face in meeting the expectations of broader markets. Without adequate training and resources, many producers are unable to package and process their goods to the standards required for export or large-scale distribution.

Sixty-two percent of respondents noted a lack of connections to broader markets, which restricts their ability to secure stable income streams and expand their operations. This lack of connectivity often forces producers to rely on informal or localized trade, limiting their economic potential.

The survey also highlighted low levels of community participation in decision-making processes. While 44 percent of respondents reported moderate or high levels of participation, 52 percent

described engagement as low or very low. This finding reflects the need for more inclusive governance frameworks that actively involve community members in decisions that affect their livelihoods. Addressing these barriers would require investments in infrastructure, capacity-building programs, and the creation of structured pathways to connect local producers with broader markets.

10. Inclusivity, Educational Programs, and Climate Resilience Efforts

The survey highlighted moderate progress in fostering inclusivity within community organizations. Seventy percent of respondents reported gender equality in leadership roles, reflecting a commitment to empowering women. However, this also indicates that there is still room for improvement to achieve full gender parity and ensure balanced representation in decision-making processes. Inclusivity for differently-abled individuals and senior citizens was acknowledged by 52 percent of respondents, suggesting that while some efforts have been made, more targeted initiatives are needed to accommodate these groups effectively.

Youth engagement was prioritized by 65 percent of respondents, who described their organizations as inclusive of individuals aged 13-35. However, 26 percent noted that youth engagement was only somewhat inclusive, highlighting the need for programs that actively involve younger community members in leadership and training opportunities.

Educational programs on sustainable food production were notably limited, with 59 percent of respondents indicating that no such programs were available in their communities. Forty-one percent reported occasional opportunities for training, but none noted regular programs. This gap underscores the critical need for sustained educational initiatives to equip community members with the skills and knowledge required to adopt sustainable agricultural practices.

Climate resilience efforts were also assessed, with 35 percent of respondents reporting the use of water conservation strategies as a key approach. Disaster preparedness plans and crop diversification were noted by 17 and 13 percent of respondents, respectively, reflecting limited but proactive efforts to address climate-related challenges. However, 70 percent of respondents described their organizations as unprepared for climate-related disasters, highlighting an urgent need for comprehensive training and resources in this area.

These findings illustrate the need for greater inclusivity, expanded educational opportunities, and enhanced climate resilience strategies to support sustainable development in Chuuk. By addressing these gaps, community organizations can ensure that all members are equipped to participate meaningfully in building a sustainable and resilient future.

This comprehensive assessment of Chuuk’s community management and development landscape reveals a multifaceted set of challenges and opportunities. Through detailed survey responses, it is evident that Chuuk’s community organizations are actively engaged in addressing critical issues such as food security, governance, environmental sustainability, and economic resilience. However, significant gaps in resources, infrastructure, and capacity must be addressed to unlock the full potential of these efforts.

The demographic analysis underscores the importance of fostering inclusivity and succession planning within community leadership. While the majority of leaders are middle-aged or older,

the underrepresentation of youth and women highlights a need to cultivate the next generation of leaders and create more equitable spaces for participation. Encouraging gender equality and youth involvement in leadership roles is essential for fostering innovative ideas and ensuring long-term sustainability.

Organizational engagement through regular meetings reflects a commitment to community involvement, yet logistical and resource constraints limit the frequency and effectiveness of these interactions. Expanding access to meeting facilities, transportation, and communication tools can enhance collaboration among community members and stakeholders.

The overwhelming demand for leadership training and technical assistance in food production highlights a critical gap in the capacity of local organizations. Addressing this gap will require targeted training programs that combine traditional knowledge with modern, sustainable practices. Additionally, the emphasis on value chain development and environmental conservation points to the interconnected nature of Chuuk's challenges, where solutions must integrate technical, infrastructural, and ecological considerations.

Barriers to food production, including limited access to clean water, affordable transportation, and climate-resilient crops, remain significant. These challenges are exacerbated by the impacts of climate change, which threaten both traditional practices and modern agricultural efforts. Enhancing access to resources, providing technical training, and investing in climate adaptation measures are urgent priorities.

The concept of good governance, as articulated by respondents, provides a roadmap for strengthening community management structures. Transparency, accountability, and inclusivity must be at the core of governance frameworks to build trust and ensure that policies reflect the needs of all community members. Additionally, fostering participatory decision-making processes can empower individuals and groups to contribute meaningfully to the development of their communities.

Support for a local food processing plant reflects the community's readiness to embrace innovative solutions to food security and economic challenges. The anticipated benefits—including job creation, economic strengthening, and reduced dependence on imports—underscore the transformative potential of such an initiative. However, success will depend on addressing preconditions such as training, infrastructure development, and compliance with quality standards.

Barriers to market access and low participation in decision-making highlight systemic challenges that hinder progress. Investments in transportation infrastructure, market linkages, and inclusive governance structures are necessary to enable community organizations and producers to realize their full potential. Overcoming these barriers requires a collaborative effort involving government agencies, NGOs, and community stakeholders.

Inclusivity and climate resilience efforts have shown promising beginnings but remain inconsistent across organizations. While some groups prioritize gender equality, youth engagement, and water conservation, others lack the resources or frameworks to implement these initiatives effectively. Bridging these gaps will require sustained investment in educational programs, disaster preparedness, and climate-smart agricultural practices.

Ultimately, the findings from this assessment point to an opportunity for Chuuk to adopt a holistic approach to community development. By addressing gaps in leadership training, resource access, infrastructure, and inclusivity, Chuuk can build a foundation for sustainable growth. Strengthening collaboration among stakeholders—government agencies, NGOs, and local organizations—will be key to achieving these goals. This collaborative approach will ensure that the voices of all community members are heard and that solutions are tailored to their unique needs and contexts.

Looking ahead, the focus must shift from identifying challenges to implementing actionable strategies. By leveraging the strengths of its communities and investing in targeted interventions, Chuuk can transform its food systems, enhance economic resilience, and create a sustainable future for all its residents. This assessment serves as a call to action for all stakeholders to work together in addressing the pressing needs of Chuuk's communities while honoring their cultural heritage and fostering innovation.

Federated States of Micronesia

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Chuuk Information Infrastructure Providers & IT Specialists Survey Results

1. Introduction and Demographics of Information Providers

The development and sustainability of Chuuk's information infrastructure are essential for addressing the unique challenges faced by the region. The survey revealed that all participants, or 100 percent, are male, highlighting a significant lack of gender diversity in the IT and information infrastructure sector. This uniform demographic indicates a critical need to encourage female participation in technology-focused careers in Chuuk. Greater gender diversity can bring fresh perspectives and foster innovation, enhancing the problem-solving capacity of teams involved in developing Chuuk's digital infrastructure.

All survey respondents are aged between 31 and 45 years, representing 100 percent of the demographic distribution. This age range reflects a workforce of mature and experienced professionals who are well-equipped to handle the technical and logistical demands of Chuuk's infrastructure projects. These professionals likely possess the expertise required to navigate both technological and regulatory challenges. However, the absence of participants outside this age range signals potential vulnerabilities in workforce sustainability. Younger individuals, who are vital for long-term growth, are not adequately represented. Similarly, the absence of older professionals suggests that valuable institutional knowledge may not be fully utilized. Capacity-building initiatives and mentorship programs are therefore crucial to ensure that the next generation of IT specialists is prepared to continue this important work.

This demographic snapshot underscores both the strengths and gaps within Chuuk's IT workforce. While the existing group is experienced, expanding participation across genders and age groups is necessary to build a resilient and innovative IT sector capable of addressing the region's evolving needs.

2. Expected Impact of Underwater Cable on Connectivity and Affordability

The deployment of the underwater cable is expected to have a transformative impact on Chuuk's connectivity and digital accessibility. Survey responses revealed that 50 percent of participants anticipate that the cable will enhance service quality while simultaneously reducing costs for consumers. This perspective highlights the potential for the cable to improve the reliability and speed of internet services in Chuuk. Enhanced service quality is especially important for sectors such as education, healthcare, and commerce, which rely heavily on stable digital connections.

The remaining 50 percent of respondents predict that the cable will lower service costs and expand access, enabling more residents to connect digitally. Affordable internet access is essential for bridging the digital divide, particularly in remote and underserved areas. Lower costs can also stimulate economic development by allowing small businesses and entrepreneurs to access online markets and services.

Both perspectives emphasize the cable's role in reducing Chuuk's reliance on expensive satellite connections, which have historically been a barrier to affordable and reliable internet. By addressing issues of cost and quality, the underwater cable is poised to make digital services more accessible, fostering economic growth, enhancing educational opportunities, and promoting social inclusion throughout Chuuk. This development represents a critical step toward achieving digital equity and ensuring that all communities can participate in the benefits of a connected society.

3. Connectivity Gaps Affecting Outer Island Communities

Despite ongoing advancements in digital infrastructure on Chuuk's main island, significant connectivity gaps persist in outer island communities. Survey responses indicate that 50 percent of participants identified the lack of infrastructure beyond satellite connectivity as a major barrier. This reliance on expensive and less reliable satellite connections limits the ability of these communities to access digital services, exacerbating disparities in education, healthcare, and economic opportunities.

The remaining 50 percent of respondents highlighted the geographic spread of the islands, combined with the cultural diversity of languages, beliefs, and traditions, as significant obstacles to achieving digital equity. Chuuk's unique geography, characterized by numerous dispersed islands, presents logistical challenges for infrastructure development. Cultural factors, including language barriers and differing priorities among communities, further complicate efforts to implement uniform solutions.

These connectivity gaps deepen the socioeconomic disparities between the main island and outer regions, leaving many residents without access to essential services. Addressing these issues requires innovative and localized approaches that take into account both the technical and cultural contexts of Chuuk's outer islands. Expanding connectivity to these areas is critical for promoting digital inclusion, supporting remote education, and enabling economic growth. Bridging these gaps will help ensure that all residents of Chuuk, regardless of their location, have equal opportunities to benefit from the digital economy.

4. Planned Solutions for Improving Connectivity in Remote Areas

Efforts to improve connectivity in Chuuk's remote areas are underway, with survey responses reflecting optimism about innovative solutions. Fifty percent of participants reported plans to deploy low-earth orbit satellites, such as Starlink, to enhance internet access in remote communities. These satellites offer the potential to provide high-speed, reliable connectivity to areas that are otherwise difficult to reach with traditional infrastructure. By leveraging satellite

technology, Chuuk can overcome geographic barriers and deliver consistent internet access to its outer islands.

The remaining 50 percent of respondents emphasized the importance of establishing solar-powered cell towers and other renewable energy-based communication systems. These solutions align with Chuuk's geographic and environmental realities, offering sustainable and cost-effective options for extending connectivity to remote areas. Renewable energy-powered infrastructure reduces dependency on traditional energy sources, making it a more viable and environmentally friendly solution for island communities.

These initiatives demonstrate a strong commitment to addressing the digital divide in Chuuk. By combining cutting-edge satellite technology with renewable energy solutions, these planned improvements aim to provide reliable and sustainable internet services to underserved communities. Expanding connectivity in remote areas is essential for fostering economic development, improving access to education and healthcare, and promoting social inclusion across all of Chuuk's islands.

5. Assessment of Current Internet Infrastructure and Quality

Survey data indicate that while Chuuk's current internet infrastructure is functional, it requires significant upgrades to meet the increasing demands of residents and businesses. Fifty percent of respondents noted similarities in infrastructure across Micronesia's states, emphasizing shared challenges such as limited bandwidth and inconsistent service quality. This perspective reflects the interconnected nature of infrastructure issues across the region, where reliance on outdated systems hampers digital connectivity and limits the ability to support higher traffic loads. The inadequate bandwidth affects not only individual users but also businesses, educational institutions, and government agencies that depend on stable internet connections.

The other 50 percent of respondents focused on the urgent need for modernization, pointing out that current infrastructure lacks the capacity to support Chuuk's growing digital ecosystem. This group highlighted the importance of upgrading systems to improve reliability and accommodate the increasing number of internet users. With the growing reliance on digital platforms for communication, commerce, and education, the inability to handle higher traffic loads can lead to network congestion and reduced service quality.

These findings underline the necessity of strategic investments in scalable infrastructure to ensure Chuuk's digital growth. Enhancing bandwidth and building resilience into the network will be critical for meeting the evolving needs of the community. Investments in fiber-optic technology, upgraded servers, and enhanced network management systems will provide a foundation for long-term digital development in Chuuk.

6. Internet Service Barriers and Strategies for Bandwidth Optimization

The survey identified significant barriers to internet service in Chuuk, with 50 percent of respondents highlighting the challenges of reaching remote locations. This difficulty limits the range of services available in these areas and exacerbates the digital divide between urban and rural communities. The geographical dispersion of Chuuk's islands, combined with limited

infrastructure, makes it difficult to establish reliable connections in remote regions. These barriers prevent residents in underserved areas from accessing critical services such as telemedicine, online education, and e-commerce.

The remaining 50 percent of respondents emphasized the potential of innovative solutions like Starlink to optimize bandwidth allocation and improve service quality. By leveraging low-earth orbit satellite technology, Chuuk can overcome traditional infrastructure limitations and extend high-speed internet access to remote and underserved areas. Respondents also pointed out that technologies like satellite-based internet can be more cost-effective and quicker to deploy compared to traditional wired infrastructure, making them an attractive option for addressing Chuuk's connectivity challenges.

Addressing these barriers will require a multi-faceted approach, combining infrastructure expansion with the adoption of advanced technologies. Investing in satellite solutions, while also exploring terrestrial improvements like wireless towers and fiber optics, can ensure equitable access to internet services across Chuuk. These measures will help improve the overall quality of connectivity for residents, creating opportunities for social and economic development.

7. Geographic Challenges and Connectivity Improvements

Geographic challenges remain a significant obstacle to achieving comprehensive connectivity in Chuuk. Fifty percent of respondents highlighted the use of Starlink to address coverage gaps within FSMTC cellular networks, focusing on filling "dead spots" where traditional coverage is inadequate. This innovative approach has the potential to provide reliable connectivity in areas that have been historically underserved due to geographic and logistical constraints. By implementing satellite solutions, Chuuk can overcome the challenges posed by its dispersed islands and complex topography.

The remaining 50 percent of respondents emphasized the use of basic mapping to identify areas with slow connectivity and implement targeted solutions. Mapping efforts allow for a detailed understanding of connectivity gaps, enabling stakeholders to prioritize infrastructure development in regions with the greatest need. This data-driven approach ensures that resources are allocated efficiently and that improvements have the maximum impact on underserved communities.

These initiatives reflect a proactive approach to overcoming geographic challenges. By combining satellite-based technologies with strategic mapping and planning, Chuuk can enhance connectivity for underserved regions, ensuring that all residents have access to reliable internet services. Improved connectivity in remote and challenging areas will promote digital inclusion and support social and economic growth across Chuuk.

8. Hardware, Software, and Data Management Needs

The survey revealed significant gaps in Chuuk's hardware and software infrastructure, which hinder the effective management and utilization of digital resources. Fifty percent of respondents emphasized the urgent need for technology upgrades to meet modern data management requirements. This includes implementing updated systems for data collection, processing, and

analysis, which are essential for supporting the increasing demand for digital services in Chuuk. Without these upgrades, organizations risk inefficiencies in managing and leveraging data, limiting their ability to make informed decisions and deliver high-quality services.

The other 50 percent of respondents identified the lack of data centers and long-term storage capabilities as a critical limitation. The absence of dedicated facilities for data storage and management creates vulnerabilities in data security, accessibility, and scalability. Additionally, the reliance on external storage solutions can be costly and less efficient, further underscoring the need for local infrastructure development.

Addressing these hardware and software needs will require collaboration between state and national governments, as well as partnerships with private sector entities. Investments in scalable hardware systems, robust data management software, and secure data storage facilities will enhance Chuuk's ability to collect, store, and analyze information. These improvements are essential for supporting Chuuk's digital transformation and ensuring that the region's information infrastructure can meet the demands of a modern, data-driven society.

9. Cloud-Based Solutions and Traffic Management for Prioritizing Data

The adoption of cloud-based solutions in Chuuk reveals an emerging but uneven embrace of this transformative technology. Fifty percent of respondents reported actively using cloud-based systems, citing their ability to provide scalability and accessibility. Cloud technology enables organizations to manage data more efficiently, offering remote access to critical information, which is particularly valuable in Chuuk's geographically dispersed environment. This adoption supports remote work, real-time data sharing, and collaboration among government agencies, businesses, and other stakeholders.

However, the remaining 50 percent of respondents indicated that they had not yet adopted cloud-based solutions. This highlights challenges such as limited technical expertise, inadequate infrastructure, and concerns about data security. These barriers impede the broader implementation of cloud technology, limiting Chuuk's ability to fully leverage its benefits. Expanding the use of cloud systems will require targeted investments in training, infrastructure, and cybersecurity measures to build confidence and capacity among organizations.

Traffic management also emerged as a critical area for improvement. Fifty percent of respondents indicated plans to implement Quality of Service (QoS) protocols to prioritize essential data, such as agricultural information. QoS strategies are vital for optimizing data flows and ensuring that time-sensitive and critical information reaches its intended audience efficiently. By prioritizing essential sectors like agriculture, traffic management can enhance economic productivity and resource allocation. However, the lack of immediate plans for such protocols among the remaining respondents underscores the need for awareness and resources to implement traffic management effectively.

Adopting cloud-based solutions and implementing QoS protocols are integral steps in building Chuuk's digital ecosystem. These measures will improve data accessibility, prioritize critical

information, and ensure that digital services are robust enough to meet the growing needs of the community.

10. Content Delivery Networks, Caching, and Additional Infrastructure Challenges

Content Delivery Networks (CDNs) and caching systems present significant opportunities for enhancing Chuuk's digital infrastructure. Fifty percent of respondents reported using caching servers to store frequently accessed content locally. Caching reduces reliance on external internet connections, improving data access speeds and reducing latency for users. This technology is particularly beneficial in Chuuk's context, where geographic dispersion and limited bandwidth can create bottlenecks in data delivery.

The other 50 percent of respondents emphasized the need for additional resources to effectively implement CDN capabilities. CDNs distribute data across multiple servers, optimizing content delivery and improving service reliability. However, establishing and maintaining CDN systems requires significant technical expertise, hardware investments, and collaboration with external service providers. These challenges highlight the importance of building local capacity and securing funding to deploy and sustain these systems.

Beyond CDNs and caching, broader infrastructure challenges were identified, including the need for enhanced data storage, redundancy lines, and energy-efficient systems. Developing a redundancy line, for example, would ensure continuity of service during outages, a critical factor for maintaining reliable connectivity. Additionally, improving health education resources was mentioned as an infrastructure priority, underscoring the need for digital tools that support public services.

Investments in CDN and caching technologies, combined with efforts to address these broader infrastructure challenges, will be essential for creating a resilient and efficient digital ecosystem in Chuuk. These advancements promise to enhance user experiences, reduce latency, and ensure that digital services can support the region's economic, educational, and social development goals.

The survey results provide a comprehensive view of the state of Chuuk's information infrastructure and IT landscape, highlighting both the progress made and the significant challenges that remain. Connectivity gaps, particularly in outer island communities, continue to hinder equitable access to digital services. Technical expertise is concentrated in a narrow demographic, creating vulnerabilities in workforce sustainability and diversity. Additionally, limited resources, including hardware, software, and data management systems, impede the region's ability to meet the growing demands of a digitally connected society.

Despite these challenges, the findings reveal promising opportunities for Chuuk to transform its digital infrastructure. Collaborative efforts from state and national governments, private sector partners, and international technology providers will be critical in bridging the gaps. Addressing these issues will require a multifaceted approach that combines technical innovation, strategic investments, and capacity-building initiatives.

Investing in scalable infrastructure solutions, such as expanding fiber-optic networks and leveraging satellite technology, can significantly improve connectivity and reduce reliance on costly satellite-based services. Cloud-based solutions offer Chuuk the potential to enhance data accessibility and streamline operations across sectors, supporting economic activities and enabling remote work. Implementing renewable energy systems, such as solar-powered communication towers, can provide sustainable and reliable power to support these technologies, particularly in remote areas.

Capacity-building programs and training initiatives are equally important for equipping IT professionals with the skills required to manage and expand Chuuk's digital infrastructure. These programs should focus on fostering a diverse and inclusive workforce, encouraging participation from underrepresented groups, such as women and youth. Developing technical expertise across a broader demographic will ensure that Chuuk's IT sector remains resilient and adaptable to future challenges.

The survey also underscores the importance of adopting innovative strategies for data management and traffic prioritization. Implementing Quality of Service (QoS) protocols and caching technologies can optimize bandwidth allocation, ensuring that critical information reaches its target audience efficiently. Investments in Content Delivery Networks (CDNs) and redundancy lines will further enhance service reliability, reducing latency and ensuring continuity during outages.

By addressing these key areas, Chuuk can create a robust digital ecosystem that supports economic growth, social inclusion, and community resilience. Improved connectivity will open new opportunities for education, healthcare, and commerce, enabling all residents to benefit from a digitally connected society. With strategic planning, resource allocation, and collaboration among stakeholders, Chuuk is poised to build a more connected and prosperous future for all its communities.

Federated States of Micronesia

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Chuuk Food Retailer Survey - Stores Results

1. Demographics of Survey Respondents

The Chuuk food retailer survey reveals a clear gender disparity, with 83% of respondents being female, indicating that women play a dominant role in the local food retail industry. This significant involvement underscores the essential contribution of women in driving the food supply chain, managing retail operations, and supporting the community's access to food resources. In contrast, 17% of respondents were male, reflecting a lesser but still meaningful involvement in this sector. This gender composition suggests a predominantly female-led retail environment, potentially influencing the types of products offered and the management styles observed in the industry.

Age distribution among respondents provides further insight into the dynamics of the workforce. A substantial 75% of respondents are aged 31-45, making this the predominant age group in the sector. These individuals likely bring a balance of experience and vigor, enabling them to navigate the challenges of retail management effectively while embracing innovative practices. Meanwhile, 25% of respondents are younger, within the 18-30 age range, reflecting the entry of a younger generation into the industry, potentially introducing fresh perspectives and modern techniques. Notably, no respondents were aged 56-60 or over 60, indicating an absence of older, more seasoned individuals in the workforce. This lack of representation from older demographics may suggest barriers to participation, retirement trends, or the physical demands of the sector deterring older individuals from engagement.

2. Availability of Locally Made Processed Foods

The survey highlights a glaring lack of diversity in the availability of locally made processed foods across Chuuk's retail sector. Among the 36 product categories examined, breads and baked goods stand out, with 83% of respondents stocking these items. This indicates a strong preference for products that are staples or easily accessible. The presence of such items reflects consumer demand for familiar and convenient foods, but it also highlights a potential over-reliance on a limited product range.

Conversely, coconut-based products, including coconut oil, flour, and milk, show no availability in the surveyed stores. This absence is notable, given Chuuk's tropical environment and the cultural significance of coconut products, suggesting barriers in production, processing, or distribution. Similarly, breadfruit-derived items, such as chips and flour, are entirely unavailable, pointing to missed opportunities to leverage local resources for unique and culturally significant foods.

Seafood products such as smoked, dried, salted fish, and fish syrups are also absent from retailer inventories. The absence of these items, traditionally central to island communities, suggests significant challenges in sustainable sourcing, processing capabilities, or consumer accessibility.

Traditional snacks like banana chips and taro chips also show no presence, while niche items such as syrups, jellies, jams, and flavored oils are equally scarce. These gaps emphasize the unrealized potential for developing and commercializing local food products to cater to both traditional preferences and emerging markets.

3. Importance of Local Processed Foods in Chuuk

The survey demonstrates overwhelming support for locally made processed foods in Chuuk, with 92% of respondents rating these products as very important. This nearly unanimous sentiment underscores the community's recognition of the critical role local foods play in preserving cultural heritage, fostering economic sustainability, and supporting local agricultural ecosystems. The remaining 8% of respondents also consider these foods important, reinforcing the consensus that locally processed foods hold intrinsic value beyond mere consumption.

This broad agreement likely stems from multiple factors. First, local foods help sustain traditional dietary practices, ensuring cultural continuity in the face of globalization and dietary shifts. Second, producing and purchasing local foods keep economic activity within the community, benefiting farmers, processors, and retailers. Lastly, local food products enhance food security by reducing dependence on imported goods, which are often subject to price fluctuations, transportation delays, or availability issues. This collective acknowledgment highlights the central role of local food production in addressing Chuuk's social and economic needs.

4. Support for a Food Innovation Center

Support for establishing a food innovation center in Chuuk is overwhelmingly high, with 83% of respondents expressing strong support and an additional 8% offering general support. Together, this 91% endorsement reflects widespread enthusiasm for initiatives that could enhance local food production, processing, and marketing capabilities. Only 8% of respondents were neutral, and no opposition was recorded, showcasing a community largely aligned on the need for infrastructure and resources to support the local food industry.

This level of support likely stems from the recognition of the center's potential benefits. A food innovation center could address existing challenges, such as the lack of technical expertise and inadequate processing facilities, by providing access to training, equipment, and collaborative opportunities. It could also foster innovation in product development, enabling businesses to diversify their offerings and better meet consumer preferences. Additionally, the center could serve as a hub for marketing and distribution, helping local producers reach broader markets. The absence of opposition further underscores the readiness of Chuuk's food retailers to embrace collaborative, innovative solutions to drive the local food industry forward.

5. Challenges in Local Food Production and Sourcing

Chuuk retailers face significant barriers to local food production and sourcing, with 83% identifying a lack of technical expertise in product development as the most pressing issue. This challenge suggests that many stakeholders lack the skills necessary for creating, refining, and marketing new food products, including essential tasks such as blending ingredients, developing recipes, and ensuring proper packaging. This deficiency limits the diversity and quality of locally processed food products available in the market.

Inadequate infrastructure, cited by 67% of respondents, emerges as another major obstacle. The lack of access to proper processing and packaging facilities hinders the ability of retailers and producers to scale operations or meet consumer demand effectively. This gap in infrastructure not only affects production capacity but also compromises product consistency and competitiveness with imported goods.

The workforce limitations in Chuuk's food production sector are equally notable. Half of the respondents highlighted a shortage of trained workers, reflecting a significant gap in human resources. This lack of skilled labor impacts the ability of retailers and producers to maintain consistent production levels, implement quality control measures, or innovate within the sector.

Other challenges, while less prominent, are still impactful. Seventeen percent of respondents noted high production costs, and an equal percentage pointed to limited access to quality raw materials. These issues suggest that even when expertise and infrastructure are available, the cost of production and the sourcing of raw materials remain bottlenecks, further constraining the growth of the local food industry.

6. Potential Benefits of a Food Innovation Center

The potential advantages of a food innovation center in Chuuk are multifaceted, with 67% of respondents indicating it would provide access to commercial-grade kitchen facilities. This benefit is critical for enabling businesses to scale production efficiently and meet market demands. The availability of affordable and accessible processing spaces would address current infrastructure limitations, empowering retailers and producers to experiment with new products and enhance existing offerings.

Collaboration with local farmers and producers was also identified as a key benefit by 67% of respondents. Such partnerships would strengthen supply chains, improve raw material sourcing, and foster community-wide economic growth. By connecting farmers and food retailers, a food innovation center could create a more integrated and sustainable food system in Chuuk.

Marketing and branding support, highlighted by 42% of respondents, reflects the importance of promoting locally processed food products effectively. Assistance in these areas could help retailers position their products competitively, both within Chuuk and beyond, increasing consumer awareness and market reach.

These findings underscore the critical role a food innovation center could play in addressing Chuuk's infrastructural and technical challenges while also fostering collaboration and market expansion.

7. Collaboration with a Food Innovation Center

Respondents outlined several incentives for collaborating with a food innovation center, with financial support emerging as a key motivator for 25% of participants. Access to funding or grants would enable stakeholders to invest in product development, infrastructure upgrades, and workforce training, addressing some of the sector's most pressing challenges.

Market growth opportunities were seen as another significant incentive, with 67% of respondents identifying this as a factor that would encourage collaboration. Expanding market access is crucial for increasing the visibility and competitiveness of Chuuk's locally processed foods, both regionally and potentially internationally.

The broader impact of a food innovation center on community welfare was also evident. Fifty-eight percent of respondents emphasized the center's potential to enhance food security by improving access to nutritious and locally sourced products. Furthermore, 75% recognized the role of the center in fostering economic development and job creation, indicating strong alignment between individual business goals and community-oriented outcomes.

Together, these findings highlight the willingness of Chuuk's food retailers to engage with initiatives that support financial growth, market expansion, and community development.

8. Demand and Market Potential for Local Food Products

The outlook for locally processed food products in Chuuk is promising, with 25% of respondents observing high demand and an additional 42% noting moderate demand with potential for growth. This indicates that a significant portion of the market is receptive to locally produced foods, though efforts are needed to further tap into and expand this demand.

Products leveraging Chuuk's cultural heritage were seen as having the highest market potential, with 75% of respondents identifying these as key growth opportunities. The emphasis on cultural relevance reflects consumer preferences for foods that align with traditional tastes and practices, highlighting the importance of preserving Chuuk's culinary identity through local production.

These findings suggest a strong foundation for the growth of Chuuk's local food industry, provided there is adequate support for product development, market access, and consumer awareness campaigns. Efforts to capitalize on the cultural appeal of local products and address existing production challenges could position the industry for significant expansion.

9. Factors Influencing Consumer Acceptance and Preferences

Consumer acceptance of local food products in Chuuk is primarily driven by the quality and taste of the offerings, with 75% of respondents identifying these factors as essential. This emphasis reflects the importance of delivering products that meet high standards of flavor and

craftsmanship, as these attributes directly influence customer satisfaction and repeat purchases. Taste and quality are likely viewed as benchmarks for the success of locally processed foods, making them critical components for gaining a competitive edge over imported alternatives.

Affordability and health benefits were also significant, cited by 58% and 50% of respondents, respectively. Price plays a crucial role in consumer decisions, as locally made products must remain cost-effective to compete with imported goods, which may sometimes be cheaper. Affordability ensures accessibility across different income levels, allowing more consumers to choose locally processed foods. Health benefits and nutritional value are equally influential, reflecting a growing awareness among consumers about the importance of wholesome and nourishing food. Locally processed foods that emphasize healthfulness may appeal to consumers seeking to improve their diets or avoid highly processed imports.

Factors such as cultural appeal and innovative packaging were less impactful, with only 25% of respondents recognizing these elements as important. This suggests that while tradition and visual presentation can enhance a product's marketability, they are secondary considerations for most consumers. The focus on quality, taste, and affordability indicates a preference for straightforward, functional attributes over aesthetic or novelty-driven aspects. Packaging and presentation, although less critical, could still play a role in differentiating products in competitive markets, particularly for premium or export-focused items.

10. Strategies to Promote Local Products

Strategies to increase consumer awareness and acceptance of locally processed food products in Chuuk focus heavily on experiential marketing. Sampling and tasting events were highlighted as one of the most effective approaches, endorsed by 58% of respondents. This strategy allows consumers to experience the taste and quality of the products firsthand, reducing uncertainty and building confidence in local offerings. Sampling events could be particularly impactful in introducing new products or flavors, as they create opportunities for direct feedback and engagement.

Collaborations with local chefs or influencers were recognized as especially valuable, with 75% of respondents identifying this approach as an effective way to promote local products. These partnerships leverage the credibility and reach of chefs or community figures, enhancing product visibility and encouraging consumer trust. Such endorsements can demonstrate the versatility of locally processed foods, showcasing their use in creative or traditional recipes and making them more appealing to a broader audience.

Promotional discounts were another recommended strategy, supported by 17% of respondents. Discounts provide immediate incentives for consumers to try locally made products, especially when price sensitivity is a concern. By lowering the financial barrier, promotions can attract first-time buyers and potentially convert them into loyal customers. This approach aligns with the emphasis on affordability as a key factor influencing consumer choices.

These strategies underscore the importance of engaging consumers through direct experiences, trusted endorsements, and value-driven incentives. A combination of these approaches could

effectively raise the profile of Chuuk's locally processed foods, fostering greater consumer awareness and demand while supporting the growth of the local food industry.

11. Conclusion

The Chuuk food retailer survey presents a comprehensive view of the opportunities and challenges within the local food industry, revealing a dynamic landscape shaped by consumer preferences, production constraints, and market potential. One of the most promising insights is the robust demand for locally processed foods, which reflects a growing awareness and appreciation for cultural heritage and locally sourced products. However, this demand remains unmet due to significant infrastructural and technical barriers that impede the sector's ability to scale and innovate.

The survey data emphasize the critical need for investments in infrastructure, particularly in processing and packaging facilities, which were identified as major bottlenecks. Additionally, the lack of technical expertise and a trained workforce underscores the importance of targeted capacity-building initiatives. Addressing these challenges is essential for enabling producers and retailers to meet local demand effectively and compete with imported goods.

The overwhelming community support for establishing a food innovation center highlights a collective readiness to embrace transformative solutions. Such a facility could play a pivotal role in addressing existing constraints by providing access to commercial-grade kitchens, technical expertise, and collaborative opportunities with local farmers and producers. Furthermore, the innovation center could serve as a platform for market research, product development, and branding, enabling businesses to expand their market reach and enhance product diversity.

Consumer acceptance of locally processed foods hinges on key factors such as quality, taste, affordability, and health benefits. These priorities indicate a clear pathway for product development that aligns with consumer expectations. Moreover, the potential for culturally significant products to drive market growth reflects the community's strong connection to traditional dietary practices and the value placed on preserving these traditions.

Promotional strategies such as sampling events, collaborations with chefs or influencers, and discounts can effectively boost consumer awareness and acceptance of local products. These approaches emphasize the importance of experiential and value-driven marketing in building trust and loyalty among consumers.

The Chuuk food retail sector stands at a crossroads, with immense potential for growth through strategic interventions. By addressing infrastructural gaps, fostering innovation, and promoting collaboration between stakeholders, Chuuk can unlock the full potential of its local food industry. This transformation would not only enrich the local economy and culture but also contribute to food security, reducing reliance on imported goods and strengthening the resilience of Chuuk's food systems. With sustained investments, community collaboration, and a focus on quality and accessibility, the local food industry can become a cornerstone of Chuuk's economic and cultural landscape.

Federated States of Micronesia
Food Systems Solutions Project
Chuuk Food Retailer Survey - Restaurants Results

1. Introduction to Chuuk's Food Retail Industry

Chuuk's food retail and restaurant sector is central to the community's daily life, addressing both nutritional needs and cultural preservation while contributing significantly to the state's economy. The Food System Solutions (FSS) survey provides a detailed examination of the current state of the industry, revealing critical insights into the challenges faced by food distributors and restaurant operators. These challenges range from limited availability of locally processed foods to systemic issues in production and sourcing.

The survey highlights the demand for locally made foods, which are deeply connected to Chuuk's cultural identity and traditional culinary practices. Despite this demand, the industry struggles with gaps in infrastructure and expertise, which inhibit the production and marketing of local food products. The report also emphasizes the community's strong support for transformative solutions, such as the establishment of a food innovation center. This initiative is seen as pivotal to overcoming these challenges by fostering innovation, improving operational capacity, and providing the resources necessary to strengthen the local food economy.

Chuuk's food industry is at a crossroads where targeted investments and collaborative efforts can unlock its potential, offering significant opportunities for economic growth, cultural preservation, and enhanced food security. This report aims to provide a comprehensive overview of the industry's landscape and its prospects for a sustainable future.

2. Demographic Insights of Survey Respondents

The demographic composition of Chuuk's food retail sector underscores the significant role women play in driving the industry. Women represent 79% of respondents, showcasing their dominance in managing food-related businesses and shaping local food availability. This reflects a broader societal trend where women contribute substantially to community-focused industries. In contrast, men comprise only 21% of respondents, indicating a smaller but still active role in the sector.

Age distribution reveals a diverse workforce with a strong presence of middle-aged individuals. Respondents aged 31-45 make up the majority at 54%, highlighting their central role in the food retail and restaurant sector. This group likely combines professional experience with the energy needed to adapt to market demands. Younger respondents aged 18-30 account for 25%, signaling the entry of a new generation into the industry. Their involvement brings fresh perspectives and the potential for innovation in products and operations.

Meanwhile, 17% of respondents are over 60, indicating the valuable presence of senior operators with extensive industry knowledge and historical insights. A smaller segment, 4%, is aged between 56 and 60, showing some continuity of experience but a decline in representation as age increases. This demographic distribution demonstrates a well-balanced mix of innovation and expertise, essential for addressing the evolving needs of Chuuk's food retail environment.

3. Types of Locally Processed Food Products Sold

The availability of locally processed foods in Chuuk's restaurants is notably limited, revealing substantial gaps in the market. Only 50% of businesses offer breads and baked goods, which represent one of the more accessible categories. This suggests that while there is demand for these staple products, production and distribution capabilities are constrained.

Coconut-based products, such as coconut milk and cooking oil, are significantly underrepresented, available in just 13% of businesses. Considering the cultural and dietary significance of coconut in Chuuk, this highlights a missed opportunity to leverage local resources. Similarly, dried and salted seafood are more commonly found, being sold by 29% and 54% of establishments, respectively, indicating moderate representation in the market but room for expansion.

Traditional food products such as breadfruit chips, breadfruit flour, and fish sauce are entirely absent, along with other potential offerings like banana chips and flavored oils. These absences reflect both production limitations and possibly a lack of infrastructure to process and market these items effectively. Vinegar, however, is slightly more prevalent, sold by 21% of restaurants, suggesting some demand for locally produced condiments.

This limited range of locally processed foods underscores the need for enhanced support to producers and distributors. Filling these gaps could address consumer preferences for culturally significant and diverse food options while boosting the local economy through increased reliance on Chuuk's agricultural and marine resources.

4. Importance of Locally Made Processed Food Products

The significance of locally processed food products is strongly affirmed by the community, with 88% of respondents recognizing them as "very important" and an additional 13% identifying them as "important." This consensus highlights the essential role these products play in preserving Chuuk's cultural heritage. Locally processed foods are deeply connected to traditional diets and practices, making them a cornerstone of cultural continuity.

Beyond cultural value, these foods are seen as critical to economic resilience. Local production reduces reliance on imported goods, which are often subject to fluctuations in availability and price due to external market conditions. By fostering local production, Chuuk can retain more economic value within its community, ensuring that revenue circulates among local farmers, producers, and retailers.

The widespread support for locally made foods also reflects their role in enhancing food security. As Chuuk faces challenges in importing goods, locally produced food products can provide a

stable and reliable food supply. This recognition of their multifaceted importance indicates significant demand for improving the production and distribution of these items, presenting an opportunity for businesses and policymakers to expand the sector while addressing community needs.

5. Support for a Food Innovation Center

The concept of establishing a food innovation center in Chuuk has garnered strong support from the community. Seventy-five percent of respondents expressed strong support for the initiative, and 17% indicated general support. This level of endorsement demonstrates a shared understanding of the potential transformative impact such a center could have on Chuuk's food economy. Only 8% of respondents were neutral, and no opposition was recorded, signifying broad alignment among stakeholders.

A food innovation center would address some of the most pressing challenges in local food production. By providing access to commercial-grade kitchens and advanced processing facilities, it would enable small-scale producers to enhance the quality, quantity, and variety of their products. Additionally, technical training offered by such a center could bridge existing gaps in expertise, allowing producers to improve product development, packaging, and marketing strategies.

The center would also serve as a collaborative space for local farmers and processors, facilitating partnerships that strengthen the food supply chain. By connecting stakeholders, the innovation center could encourage more efficient use of resources, better distribution practices, and greater market penetration for local products. This comprehensive approach to addressing infrastructural and technical challenges reflects why the community overwhelmingly supports the establishment of such a facility.

6. Challenges in Sourcing and Producing Local Food Products

The production and sourcing of locally made food products in Chuuk face numerous challenges, with 54% of respondents highlighting limited access to quality raw materials as a primary obstacle. This scarcity of raw materials compromises the ability of businesses to produce consistent, high-quality products, which in turn affects consumer trust and demand.

Workforce development is another critical issue, with 54% of respondents citing a lack of trained workers as a major barrier. This gap highlights the need for capacity-building initiatives to equip workers with the necessary skills for production, quality assurance, and product innovation. Without a skilled workforce, the sector struggles to scale and meet the growing demand for local products.

High production costs, noted by 50% of respondents, further complicate the industry’s ability to compete with imported goods. These costs stem from inefficiencies in production processes, limited economies of scale, and challenges in accessing affordable resources. Additionally, 42% of respondents pointed to inadequate infrastructure as a significant limitation. The absence of sufficient processing and packaging facilities not only hampers production but also limits the shelf-life and marketability of local products.

Technical expertise in product development and packaging was identified as a barrier by 29% of respondents. This issue underscores the importance of providing targeted training and resources to enhance the sector's ability to create market-ready products. Similarly, 29% of respondents reported challenges related to distribution capabilities, reflecting difficulties in reaching broader markets and ensuring product availability across Chuuk.

These findings emphasize the urgent need for investments in infrastructure, training, and resource access. Addressing these challenges could unlock the potential of Chuuk's local food industry, fostering economic growth and improving food security within the community.

7. Perceived Benefits of a Food Innovation Center

The introduction of a food innovation center in Chuuk is seen as a transformative opportunity, with respondents identifying various benefits that could enhance local food production and distribution. Access to affordable commercial kitchens is considered a valuable asset by 63% of respondents. This reflects the critical need for processing facilities that are both accessible and cost-effective, allowing local businesses to scale up production without the prohibitive costs of independent infrastructure development. Such facilities would enable small-scale producers to improve efficiency, consistency, and product quality, addressing a key gap in the current system.

The potential for facilities where raw ingredients could be processed on behalf of businesses was highlighted by 71% of respondents. This underscores the demand for shared resources that reduce the burden on individual producers, particularly those with limited technical expertise or equipment. By providing this support, a food innovation center could streamline production processes, enabling businesses to focus on product development and marketing.

Support for marketing and branding was recognized by 67% of respondents as a crucial benefit. Improved visibility and professional branding are essential for local products to compete effectively in both domestic and regional markets. A food innovation center could offer expertise and resources to elevate the market presence of Chuuk's locally processed foods, ensuring that they appeal to modern consumers while retaining cultural authenticity.

Collaboration with farmers and producers was identified as the most significant benefit, with 79% of respondents emphasizing its importance. This finding highlights the value of supply chain integration in strengthening the local food economy. Enhanced collaboration could ensure a steady supply of raw materials, promote sustainable farming practices, and create mutually beneficial relationships between producers and processors. By addressing these interconnected needs, a food innovation center could act as a hub for innovation and economic development across Chuuk's food industry.

8. Factors Influencing Collaboration with a Food Innovation Center

Financial incentives are a primary driver for collaboration with a food innovation center, with 71% of respondents citing the potential for increased earnings as a key motivator. This indicates that profitability is a critical consideration for local businesses, reflecting the financial pressures they face in maintaining operations and competing with imported products. A food innovation

center could offer pathways to improved efficiency and higher-quality products, directly contributing to greater revenue generation.

Support for community food security and economic development is even more pronounced, with 79% of respondents emphasizing its importance. This response illustrates a strong alignment between individual business goals and collective community welfare. By improving access to nutritious, locally produced foods and fostering job creation, a food innovation center could address broader social and economic challenges in Chuuk.

Access to funding and grants was noted by 42% of respondents as another important factor. Financial support would enable businesses to invest in equipment, training, and product development, reducing barriers to innovation. Meanwhile, market expansion opportunities were appealing to 50% of respondents, reflecting a desire to reach new customer bases and enhance the competitiveness of locally made products.

These findings highlight a dual focus on profitability and social impact, indicating a willingness among businesses to collaborate on initiatives that deliver mutual benefits. A food innovation center, by addressing these priorities, could serve as a critical catalyst for growth, uniting stakeholders around shared goals and fostering a more resilient and inclusive food economy in Chuuk.

9. Consumer Demand and Price Sensitivity

The demand for locally processed foods in Chuuk is promising, with 46% of respondents identifying a high demand for such products. This figure underscores the strong preference among consumers for locally made food items, which likely align with cultural traditions and dietary preferences. An additional 42% of respondents reported moderate demand, suggesting that while there is already substantial interest, there remains untapped potential for growth. Combined, these figures illustrate a significant market for locally processed foods, with opportunities for expansion as producers and retailers better meet consumer needs.

Price sensitivity, however, is a key factor shaping purchasing behaviors. Fifty-eight percent of respondents noted that consumers are highly price-sensitive, indicating that affordability is crucial in driving sales. This suggests that for locally processed foods to gain broader acceptance, pricing strategies must align with the financial constraints of the average consumer. At the same time, this level of sensitivity may also reflect the competitive pricing of imported goods, which local producers must contend with.

In contrast, 17% of respondents indicated that consumers prioritize quality and uniqueness over price. This smaller segment represents an important niche market that values premium products and is willing to pay a higher price for exceptional quality or culturally significant items. Balancing cost and value, therefore, becomes a critical strategy for producers aiming to cater to both budget-conscious consumers and those seeking premium offerings. By addressing these varying preferences, Chuuk's food industry can better capture the diverse demands of its local market.

10. Future Demand and Recommendations

The future demand for locally processed foods in Chuuk is viewed optimistically, with 46% of respondents anticipating significant growth over the next two to three years. This projection reflects a shared belief in the expanding appeal of local foods, driven by cultural pride, consumer awareness, and the potential for improved production and availability. An additional 42% expect moderate increases in demand, signaling steady but less dramatic growth opportunities. Together, these findings suggest a favorable outlook for the industry, provided that existing challenges are addressed effectively.

Products with cultural significance and those made with locally sourced ingredients were identified by 79% of respondents as having the highest potential for success. This overwhelming emphasis highlights the value placed on traditional and authentic food products, which resonate strongly with Chuuk's consumers. By focusing on such offerings, producers can align their products with community preferences and create a competitive edge in the market.

Strategies to enhance awareness and acceptance of locally processed foods include sampling events, which 67% of respondents identified as an effective method. Sampling allows consumers to experience the quality and taste of products firsthand, building trust and encouraging purchases. Collaborations with local chefs and influencers were seen as even more impactful, with 71% of respondents endorsing this approach. These partnerships can elevate the visibility and desirability of local products, showcasing their versatility and cultural value.

The combination of experiential marketing through sampling and strategic collaborations underscores the importance of community engagement in promoting local foods. By fostering connections between producers, retailers, and consumers, Chuuk's food industry can strengthen its market presence and drive sustained growth. These strategies, coupled with a focus on culturally significant products, position the industry to meet future demand while preserving and celebrating Chuuk's culinary heritage.

Conclusion

The Chuuk food retailer survey offers a comprehensive view of the opportunities and challenges shaping the local food industry. The findings reveal a strong demand for locally processed foods, underscoring their cultural significance, economic potential, and role in fostering food security. However, the industry faces notable barriers that inhibit its ability to meet this demand. Challenges such as limited access to quality raw materials, inadequate processing and packaging infrastructure, and shortages of skilled workers present substantial obstacles to growth and innovation.

Despite these challenges, the survey highlights a clear path forward, marked by the community's overwhelming support for a food innovation center. This facility is seen as a transformative solution, capable of addressing critical needs by providing access to affordable commercial-grade kitchens, technical training, and collaborative opportunities for farmers, producers, and retailers. The enthusiasm for such an initiative reflects a readiness to invest in solutions that strengthen local production capabilities, improve product quality, and enhance marketability.

The survey also underscores the importance of strategic investments in infrastructure and capacity building. Improving access to processing facilities and training programs would empower local businesses to expand their offerings, reduce production inefficiencies, and create higher-quality products. Collaboration among stakeholders, including farmers, processors, and retailers, could further enhance supply chain integration, ensuring a steady flow of raw materials and fostering a more sustainable local food system.

The survey findings highlight the dual importance of profitability and community welfare. By aligning business objectives with broader social goals such as food security and economic development, Chuuk's food industry can achieve growth that benefits the entire community. The emphasis on culturally significant and locally sourced products provides an opportunity to preserve Chuuk's culinary heritage while addressing modern consumer preferences.

Looking ahead, targeted strategies such as experiential marketing, partnerships with local chefs, and price-sensitive product offerings can help raise awareness and drive demand for locally processed foods. By leveraging these approaches, Chuuk's food industry can build stronger connections with its consumer base, expand market reach, and position itself for long-term success.

In conclusion, Chuuk's food industry has immense potential to thrive through collaborative efforts and strategic investments. Addressing key challenges, fostering innovation, and promoting community engagement will be critical to unlocking this potential. A revitalized food sector would not only boost economic growth but also preserve Chuuk's cultural identity and ensure greater resilience in the face of global and local challenges. With a collective commitment to these goals, the future of Chuuk's food industry is both promising and sustainable.

Federated States of Micronesia
Food Systems Solutions Project
Chuuk Policymaker Survey Results

1. Demographics of Policymakers

The demographic profile of policymakers in Chuuk reveals significant insights into the composition and diversity of the group responsible for shaping local policies. A substantial 85 percent of respondents identify as male, underscoring a strong male majority in Chuuk's policymaking landscape. This gender imbalance suggests a need for targeted efforts to encourage greater female representation in policymaking roles. Increasing female participation could bring more diverse perspectives and approaches to addressing the region’s challenges, potentially leading to more inclusive and equitable policies.

Age distribution further highlights the dynamics of Chuuk’s policymaking body. Nearly half of the respondents, 46 percent, are between the ages of 56 and 60, representing a wealth of experience and seasoned decision-making. This cohort likely provides stability and institutional knowledge, vital for addressing long-term challenges. A significant portion, 35 percent, falls within the 31-45 age range, reflecting the presence of mid-career professionals who combine operational expertise with the adaptability needed to navigate evolving issues. Policymakers over 60 constitute 15 percent of respondents, offering valuable historical context and insights into the long-term implications of policy decisions. However, the younger demographic, aged 18-30, accounts for only 4 percent, indicating a critical gap in generational diversity. This lack of representation from younger voices highlights the importance of mentorship programs and initiatives to engage the next generation in policymaking to ensure sustainability and innovation.

These demographic patterns demonstrate a policymaking body rich in experience but in need of greater generational and gender diversity. By fostering inclusivity and encouraging younger individuals and women to participate in governance, Chuuk can develop a more dynamic and representative policymaking structure.

2. Perceived Benefits of a Food Innovation Center

Chuuk policymakers widely recognize the potential of a Food Innovation Center to address critical challenges in food security and public health. Food security emerged as the highest priority, with 70 percent of respondents ranking it as "most important" and 22 percent as "important." This underscores a collective commitment to reducing dependence on imported foods, which are often expensive and vulnerable to supply chain disruptions. By bolstering local food production and processing capabilities, the center could play a pivotal role in enhancing resilience and ensuring consistent access to nutritious foods.

Improving nutrition and health is another key benefit, viewed as "most important" by 33 percent of respondents and "important" by 29 percent. Policymakers recognize the center's potential to facilitate the production of healthier food options, aligning with efforts to combat dietary-related health issues and promote well-being within the community.

Job creation and economic growth were rated "most important" by 43 percent of respondents, highlighting the center's capacity to stimulate the local economy. The creation of jobs in food processing, packaging, and distribution could provide much-needed employment opportunities, contributing to overall economic stability. Additionally, 4 percent viewed this as "important," reflecting broad support for the center's economic impact.

Entrepreneurial opportunities, while not as highly prioritized, were marked as "most important" by 30 percent of respondents. This reflects an understanding of the center's potential to foster innovation and support small business development, enabling local producers to experiment with new products and access broader markets. Together, these findings suggest a holistic vision for the Food Innovation Center, with a primary focus on food security and health, supported by secondary goals of economic and entrepreneurial growth.

3. Priorities for Locally Processed Foods

Policymakers place the highest priority on locally processed foods derived from staple crops such as taro and breadfruit. These staples were rated "most important" by 73 percent of respondents and "important" by 12 percent, underscoring their central role in Chuuk's diet and cultural heritage. By prioritizing these crops, policymakers aim to strengthen food security, reduce reliance on imported staples, and preserve traditional food practices.

Fruits and vegetables were also identified as significant, with 46 percent of respondents marking them as "most important" and 13 percent as "important." This emphasis reflects a commitment to promoting healthier diets through locally grown produce. Policymakers recognize that investing in the processing of fruits and vegetables can enhance their accessibility and marketability, encouraging greater consumption and supporting local agriculture.

Fish and seafood, critical dietary staples in Chuuk, were viewed as "most important" by 33 percent of respondents and "important" by 50 percent. This indicates strong support for value-added processing of these products, which could open new market opportunities and increase the sustainability of local fisheries.

In contrast, high-value specialty products such as coffee, kava, and spices received lower prioritization, with 61 percent of respondents marking them as "less important." Crafts and other niche items followed a similar trend. These results highlight a focus on staples and essential foods over luxury goods, aligning with the broader goals of food security and self-sufficiency.

4. Key Features of a Food Innovation Center

Policymakers emphasize the need for research and development facilities as a key feature of the proposed Food Innovation Center. Fifty-seven percent of respondents identified this as "most important," highlighting the center's role in fostering innovation in food processing techniques,

product development, and quality improvement. By investing in R&D capabilities, the center could support local producers in creating competitive and diverse products.

Processing and packaging equipment is another critical feature, rated "most important" by 40 percent of respondents and "important" by 16 percent. Access to modern equipment would enable local producers to meet food safety standards and improve the presentation and durability of their products. This could enhance consumer trust and expand market opportunities for locally processed foods.

Training and education spaces were marked as "most important" by 52 percent of respondents, reflecting the need to build local capacity in food processing, marketing, and quality control. These spaces could provide valuable learning opportunities, equipping local producers and processors with the skills necessary to compete in both domestic and international markets.

Market access and distribution networks, while not the top priority, were still identified as "most important" by 50 percent of respondents. Policymakers view these networks as essential for connecting local producers to broader markets, increasing demand for Chuukese products, and strengthening the local economy. Together, these features represent a comprehensive vision for the Food Innovation Center, designed to empower producers, enhance product quality, and expand market reach.

5. Importance of Involving Local Farmers and Producers

Involving local farmers and producers in the planning and operation of the Food Innovation Center is recognized as crucial by policymakers in Chuuk. A striking 100 percent of respondents rated this involvement as "very important," demonstrating near-universal agreement on the value of integrating producers into the center's development. These figures underscore the belief that the center's success depends on its ability to address the specific needs and challenges faced by Chuuk's agricultural community.

Policymakers recognize that early engagement with farmers and producers fosters a sense of ownership and collaboration. Such involvement ensures that the center's facilities, programs, and training modules are directly relevant to the realities of local agriculture. For example, farmer input can guide decisions about processing equipment and crop-specific innovations, leading to practical solutions that maximize productivity and sustainability. This cooperative approach can strengthen trust and encourage sustained participation from the community, enhancing the center's long-term impact.

The emphasis on involving farmers also highlights the importance of leveraging local knowledge to overcome challenges. Farmers' expertise in crop selection, sustainable practices, and market trends provides invaluable insights that can shape the center's strategies. Policymakers see this partnership as a way to create a mutually beneficial relationship where farmers gain access to resources and training, while the center benefits from high-quality raw materials and engaged stakeholders. This collaborative dynamic has the potential to transform Chuuk's food sector, ensuring that the center is not just a facility but a community-driven hub for agricultural and economic development.

6. Types of Government Support for the Food Innovation Center

Policymakers in Chuuk have identified several key forms of government support essential to the Food Innovation Center's success. Financial subsidies emerged as the most critical, with 63 percent of respondents rating them as "most important." This underscores the recognition that substantial public investment is required to offset the significant costs associated with establishing and maintaining the center. Subsidies can provide the financial stability needed to acquire advanced equipment, hire skilled staff, and ensure accessible services for local producers.

Technical assistance, including the provision of modern processing tools and equipment, was prioritized by 44 percent of respondents as "most important." Policymakers understand that state-of-the-art infrastructure is essential for processing and packaging food products to meet market standards. Such assistance would enable the center to support local producers in creating competitive, high-quality products while complying with food safety and quality requirements.

Training support was also a focus, with 27 percent of respondents marking it as "most important." This reflects a strong belief in the transformative power of skill development. Training programs in food safety, advanced processing techniques, and business management are seen as critical for equipping local producers with the expertise needed to maximize the center's resources and expand their market reach.

Marketing assistance was considered "most important" by 35 percent of respondents. This type of support would help promote locally processed products, increasing their visibility and appeal to both local and external markets. Policymakers recognize that effective marketing is vital for building consumer trust and driving demand, making it an essential component of the center's overall strategy.

7. Policies Supporting Farmers in Supplying Raw Materials

Policymakers in Chuuk strongly support policies aimed at enabling farmers to supply raw materials to the Food Innovation Center effectively. Subsidies for farming inputs, such as seeds, fertilizers, and equipment, were prioritized by 883 percent of respondents. These subsidies are seen as a way to reduce the financial burden on farmers, encouraging them to increase production and contribute more effectively to the local food system.

Guaranteed purchase agreements were supported by 775 percent of policymakers, reflecting a commitment to creating stable and predictable markets for farmers. These agreements provide financial security, reducing the risks associated with agricultural production and fostering a more consistent supply of raw materials for the center.

Training programs for farmers were highlighted as important by 92 percent of respondents. Such programs could focus on sustainable farming practices, crop diversification, and pest management, equipping farmers with the skills needed to improve both the quality and quantity of their produce. Policymakers see training as an essential tool for strengthening the capacity of local agriculture.

Tax incentives for local producers were identified as beneficial by 57 percent of respondents. While less prioritized than direct subsidies and training, these incentives could encourage investment in farming activities and innovation. Collectively, these policies reflect a comprehensive approach to supporting farmers, ensuring a steady supply of high-quality raw materials for the Food Innovation Center while promoting the growth and sustainability of Chuuk's agricultural sector.

8. Strategies to Facilitate Collaboration Between Farmers and the Center

Facilitating collaboration between farmers and the Food Innovation Center is a key priority for policymakers. Regular meetings with stakeholders were identified as "most important" by 25 percent of respondents, and "important" by 21 percent of respondents, reflecting the belief that consistent communication is critical for aligning the center's objectives with the needs of local producers. These meetings would provide a platform for farmers to voice concerns, share insights, and contribute to decision-making processes, fostering a sense of inclusion and partnership.

The creation of farmers' cooperatives was supported by 76 percent of respondents, emphasizing the potential benefits of collective action. Cooperatives can enhance bargaining power, streamline logistics, and reduce costs for individual farmers. By organizing producers into cooperatives, the center can also improve the coordination of raw material supply chains, ensuring a steady and efficient flow of resources.

Logistical support, such as transportation for crops and supplies, was highlighted by 18 percent of respondents. Policymakers recognize that practical barriers, such as distance and inadequate infrastructure, can hinder farmers' access to the center. Providing logistical assistance would help bridge these gaps, enabling more producers to utilize the center's resources.

While rated lower in priority, communication platforms were still seen as valuable for fostering ongoing dialogue between stakeholders. These platforms could facilitate the exchange of real-time information about market demands, training opportunities, and operational updates, ensuring that farmers remain informed and engaged. Together, these strategies reflect a comprehensive approach to collaboration, aimed at building strong, productive relationships between the Food Innovation Center and Chuuk's farming community.

9. Indicators of Success for the Food Innovation Center

Policymakers in Chuuk outlined several essential metrics to measure the success of the Food Innovation Center, with a majority agreement (78 percent) on the importance of increasing local employment. This shared perspective underscores the belief that the center should not only enhance food production but also act as a significant economic engine, providing job opportunities across various stages of the food supply chain. From farming to food processing and distribution, these new roles would offer livelihoods to many and drive overall economic growth in the region.

Another critical indicator identified by 86 percent of respondents is the improvement of farmer incomes. By enabling farmers to access resources, training, and stable markets, the center has the

potential to make farming more profitable and sustainable. This focus on income growth highlights the center's role in uplifting local agricultural producers, ensuring that their efforts translate into tangible financial benefits that can support their families and communities.

Eighty-seven percent of respondents emphasized increased food security as a key success metric, reflecting the need to reduce Chuuk's reliance on imported goods and strengthen local food systems. Achieving food security would mean more consistent access to affordable, high-quality foods for the population, contributing to both economic stability and public health. Closely related, 78 percent of respondents prioritized greater access to fresh, nutritious foods, illustrating the center's potential to improve dietary health and combat nutrition-related issues in the community. These metrics highlight a dual focus on health and resilience, ensuring that the center's impact goes beyond economic benefits to address fundamental community needs.

Finally, 63 percent of respondents identified the creation of new businesses as an important indicator of success. This metric reflects the center's role as an incubator for entrepreneurial activity, fostering innovation and supporting small businesses that can add value to Chuuk's food ecosystem. By promoting the development of local enterprises, the center would contribute to a more dynamic and diversified local economy. Together, these indicators present a holistic vision for the Food Innovation Center's success, encompassing economic, social, and health outcomes for Chuuk's population.

10. Infrastructure and Capacity Building for the Local Food System

Policymakers emphasized the importance of infrastructure and capacity-building initiatives as foundational elements for enhancing Chuuk's local food system. Nurseries were identified as a high priority, with 36 percent of respondents considering them critical. Establishing nurseries would ensure a consistent supply of high-quality planting materials, supporting the cultivation of staple crops such as taro and breadfruit. These nurseries would not only help sustain traditional agricultural practices but also enable farmers to meet the growing demand for locally processed foods, contributing to both food security and economic stability.

Cold storage facilities were viewed as vital by 25 percent of respondents. These facilities would address one of the major challenges faced by local producers: the preservation of perishable goods. By reducing post-harvest losses and extending the shelf life of fruits, vegetables, and seafood, cold storage infrastructure would allow producers to maintain a steady supply of fresh products for both local consumption and export markets. This investment would directly enhance the profitability and efficiency of Chuuk's agricultural sector.

Transportation infrastructure was emphasized as the most important, with 43 percent of respondents highlighting its importance. Improved roads, shipping networks, and logistics systems would enable the efficient movement of raw materials to the Food Innovation Center and the distribution of processed products to markets. Addressing transportation challenges is crucial for integrating rural producers into the larger food system and ensuring equitable access to resources and opportunities.

In addition to physical infrastructure, capacity building was a significant focus, with 36 percent of policymakers prioritizing food production training. Training programs would equip local producers with modern techniques for cultivation, harvesting, processing, and quality control. By enhancing technical skills, these programs would empower producers to increase productivity, meet market standards, and adapt to changing consumer demands. Together with infrastructure improvements, this focus on capacity building reflects a comprehensive approach to developing Chuuk's food system, ensuring it is resilient, sustainable, and capable of meeting the needs of both producers and consumers.

Conclusion

The Chuuk Policymaker Survey provides an in-depth analysis of the priorities and expectations surrounding the development of a Food Innovation Center, highlighting its potential to transform Chuuk's food system and economy. The survey results emphasize the importance of fostering local agricultural production, reducing dependency on imported foods, and promoting economic resilience through targeted investments and policy interventions.

Demographic insights into Chuuk's policymaking body reveal a wealth of experience, with a notable concentration of decision-makers in the 56-60 age range. However, the gender imbalance and limited representation of younger voices underscore the need for initiatives that encourage diversity and intergenerational collaboration. Such efforts would ensure that policies reflect a broader range of perspectives and are better equipped to address current and future challenges.

The Food Innovation Center is envisioned as a multi-functional hub capable of addressing pressing issues in food security, nutrition, and economic development. Policymakers overwhelmingly prioritize the center's potential to reduce reliance on imported foods and enhance access to fresh, nutritious options for Chuuk's residents. Additionally, the center's role in fostering job creation, entrepreneurial activity, and the expansion of locally processed foods underscores its capacity to contribute to economic growth while preserving cultural traditions.

Key priorities for locally processed foods focus on staples like taro, breadfruit, and seafood, aligning with the community's dietary needs and cultural heritage. Policymakers also emphasize the importance of providing producers with the necessary infrastructure, such as nurseries, cold storage facilities, and transportation systems, to sustain and scale agricultural production. Investments in training programs are equally critical, as they will equip local producers with the skills needed to adopt modern techniques, meet market demands, and expand their operations.

Collaboration with local farmers and producers is recognized as a cornerstone of the center's success. By involving stakeholders in planning and operations, the center can ensure that its facilities and initiatives address practical challenges and foster a sense of community ownership. Government support in the form of financial subsidies, technical assistance, and guaranteed purchase agreements will be instrumental in creating a robust and sustainable food system.

The indicators of success outlined by policymakers—ranging from increased local employment to improved farmer incomes and greater food security—highlight the center's potential to drive holistic growth. Through strategic investments in infrastructure, capacity building, and market

access, the Food Innovation Center can become a transformative force, fostering resilience and self-sufficiency in Chuuk's food sector. By prioritizing these goals, Chuuk stands poised to create a sustainable and thriving local food economy that benefits both producers and consumers alike.

Federated States of Micronesia

Food Systems Solutions Project

Chuuk Information Content Provider Survey Results

1. Demographics of Information Content Providers

The demographic profile of information content providers in Chuuk indicates a strong male representation, with 64 percent of respondents identifying as male and 36 percent as female. This gender distribution suggests that men dominate roles in food-related information dissemination, potentially influencing the types and methods of information shared. However, the notable presence of women, accounting for over one-third of respondents, reflects their active involvement in content creation and sharing. This inclusion of women in the sector is essential for fostering diverse perspectives and approaches, particularly in addressing the unique challenges of food systems.

Age distribution among content providers reveals a broad range of experience levels. The largest group, representing 45 percent of respondents, falls within the 56–60 age range. These individuals likely bring significant expertise and a deep understanding of local agricultural and food systems challenges, making them valuable contributors to the development and dissemination of knowledge. Mid-career professionals aged 31–45 constitute 36 percent of respondents, indicating a substantial representation of individuals who balance experience with a willingness to adapt to modern challenges and innovations.

Younger individuals aged 18–30 make up 18 percent of content providers. This emerging group introduces fresh ideas and a likely affinity for digital platforms and modern dissemination methods. However, the absence of respondents over 60 suggests a lack of representation from older individuals, who could offer valuable traditional knowledge and insights. Together, this demographic mix positions Chuuk's content providers to address both long-standing and emerging challenges, while highlighting the need for greater generational inclusion to ensure that traditional wisdom complements contemporary approaches.

2. Priority Information for an Electronic Food Systems Hub

Information content providers in Chuuk have outlined clear priorities for the type of content an electronic food systems hub should focus on. The highest priority was given to food processing and preservation methods, with 64 percent of respondents identifying it as "most important." This reflects a widespread understanding of the importance of enhancing food security by reducing waste and extending the shelf life of locally produced food. Eighteen percent viewed this category as "moderately important," while 9 percent rated it as "important," signaling a near-universal recognition of its relevance.

Disease control and pest management also emerged as a critical priority, with 55 percent of respondents marking it as "most important." This reflects the persistent challenges of pests and

diseases that threaten agricultural productivity in Chuuk's tropical environment. Respondents highlighted the need for timely and practical information to address these issues effectively.

Marketing strategies, alerts, and opportunities were rated as "important" by 45 percent of respondents. This underscores the necessity of providing producers with real-time insights into market conditions, pricing trends, and sales opportunities, enabling them to make informed decisions and optimize their profitability. Emergency services and disaster response were deemed "most important" by 40 percent of respondents, highlighting the vulnerability of Chuuk's food systems to natural disasters such as typhoons and flooding. This priority underscores the need for resilience-building information that prepares producers to respond effectively to disruptions.

These priorities reflect a balanced need for technical agricultural guidance, market insights, and disaster preparedness. An electronic hub catering to these areas would address both immediate and long-term challenges faced by Chuuk's food systems.

3. Preferred Update Frequency for Information Hub

Survey responses reveal varied preferences for the frequency of updates to an electronic food systems hub, reflecting the diverse needs of its users. Fifty-five percent of respondents expressed a preference for weekly updates. This indicates a demand for consistent and timely information that remains relevant without overwhelming users. Weekly updates would likely cover areas such as market trends, pest alerts, and new agricultural techniques, which require regular attention but do not change daily.

Twenty-seven percent of respondents preferred daily updates, underscoring the need for immediate access to critical information such as weather conditions, emergency alerts, and real-time pricing updates. These respondents likely represent producers who rely on dynamic and fast-changing information to make time-sensitive decisions.

Nine percent favored monthly updates, and another 9 percent opted for quarterly updates, reflecting the less urgent nature of certain types of information, such as long-term best practices, research findings, or seasonal reports. These preferences highlight the importance of structuring the hub to accommodate different update schedules, ensuring that real-time data is available when needed while providing in-depth, periodic resources for strategic planning.

The variety in preferences suggests the need for a flexible update system that balances immediacy with long-term reliability. A hub that can cater to these varied needs will be better equipped to serve the diverse stakeholders within Chuuk's food systems.

4. Essential Production Information for Farmers and Producers

Content providers identified several areas of production information that should be prioritized by the hub to support farmers and producers in Chuuk. Crop cultivation techniques were rated as "most important" by 36 percent of respondents, reflecting a clear need for guidance on improving

crop yields, managing soil health, and optimizing planting practices. This focus aligns with the central role of crop farming in Chuuk's food systems.

Livestock management practices were marked as "most important" by 55 percent of respondents, highlighting the significance of animal husbandry in local agriculture. These practices not only support food production but also contribute to economic stability and dietary diversity within the community.

Aquaculture and fisheries production, a critical component of Chuuk's economy and food security, were considered "most important" by 36 percent of respondents, while 45 percent rated them as "important." This strong support indicates a recognition of the need for improved practices in these areas, particularly in sustainable fishing and fish farming techniques.

Sustainable forestry practices and invasive species control were each identified as "most important" by significant portions of respondents, emphasizing the importance of environmental stewardship in maintaining the health of Chuuk's ecosystems. Ecological restoration received mixed levels of importance, suggesting that while it is relevant, it may not be as urgent as other priorities for most producers.

These responses indicate that the hub should offer a comprehensive range of resources that address the diverse production needs of Chuuk's farmers and producers. By focusing on these areas, the hub can support sustainable and resilient agricultural practices that align with Chuuk's ecological and economic realities.

5. Preferred Formats for Presenting Production Information

Survey respondents in Chuuk expressed clear preferences for the formats they find most effective for presenting production information. In-person workshops and training sessions were highlighted as the top choice, with 64 percent identifying them as "most important." This preference underscores the value placed on hands-on, interactive learning opportunities that allow producers to engage directly with experts and apply practical skills in a collaborative setting. The preference for such workshops suggests that many producers benefit from immediate, real-time feedback and the ability to network with peers.

Written guides and fact sheets were marked as "most important" by 60 percent of respondents, reflecting a demand for easily accessible, portable resources that can be referenced at any time. These materials likely appeal to producers who prefer self-paced learning or those in remote areas where in-person events may not be feasible. This format's popularity highlights the importance of providing concise, reliable information that producers can use independently.

Digital formats such as video tutorials and webinars were identified as "most important" by 45 percent of respondents. These options appeal to a more tech-savvy audience, offering flexibility and the ability to access content at their convenience. This preference reflects an increasing openness to leveraging digital tools, particularly among younger producers or those with access to internet connectivity.

Traditional communication channels like radio announcements were rated "most important" by 27 percent of respondents. This preference emphasizes the continued relevance of radio as a medium for disseminating information to rural communities with limited access to digital technology. Together, these findings suggest the need for a multimodal approach that combines in-person, digital, and traditional formats to cater to a diverse audience and ensure equitable access to production information.

6. Food Processing and Safety Information Needs for the Hub

Food processing and safety emerged as critical focus areas for Chuuk's information hub, with all respondents unanimously agreeing on the importance of food safety and quality control. This shared priority underscores a collective recognition of the need to maintain high standards in food production to protect public health and meet market demands. Ensuring safe handling and processing practices is fundamental to fostering consumer trust and improving the overall reputation of locally produced foods.

Ninety-one percent of respondents supported value-added product development, reflecting strong interest in enhancing the marketability of local products through diversification. By creating unique, high-value items, producers can appeal to niche markets and increase profitability. This focus on value addition aligns with efforts to stimulate economic growth by expanding the range of available products and boosting their competitiveness.

Small-scale processing techniques were rated as "important" by 82 percent of respondents, emphasizing the need for accessible, low-cost methods that are practical for small producers. Similarly, industrial processing techniques were marked as "important" by 82 percent, indicating that while large-scale methods may not be the primary focus, they remain relevant for producers seeking to scale operations or enter larger markets.

These findings highlight a dual approach: prioritizing small-scale, cost-effective processing solutions for the majority of producers while also supporting scalable techniques for those aiming to expand. By addressing these needs, the hub can contribute to food security, economic resilience, and enhanced market access for Chuukese producers.

7. Marketing and Sales Information for Local Producers

Marketing and sales information was identified as a key priority, with 82 percent of respondents rating market opportunities and pricing information as "most important." This reflects a pressing need for actionable insights that help producers connect with buyers, understand market dynamics, and secure fair prices for their products. Access to this information is critical for improving producers’ ability to compete effectively and sustain their livelihoods.

Export opportunities and local market trends were also prioritized, with strong interest in understanding both regional and broader market dynamics. This indicates that while many producers focus on local sales, there is also a desire to explore opportunities beyond Chuuk, particularly for products with export potential. Insights into regional trends can help producers adapt to shifting consumer preferences and identify lucrative markets.

Branding, packaging strategies, and digital marketing techniques received mixed levels of importance. While these elements are valuable for building long-term brand recognition and appealing to specific demographics, they may be seen as secondary to immediate needs like market access and pricing information. This suggests that while producers acknowledge the value of these tools, their primary focus remains on practical strategies that directly impact their ability to sell products and generate income.

Overall, these findings point to the need for the hub to provide producers with real-time market data, sales opportunities, and straightforward marketing tools. This practical support will enable producers to navigate competitive markets and build a foundation for long-term success.

8. Tools and Resources to Support Marketing and Sales Efforts

Survey responses highlight the importance of both tangible resources and strategic tools in supporting marketing and sales efforts for Chuuk's producers. Improved market spaces were rated "most important" by 73 percent of respondents, underscoring the need for accessible venues where producers can display and sell their products. These spaces are crucial for connecting directly with consumers, building trust, and establishing a presence in local markets.

Networking and partnership opportunities were deemed "most important" by 55 percent of respondents. This reflects the recognition that building relationships with buyers, distributors, and other producers can significantly expand sales channels and create new business opportunities. Partnerships can also facilitate knowledge sharing and collective problem-solving, strengthening the overall food system.

Market analysis reports and marketing plan templates were also identified as valuable resources. The demand for data-driven insights suggests that producers value structured guidance to help them navigate market conditions and develop effective sales strategies. Marketing plan templates, in particular, can offer a straightforward framework for producers to outline goals, identify target audiences, and plan promotional activities.

These findings emphasize the need for a balanced approach that combines practical resources like market spaces with analytical tools and strategic planning support. By addressing these needs, the hub can empower Chuuk's producers to enhance their marketing efforts, connect with consumers, and achieve sustained business growth.

9. Emergency Services and Disease Management Information

Content providers in Chuuk overwhelmingly agreed on the critical importance of emergency preparedness and disease management information for the proposed hub. Ninety-one percent of respondents emphasized the inclusion of climate change adaptation strategies, reflecting a deep awareness of the ongoing impacts of climate variability on agricultural and food systems. These strategies are vital for helping producers anticipate and mitigate risks, such as changing rainfall patterns, extreme weather events, and rising sea levels, all of which can significantly disrupt food production and supply chains.

The same percentage highlighted the need for resources related to public health emergencies, underscoring the importance of safeguarding both human health and food systems during crises. Public health preparedness ensures communities are equipped to respond effectively to outbreaks or other health-related disruptions that could impact agricultural labor, market access, or food safety.

Food safety resources were unanimously endorsed, reflecting their pivotal role in ensuring the quality and security of food supplies. Proper food safety measures help producers maintain trust with consumers, meet regulatory standards, and reduce health risks associated with contamination or spoilage.

Additionally, respondents stressed the importance of disease identification, pest control, and treatment options. This reflects the practical necessity of equipping producers with tools and knowledge to combat threats to crops and livestock. By addressing pests and diseases promptly and effectively, producers can safeguard their yields and maintain sustainable operations.

These findings point to a comprehensive approach to resilience-building, integrating strategies to address both environmental and biological challenges. By providing timely and actionable information, the hub can empower Chuuk's producers to navigate emergencies, adapt to climate impacts, and protect their livelihoods.

10. Financial Planning and Support Resources for Producers

Financial management training emerged as the top priority for producers, with 73 percent of respondents rating it as "most important." This reflects the critical role of financial literacy in helping producers optimize their resources, manage costs, and plan for growth. Training programs can equip producers with the skills to create budgets, track expenses, and make informed financial decisions, laying the foundation for sustainable and profitable operations.

Access to credit and investment planning guides was also highly valued, with 55 percent of respondents marking each as "most important." These resources address key barriers to growth for many producers, particularly small-scale farmers who often struggle to secure the capital needed for equipment, inputs, or expansion. Providing clear guidance on credit options and investment strategies can help producers identify opportunities and navigate the financial landscape with confidence.

Personalized financial advice and case studies were similarly prioritized, highlighting a need for practical, tailored support. Producers value insights that directly apply to their unique circumstances, whether through one-on-one consultations or by learning from the experiences of others in similar contexts. Case studies can offer concrete examples of successful financial strategies, inspiring producers to implement proven approaches in their operations.

These priorities underscore the hub's potential to serve as a vital resource for financial empowerment, equipping Chuuk's producers with the tools and knowledge needed to sustain and expand their businesses. By addressing financial challenges and promoting best practices, the

hub can play a transformative role in fostering economic resilience and growth within the local food system.

Conclusion

The Chuuk Information Content Provider Survey Results offer critical insights into the opportunities and challenges facing food systems information dissemination in Chuuk. The demographic profile of information providers highlights a predominantly male representation, with significant contributions from mid-career professionals and an emerging group of younger individuals. This diverse mix underscores the sector's capacity to address both traditional and contemporary food system challenges while identifying a need for greater generational inclusion to preserve traditional knowledge.

The survey underscores the importance of an electronic food systems hub that prioritizes practical and actionable content. Food processing and preservation methods, disease control, pest management, and emergency preparedness emerged as key focus areas, reflecting the immediate and long-term needs of Chuuk's producers. These priorities indicate a demand for information that enhances food security, builds resilience against disruptions, and supports sustainable agricultural practices.

Content providers also highlighted the significance of varied update frequencies for the hub, emphasizing weekly updates for routine information and real-time updates for critical issues. This approach ensures that the hub remains both relevant and reliable for a broad audience. Preferred formats for content delivery, including in-person workshops, written guides, and digital media, demonstrate a need for multimodal approaches that cater to diverse learning preferences and access levels.

Food safety and value-added product development emerged as universal priorities, signaling a shared commitment to improving the quality and marketability of local products. Additionally, marketing and sales resources such as market analysis, pricing insights, and improved market spaces were identified as crucial for helping producers connect with buyers and enhance profitability. These findings emphasize the hub's role in empowering producers with tools to navigate market dynamics and sustain their businesses.

Emergency preparedness and financial planning were also critical areas of focus, with respondents prioritizing resources for climate adaptation, pest control, and personalized financial guidance. These elements highlight the need for a holistic hub that addresses both operational challenges and strategic growth opportunities.

The Chuuk Information Content Provider Survey Results present a roadmap for establishing a dynamic and inclusive electronic food systems hub. By addressing the outlined priorities and leveraging the expertise of Chuuk's content providers, the hub has the potential to transform the local food system, fostering resilience, economic growth, and sustainability across the region.

Federated States of Micronesia
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Chuuk Technical Contacts and IT Personnel Survey Results
Introduction

This report examines the communication infrastructure, monitoring practices, and technical capabilities among IT personnel and technical contacts in Chuuk. Through detailed survey responses, this analysis explores demographics, communication systems, monitoring practices, security recommendations, and more. Each section provides insights into both strengths and gaps in Chuuk's IT framework, highlighting key areas for improvement to build a more robust and accessible communication network across the state.

1. Demographic Profile of Technical Contacts and IT Personnel

The survey respondents in Chuuk consist exclusively of male IT personnel, indicating limited gender diversity within the technical workforce. All three respondents identified as male, representing 100 percent of the surveyed individuals. This uniformity in gender composition may suggest a certain level of consistency in the workforce's approach to problem-solving and system management. However, the absence of female representation might mean that Chuuk's IT sector lacks diverse perspectives, which could limit innovative approaches and the incorporation of varied experiences.

In terms of age, two respondents (67 percent) fall within the 31-45 age range, while one respondent (33 percent) is between 56 and 60. There are no respondents below 30 or over 60, showing that the IT workforce in Chuuk is primarily middle-aged, with some representation from the older demographic. The age distribution suggests that the IT personnel are experienced and likely possess substantial expertise in their field, balancing the need for adaptability with an understanding of established technical practices. However, the absence of younger individuals might indicate limited pathways for new entrants into Chuuk's IT workforce, which could impact the sector's future adaptability and openness to emerging technologies.

2. Communication Systems in Use and Monitoring Practices

The IT personnel in Chuuk manage a variety of communication systems that range from basic functionalities to more advanced needs. Each respondent described different aspects of their systems:

One-third (33 percent) of respondents work with systems designed mainly for essential tasks like emailing and internet research, primarily in educational environments. This basic setup likely

reflects a focus on functionality without the need for complex technical specifications, meeting the core needs of schools and similar institutions.

Another 33 percent highlighted geographical limitations, noting that schools, offices, and power sources are concentrated on Weno, leaving other islands underserved. This concentration limits accessibility to resources and connectivity across the state, suggesting a need for expanding infrastructure to reach all regions equitably.

The remaining 33 percent of respondents acknowledged that telecommunications services have been extended throughout Chuuk, suggesting progress toward broader access. However, this coverage may still face operational limitations due to the state's unique geography and the dispersed nature of its population.

Monitoring practices also vary among Chuuk's IT personnel. Sixty-seven percent of respondents actively monitor their systems, focusing on factors like latency, download speeds, and user feedback. These monitoring efforts provide valuable insights into areas where improvements are needed, such as internet speed and system reliability. The remaining 33 percent of respondents, however, do not directly monitor their systems, as this responsibility falls to other team members. This lack of direct involvement in monitoring suggests that accountability and oversight could benefit from a more centralized approach, allowing all personnel to stay informed of system performance metrics.

3. Continuous Network Monitoring and Security Recommendations

Continuous network monitoring is regarded as essential by Chuuk's IT personnel, though the methods and levels of implementation vary. One respondent (33 percent) reported that a specific individual is responsible for ongoing updates and monitoring, underscoring a structured approach to maintaining network performance. Another 33 percent stated that their technical team is capable of managing network monitoring autonomously, particularly for latency and connectivity issues, reflecting the team's readiness to handle local monitoring needs effectively.

In terms of security recommendations, one-third of respondents suggested the importance of regular system updates to prevent vulnerabilities and enhance overall network performance. This recommendation aligns with best practices for safeguarding communication infrastructure, especially in regions where connectivity is vital to daily operations. By adopting more standardized monitoring procedures and ensuring regular updates, Chuuk's IT personnel could establish a more secure and resilient communication network that is equipped to manage the evolving risks of digital threats.

4. Server Performance Assessment and Suggestions for Improvement

Assessing server performance is a regular practice for the majority of Chuuk's IT personnel, with 67 percent of respondents indicating that they perform these assessments frequently. Monitoring

server performance is vital to ensuring stable and uninterrupted communication, as respondents track various performance indicators such as latency and data processing speeds.

The survey revealed a few specific approaches used by personnel to improve server functionality. One-third (33 percent) recommended gathering additional data to enhance system monitoring, allowing for more precise and timely interventions. Another 33 percent highlighted the need for regular cache clearing and system reloading to maintain optimal server speed and reliability. The remaining 33 percent of respondents advocated for increased bandwidth to enable faster, more reliable online access, which could alleviate some of the limitations imposed by Chuuk's existing infrastructure. These suggestions emphasize a proactive approach to improving server performance, balancing data collection, hardware maintenance, and bandwidth expansion to meet the demands of Chuuk's IT environment.

5. Offline Data Synchronization and Distribution of Content

Offline data synchronization is a critical tool for Chuuk's IT personnel, given the state's intermittent internet connectivity. All respondents (100 percent) confirmed the use of offline data features, such as pre-downloading content, local storage, and synchronization, to ensure access to essential information during connectivity disruptions. This method enables users to retrieve necessary content regardless of internet availability, addressing one of Chuuk's core challenges in ensuring consistent information access.

Additionally, stakeholder mapping has been conducted by 100 percent of the respondents, identifying key locations where residents can access offline content. This strategic approach allows IT personnel to focus on high-demand areas and maximize the impact of their efforts. For content distribution, 67 percent of respondents use physical media like USB drives and DVDs to disseminate information, while the remaining 33 percent utilize alternative, less specified methods. This reliance on a range of offline distribution options reflects the adaptability required to meet the diverse needs of Chuuk's population, where connectivity varies widely between communities.

6. User Feedback Collection and Communication Challenges

Collecting user feedback on communication system performance is an established practice for some IT personnel in Chuuk. Sixty-seven percent of respondents collect data on aspects such as latency, download speeds, and user experiences, using these insights to guide system improvements. This feedback is valuable for identifying specific service gaps and refining system performance. However, one-third (33 percent) of respondents do not engage in feedback collection, which may limit their ability to address issues proactively.

The survey highlights several communication challenges. One respondent cited the difficulty of providing internet access across Chuuk's dispersed islands, where infrastructure is limited. Another respondent pointed out that many students rely on cell phones instead of computers,

with power outages further complicating connectivity. These issues underscore the need for enhanced infrastructure, consistent power supply, and alternative solutions for residents without reliable internet access. Addressing these challenges will be essential for creating a more equitable and accessible communication network that serves all of Chuuk's communities effectively.

7. Government Support and Training Needs for IT Personnel

Government support for IT initiatives in Chuuk appears to be variable. One-third (33 percent) of respondents reported receiving both technical and financial assistance, while another third cited budgetary contributions through Starlink, a satellite internet provider. However, 33 percent of respondents expressed uncertainty about government involvement, noting limited engagement or clarity from national authorities. This discrepancy suggests that while some support is available, it may be inconsistently distributed or communicated, highlighting the need for more coordinated and transparent support from the government.

Training needs are diverse and extensive, reflecting the complexity of responsibilities handled by Chuuk's IT personnel. All respondents expressed a need for training in maintaining and operating communication systems, performing hardware maintenance, and troubleshooting connectivity issues. Two-thirds of respondents identified additional training needs in local data center management and managing offline content effectively. Training in SMS and voice-based services was requested by all respondents, indicating an interest in expanding communication capabilities across Chuuk. These training requirements demonstrate the multifaceted role of IT personnel in the region and underscore the importance of building technical capacity to support Chuuk's communication infrastructure.

8. SMS, Data Optimization, and Use of Voice-Based Hotlines

The survey reveals limited use of SMS communication systems among Chuuk's IT personnel, with only 33 percent currently using SMS to deliver critical information, including agricultural updates, market information, and weather forecasts. This low adoption rate presents an opportunity to expand SMS-based services, which can reach residents in low-bandwidth areas and provide valuable updates despite connectivity limitations.

Data optimization practices, however, are more prevalent, with 67 percent of respondents optimizing message size to minimize transmission delays, particularly important for areas with slow internet speeds. These practices allow Chuuk's IT personnel to manage limited bandwidth more effectively, ensuring that essential messages are transmitted even under challenging conditions. Voice-based hotlines and interactive voice response (IVR) systems, however, are utilized by only 33 percent of respondents. Expanding the use of SMS, data optimization, and voice-based hotlines could make communication channels more inclusive, catering to residents across Chuuk's geographically dispersed population.

9. Bandwidth Management, Data Compression, and Content Delivery Networks (CDNs)

Bandwidth management and data compression are selectively applied among Chuuk's IT personnel. Two-thirds (67 percent) of respondents reported using bandwidth codecs and testing voice data over slow connections, reflecting proactive efforts to manage limited connectivity. Additionally, 100 percent of respondents confirmed the use of data compression techniques, such as compressing large files like images and videos, to reduce data load and improve download speeds. These practices are essential for maintaining system efficiency, particularly in regions where bandwidth limitations affect overall network performance.

The use of Content Delivery Networks (CDNs), however, is minimal. None of the respondents currently use CDNs for distributing content across servers closer to Chuuk's islands, which limits data accessibility. Only 33 percent of respondents leverage CDN caching for static content delivery, indicating an area for improvement. Expanding the use of CDNs could reduce latency and improve access to important resources, especially for static information like guides and tutorials. By enhancing data management and exploring CDN options, Chuuk's IT personnel could optimize content delivery and make essential information more accessible across the state.

10. Information Dissemination Channels and Future Opportunities

Chuuk's IT personnel employ a variety of information dissemination channels to reach different user groups. All respondents (100 percent) use a centralized web platform accessible through web portals, ensuring a unified source for data and informational content. Additionally, 67 percent of respondents use mobile applications, providing an alternative medium for users who prefer smartphone access.

Further dissemination strategies include radio broadcasts, television, newspapers, and printed bulletins, each utilized by 67 percent of respondents, which indicates a well-rounded approach to reaching Chuuk's communities through traditional and digital media. This diverse distribution method allows for tailored information delivery that meets the varying needs and technological access levels of Chuuk's population.

Future improvements could focus on mapping additional distribution points for offline content across Chuuk's islands to ensure accessibility for all residents. Expanding the use of SMS, IVR, and CDNs could enhance the reach and reliability of information dissemination, particularly for residents in remote areas with limited internet access. Developing targeted communication strategies for specific groups, such as farmers or policymakers, could also improve the relevance of information, ensuring that resources are directed where they are most needed. By implementing these suggestions, Chuuk can create a more inclusive and efficient communication network that better serves its diverse population.

Summary

This expanded report on Chuuk's technical contacts and IT personnel highlights key aspects of the communication infrastructure, challenges, and opportunities within the state. The demographic analysis reveals an experienced, middle-aged workforce that is entirely male, suggesting consistency in approach but limited diversity. Communication systems vary across the state, with monitoring practices and offline content distribution reflecting a mix of functionality and adaptation to Chuuk's unique geographical challenges.

The report emphasizes critical areas for improvement, including expanding SMS and IVR usage, optimizing data compression, and increasing CDN adoption to improve content delivery. Government support remains mixed, indicating a need for clearer policies and stronger engagement from national authorities to support IT development in Chuuk. Training needs are comprehensive, covering skills in hardware maintenance, troubleshooting, and offline content management.

Overall, Chuuk's IT personnel demonstrate a commitment to maintaining accessible, secure communication systems despite limited resources. By investing in targeted infrastructure improvements, expanding training opportunities, and enhancing data management, Chuuk can work toward a more resilient, inclusive communication network that meets the needs of all its residents, from densely populated areas to remote islands.

Federated States of Micronesia
Food Systems Solutions Project
Chuuk Trainer Survey Results

1. Demographics of Trainers

The demographic composition of trainers in Chuuk highlights the prominent role of women in shaping the educational and agricultural landscape. Sixty-two percent of respondents identifying as female reflects a substantial female presence in training roles. This demographic suggests that women are not only actively engaged in community development efforts but also serve as pivotal figures in disseminating knowledge and skills. The presence of male trainers, at 38 percent, while lower, underscores a collaborative environment where both genders contribute to capacity-building initiatives. This balance is crucial for addressing diverse training needs and fostering inclusivity.

Age distribution among trainers presents a dynamic workforce with a range of expertise. Thirty-eight percent of trainers fall within the 31–45 age group, making this segment the largest. This demographic is well-positioned to combine operational experience with adaptability, enabling them to respond to evolving community challenges effectively. Trainers aged 56–60 account for 31 percent, representing a wealth of experience and institutional knowledge that enhances the depth and quality of training programs. The youngest cohort, aged 18–30, constitutes 23 percent, introducing fresh perspectives and innovative approaches to traditional practices. However, only 8 percent of trainers are over 60, indicating a minimal representation of older trainers who could provide valuable historical context and traditional insights. This demographic diversity positions Chuuk's training workforce to address both contemporary and long-standing challenges, although increasing the inclusion of older trainers could enrich training programs further.

2. Trainer Preparedness in Food Production and Handling

The survey results reveal that trainers in Chuuk are well-prepared to support foundational aspects of food production, with 85 percent confident in their ability to assist families in increasing food output. This high percentage indicates that most trainers possess the agricultural knowledge necessary to guide communities in boosting yields and improving food security. However, the 15 percent who expressed a need for additional training highlight areas where further investment in capacity-building is required to ensure uniform competence across the sector.

Post-harvest handling and processing is another area of strength, with 77 percent of trainers feeling adequately equipped to provide guidance. These skills are essential for minimizing waste, extending food shelf life, and enhancing quality. Nonetheless, the 23 percent who lack confidence in this area underscore the importance of targeted training to address these specific gaps and optimize food management practices.

In traditional agroforestry methods, 54 percent of trainers reported readiness, while 46 percent acknowledged the need for further training. This balanced response underscores an opportunity to reinforce knowledge in sustainable land management practices that align with Chuuk's cultural and environmental contexts. Similarly, 67 percent of trainers felt prepared to address integrated land and marine production systems, yet 33 percent indicated gaps in their understanding. These findings suggest that while many trainers possess a solid foundation in agricultural practices, strategic investments in specialized training areas are critical to ensuring comprehensive support for Chuuk's food systems.

3. Training in Climate Change Adaptation and Environmental Management

The trainers' ability to address climate change adaptation and environmental management reflects a mix of strengths and areas for improvement. A unanimous 100 percent of trainers reported confidence in teaching climate-resilient strategies, such as cultivating saltwater-resistant crops like taro. This unanimity highlights the prioritization of equipping communities to cope with rising sea levels, changing weather patterns, and other climate-related challenges. It also demonstrates that trainers are well-positioned to introduce practical, resilience-focused agricultural methods.

However, preparedness in other critical areas shows variability. Sixty-nine percent of trainers felt confident in sustainable farming and land management practices, indicating a strong foundation but leaving room for enhancement. Similarly, only 62 percent reported readiness to teach techniques in restoring forestry, underscoring a need for expanded training in ecosystem restoration. Even fewer trainers—42 percent—felt equipped to address coral reef rehabilitation and coastal land preservation, highlighting gaps in managing marine and coastal environments critical to Chuuk's ecological and food systems health.

Preparedness for emergency weather responses was reported by 62 percent of trainers, while 38 percent expressed the need for further training in this area. Moreover, only 8 percent felt capable of using weather tracking tools, revealing a significant technology-related knowledge gap. These findings point to a need for comprehensive training programs focused on advanced environmental management techniques, including invasive species control, soil erosion prevention, and climate-related emergency preparedness. Addressing these areas would empower trainers to better support Chuuk's communities in adapting to environmental challenges and building long-term resilience.

4. Equipment and Resources for Effective Training

The trainers in Chuuk highlighted a diverse range of equipment and resources necessary to enhance the effectiveness of their training sessions. Among the key resources identified were basic gardening tools, laptops, and internet access, each representing essential tools for facilitating interactive, practical training sessions. These tools enable trainers to integrate visual aids, provide hands-on demonstrations, and ensure accessibility to digital resources, which are increasingly critical for modern education.

Specialized resources, such as water testing kits and forestry survey tools, were also highlighted as important, reflecting the trainers' diverse roles in addressing both agricultural and environmental challenges. Eight percent of trainers emphasized the need for each of these resources, underscoring their significance in specific areas such as water quality monitoring and forest management.

Transportation resources, such as vehicles, were noted as critical for facilitating outreach to remote and underserved areas. Access to communication tools, including computers and reliable internet, was also underscored as essential for preparing and delivering comprehensive training materials. The variety of requested resources demonstrates the multifaceted nature of trainers' responsibilities, ranging from conducting workshops and field demonstrations to delivering theoretical instruction.

These findings underscore the need for a well-supported infrastructure to enable trainers to address the complex challenges faced by Chuuk's communities. Investing in these resources will ensure that trainers can deliver effective, interactive, and accessible training programs, u

5. Expertise in Agriculture and Crop Management

The survey results reveal high levels of confidence among trainers in core agricultural practices, with 85 percent expressing confidence in crop production training and timing. This robust foundation underscores their ability to guide communities in optimizing planting schedules and improving yields. Seed saving and propagation were also well-understood by 85 percent of trainers, emphasizing the trainers' proficiency in preserving crop diversity and promoting sustainable practices for future planting cycles.

However, gaps emerged in areas critical to long-term agricultural sustainability. While 77 percent of trainers felt confident in local fertilizer production, this indicates that nearly a quarter lack the skills or knowledge to produce and apply fertilizers effectively. The gap widens further in soil management, with only 69 percent of trainers reporting confidence in this area. These figures highlight the need for targeted capacity building to enhance trainers' understanding of soil health and resource-efficient practices. Improving knowledge in these areas could empower trainers to teach methods that reduce soil degradation, increase productivity, and promote ecological resilience in Chuuk's agricultural systems.

The results demonstrate a solid grounding in fundamental techniques but underscore the importance of addressing these gaps to ensure trainers can deliver comprehensive support to farmers.

6. Knowledge and Training Needs in Crop-Specific Practices

Trainers in Chuuk showed considerable expertise in cultivating staple crops central to local diets and cultural traditions. Over 90 percent reported confidence in teaching the cultivation of taro, and over 80 percent for breadfruit, and yam, reflecting their strong ability to support communities in managing these essential crops. Similarly, trainers displayed high confidence in cash crops like mango, pineapple, and papaya, with over 80 percent feeling prepared to teach

these practices. This proficiency highlights their readiness to contribute to both food security and income generation through local agriculture.

However, notable gaps were observed in less common but potentially valuable crops. Fewer than 50 percent of trainers felt prepared to teach the cultivation of sakau (kava), a culturally and economically significant crop, while 77 percent were confident with medicinal plants like noni. These figures indicate a lack of specialized knowledge that could hinder efforts to diversify agricultural practices and explore niche markets. Training in these underrepresented crops could support diversification and build resilience within Chuuk's agricultural systems by expanding the range of available food and cash crops.

These findings emphasize the need for a more comprehensive approach to crop-specific training, ensuring trainers can address a broader spectrum of agricultural opportunities and challenges.

7. Competence in Livestock and Marine Resource Management

Confidence levels in livestock and marine resource management were mixed, reflecting both strengths and opportunities for growth. Eighty-five percent of trainers expressed confidence in general livestock management, indicating strong capabilities in overseeing basic animal care and husbandry practices. This foundation is critical for supporting food security and economic stability within the community.

However, only 54 percent of trainers felt equipped to teach feed-making techniques for livestock. This gap suggests a need for further training in cost-effective and sustainable feed production, which could enhance livestock health and productivity. In marine resource management, confidence levels were lower, with only 54 percent reporting preparedness in sustainable fishing practices. This indicates limited capacity to address practices vital for preserving marine ecosystems and ensuring long-term food security.

The findings highlight opportunities to strengthen training in integrated resource management, particularly in areas like invasive species control, sustainable fishing, and feed production. Addressing these gaps could enable trainers to provide holistic support that combines agricultural, livestock, and marine practices to build a resilient local food system.

8. Technology Use and Training in Innovative Farming Methods

The survey revealed varying levels of expertise among trainers in using modern farming technologies. Sac and container gardening emerged as a strength, with 77 percent of trainers reporting confidence in teaching these accessible and space-efficient methods. This proficiency aligns with the growing need for innovative approaches to maximize productivity in limited spaces.

However, knowledge of advanced farming methods was more limited. Only 38 percent of trainers felt prepared to teach greenhouse techniques, and fewer than 40 percent were confident in hydroponics and aquaculture practices. These figures suggest that while trainers are familiar with basic innovations, their ability to teach cutting-edge technologies remains constrained.

Expanding access to training in advanced methods could diversify Chuuk's food production strategies and improve resource efficiency. By equipping trainers with skills in hydroponics, aquaculture, and greenhouse management, Chuuk can better address challenges related to climate change, land scarcity, and water conservation. This enhanced expertise would position trainers to lead efforts in modernizing agriculture and ensuring sustainable food systems for the community.

9. Skills in Marketing, Food Processing, and Business Management

The survey revealed that 89 percent of trainers in Chuuk feel confident in food processing and preservation, demonstrating a strong foundation in these critical areas. This high level of competence equips trainers to guide local producers in extending the shelf life of their products, reducing food waste, and meeting safety standards. These skills are vital for ensuring food security and enhancing the marketability of locally produced goods.

However, notable gaps were observed in areas related to value-added product marketing and business management. Only 50 percent of trainers reported confidence in identifying niche markets, indicating a significant need for further training. This shortfall highlights a gap in trainers' ability to support producers in differentiating their products, targeting specialized consumer groups, and maximizing profitability. Similarly, business management skills, including financial planning, loan applications, and regulatory compliance, were less frequently cited as strengths among trainers. Without these competencies, producers may face challenges in scaling their businesses, accessing new markets, or achieving economic sustainability.

To bridge these gaps, enhanced training programs should focus on value-added product development and marketing strategies tailored to Chuuk's unique market dynamics. By equipping trainers with robust business management skills, the local food sector can benefit from stronger guidance on entrepreneurship, enabling producers to transition from subsistence practices to sustainable, profit-driven operations.

10. Training Opportunities, Facilities, and Identified Knowledge Gaps

Eighty-five percent of trainers in Chuuk reported access to professional development opportunities, reflecting a generally supportive environment for capacity building. These opportunities include workshops, certifications, and community-based training initiatives, which help trainers stay updated on best practices and emerging trends in agriculture, food systems, and environmental management.

Despite this positive outlook, trainers also identified significant gaps in facilities and resources that limit their effectiveness. Many noted a lack of access to research facilities, advanced agricultural tools, and modern technologies essential for practical and field-based training. These deficits hinder trainers' ability to provide comprehensive, hands-on instruction, particularly in specialized areas like advanced crop cultivation, food safety, and climate resilience.

Additionally, trainers emphasized the need for enhanced support in critical areas such as climate change adaptation, nutrition, and the integration of modern agricultural technologies. These topics were frequently cited as priorities, reflecting their relevance to Chuuk's food security and

public health goals. Addressing these gaps through targeted investments in infrastructure and specialized training programs will strengthen the capacity of trainers to meet the evolving needs of Chuuk's producers.

By bolstering access to resources and offering tailored training in high-priority areas, Chuuk can build a more resilient and capable training sector. This, in turn, will empower trainers to lead efforts in fostering sustainable agricultural practices, improving food systems, and driving economic growth within the community.

Conclusions

The survey of trainers in Chuuk reveals a workforce with a strong foundation in key areas of food production, processing, and community training. Women constitute 62 percent of trainers, underscoring their pivotal role in agricultural education and community development. With 38 percent of trainers aged 31–45 and another 31 percent aged 56–60, the workforce combines mid-career adaptability with seasoned expertise. However, the minimal representation of trainers over 60 highlights a need to incorporate traditional knowledge into training programs to balance modern approaches with historical insights.

Trainers demonstrated high preparedness in core agricultural practices, with 85 percent expressing confidence in crop production, seed saving, and propagation. However, gaps remain in soil management and local fertilizer production, with less than 80 percent reporting confidence in these areas. Similarly, while 89 percent felt confident in food processing and preservation, only 50 percent expressed competence in niche marketing and business management, emphasizing the need for enhanced training to support economic diversification and entrepreneurship.

Preparedness in addressing climate change adaptation and environmental management also varied. While all trainers reported confidence in teaching climate-resilient strategies, significant gaps were noted in coral reef rehabilitation, forestry restoration, and emergency weather responses, with fewer than half feeling equipped to address these areas. Only 8 percent felt capable of using advanced tools such as weather tracking systems, underscoring a critical need for technology-based training to enhance resilience to environmental challenges.

Equipment and resource availability emerged as another key area of concern. Trainers identified the need for essential tools, such as gardening equipment and laptops, alongside specialized resources like water testing kits and forestry survey tools. Access to transportation and internet connectivity was also emphasized as critical for extending the reach of training programs to remote areas.

The findings highlight several opportunities for targeted investments to enhance the training sector in Chuuk. Expanding access to professional development, particularly in areas like advanced agricultural technologies, business management, and climate adaptation, will empower trainers to address evolving challenges. By addressing resource gaps and prioritizing comprehensive training programs, Chuuk can strengthen its training workforce, ensuring that it is

well-equipped to support sustainable agricultural practices, food security, and economic growth across the region.

Federated States of Micronesia
Food Systems Solutions
Project Survey Tools
Chuuk State

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RUTGERS

Food Systems Solutions Food Producer Survey

INFORMED CONSENT FORM

Your insights are crucial to informing the plans for increasing food security and job creation through the development of a sustainable local food system that includes the establishment of Food Innovation Centers in the states of the Federated States of Micronesia (FSM) that provide value addition to locally processed food products from local staple crops, fish, marine, animal, poultry and/or other local plants, vegetables, fruits and seeds.

Project Title: Strengthening Food Security in the Federated States of Micronesia: An Innovative Approach to Enhancing Information Systems, Establishing an FSM Food Innovation Center and Supporting Local Capacity Building.

You are invited to participate in a research study that is being conducted by Rutgers University on behalf of the Federated States of Micronesia (FSM)'s Department of Resources and Development led by Dr Ramu Govindasamy, a Professor in the Department of Agricultural, Food and Resource Economics at Rutgers University, Rutgers Researchers and Faculty with collaborating NGO's and other local partners in each of the four states. The purpose of this research is to gather information from food-system participants in the FSM regarding their specific needs for enhanced Information Systems, a Food Innovation Center, and Capacity Building to strengthen food security in the FSM to best inform the national and state governments as they invest in sustainable local food system development.

Approximately 270 farming households and 270 consumers and 196 professionals involved in food production and food security from the state, national and educational communities will participate in the study across the four FSM states, and each individual's participation will last approximately 30-45 minutes. From each household selected, surveys will be conducted for men and women (ages 18-65 years).

The study procedures include responding to an in-person survey about Improved Food System Information Systems, development of a flexible and responsive Food Innovation Center, Food System capacity building infrastructure including technical and management capacity and employment opportunities, and community management and policy advocacy capability. within all four FSM states. The objective is to understand better your state's current situation relative to food system information systems, development of a flexible and responsive Food Innovation Center, Food System capacity building infrastructure including technical and management capacity and employment opportunities, and community management and policy advocacy capability. The FSM Department of R&D, the FSM Federal Government, in concert with your state government, will use this data and your responses to better invest in strategies that improve peoples' livelihoods and food security.

This research is anonymous. Anonymous means that I will record no information about you that could identify you. This means that I will not record your name, address, phone number, date of birth, etc. If you agree to take part in the study, you will be assigned a random code number that will be used on each test and the questionnaire. There will be no way to link your responses back to you. Therefore, data collection is anonymous.

The research team and the Institutional Review Board at Rutgers University are the only parties that will be allowed to see the data, except as may be required by law. If a report of this study is published, or the results are presented at a professional conference, only group results will be stated. All study data will be kept for at least three years. Responses may be used or distributed to investigators for other research without obtaining additional informed consent from you.

There are no foreseeable risks to participation in this study. You may receive $10 for taking part in this study. Participation in this study is voluntary. You may choose not to participate, and you may withdraw at any time during the study procedures. In addition, you may choose not to answer any questions with which you are not comfortable.

RUTGERS

Food Systems Solutions Food Producer Survey

If you have any questions about the study or study procedures, you may contact either of us at:

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If you have questions, concerns, problems, information or input about the research or would like to know your rights as a research participant, you can contact the Rutgers IRB/Human Research Protection Program via phone at (973) 972-3608 or (732) 235-9806 OR via email irboffice@research.rutgers.edu, or you can write us at 335 George Street, Liberty Plaza Suite 3200, New Brunswick, NJ 08901.

By beginning this research, you acknowledge that you are 18 years of age or older, have read the information and agree to take part in the research, with the knowledge that you are free to withdraw your participation without penalty.

Signature of Investigator/Individual Obtaining Consent:

To the best of my ability, I have explained and discussed all the important details about the study including all the information contained in this consent form.

Investigator/Person Obtaining Consent from Respondent: (Print)

Signature:_____Date:_____

Food Systems Solutions Food Producer Survey

Thank you for participating in this survey.

Please select the most appropriate answer for each question provided.

1. ENUMERATOR INFORMATION

Q1	Question	Response
1.1	Enumerator name	
1.2	Date of Interview	
1.3	Location (State/City)	**CIRCLE ONE AND WRITE ISLAND NAME (IF APPLIES)** 1 = Chuuk City_____ 2 = Kosrae City_____ 3 = Pohnpei City_____ 4 = Yap City_____ 5 = Other (Please specify) _____

2. DEMOGRAPHIC INFORMATION

Q2	Question	Response (Enumerator may fill this in without asking)
2.1	Gender of informant	**CIRCLE ONE** 1 = Male 2 = Female
2.2	Age of informant (years)	**CIRCLE ONE** 1 = 18-30 2 = 31-45 3 = 46-60 4 = Over 60

SECTION: FOOD SYSTEM INFORMATION

Q 3.1 What types of information is/would be useful for your food production activities? Please also consider your needs if you want to produce, store, process and/or sell more food.

	Type of Online information	**Currently access (0 = No, 1 = Yes) (if No, skip next column)**	**Current Frequency** **1 = Daily** **2 = Weekly** **3 = Monthly** **4 = Seasonal** **5 = Yearly** **6 = Other_____**	**Needed Frequency** **1 = Daily** **2 = Weekly** **3 = Monthly** **4 = Seasonal** **5 = Yearly** **6 = Other_____**
3.1.1	Crop Planning and Production Data from internet (ie inputs and yield)			
3.1.2	Weather information			
3.1.3	Pest and Disease Monitoring			
3.1.4	Market Prices			
3.1.5	Online Market Forecasting for Food Product Outputs - demand for food from a variety of buyers or opportunities to sell such as Market Days including calls for when products will be needed and are needed for processing (coconuts, taro, breadfruit, fish, eggs etc.)			
3.1.6	Online Information on food production Inputs (including all agricultural/			

	forestry and fishery inputs, seed/feed availability); where and when to get live plants chicks, seeds, etc.			
3.1.7	Online Policy Updates (state and national) including notifications on new regulations and opportunities			
3.1.8	Emergency Notifications- disease epidemic, safety/food borne illness, storms, other adverse environmental events such as invasive species			
3.1.9	Online Risk Management Training: Ongoing training in business and other topics to reduce your risk and increase your knowledge			
3.1.10	Online Notification for trainings opportunities (example cooking, seedling training etc.)			

	Question	**Response**

3.2	Would you pay to get additional food production information?	**CIRCLE ONE** 1 = Yes 2 = No
3.2.1	Do you have a credit card?	**CIRCLE ONE** 1 = Yes **2 =** No
3.2.2	If no, does a lack of credit card limit your access to tools and information you need?	**CIRCLE ONE** 1 = Yes 2 = No **3 =** Not Applicable

	Question	**Response**
4.1	Who gives you, or can give you the information you need? (source person/agency/organization)	**CIRCLE ALL THAT APPLY** 1= Family member 2= Community members 3= Traditional leader 4= Religious organization 5= Local groups/organization (please specify) _____ 6= Extension agent or others from COM/CRE 7= Government Agency (please specify) _____ 8= Other Agency/website (please specify) _____ 9= Social Media (specify) _____ 10= Other (please specify) _____ 11= Don't know

5.1	How do you currently access the information you need?	**CIRCLE ALL THAT APPLY** 1 = Word-of-mouth 2 = Print (specify)_____ 3 = Radio 4 = TV 5 = Public Electronic Bulletin Board 6 = Computer

		a. Website b. Social media c. Email Updates e.g. Newsletter 7 = Cellphone a. Website b. Social media c. Email Updates e.g. Newsletter d. Text alert from an organization (specify)_____ e. App (specify)_____ 8 = Other (specify) _____
5.2	Do you need better access to information?	**CIRCLE ONE** 1 = Yes 2 = No
6	Do you have your own cell phone?	**CIRCLE ONE (if No, skip to Q6.2)** 1 = Yes 2 = No
6.1	(If YES to Q6) How much do you spend per month on cellular data? (Skip Q6.2)	**CIRCLE ONE** 1 = $0 2 = Less than $5 3 = $5 – less than $10 4 = $10 – less than $20 5 = $20 - less than $30 6 = $30 - less than $40 7 = $40 - less than $50 8 = $50 or more
6.2	(If NO to Q6) Do you have access to someone else's cell phone?	**CIRCLE ONE** 1 = Yes 2 = No

7	Do you have access to the internet?	**CIRCLE ONE (if No, skip to Q7.4)** 1 = Yes 2 = No
7.1	(If YES to Q7) How much do you spend per month on WIFI?	**CIRCLE ONE** 1 = $0 2 = Less than $5 3 = $5 – less than $10 4 = $10 – less than $20 5 = $20 - less than $30 6 = $30 - less than $40 7 = $40 - less than $50 8 = $50 or more

7.2	(If YES to Q7) How do you access the internet?	**CIRCLE ALL THAT APPLY** 1 = Personal Cell phone 2 = Community/family cell phone 3 = Personal computer 4 = Work computer 5 = Library/School computer 6 = Community/family computer 7 = Computer center 8 = Other (please specify) _____
7.3	(If YES to Q7) How often do you get food system related information from the internet? (Skip Q7.4)	**CIRCLE ONE** 1 = At least 1/day 2 = Few times a week 3 = Few times/month 4 = Few times/year 5 = Never
7.4	(If NO to Q7) Why not?	**CIRCLE ONE** 1 = Don't have access 2 = Can't afford 3 = Don't know how to use 4 = No need 5 = Limited or no connection where I live
7.5	Do you need training on how to use the internet, such as accessing government sites?	**CIRCLE ONE** 1 = Yes 2 = No

	Question	**Response**
8	Would you like to participate in a local healthy food contest?	**CIRCLE ONE (If No, Skip Q 8.1)** 1 = Yes 2 = No
8.1	(If Yes to Q8) What types of competition categories would interest you?	**CIRCLE ALL THAT APPLY** 1 = Best local produce presentation 2 = Healthiest recipe taste test 3 = Most innovative recipe taste test 4 = Recipe most able to scale for commercial production taste test 5 = Recipes for children's diets taste test 6 = All of the above **7 =** Other (specify) _____

SECTION: FOOD INNOVATION CENTER

9	Which locally processed foods would you be interested in producing for processing?	**CIRCLE ALL THAT APPLY** 1= Banana chips 2= Breads and baked goods (donuts/muffins) 3= Breadfruit chips 4= Breadfruit flour 5= Chicken meat and products 6= Coconut cooking oil 7= Coconut flour 8= Coconut milk 9= Coconut products 10= Fish and Seafood - Dried 11= Fish and Seafood – Salted 12= Fish and Seafood – Smoked 13= Fish Jerky 14= Fish Sauce 15= Fish Spreads 16= Feed for chicken/pigs 17= Flavored (infused) oils 18= Fruits – Dried 19= Fruits – Jellies and Jams 20= Fruits - Juices 21= Fruit – syrups 22= Hot sauce 23= Pork meat and products 24= Seafood – bottled 25= Sea salt 26= Spices – Dried 27= Spice blends 28= Spice pastes 29= Taro chips 30= Taro flour 31= Vegetables – Dried 32= Vegetables – Pickled 33= Vegetable sauces/salsa 34= Vinegar 35= Rope, matts and other fiber products 36= Other (please specify)
10	How would you prefer to process these locally processed foods?	**CIRCLE ALL THAT APPLY** 1 = Using small-scale methods with traditional tools and by hand 2 = At my farm or on my own land with my own processing equipment and tools

		3 = Using someone else's equipment or processing equipment at a local/central processing facility but for me to then sell and market 4 = Providing and selling my fresh products to another larger industrial-scale processor for them to process and sell 5 = Working with others in a cooperative structure in which I would be able to provide some of the fresh products that go into processing 6 = Other (please specify)
11	What price range do you expect consumers would be willing to pay for locally processed foods? (per unit)	**CIRCLE ONE** 1 = less than $1 2 = $1 - $5 3 = $6 - $10 4 = $11 - $20 5 = Above $20
12	What type of packaging do you think would best suit the locally processed foods?	**CIRCLE ALL THAT APPLY** 1 = Plastic bags 2 = Plastic containers including bottles 3 = Glass jars 4 = Vacuum-sealed pouches 5 = Eco-friendly packaging (e.g., biodegradable materials such as banana leaves) 6 = Other (please specify) _____
13	Would you prioritize using local ingredients for the production of locally processed foods?	**CIRCLE ONE** 1 = Yes 2 = No 3 = Maybe
14	How do you perceive the market potential for locally processed foods in the FSM and potentially beyond?	**CIRCLE ONE** 1 = High demand and growth potential 2 = Moderate demand with steady growth 3 = Limited demand and growth potential
15	What infrastructure and equipment do you believe would be necessary for processing local foods efficiently? (Please specify any equipment or facilities and for what end product(s))	**PLEASE DESCRIBE:**

16	What is limiting you now to process what you collect, catch, grow and/or harvest and make locally processed foods to sell?	**PLEASE DESCRIBE:**
17	Would you require any technical or financial support or assistance in terms of training, access to technology, marketing, or other aspects?	**CIRCLE ONE** 1 = Yes 2 = No 3 = Maybe
18	Are you aware of the regulatory requirements and standards for processing and selling local food products in the FSM? [NOTE: there are differences in regulatory compliance issues for fish, meat, poultry, juices, foods]	**CIRCLE ONE** 1 = Yes 2 = No
19	Do you require assistance with the regulatory requirements and standards?	**CIRCLE ONE** 1 = Yes 2 = No
20	Would you be interested in collaborating with other producers or stakeholders in your community, or locality or state for joint processing or marketing initiatives?	**CIRCLE ONE** 1 = Yes 2 = No 3 = Maybe
21	What are the challenges you face in sourcing local ingredients to ensure you have enough materials for processing local foods?	**CIRCLE ALL THAT APPLY** 1= Limited availability of certain ingredients 2= Seasonal fluctuations in ingredient availability 3= Limited/no storage 4= Transportation issues 5= Quality consistency of raw materials 6= Lack of cash to purchase and then store products 7= Other (please specify): _____
22	Are you open to exploring innovative techniques or recipes for locally processed foods to cater to evolving consumer preferences?	**CIRCLE ONE** 1= Yes, always open to innovation 2= No, prefer to stick to traditional methods 3= Maybe, depends on feasibility and market demand

23	Have you conducted any market research or feasibility studies to assess the demand for locally processed foods in the FSM market?	**CIRCLE ONE** 1 = Yes, extensive research conducted 2 = Yes, some research conducted 3 = No, not conducted yet 4 = Not applicable
23.1	If yes to Q23, please provide insights.	**PLEASE DESCRIBE:**
24	Do you have plans for branding and packaging design for your locally processed foods?	**CIRCLE ONE** 1 = Yes, already have branding plans 2 = Yes, planning to develop branding 3 = No, branding is not a priority 4 = Not sure about branding importance
25	What distribution channels do you envision for selling locally processed foods?	**CIRCLE ALL THAT APPLY** 1 = Local markets 2 = Supermarkets/grocery stores 3 = Specialty food stores 4 = Online platforms 5 = Direct sales (e.g., farm stands) 5 = Other (please specify): _____
26	Do you see potential for exporting locally processed foods into other states in the FSM or beyond the FSM?	**CIRCLE ONE** 1= Yes, potential for export 2= Maybe, need to explore further 3= No, prefer to focus on local market 4= Not sure about export potential (If 3 or 4, skip next question)
27	Would you participate in training programs or workshops offered by the Food Innovation Center to enhance your skills in traditional food processing techniques, quality control, or business management?	**CIRCLE ONE** 1 = Yes, definitely interested 2 = No, not interested 3 = Maybe, depends on the topics covered
28	Besides raw materials and processing equipment, what other costs do you anticipate in the production of locally	**CIRCLE ALL THAT APPLY** 1 = Facility 2 = Labor costs

	processed foods? (e.g., labor, utilities, packaging)	3 = Utilities (electricity, water) 4 = Packaging materials 5 = Marketing and promotion 6 = Other (please specify): _____
29	How important is community involvement and support in your vision for producing locally processed foods?	**CIRCLE ONE** 1 = Very important, prioritize community involvement 2 = Important, but not a top priority 3 = Not important, focus solely on production 4 = Not sure about community involvement importance
30	Are there any community-based initiatives you would like to explore? eg. microfinancing, etc.	**PLEASE DESCRIBE:**
31	Do you prioritize sustainable practices in your production processes, such as minimizing waste, conserving resources, or supporting local ecosystems?	**CIRCLE ONE** 1 = Yes, sustainability is a top priority 2 = Somewhat, but not a primary focus 3 = No, sustainability is not a priority 4 = Not sure about sustainability practices importance
32	What are your long-term goals and aspirations for your involvement in producing locally processed foods? How do you see your role evolving in the future?	**CIRCLE ONE** 1 = Expand production and market reach 2 = Preserve traditional food culture 3 = Contribute to local economic development 4 = Other (please specify): _____
33	What kind of support or incentives from the government would be most beneficial to you for promoting the production and marketing of locally processed foods in the FSM?	**CIRCLE ONE** 1 = Financial assistance/grants/loans 2 = Technical support and training 3 = Market access facilitation 4 = Regulatory simplification 5 = Other (please specify): _____
34	How do you plan to gather feedback from possible buyers/consumers/users of your locally value-added products?	**CIRCLE ONE** 1 = Direct consumer feedback through in person or surveys or focus groups 2 = Social media monitoring and engagement 3 = Sales data analysis 4 = Fairs and Cooking Competition 6 = Other (please specify): _____

35	How often do you anticipate using the shared kitchen?	**CIRCLE ONE** 1 = One time per week. 2 = Multiple times per week. (Specify how many) _____ Times/Week 3 = Twice a month. 4 = Once a month. 5 = Only during certain weeks/months of year.
36	Would you use a food storage facility if one was provided to your municipality/community?	**CIRCLE ONE** 1 = Yes (please answer Q36.1) 2 = No
36.1	If Yes, which kind?	**CIRCLE ALL THAT APPLY** 1 = Dry Storage 2 = Cold Storage 3 = Frozen Storage
37	Would you be interested in selling the food you produce to a local food processing plant?	**CIRCLE ONE** 1 = Yes (please answer Q 37.1) 2 = No
37.1	If Yes, what local foods do you feel you could regularly provide to a food processing plant?	**CIRCLE ALL THAT APPLY** 1 = Taro 2 = Coconut 3 = Bananas 4 = Breadfruit 5 = Tapioca/Cassava 6 = Fish (wild caught and/or farmed) 7 = Farm raised seafood 8 = Vegetables (such as: leafy greens, melons, squash) 9 = Fruits (such as Pineapple, Mango, Papaya, Lemons, Tangerines) 10 = Livestock: Chickens, pigs 11 = Eggs 12 = Other (please specify):
38	Would you be interested in having your raw food products purchased directly from your farm/island? (So you do not have to transport them to market?)	**CIRCLE ONE** 1 = Yes 2 = No

39. Rate your level of need for the following types of equipment:

	Question	**Response** **1 = Essential** **2 = Convenient** **3 = Don't need it**
39.1	Standard range/oven	
39.2	Commercial mixer	
39.3	Vertical Cutter Mixer	
39.4	Walk-in Cooler	
39.5	Walk-in Freezer	
39.6	Stainless steel table	
39.7	Kitchen utensils	
39.8	Forced Air Oven	
39.9	Slicer	
39.10	Package heat sealer	
39.11	Food processor	
39.12	Dish washer	
39.13	Steam Kettle	
39.14	Pressure Cooker	
39.15	Microwave boiler pressure canner	
39.16	Fruit Dryer	
39.17	Deep Fryer	
39.18	Dehydrator	

39.19	Flash Freeze Dryer	
39.20	Other (please specify): _____	

40. For your existing or potential business:

40.1	Do you have a business plan?	**CIRCLE ONE** 1 = Yes 2 = No
40.2	How much production space do you need?	_____**sq. ft.**
40.3	Would you be willing to work with business advisors to create or improve an existing business plan?	**CIRCLE ONE** 1 = Yes 2 = No
40.4	Do you have the necessary financing to pursue your business goals?	**CIRCLE ONE** 1 = Yes 2 = No
40.5	Please rate your level of interest in pursuing outside funding for your business	**CIRCLE ONE** 1 = Very interested 2 = Possibly interested 3 = Not Interested

	Question	**Response**
41	Is transportation of your food products and food crops to market a serious constraint?	**CIRCLE ONE (If No, Skip Q40.1)** **1 =** Yes **2 =** No
41.1	(If Yes to Q40) How is transportation a constraint?	**RANK IN ORDER FROM 1-7, WITH 1 BEING THE GREATEST CONSTRAINT** a) __cost of fuel b) __access to fuel c) __lack of vehicle d) __unable to transport due to weather conditions e) __family obligation

		f) __ no driver g) __other (specify)
42	Is lack of labor a serious constraint to your food harvesting?	**CIRCLE ONE** **1 =** Yes **2 =** No
43	Is lack of labor a serious constraint to your food production and packaging?	**CIRCLE ONE** 1 = Yes 2 = No
44	Do you also sell your food products directly to customers?	**CIRCLE ONE (If No, Skip Q45)** 1 = Yes 2 = No
45	If so, is lack of labor a serious constraint to the selling of your food products?	**CIRCLE ONE** 1 = Yes 2 = No

SECTION: TRAINING

	Question	**Response** **(If No, skip Q47)**
46	Would you be interested in being trained in commercial food processing?	**CIRCLE ONE** 1 = Yes 2 = No
46.1	If so, which skills are you interested in developing?	**CIRCLE ALL THAT APPLY** 1 = Food safety 2 = Food sorting and quality control 3 = Food preparation 4 = Food preservation 5 = Cooking 6 = Baking 7 = Packaging
47	Would you like any training to help you produce more food?	**CIRCLE ONE** 1 = Yes 2 = No

47.1	**(If yes to Q47) What training would you like?**
	CIRCLE ALL THAT APPLY 1 - CLIMATE CHANGE 1 - a - Climate change adaptation (Save crops from sea level rise, saltwater inundation, heavy rain) - Climate resilient crops (e.g. Saltwater resistant taro) 1 - b - Sustainable farming and land management (How to keep the soil good for years, etc.) 1 - c - Ways to access emergency weather information and emergency responses for water, safety, other 1 - d - Invasive species management 1 - e - Techniques and approaches to reducing soil erosion 1 - f - Techniques in restorative forestry 1 - g - Techniques in rehabilitation or improving coral reefs and coastal land preservation 1 - h - Water collection and storage 2 - AGRICULTURE 2 - a - General crop production/Agriculture training/Crop planting timing 2 - b - Local/Traditional Agriculture/Fishery Knowledge (Agroforestry, etc.) 2 - c - Seed collection, seed saving and growing from seed and vegetative propagation 2 - d - Improving your soil, working with soils, types of soils, testing, soil amendments 2 - e - Making local fertilizer/compost and then ways to store and applying (solid & compost tea) 2 - f - Growing, harvesting, processing of specific crops: 2 - f - i - Swamp taro or hard taro 2 - f - ii - Land taro or soft taro 2 - f - iii - Breadfruit 2 - f - iv - Banana 2 - f - v - Coconut 2 - f - vi - Copra (coconut product) 2 - f - vii - Yam 2 - f - viii - Mango 2 - f - ix - Pineapple 2 - f - x - Limes/lemons 2 - f - xi - Sweet Potatoes 2 - f - xii - Tapioca 2 - f - xiii - Papaya 2 - f - xiv - Soursop 2 - f - xv - Black Pepper 2 - f - xvi - Hot peppers 2 - f - xvii - Sakau (Kava) 2 - f - xviii - Sugar cane 2 - f - xix - Betel Leaf 2 - f - xx - Durian (football plant) 2 - f - xxi - Cacao 2 - f - xxii - Chestnut 2 - f - xxiii - Betelnut 2 - f - xxiv - Tangerine/Orange 2 - f - xxv - Medicinal crops (example: Noni) 2 - f - xxvi - Other (please specify) _____

	3 - LIVESTOCK 3 - a - General livestock management 3 - b - Make local pig/chicken feed 3 - c - How to use wood chipper 3 - d - Other (please specify) _____ 4 - MARINE 4 - a - How to fish, fishing safety, Search & Rescue 4 - b - Local/Traditional fishing knowledge, moon-phase calendar 4 - c - Sustainable fishing, spawning knowledge, male/female ID 4 - d - Marine invasive species management 4 - e - Make local FADs using local materials (Fish Aggregating Devices) 4 - f - Other (please specify) _____ 5 - RELEVANT TECHNOLOGIES 5 - a - Greenhouse growing with protected systems 5 - b - Hydroponics 5 - c - Nursery management 5 - d - Sac and container gardening 5 - e - Aquaculture (fish, invertebrates, mangrove crabs, turtles, shrimp/eel) 5 - f - Hydroponics 5 - g - Hatchery 5 - h - Cold storage (affordable lower cost) 5 - i - Inclusion of solar power 5 - j - Irrigation technologies (drip, trickle, overhead) 5 - k - Other _____ 6 - MARKETING 6 - a - Food preservation/processing/ packaging/marketing/handling (Tuna jerky, pork to sell, fish jerky, fish meal, smoking foods, drying foods, grinding and making into flour, mixing and product development) 6 - b - How to market products (make sellable) 6 - c - Value added/niche markets 7 - HEALTH AND NUTRITION 7 - a - General health and nutrition 7 - b - How to prepare (easy) dishes with local foods (fish) 8 - BUSINESS MANAGEMENT 8 - a - How to run a business, management, leadership, business plan 8 - b - Financing/financial management including record keeping and accounting 8 - c - How to prepare application for a loan or investment 8 - d - How to inform others of your business and ways to generate business 8 - e - Training on applicable laws/regulations 8 - f - Other (please specify): _____

	Question	**Response**
48	Would it be helpful to offer agriculture and farming training for women?	**CIRCLE ONE** 1 = Yes 2 = No 3 = No Opinion

49	Would it be helpful to offer agribusiness training for women?	**CIRCLE ONE** 1 = Yes 2 = No 3 = No Opinion

FARMER-TO-FARMER EXTENSION

	Question	**Response**
50	Would you like to teach other food producers from your own experiences?	**CIRCLE ONE** 1 = Yes 2 = No

SECTION: COMMUNITY MANAGEMENT AND POLICY ADVOCACY

Q51. Do you belong to any local group?

	Group	**Member (0 = No, 1 = Yes) (If No, skip rest of this row)**	**How often do you attend group meetings?** 1 = Daily 2 = Weekly 3 = Monthly 4 = Seasonal 5 = Yearly 6 = Other (Fill in)
Q51.1	Do you belong to any local Community group (please specify)		
Q51.2	Do you belong to any local Faith-based group (please specify)		
Q52	How often do you meet your traditional leader?	<BLANK>	

Q53. Do you belong to any local organization/association?

	Type of organization	**Member? (0 = No, 1 = Yes) (If No, move to next row)**	**How often do you attend/meet?** **1 = Daily** **2 = Weekly** **3 = Monthly** **4 = Seasonal** **5 = Yearly** **6 = Other (Fill in)**	**Do they have bylaws?** **1 = Yes, I am familiar with the bylaws** **2 = Yes, I don't know the bylaws** **3 = Unsure** **4 = No**
Q53.1	Farmer association (please specify) _____			
Q53.2	Fishing association (please specify) _____			
Q53.3	Is there a livestock growers association? (please specify) _____			
Q53.4	Marketing association (please specify) _____			
Q53.5	Working group (please specify) _____			
Q53.6	NGO (please specify) _____			

	Question	**Response**
Q54	Are you familiar with the State and National laws and policies that affect your food production?	**CIRCLE ONE** 1 = Yes 2 = No
Q55	If you need information about the State and National laws and	**CIRCLE ALL THAT APPLY** 1 = Family member 2 = Community members

	policies, where would you go?	3 = Traditional leader 4 = Religious organization 5 = Local groups/organization (please specify): _____ 6 = Extension agent 7 = Government Agency (please specify): _____ 8 = Other Agency or web site (please specify): _____ 9 = Mobile App (please specify): _____ 10= Other (please specify)
Q56	If you need to communicate with the government leaders responsible for making laws/policies, where would you go?	**CIRCLE ALL THAT APPLY** 1= Family member 2= Community members 3= Traditional leader 4= Religious organization 5= Local groups/organization (please specify): _____ 6= Extension agent 7= Government Agency (please specify): _____ 8= Other Agency or web site (please specify): _____ 9= Mobile App (please specify): _____ 10= Other (please specify):

	Question	**Response**
Q57	Would you be interested in being more active in your community relative to preserving land, water resources?	**CIRCLE ONE** 1 = Yes 2 = No

Q58	Have you been trained in or have managerial experience?	**CIRCLE ONE** 1 = Yes 2 = No
Q59	Have you been trained in or have organizational experience?	**CIRCLE ONE** 1 = Yes 2 = No
Q60	Would you be interested/willing to participate in trainings and workshops that provide those skills?	**CIRCLE ONE** 1 = Yes, definitely 2 = Maybe, depending on the specifics 3 = No, prefer others in my community to take such leadership

End of survey script

We thank you for taking the time to spend with us, answering the survey.

RUTGERS

Food Systems Solutions Consumer Survey

INFORMED CONSENT FORM

Your insights are crucial to informing the plans for increasing food security and job creation through the development of a sustainable local food system that includes the establishment of Food Innovation Centers in the states of the Federated States of Micronesia (FSM) that provide value addition to locally processed food products from local staple crops, fish, marine, animal, poultry and/or other local plants, vegetables, fruits and seeds.

Project Title: Strengthening Food Security in the Federated States of Micronesia: An Innovative Approach to Enhancing Information Systems, Establishing an FSM Food Innovation Center and Supporting Local Capacity Building.

You are invited to participate in a research study that is being conducted by Rutgers University on behalf of the Federated States of Micronesia (FSM)'s Department of Resources and Development led by Dr Ramu Govindasamy, a Professor in the Department of Agricultural, Food and Resource Economics at Rutgers University, Rutgers Researchers and Faculty with collaborating NGO's and other local partners in each of the four states. The purpose of this research is to gather information from food-system participants in the FSM regarding their specific needs for enhanced Information Systems, a Food Innovation Center, and Capacity Building to strengthen food security in the FSM to best inform the national and state governments as they invest in sustainable local food system development.

Approximately 270 farming households and 270 consumers and 196 professionals involved in food production and food security from the state, national and educational communities will participate in the study across the four FSM states, and each individual's participation will last approximately 30-45 minutes. From each household selected, surveys will be conducted for men and women (ages 18-65 years).

The study procedures include responding to an in-person survey about Improved Food System Information Systems, development of a flexible and responsive Food Innovation Center, Food System capacity building infrastructure including technical and management capacity and employment opportunities, and community management and policy advocacy capability. within all four FSM states. The objective is to understand better your state's current situation relative to food system information systems, development of a flexible and responsive Food Innovation Center, Food System capacity building infrastructure including technical and management capacity and employment opportunities, and community management and policy advocacy capability. The FSM Department of R&D, the FSM Federal Government, in concert with your state government, will use this data and your responses to better invest in strategies that improve peoples' livelihoods and food security.

This research is anonymous. Anonymous means that I will record no information about you that could identify you. This means that I will not record your name, address, phone number, date of birth, etc. If you agree to take part in the study, you will be assigned a random code number that will be used on each test and the questionnaire. There will be no way to link your responses back to you. Therefore, data collection is anonymous.

The research team and the Institutional Review Board at Rutgers University are the only parties that will be allowed to see the data, except as may be required by law. If a report of this study is published, or the results are presented at a professional conference, only group results will be stated. All study data will be kept for at least three years. Responses may be used or distributed to investigators for other research without obtaining additional informed consent from you.

There are no foreseeable risks to participation in this study. You may receive $10 for taking part in this study. Participation in this study is voluntary. You may choose not to participate, and you may withdraw at any time during the study procedures. In addition, you may choose not to answer any questions with which you are not comfortable.

RUTGERS

Food Systems Solutions Consumer Survey

If you have any questions about the study or study procedures, you may contact either of us at:

Principal Investigator:
Ramu Govindasamy, Professor and Chair, Dept. of Agricultural, Food and Resource Economics
Food Distribution Research Society (FDRS) Past President
Associate Director, New Use Agriculture and Natural Plant Products
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If you have questions, concerns, problems, information or input about the research or would like to know your rights as a research participant, you can contact the Rutgers IRB/Human Research Protection Program via phone at (973) 972-3608 or (732) 235-9806 OR via email irboffice@research.rutgers.edu, or you can write us at 335 George Street, Liberty Plaza Suite 3200, New Brunswick, NJ 08901.

By beginning this research, you acknowledge that you are 18 years of age or older, have read the information and agree to take part in the research, with the knowledge that you are free to withdraw your participation without penalty.

Signature of Investigator/Individual Obtaining Consent:

To the best of my ability, I have explained and discussed all the important details about the study including all the information contained in this consent form.

Investigator/Person Obtaining Consent from Respondent: (Print)

Signature:_____Date:_____

Food Systems Solutions Consumer Survey

Thank you for participating in this survey.

Please select the most appropriate answer for each question provided.

1. ENUMERATOR INFORMATION

Q1	Question	Response
1.1	Enumerator name	
1.2	Date of Interview	
1.3	Location (State/City)	**CIRCLE ONE AND WRITE ISLAND NAME (IF APPLIES)** 1 = Chuuk City_____ 2 = Kosrae City_____ 3 = Pohnpei City_____ 4 = Yap City_____ 5 = Other (Please specify) _____

2. DEMOGRAPHIC INFORMATION

Q2	Question	Response (Enumerator may fill this in without asking)
2.1	Gender of informant	**CIRCLE ONE** 1 = Male 2 = Female
2.2	Age of informant (years)	**CIRCLE ONE** 1 = 18-30 2 = 31-45 3 = 46-60 4 = Over 60

	Question	Response
3	Which locally processed food products would you be interested in purchasing?	**CIRCLE ALL THAT APPLY** 1 = Banana chips 2 = Breads and baked goods (donuts/muffins) 3 = Breadfruit chips 4 = Breadfruit flour 5 = Chicken meat and products 6 = Coconut cooking oil 7 = Coconut flour 8 = Coconut milk 9 = Coconut products 10 = Fish and Seafood - Dried 11 = Fish and Seafood – Salted 12 = Fish and Seafood – Smoked 13 = Fish Jerky 14 = Fish Sauce 15 = Fish Spreads 16 = Feed for chicken/pigs 17 = Flavored (infused) oils 18 = Fruits – Dried 19 = Fruits – Jellies and Jams 20 = Fruits - Juices 21 = Fruit – syrups 22 = Hot sauce 23 = Pork meat and products 24 = Seafood – bottled 25 = Sea salt 26 = Spices – Dried 27 = Spice blends 28 = Spice pastes 29 = Taro chips 30 = Taro flour 31 = Vegetables – Dried 32 = Vegetables – Pickled 33 = Vegetable sauces/salsa 34 = Vinegar 35 = Rope, matts and other fiber products 36 = Other (please specify) _____

4	What type of packaging would you prefer?	**CIRCLE ALL THAT APPLY** 1 = Bottled 2 = Jarred 3 = Bagged 4 = Vacuum-sealed pouches 5 = Packets/sachets 6 = Other (please specify): _____
5	What features of the packaging do you consider most important?	**RANK IN ORDER OF IMPORTANCE WITH 1= Most Important; 2= 2nd in importance etc.:** a:____ Environmentally friendly packaging (e.g., biodegradable materials) b:____ Convenient packaging (e.g., easy-to-open, resealable) c:____ Attractive packaging and labeling (e.g., aesthetically pleasing and culturally relevant labels) d:____ Least expensive e:____ Other (please specify): _____
6	What price range would you consider reasonable for locally processed foods? (per unit)	**CIRCLE ONE** 1 = $5 or less 2 = $5 - $10 3 = $10 - $20 4 = Above $20
7	How important is it for you that these locally processed foods are made from fresh, locally sourced ingredients?	**CIRCLE ONE** 1 = Very important 2 = Important 3 = Somewhat important 4 = Not important
8	How likely are you to purchase locally processed foods if they are convenient, accessible and available?	**CIRCLE ONE** 1 = Very likely 2 = Likely 3 = Neutral 4 = Unlikely
9	How likely are you to purchase locally processed food products if they are the same price and the same quality, as comparable imported products?	**CIRCLE ONE** 1 = Very likely 2 = Likely 3 = Neutral

	(example: local coconut oil versus imported cooking oils)	4 = Unlikely
10	Which flavors or varieties of locally processed foods would you be most interested in?	**CIRCLE ALL THAT APPLY** 1 = Traditional/Local flavors 2 = Exotic/Imported flavors 3 = Sweet 4 = Spicy 5= Hot spicy (e.g. from hot peppers) 6 = Savory 7 = Other (please specify): _____
11	How important is it for you that locally processed foods are nutritious and contribute to a healthy diet?	**CIRCLE ONE** 1= Very important 2= Important 3= Somewhat important 4= Not important
12	How often would you likely purchase locally processed foods?	**CIRCLE ONE** 1 = Daily 2 = Weekly 3 = Monthly 4 = Occasionally 5 = Rarely
13	Where do you prefer to purchase locally processed foods?	**CIRCLE ONE** 1 = Local markets 2 = Supermarkets/grocery stores 3 = Roadside stand 4 = Online platforms 5 = Other (please specify): _____
14	Would you support the purchasing of locally processed foods that contribute to community development or social causes (e.g., supporting local farmers, empowering women's groups)?	**CIRCLE ONE** 1 = Yes 2 = No 3 = Maybe (If No, skip next question)

15	Would you be willing to pay more for products that support community/social causes?	**CIRCLE ONE** 1 = Yes, up to 10% more 2 = Yes, more than 10% more 3 = No
16	Would you participate in educational programs or workshops offered by the Food Innovation Center on local food processing techniques, cooking contests, nutrition programs, or culinary skills?	**CIRCLE ONE** 1 = Yes 2 = No 3 = Maybe
17	What payment methods would you prefer when purchasing locally processed foods?	**CIRCLE ONE** 1= Cash 2= Credit/debit card 3= Mobile payment apps 4= Food exchange 5= Other (please specify) _____
18	How important is it for you that locally processed foods have a long shelf life (does not easily spoil)?	**CIRCLE ONE** 1 = Very important 2 = Important 3 = Somewhat important 4 = Not important
19	How important is it for you to have clear information on the nutritional content, ingredients, of your locally processed foods (labeling)? (Example: How many calories, how much sugar, how much salt)	**CIRCLE ONE** 1 = Very important 2 = Important 3 = Somewhat important 4 = Not important
20	Approximately, how much money do you spend each bi-weekly on imported food?	**PLEASE FILL IN THE AMOUNT YOU SPEND EVERY 2 WEEKS** **_____ $**
21	Approximately, how much money do you spend each bi-weekly on local food?	**PLEASE FILL IN THE AMOUNT YOU SPEND EVERY 2 WEEKS** **_____ $**

22	When it comes to purchasing food products, which of the following factors influence your spending decisions the most?	**RANK IN ORDER OF IMPORTANCE WITH 1= Most Important; 2= 2nd in importance etc.:** a:____ Price b:____ Quality c:____ Brand reputation d:____ Nutritional value e:____ Locally sourced products f:____ Convenience g:____ Store Preference h:____ Other (please specify):
23	What factors would influence your willingness to pay more for local processed products?	**CIRCLE ALL THAT APPLY** 1 = Perception of quality 2 = Perceived health benefits 3 = Supporting local economy 4 = Environmental sustainability 5 = Community impact 6 = Great taste and flavor 7= Store Preference 8 = Other (please specify):
24	How much of a price difference would deter you from purchasing locally processed products over an imported alternative?	**CIRCLE ONE** 1 = None 2 = Less than 10% difference 3 = 11% - 20% difference 4 = 21% - 30% difference 5 = More than 30% difference
25	To what extent do you prioritize purchasing local products instead of imported products?	**CIRCLE ONE** 1 = Always prioritize local products 2 = Often prioritize local products 3 = Occasionally prioritize local products 4 = Rarely prioritize local products

		5 = Don't really ever think about it
26	How aware are you of locally produced processed products currently available in your town, state and the FSM? (example: pounded taro, bottled sea cucumber)	**CIRCLE ONE** 1 = Very aware 2 = Somewhat aware 3 = Not very aware 4 = Not aware at all
27	How important is it for you to know the origin of the ingredients used in locally processed food products?	**CIRCLE ONE** 1 = Very important 2 = Important 3 = Somewhat important 4 = Not important
28	What type of products that we did not include do you feel need to be more represented in the marketplace?	**Please specify:**

End of survey script

We thank you for taking the time to spend with us, answering the survey.

RUTGERS

Food Systems Solutions Community Management Survey

INFORMED CONSENT FORM

As your state moves forward in developing strategies for strengthening food production, food security and the value chain from collecting, to harvest, to production, post-harvest handling, storage, processing and distribution for food production, food preservation and food consumption, local food producers will continue to need support. This survey is for community leaders that support and assist organizations/communities with establishing and maintaining appropriate community management and policy advocacy capabilities, allowing them to participate effectively in ongoing community-level dialogue and effectively manage local and sustainable production according to good governance practices, including transparency and accountability

Project Title: Strengthening Food Security in the Federated States of Micronesia: An Innovative Approach to Enhancing Information Systems, Establishing an FSM Food Innovation Center and Supporting Local Capacity Building.

You are invited to participate in a research study that is being conducted by Rutgers University on behalf of the Federated States of Micronesia (FSM)'s Department of Resources and Development led by Dr Ramu Govindasamy, a Professor in the Department of Agricultural, Food and Resource Economics at Rutgers University, Rutgers Researchers and Faculty with collaborating NGO's and other local partners in each of the four states. The purpose of this research is to gather information from food-system participants in the FSM regarding their specific needs for enhanced Information Systems, a Food Innovation Center, and Capacity Building to strengthen food security in the FSM to best inform the national and state governments as they invest in sustainable local food system development.

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RUTGERS

Food Systems Solutions Community Management Survey

If you have any questions about the study or study procedures, you may contact either of us at:

Principal Investigator:
Ramu Govindasamy, Professor and Chair, Dept. of Agricultural, Food and Resource Economics
Food Distribution Research Society (FDRS) Past President
Associate Director, New Use Agriculture and Natural Plant Products
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By beginning this research, you acknowledge that you are 18 years of age or older, have read the information and agree to take part in the research, with the knowledge that you are free to withdraw your participation without penalty.

Signature of Investigator/Individual Obtaining Consent:

To the best of my ability, I have explained and discussed all the important details about the study including all the information contained in this consent form.

Investigator/Person Obtaining Consent from Respondent: (Print)

Signature:_____Date:_____

Food Systems Solutions Community Management Survey

Thank you for participating in this survey.

Please select the most appropriate answer for each question provided.

1. ENUMERATOR INFORMATION

Q1	Question	Response
1.1	Enumerator name	
1.2	Date of Interview	
1.3	Location (State/City)	**CIRCLE ONE AND WRITE ISLAND NAME (IF APPLIES)** 1 = Chuuk City_____ 2 = Kosrae City_____ 3 = Pohnpei City_____ 4 = Yap City_____ 5 = Other (Please specify) _____

2. DEMOGRAPHIC INFORMATION

Q2	Question	Response (Enumerator may fill this in without asking)
2.1	Gender of informant	**CIRCLE ONE** 1 = Male 2 = Female
2.2	Age of informant (years)	**CIRCLE ONE** 1 = 18-30 2 = 31-45 3 = 46-60 4 = Over 60

SECTION: Community Management and Governance

3	What type of organization/group (NGOs) do you represent?	**CIRCLE ONE** 1= Agricultural producer organization 2= Aquaculture producer organization 3= Small-scale fishing organization 4= Traditional leadership group 5= Municipal officials (mayors, council, etc.) 6= Faith-based Leaders (church, etc.) 7= Underrepresented (Women's, Youth, Disability) Group 8= Other NGOs 9= Other (specify):
4	How often does your organization/community meet?	**CIRCLE ONE** 1 = Weekly 2 = Monthly 3 = Quarterly 4 = Yearly
5	What areas do you think your organization/community may need support for more effective management of your farming families and food producers?	**CIRCLE ALL THAT APPLY** 1= Governance training (leadership) 2= Technical food production assistance in farming/fishing techniques 3= Value chain development (transportation/packaging/food storage etc.) 4= Environmental conservation practices 5= Economic, Marketing and Business management 6= Other (specify):

6	What food production challenges/needs are your organization/community members bringing to you seeking assistance?	**CIRCLE IS ALL THAT APPLY** 1. Need for increased communication 2. Access to affordable feed 3. Access to clean water 4. Access to food production inputs (seeds/eggs/chicks/tools/plants, ect) 5. Access to climate resilient plants/crops 6. Affordable transportation 7. Food production (agriculture/fishing) training 8. Road Maintenance 9. Post-Harvest Storage 10. We don't need food security assistance 11. Other (specify):

7	How would you define good governance?	**PLEASE DESCRIBE:**
8	What specific challenges do you face supporting your local food producers?	**PLEASE DESCRIBE:**
9	Do you feel the farming families in your organization/community would be interested in making money producing food for a processing plant?	**CHOOSE ONE** **1.** Yes 2. Yes, but need they training 3. No, they farm only for home consumption 4. No, farming is not a desirable vocation 5. Not sure what our farmers want
10	In what ways do you feel a local food processing plant (Food Innovation Center) supports the goals and needs of your organization/community?	**CIRCLE ALL THAT APPLY** 1. Increases food security 2. Increases health and nutrition 3. Job Creation 4. Increases traditional practices 5. Strengthens local economy 6. Reduces dependence on imported foods 7. I do not think a local Food Processing Plant would benefit my community 8. Other (specify):
11	What challenges does your organization/community face in accessing markets for your agricultural or aquatic products?	**CIRCLE ALL THAT APPLY** 1 = Limited transportation infrastructure 2 = Lack of market to sell my products 3 = Lack of my own supply to sell my products 4 = Lack of connections to market relative to demand 5 = Quality standards compliance issues 6 = Other (specify): 7 = Not applicable to my organization

12	Rate the level of participation of local community members in decision-making processes related to agricultural or aquatic production activities.	**CIRCLE ONE** 1= Very low 2= Low 3= Moderate 4= High 5= Very high
13	Does your organization/community provide educational programs or training opportunities for members on sustainable food production practices?	**CIRCLE ONE** 1 = Yes, regularly 2 = Yes, occasionally 3 = No 4 = Not applicable
14	How best can monitoring and evaluation be implemented in your organization/community's activities and projects?	**PLEASE DESCRIBE:**
15	What mechanisms do you feel helps ensure transparency in your organization/community?	**PLEASE DESCRIBE:**

SECTION: Sustainable Practices, Environment and Climate Change

16	Does your organization/community actively work to preserve and promote traditional knowledge related to farming or fishing practices?	**CIRCLE ONE** 1 = Yes, actively (please answer Q 16.1) 2 = Yes, to some extent 3 = No, not a focus
16.1	If Yes, please explain:	**PLEASE DESCRIBE:**
18	What strategies does your organization/community employ to mitigate the impacts of climate change on your food production activities?	**CIRCLE ONE** 1 = Crop diversification 2 = Water conservation practices 3 = Disaster preparedness plans (including planting trees) 4 = Relocation of crop fields 5 = Using MPAs (Marine Protected Areas) 6. Other (specify) _____

19	How prepared is your organization/community to respond to natural and climate disasters or emergencies that could affect food production activities?	**CIRCLE ONE** 1 = Very prepared 2 = Moderately prepared 3 = Not prepared
20	What climate smart strategies would you be interested in employing to best support the needs of your organization/community?	**CIRCLE ONE** 1 = Introduce climate resilient food crops, animals, fish, etc. 2 = Irrigation systems 3 = Protected cultivation (IE greenhouses) 4 = Training in pest and disease management 5 = Other (specify)
21	Do you need support to implement more environmentally conscious initiatives in your organization/community?	**CIRCLE ONE** 1 = Yes 2 = No If yes, please describe:
22	What would help ensure long-term sustainability of your organization/community's management efforts?	**PLEASE DESCRIBE:**

SECTION: Policy Advocacy (representative from your community/group communicates your group's needs to elected officials to ensure that State policy is designed to address and meet your needs):

	Question	**Response**
22	What does policy advocacy mean to you?	**PLEASE DESCRIBE:**
23	How knowledgeable is your organization/community about existing laws and regulations related	**CIRCLE ONE** 1 = Highly knowledgeable 2 = Moderately knowledgeable

	to agriculture, fishing and/or aquaculture resources management?	3 = Not knowledgeable
24	How often does your organization/community collaborate with government agencies on issues related to agriculture, fishing and/or aquaculture resources management?	**CIRCLE ONE** 1 = Regularly 2 = Occasionally 3 = Rarely 4 = Never
25	How many collaborative projects has your organization/community undertaken with other stakeholders (e.g., government agencies, NGOs) in the past three years?	**CIRCLE ON** 1 = None 2 = 1-2 3 = 3-5 4 = More than 5 5 = Not Applicable
26	Does your organization/community face challenges accessing resources such as land, water, or fishing grounds?	**CIRCLE ONE** 1 = Yes, frequently (please answer Q 26.1) 2 = Occasionally (please answer Q 26.1) 3 = No
26.1	What challenges accessing resources are you experience?	**PLEASE DESCRIBE:**
27	What type of support do you feel would be most helpful to your food producers?	**RANK IN ORDER OF PRIORITY 1 BEING MOST IMPORTANT** 1 = Food production workshops and training 2 = Business/accounting workshops and training 3 = Access to production resources (tools and inputs) 4 = Access to funding 5 = Assistance/training in how to apply for funding (e.g. write a proposal) 6 = Networking opportunities with other organizations 7 = Guidance from experts 8 = Other (specify) _____

28	How do members of your organization/community share their food production needs with you?	**PLEASE DESCRIBE:**
29	How do you communicate the needs of your organization/community to policy makers?	**PLEASE DESCRIBE:**
30	Are you experiencing challenges advocating for your organization/community?	**CIRCLE ONE** 1 = Yes (please answer Q 30.1) 2 = No
30.1	If yes, what are those challenges:	**PLEASE DESCRIBE:**

SECTION: Inclusivity

	Question	**Response**
31	Does gender equality relate to decision-making process and leadership roles in your organization/community?	**CIRCLE ONE** 1 = Yes 2 = No 3 = Not applicable
32	Do you feel your organization/community is inclusive to differently-abled and senior citizens in decision-making processes and leadership roles?	**CIRCLE ONE** 1 = Yes, Very inclusive 2 = Somewhat inclusive 3 = Not inclusive 4 = Not applicable
33	Does your organization/community engage youth (ages 13-35) in training and participation?	**CIRCLE ONE** 1 = Very inclusive 2 = Somewhat inclusive 3 = Not inclusive 4 = Not applicable

Q 34: What do you feel is the most important initiative to support food production and food security for members of your organization/ community?

End of survey script

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RUTGERS

Food Systems Solutions Information Infrastructure Provider Survey

INFORMED CONSENT FORM

Your insights are crucial to informing the plans for increasing food security and job creation through the development of a sustainable local food system that includes the establishment of Food Innovation Centers in the states of the Federated States of Micronesia (FSM) that provide value addition to locally processed food products from local staple crops, fish, marine, animal, poultry and/or other local plants, vegetables, fruits and seeds.

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You are invited to participate in a research study that is being conducted by Rutgers University on behalf of the Federated States of Micronesia (FSM)'s Department of Resources and Development led by Dr Ramu Govindasamy, a Professor in the Department of Agricultural, Food and Resource Economics at Rutgers University, Rutgers Researchers and Faculty with collaborating NGO's and other local partners in each of the four states. The purpose of this research is to gather information from food-system participants in the FSM regarding their specific needs for enhanced Information Systems, a Food Innovation Center, and Capacity Building to strengthen food security in the FSM to best inform the national and state governments as they invest in sustainable local food system development.

Approximately 270 farming households and 270 consumers and 196 professionals involved in food production and food security from the state, national and educational communities will participate in the study across the four FSM states, and each individual's participation will last approximately 30-45 minutes. From each household selected, surveys will be conducted for men and women (ages 18-65 years).

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This research is anonymous. Anonymous means that I will record no information about you that could identify you. This means that I will not record your name, address, phone number, date of birth, etc. If you agree to take part in the study, you will be assigned a random code number that will be used on each test and the questionnaire. There will be no way to link your responses back to you. Therefore, data collection is anonymous.

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RUTGERS

Food Systems Solutions Information Infrastructure Provider Survey

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Ramu Govindasamy, Professor and Chair, Dept. of Agricultural, Food and Resource Economics
Food Distribution Research Society (FDRS) Past President
Associate Director, New Use Agriculture and Natural Plant Products
Extension Specialist, Rutgers Cooperative Extension
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Tel: 848-932-9192; Fax: 732-932-8887

OR:
James E. Simon, Distinguished Professor of Plant Biology
Director, New Use Agriculture and Natural Plant Products Program (NUANPP),
Director, Center for Agricultural Food Ecosystems (RUCAFE), The New Jersey Institute of Food, Nutrition & Health, Rutgers University, Department of Plant Biology-Foran Hall
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Tel: 848-932-6239; Fax: 732-932-9377

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By beginning this research, you acknowledge that you are 18 years of age or older, have read the information and agree to take part in the research, with the knowledge that you are free to withdraw your participation without penalty.

Signature of Investigator/Individual Obtaining Consent:

To the best of my ability, I have explained and discussed all the important details about the study including all the information contained in this consent form.

Investigator/Person Obtaining Consent from Respondent: (Print)

Signature:_____Date:_____

Food Systems Solutions Information Infrastructure Provider Survey

Thank you for participating in this survey.

Please select the most appropriate answer for each question provided.

1. ENUMERATOR INFORMATION

Q1	Question	Response
1.1	Enumerator name	
1.2	Date of Interview	
1.3	Location (State/City)	**CIRCLE ONE AND WRITE ISLAND NAME (IF APPLIES)** 1 = Chuuk City_____ 2 = Kosrae City_____ 3 = Pohnpei City_____ 4 = Yap City_____ 5 = Other (Please specify) _____

2. DEMOGRAPHIC INFORMATION

Q2	Question	Response (Enumerator may fill this in without asking)
2.1	Gender of informant	**CIRCLE ONE** 1 = Male 2 = Female
2.2	Age of informant (years)	**CIRCLE ONE** 1 = 18-30 2 = 31-45 3 = 46-60 4 = Over 60

	Question	Response
3	How will underwater cable alter access and affordability to each state in the FSM.	
4	What are the current gaps in reaching all state citizens including outer island communities?	**PLEASE DESCRIBE:**
5	What plans are in the works to overcome these shortcomings?	**PLEASE DESCRIBE:**
6	Would you share with us your assessment of your existing internet infrastructure across the multiple islands of Micronesia?	**PLEASE DESCRIBE:**
7	As the only internet service provider (ISPs), can you identify the gaps and barriers in internet service and explore ways you can optimize bandwidth allocation and increase available bandwidth in slow areas?	**PLEASE DESCRIBE:**
8	Would you identify areas (specific ones with GPS coordinates) with the slowest internet connectivity and what are the underlying causes, and your plans timelines to overcome and take corrective action?	**PLEASE DESCRIBE:**

9	Relative to technological infrastructure: What are the state and national hardware and software infrastructure needs to support data collection, storage, analysis, and dissemination.	**PLEASE DESCRIBE:**
10	Do you now use cloud-based solutions to enhance scalability and accessibility?	**CIRCLE ONE** 1 = Yes 2 = No
11	What role do you play in developing communication systems for growers and residents across Micronesia's islands given the often slow and limited internet. What is needed relative to infrastructure enhancement, lightweight platforms, offline capabilities, localized data centers, data optimization, training programs, and continuous monitoring?	**PLEASE DESCRIBE:**
12	Does your company have plans to recommend the implementation of traffic management techniques, such as quality of service (QoS), to prioritize agricultural information dissemination over non-critical data?	**CIRCLE ONE** 1= Yes 2= No
13	What steps and resources do you need to establish local networks on each island to facilitate faster internal data transfer?	**PLEASE DESCRIBE:**
14	And, are there any plans to get this done?	**CIRCLE ONE** 1 = Yes 2 = No If Yes, can you share them? (get copies)
15	Can you identify local caching servers to store frequently accessed content, reducing the need for external internet access?	**CIRCLE ONE** 1 = Yes 2 = No
16	Do you have capability and interest in SMS-based systems to deliver agricultural information, market updates, and weather forecasts to growers and residents.	**CIRCLE ONE** 1= Yes, we have capability 2= No, but we are interested 3= Not interested

17	How can you help to optimize message size and compress data to minimize the impact of slow internet connections?	**PLEASE DESCRIBE:**
18	Do you already have or can you set-up voice-based hotlines with interactive voice response (IVR) systems to provide agricultural information and guidance?	**CIRCLE ONE** 1= Yes 2= No
19	Do you now or could you utilize low-bandwidth codecs to test the transmission of voice data efficiently over slow internet connections?	**CIRCLE ONE** 1= Yes 2= No
20	Is it your role to assist in optimize data transmission by using compressed data formats such as gzip or deflate?	**CIRCLE ONE** 1= Yes 2= No If Yes, skip next question
21	If you know who can provide this service, please specify.	**PLEASE DESCRIBE:**
22	Do you now or can you with your platform compress large files, including images and videos, before transmission to reduce data size and enhance download speed?	**CIRCLE ONE** 1= Yes 2= No
23	Is there now (using Emergency Responders or other specialized means) a way to utilize content delivery networks (CDNs), for example to distribute agricultural content across servers closer to the islands, reducing the distance data needs to travel?	**CIRCLE ONE** 1= Yes 2= No
24	Can the nation and state leverage CDNs' caching capabilities to deliver content faster to users, especially for static information like guides and tutorials?	**PLEASE DESCRIBE:**

25	Is there an area of challenges that we did not cover and you feel is important to include?	**PLEASE DESCRIBE:**
26	Its our understanding that if content if provided on food security, health, nutrition- that is information for the public good, it can be submitted to your HQ and then transmitted at no cost to targeted groups via SMS and/or other means. Can you describe this process and how the state and national can take better advantage of such an opportunity?	**PLEASE DESCRIBE:**

End of survey script

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Food Systems Solutions Food Distributors and Retailers Survey

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2.1	Gender of informant	**CIRCLE ONE** 1 = Male 2 = Female
2.2	Age of informant (years)	**CIRCLE ONE** 1 = 18-30 2 = 31-45 3 = 46-60 4 = Over 60

	Question	Response
3	What type of locally made processed food products does your business currently sell?	**CIRCLE ALL THAT APPLY** 1= Banana chips 2= Breads and baked goods (donuts/muffins) 3= Breadfruit chips 4= Breadfruit flour 5= Chicken meat and products 6= Coconut cooking oil 7= Coconut flour 8= Coconut milk 9= Coconut products 10= Fish and Seafood - Dried 11= Fish and Seafood – Salted 12= Fish and Seafood – Smoked 13= Fish Sauce 14= Fish Jerky 15= Fish Sauce 16= Feed for chicken/pigs 17= Flavored (infused) oils 18= Fruits – Dried 19= Fruits – Jellies and Jams 20= Fruits - Juices 21= Fruit – syrups 22= Hot sauce 23= Pork meat and products 24= Seafood – bottled 25= Sea salt 26= Spices – Dried 27= Spice blends 28= Spice pastes 29= Taro chips 30= Taro flour 31= Vegetables – Dried 32= Vegetables – Pickled 33= Vegetable sauces/salsa 34= Vinegar 35= Rope, matts and other fiber products 36= Other (please specify):
4	How important do you believe making available locally made processed food products for the food industry in your state?	**CIRCLE ONE** 1= Very important 2= Important 3= Somewhat important 4= Not important

5	Would you support the establishment of a food innovation (or incubator/shared commercial kitchen) center in your state focused on developing new locally made processed food products and/or assisting you and others in processing and producing local food products?	**CIRCLE ONE** 1= Strongly Support 2= Support 3= Neutral 4= Oppose 5= Strongly Oppose
6	What specific challenges do you face in sourcing or producing locally made processed food products in your state?	**CIRCLE ALL THAT APPLY** 1= Limited access to quality raw materials 2= Inadequate infrastructure for processing and packaging (this includes needed tools, equipment) 3= High production costs 4= Lack of technical expertise in product development (recipes, blending, packaging) 5= Lack of distribution capabilities 6= Lack of available trained workers to assist 7= Other (please specify):
7	How do you think a food innovation (or incubator) center could benefit your business and the food industry in your state?	**CIRCLE ALL THAT APPLY** 1= Providing access to commercial style/sized kitchen and/or food processing facilities at reasonable cost for you to make your product(s) 2= Providing a place where you can bring in your raw product, ideas and recipe and others can then make the product for you for a fee 3= Providing access to research and development facilities 4= Offering technical assistance and expertise in product development 5= Facilitating collaboration with local farmers and producers 6= Assisting with marketing and branding of new products 7= Other (please specify):

8	Which factors would influence your willingness to collaborate with a food innovation center?	**CIRCLE ALL THAT APPLY** 1= Potential for making more money 2= Access to funding or grants for product development projects 3= Assurance of intellectual property protection for new product ideas 4= Opportunity for market expansion and growth 5= Opportunities to make food that can be stored for extended time periods 6= Increasing my community's food security and access to nutritious, healthy foods 7= Supporting my community's economic growth and job creation 8= Other (please specify):
9	How do you perceive the current demand for locally processed food products in your state and FSM?	**CIRCLE ONE** 1= High demand and growth potential 2= Moderate demand, with potential for expansion 3= Limited demand and growth potential 4= Unsure
10	What types of locally processed food products do you believe have the highest potential for success in your state and in the FSM market?	**CIRCLE ALL THAT APPLY** 1= Products with traditional or cultural significance 2= Healthy and nutritious snack options 3= Convenient and ready-to-eat meals or snacks 4= Unique or specialty products not currently available in the market 5= Products that are grown locally and for which our state and nation are known 6= Other (please specify):
11	How important do you think it is for locally made processed food products to incorporate locally sourced ingredients or flavors?	**CIRCLE ONE** 1= Very important 2= Important 3= Somewhat important 4= Not important

12	What support or resources do you believe would be most beneficial for your business in developing and marketing new locally processed food products?	**CIRCLE ALL THAT APPLY** 1= Access to financing or grants for product development 2= Technical assistance and expertise in food processing and packaging 3= Market research and consumer insights 4= Training and capacity building for staff 5= Other (please specify):
13	What is the average volume of value-added products (e.g., dried fruits, fish, spices, etc.) that your business sells monthly?	**CIRCLE ONE** 1= Less than 100 pounds 2= 100 - 500 pounds 3= 500 - 1,000 pounds 4= More than 1,000 pounds 5= Not applicable/I don't know
14	How would you describe the price sensitivity of consumers in your state and the FSM towards locally processed food products?	**CIRCLE ONE** 1= Highly price-sensitive, price significantly impacts purchasing decisions 2= Moderately price-sensitive, price is a consideration but not the sole factor 3= Somewhat price-sensitive, but quality and uniqueness are more important 4= Not very price-sensitive, willing to pay premium for quality or specialty items 5= Not applicable/I don't know
15	On average, how frequently do your customers purchase locally processed food products from your store(s)?	**CIRCLE ONE** 1= Daily 2= Weekly 3= Monthly 4= Occasionally 5= Rarely/never
16	What price range do you typically sell locally processed food products for in your state? (Per unit)	**CIRCLE ONE** 1= $1 - $5 2= $6 - $10 3= $11 - $20 4= Above $20 5= Don’t know

17	How do you anticipate consumer demand for locally processed food products to change in the next 2-3 years in your state and the FSM?	**CIRCLE ONE** 1= Increase significantly 2= Increase moderately 3= Remain relatively stable 4= Decrease moderately 5= Decrease significantly 6= Not applicable/I don't know
18	What factors do you believe would influence consumers' willingness to try and purchase new locally processed food products?	**CIRCLE ALL THAT APPLY** 1= Product quality and taste 2= Health benefits and nutritional value 3= Packaging and presentation 4= Price affordability 5= Availability of product samples or demonstrations 6= Cultural or traditional appeal 7= Word-of-mouth recommendations 8= Marketing and advertising efforts 9= Other (please specify):
19	How important do you think it is for locally processed food products to align with dietary preferences and cultural tastes of consumers in FSM?	**CIRCLE ONE** 1= Very important 2= Important 3= Somewhat important 4= Not important
20	What strategies would you recommend to increase consumer awareness and acceptance of new locally processed food products in FSM?	**CIRCLE ALL THAT APPLY** 1= Promotional discounts and offers 2= Sampling and tasting events in-store 3= Collaborating with local chefs or influencers for product endorsements 4= Educational campaigns highlighting product benefits and uses 5= Other (please specify):

21	How likely are you to actively promote and market new value-added food products developed through a food innovation center to your customers?	**CIRCLE ONE** 1= Very Likely 2= Likely 3= Neutral 4= Unlikely 5= Very Unlikely
22	What do you feel would strengthen your partnership with local food producers?	**CIRCLE ALL THAT APPLY** 1= Better Communication 2= Better Transportation 3= Better Coordination of Foods Delivered to Market 4= Better Post Harvest Storage 5= Other (please specify):
23	Do you have any suggestions for increasing the availability of local food products in your state?	**Please describe:**

End of survey script

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RUTGERS

Food Systems Solutions Food Distributors and Retailers Survey

If you have any questions about the study or study procedures, you may contact either of us at:

Principal Investigator:
Ramu Govindasamy, Professor and Chair, Dept. of Agricultural, Food and Resource Economics
Food Distribution Research Society (FDRS) Past President
Associate Director, New Use Agriculture and Natural Plant Products
Extension Specialist, Rutgers Cooperative Extension
Rutgers-The State University of New Jersey
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Q1	Question	Response
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Q2	Question	Response (Enumerator may fill this in without asking)
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	Question	Response
3	What type of locally made processed food products does your business currently sell?	**CIRCLE ALL THAT APPLY** 1= Banana chips 2= Breads and baked goods (donuts/muffins) 3= Breadfruit chips 4= Breadfruit flour 5= Chicken meat and products 6= Coconut cooking oil 7= Coconut flour 8= Coconut milk 9= Coconut products 10= Fish and Seafood - Dried 11= Fish and Seafood – Salted 12= Fish and Seafood – Smoked 13= Fish Sauce 14= Fish Jerky 15= Fish Sauce 16= Feed for chicken/pigs 17= Flavored (infused) oils 18= Fruits – Dried 19= Fruits – Jellies and Jams 20= Fruits - Juices 21= Fruit – syrups 22= Hot sauce 23= Pork meat and products 24= Seafood – bottled 25= Sea salt 26= Spices – Dried 27= Spice blends 28= Spice pastes 29= Taro chips 30= Taro flour 31= Vegetables – Dried 32= Vegetables – Pickled 33= Vegetable sauces/salsa 34= Vinegar 35= Rope, matts and other fiber products 36= Other (please specify):
4	How important do you believe making available locally made processed food products for the food industry in your state?	**CIRCLE ONE** 1= Very important 2= Important 3= Somewhat important 4= Not important

5	Would you support the establishment of a food innovation (or incubator/shared commercial kitchen) center in your state focused on developing new locally made processed food products and/or assisting you and others in processing and producing local food products?	**CIRCLE ONE** 1= Strongly Support 2= Support 3= Neutral 4= Oppose 5= Strongly Oppose
6	What specific challenges do you face in sourcing or producing locally made processed food products in your state?	**CIRCLE ALL THAT APPLY** 1= Limited access to quality raw materials 2= Inadequate infrastructure for processing and packaging (this includes needed tools, equipment) 3= High production costs 4= Lack of technical expertise in product development (recipes, blending, packaging) 5= Lack of distribution capabilities 6= Lack of available trained workers to assist 7= Other (please specify):
7	How do you think a food innovation (or incubator) center could benefit your business and the food industry in your state?	**CIRCLE ALL THAT APPLY** 1= Providing access to commercial style/sized kitchen and/or food processing facilities at reasonable cost for you to make your product(s) 2= Providing a place where you can bring in your raw product, ideas and recipe and others can then make the product for you for a fee 3= Providing access to research and development facilities 4= Offering technical assistance and expertise in product development 5= Facilitating collaboration with local farmers and producers 6= Assisting with marketing and branding of new products 7= Other (please specify):

8	Which factors would influence your willingness to collaborate with a food innovation center?	**CIRCLE ALL THAT APPLY** 1= Potential for making more money 2= Access to funding or grants for product development projects 3= Assurance of intellectual property protection for new product ideas 4= Opportunity for market expansion and growth 5= Opportunities to make food that can be stored for extended time periods 6= Increasing my community's food security and access to nutritious, healthy foods 7= Supporting my community's economic growth and job creation 8= Other (please specify):
9	How do you perceive the current demand for locally processed food products in your state and FSM?	**CIRCLE ONE** 1= High demand and growth potential 2= Moderate demand, with potential for expansion 3= Limited demand and growth potential 4= Unsure
10	What types of locally processed food products do you believe have the highest potential for success in your state and in the FSM market?	**CIRCLE ALL THAT APPLY** 1= Products with traditional or cultural significance 2= Healthy and nutritious snack options 3= Convenient and ready-to-eat meals or snacks 4= Unique or specialty products not currently available in the market 5= Products that are grown locally and for which our state and nation are known 6= Other (please specify):
11	How important do you think it is for locally made processed food products to incorporate locally sourced ingredients or flavors?	**CIRCLE ONE** 1= Very important 2= Important 3= Somewhat important 4= Not important

12	What support or resources do you believe would be most beneficial for your business in developing and marketing new locally processed food products?	**CIRCLE ALL THAT APPLY** 1= Access to financing or grants for product development 2= Technical assistance and expertise in food processing and packaging 3= Market research and consumer insights 4= Training and capacity building for staff 5= Other (please specify):
13	What is the average volume of value-added products (e.g., dried fruits, fish, spices, etc.) that your business sells monthly?	**CIRCLE ONE** 1= Less than 100 pounds 2= 100 - 500 pounds 3= 500 - 1,000 pounds 4= More than 1,000 pounds 5= Not applicable/I don't know
14	How would you describe the price sensitivity of consumers in your state and the FSM towards locally processed food products?	**CIRCLE ONE** 1= Highly price-sensitive, price significantly impacts purchasing decisions 2= Moderately price-sensitive, price is a consideration but not the sole factor 3= Somewhat price-sensitive, but quality and uniqueness are more important 4= Not very price-sensitive, willing to pay premium for quality or specialty items 5= Not applicable/I don't know
15	On average, how frequently do your customers purchase locally processed food products from your store(s)?	**CIRCLE ONE** 1= Daily 2= Weekly 3= Monthly 4= Occasionally 5= Rarely/never
16	What price range do you typically sell locally processed food products for in your state? (Per unit)	**CIRCLE ONE** 1= $1 - $5 2= $6 - $10 3= $11 - $20 4= Above $20 5= Don’t know

17	How do you anticipate consumer demand for locally processed food products to change in the next 2-3 years in your state and the FSM?	**CIRCLE ONE** 1= Increase significantly 2= Increase moderately 3= Remain relatively stable 4= Decrease moderately 5= Decrease significantly 6= Not applicable/I don't know
18	What factors do you believe would influence consumers' willingness to try and purchase new locally processed food products?	**CIRCLE ALL THAT APPLY** 1= Product quality and taste 2= Health benefits and nutritional value 3= Packaging and presentation 4= Price affordability 5= Availability of product samples or demonstrations 6= Cultural or traditional appeal 7= Word-of-mouth recommendations 8= Marketing and advertising efforts 9= Other (please specify):
19	How important do you think it is for locally processed food products to align with dietary preferences and cultural tastes of consumers in FSM?	**CIRCLE ONE** 1= Very important 2= Important 3= Somewhat important 4= Not important
20	What strategies would you recommend to increase consumer awareness and acceptance of new locally processed food products in FSM?	**CIRCLE ALL THAT APPLY** 1= Promotional discounts and offers 2= Sampling and tasting events in-store 3= Collaborating with local chefs or influencers for product endorsements 4= Educational campaigns highlighting product benefits and uses 5= Other (please specify):

21	How likely are you to actively promote and market new value-added food products developed through a food innovation center to your customers?	**CIRCLE ONE** 1= Very Likely 2= Likely 3= Neutral 4= Unlikely 5= Very Unlikely
22	What do you feel would strengthen your partnership with local food producers?	**CIRCLE ALL THAT APPLY** 1= Better Communication 2= Better Transportation 3= Better Coordination of Foods Delivered to Market 4= Better Post Harvest Storage 5= Other (please specify):
23	Do you have any suggestions for increasing the availability of local food products in your state?	**Please describe:**

End of survey script

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Food Systems Solutions Policymaker Survey

INFORMED CONSENT FORM

Your insights are crucial to informing the plans for increasing food security and job creation through the development of a sustainable local food system that includes the establishment of Food Innovation Centers in the states of the Federated States of Micronesia (FSM) that provide value addition to locally processed food products from local staple crops, fish, marine, animal, poultry and/or other local plants, vegetables, fruits and seeds.

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Food Systems Solutions Survey for Policymakers

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SECTION: PLAN FOR A FOOD INNOVATION CENTER

3	What do you perceive as the primary benefit of establishing a Food Innovation Center in FSM?	**CHOOSE ALL THAT APPLY RANKED IN ORDER OF IMPORTANCE WITH 1 BEING MOST IMPORTANT:** a:____ Job creation and economic growth b:____ Entrepreneurial opportunities c:____ Community development d:____ Increasing food security e:____ Improving nutrition and health f:____ Other (please specify)
4	Which types of locally processed foods should the center focus on?	**CHOOSE ALL THAT APPLY RANKED IN ORDER OF IMPORTANCE WITH 1 BEING MOST IMPORTANT:** a:____ Fruits and vegetables b:____ Fish and Seafood c:____ Local staple crops (e.g., taro, breadfruit) d:____ High value specialty (coffee, kava, teas, spices) e:____ Crafts f:____ Other (please specify)
5	What should be the key features of the Food Innovation Center?	**CHOOSE ALL THAT APPLY RANKED IN ORDER OF IMPORTANCE WITH 1 BEING MOST IMPORTANT:** a:____ Research and development facilities b:____ Processing and packaging equipment c:____ Shared kitchen and commercial workspace d:____ Training and education spaces e:____ Market access and distribution networks
6	How important is it to involve local farmers and producers in the planning of a Food Innovation Center?	**CIRCLE ONE** 1 = Very important 2 = Important 3 = Moderately important 4 = Not important
7	What kind of support do you believe the government should provide to a Food Innovation Center?	**CHOOSE ALL THAT APPLY RANKED IN ORDER OF IMPORTANCE WITH 1 BEING MOST IMPORTANT:** a:____ Financial subsidies b:____ Technical assistance (such as equipment and tools) c:____ Policy incentives d:____ Training e:____ Marketing and trade opportunities f:____ Other (please specify)

8	What specific policies can support farmers in supplying raw materials to a Food Innovation Center?	**CIRCLE ALL THAT APPLY** 1 = Subsidies for farming inputs 2 = Guaranteed purchase agreements 3 = Tax incentives for local producers 4 = Training programs for improved farming practices 5 = Other (please specify)
9	How can policymakers facilitate collaboration between farmers and a Food Innovation Center?	**CHOOSE ALL THAT APPLY RANKED IN ORDER OF IMPORTANCE WITH 1 BEING MOST IMPORTANT:** a:____ Organizing regular meetings with community stakeholders b:____ Creating a farmers/fishers cooperative c:____ Providing communication platforms d:____ Offering logistical support to bring input supplies (seeds, tools) to farmers/fishers e:____ Offering logistical support to get farmers/fishers food crops to market f:____ Other (please specify)
10	What measures can be taken to ensure a Food Innovation Center benefits local communities?	**CHOOSE ALL THAT APPLY RANKED IN ORDER OF IMPORTANCE WITH 1 BEING MOST IMPORTANT:** a:____ Prioritizing local hiring b:____ Implementing community-based projects c:____ Ensuring profit-sharing models d:____ Ensuring fair prices for farmers/fishers' products e:____ Facilitating transport of farmers/fishers' food crops to Food Innovation Center f:____ Other (please specify)
11	How should the success of a Food Innovation Center be evaluated in relation to farmer and community benefits?	**CIRCLE ALL THAT APPLY** 1 = Increase in local employment 2 = Improved farmer incomes 3 = Increased local food security 4 = Creation of new businesses (micro-enterprises) 5 = Increased access to fresh, nutritious and healthy foods 6 = Other (please specify)

SECTION: CAPACITY BUILDING AND INFRASTRUCTURE

12	What are the most critical areas for capacity building in the local food system?	**CHOOSE ALL THAT APPLY RANKED IN ORDER OF IMPORTANCE WITH 1 BEING MOST IMPORTANT:** a:____ Food production training techniques and practices b:____ Food processing and preservation c:____ Marketing and business skills d:____ Food safety and quality control e:____ Other (please specify)
13	To strength your local food system, which areas need most training?	**CHOOSE ALL THAT APPLY RANKED IN ORDER OF IMPORTANCE WITH 1 BEING MOST IMPORTANT:** a:____ Agricultural b:____ Fishing c:____ Aquaculture d:____ Livestock e:____ Poultry
14	Which groups should be prioritized for capacity building initiatives?	**CHOOSE ALL THAT APPLY RANKED IN ORDER OF IMPORTANCE WITH 1 BEING MOST IMPORTANT:** a:____ Farmers/Fishers b:____ Small-scale food processors c:____ Community organizations d:____ Youth and women
15	What type of infrastructure investments are most needed to support the local food system?	**CHOOSE ALL THAT APPLY RANKED IN ORDER OF IMPORTANCE WITH 1 BEING MOST IMPORTANT:** a:____ Nurseries b:____ Aquaculture hatcheries c:____ Protected cultivation (greenhouses) d:____ Cold storage e:____ Transportation f:____ Processing facilities g:____ Marketplaces and retail outlets h:____ Improved energy access on/off grid i:____ Other (please specify)
16	How do you rate the current level of infrastructure available to support food processing in FSM?	**CIRCLE ONE** 1 = Excellent 2 = Good 3 = Fair 4 = Poor 5 = No comment

17	What kind of public-private partnerships do you think are necessary to enhance food system infrastructure?	**CIRCLE ALL THAT APPLY** 1 = Investment in shared processing facilities 2 = Joint ventures for market access 3 = Collaboration on research and development 4 = Other (please specify)
18	What role should local communities play in the maintenance and management of new infrastructure?	**CIRCLE ALL THAT APPLY** 1 = Forming local management/oversight committees 2 = Participating in training on maintenance 3 = Contributing to infrastructure investment 4 = Engaging in regular review meetings 5 = Other (please specify)
19	What policies can promote the use of technology and innovation among local farmers?	**CIRCLE ALL THAT APPLY** 1 = Grants for technology adoption 2 = Partnerships with tech providers 3 = Extension training services with technological focus 4 = Educational campaigns on technology benefits

SECTION: COMMUNITY MANAGEMENT AND POLICY ADVOCACY

20	How important is policy advocacy for successful and sustainable food system development?	**CIRCLE ONE** 1 = Very important 2 = Important 3 = Moderately important 4 = Not important
21	Which policy areas should be prioritized to support successful and sustainable food system development?	**CHOOSE ALL THAT APPLY RANKED IN ORDER OF IMPORTANCE WITH 1 BEING MOST IMPORTANT:** a:____ Agricultural policy b:____ Trade and market access c:____ Health and nutrition d:____ Environmental sustainability
22	How can policymakers assist farmers in advocating for better agricultural policies?	**CHOOSE ALL THAT APPLY RANKED IN ORDER OF IMPORTANCE WITH 1 BEING MOST IMPORTANT:** a:____ Creating farmer advocacy groups b:____ Providing platforms for farmer voices c:____ Facilitating dialogues between farmers and policymakers d:____ Offering training on policy advocacy e:____ Other (please specify)

23	What initiatives can strengthen the leadership and management skills of local community leaders?	**CHOOSE ALL THAT APPLY RANKED IN ORDER OF IMPORTANCE WITH 1 BEING MOST IMPORTANT:** a:____ Leadership development programs b:____ Exchange programs with successful communities c:____ Workshops on governance and management d:____ Mentorship by experienced leaders e:____ Other (please specify)
24	How can community-based monitoring and evaluation be integrated into the project?	**CIRCLE ALL THAT APPLY** 1 = Training community members in Monitoring and Evaluation (M&E) techniques 2 = Establishing community M&E committees 3 = Regular feedback sessions with communities 4 = Using participatory tools for M&E 5 = Other (please specify)
25	What incentives can encourage community participation in policy advocacy related to food systems?	**CIRCLE ALL THAT APPLY** 1 = Recognition and awards for active participants 2 = Financial support for advocacy initiatives 3 = Capacity building in advocacy skills 4 = Platforms for showcasing advocacy success stories 5 = Other (please specify)
26	How can policymakers ensure that food policies are inclusive and consider the needs of all community members?	**CIRCLE ALL THAT APPLY** 1 = Conducting inclusive policy consultations 2 = Implementing gender-sensitive policies 3 = Prioritizing marginalized groups in policy design 4 = Monitoring and evaluating policy impacts on different community segments 5 = Other (please specify)
27	What types of communication channels should be used to keep farmers and communities informed about policy changes?	**CIRCLE ALL THAT APPLY** 1 = Community radio programs 2 = Mobile SMS alerts 3 = Social media platforms 4 = Local newspaper bulletins 6 = Other (please specify)

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1.3	Location (State/City)	**CIRCLE ONE AND WRITE ISLAND NAME (IF APPLIES)** 1 = Chuuk City_____ 2 = Kosrae City_____ 3 = Pohnpei City_____ 4 = Yap City_____ 5 = Other (Please specify) _____

2. DEMOGRAPHIC INFORMATION

Q2	Question	Response (Enumerator may fill this in without asking)
2.1	Gender of informant	**CIRCLE ONE** 1 = Male 2 = Female
2.2	Age of informant (years)	**CIRCLE ONE** 1 = 18-30 2 = 31-45 3 = 46-60 4 = Over 60

	Question	Response
3	What type of information do you believe is most critical to include in an electronic-based food systems information hub?	**RANK IN ORDER OF IMPORTANCE WITH 1= Most Important; 2= 2nd in importance etc.:** Production techniques and best practices for raw/fresh products a:____ Food processing and preservation methods for food and other products b:____ Marketing strategies, alerts, opportunities and market access c:____ Emergency services and disaster response d:____ Disease control and pest management e:____ Crop budgets and financial planning f:____ Other (please specify):
4	How frequently should an electronic information hub be updated to remain relevant and useful?	**CIRCLE ONE** 1 = Daily 2 = Weekly 3 = Monthly 4 = Quarterly 5 = Only as needed
5	What types of production information would be most valuable for farmers and producers?	**RANK IN ORDER OF IMPORTANCE WITH 1= Most Important; 2= 2nd in importance etc.:** a:____ Crop cultivation techniques b:____ Livestock management practices c:____ Aquaculture and fisheries production d:____ Sustainable forestry practices e:____ Control of invasive species f:____ Ecological restoration to coast and/or to reduce soil erosion g:____ Other (please specify):
6	Which formats would be most effective for presenting production information?	**RANK IN ORDER OF IMPORTANCE WITH 1= Most Important; 2= 2nd in importance etc.:** a:____ Written guides/fact sheets and manuals

		b:____ Video tutorials, U-Tube videos and webinars c:____ Interactive online courses d:____ In-person workshops and training sessions e:____ Radio announcements f:____ Other (please specify):
7	What aspects of food processing should the information hub focus on?	**CIRCLE ALL THAT APPLY** 1 = Small-scale processing techniques 2 = Industrial processing methods 3 = Value-added product development 4 = Food safety and quality control
8	What marketing information would be most helpful to local producers?	**RANK IN ORDER OF IMPORTANCE WITH 1= Most Important; 2= 2nd in importance etc.:** a:____ Market opportunities, prices, buyers needing product b:____ Local and regional market trends c:____ Export opportunities and requirements d:____ Branding and packaging strategies e:____ Digital marketing techniques
9	What tools or resources would assist producers in improving their marketing and sales efforts?	**RANK IN ORDER OF IMPORTANCE WITH 1= Most Important; 2= 2nd in importance etc.:** a:____ Improved market spaces b:____ Market analysis reports c:____ Marketing plan templates d:____ Online marketing platforms e:____ Networking and partnership opportunities
10	What types of emergency services information should be included in the hub?	**CIRCLE ALL THAT APPLY** 1 = Natural disaster preparedness and response 2 = Food supply chain disruptions 3 = Public health emergencies 4 = Climate change adaptation strategies 5 = Water issues 6 = Food safety 7 = Presence and notification of serious pests and diseases 8 = Other (please specify):

11	What information on disease control and pest management is most needed?	**CIRCLE ALL THAT APPLY** 1 = Identification and diagnosis of common diseases 2 = Notification when a serious pest or disease is identified in any of the states 3 = Preventative measures and best practices 4 = Treatment options and resources 5 = Integrated pest management techniques for its control
12	What formats should be used to present disease control information?	**RANK IN ORDER OF IMPORTANCE WITH 1= Most Important; 2= 2nd in importance etc.:** a:____ Written guides/fact sheets and manuals b:____ Demonstrations using video and U-Tube c:____ Interactive diagnostic tools d:____ In-person workshops and training sessions e:____ Radio announcements f:____ Expert Q&A sessions
13	What financial planning resources would be most useful for producers?	**RANK IN ORDER OF IMPORTANCE WITH 1= Most Important; 2= 2nd in importance etc.:** a:____ Crop budget templates b:____ Financial management training c:____ Access to credit and funding information d:____ Investment planning guides e:____ Other (please specify): f:____ Not needed
14	How can the information hub best support producers in financial planning?	**CIRCLE ALL THAT APPLY** 1 = Offering personalized financial advice 2 = Providing assistance in making a business plan 3 = Providing case studies and success stories 4 = Developing online budgeting tools 5 = Hosting financial planning workshops 6 = Other (please specify):

		7 = Not needed
15	How can educational institutions like the College of Micronesia contribute to the information hub?	**RANK IN ORDER OF IMPORTANCE WITH 1= Most Important; 2= 2nd in importance etc.:** a:____ Developing and providing educational content b:____ Conducting research and sharing findings c:____ Offering expert consultations d:____ Facilitating student involvement and internships e:____ Other (please specify):
16	What role should state and national leaders in the departments of agriculture, marine, and forestry play in supporting the information hub?	**RANK IN ORDER OF IMPORTANCE WITH 1= Most Important; 2= 2nd in importance etc.:** **RANK IN ORDER OF IMPORTANCE WITH 1= Most Important; 2= 2nd in importance etc.:** a:____ data and research b:____ Coordinating with local and international partners c:____ Ensuring alignment with national development goals d:____ Other (please specify):
17	What measures should be taken to ensure the information hub is accessible and useful to all potential users?	**RANK IN ORDER OF IMPORTANCE WITH 1= Most Important; 2= 2nd in importance etc.:** a:____ Ensuring mobile-friendly design b:____ Offering content in multiple languages (including spoken content in local languages) c:____ Providing offline access options d:____ Conducting user training and support sessions e:____ Other (please specify):

End of survey script We thank you for taking the time to spend with us, answering the survey.

RUTGERS

Food Systems Solutions Technical Contacts and/or IT Personnel Survey

INFORMED CONSENT FORM

Your insights are crucial to informing the plans for increasing food security and job creation through the development of a sustainable local food system that includes the establishment of Food Innovation Centers in the states of the Federated States of Micronesia (FSM) that provide value addition to locally processed food products from local staple crops, fish, marine, animal, poultry and/or other local plants, vegetables, fruits and seeds.

Project Title: Strengthening Food Security in the Federated States of Micronesia: An Innovative Approach to Enhancing Information Systems, Establishing an FSM Food Innovation Center and Supporting Local Capacity Building.

You are invited to participate in a research study that is being conducted by Rutgers University on behalf of the Federated States of Micronesia (FSM)'s Department of Resources and Development led by Dr Ramu Govindasamy, a Professor in the Department of Agricultural, Food and Resource Economics at Rutgers University, Rutgers Researchers and Faculty with collaborating NGO's and other local partners in each of the four states. The purpose of this research is to gather information from food-system participants in the FSM regarding their specific needs for enhanced Information Systems, a Food Innovation Center, and Capacity Building to strengthen food security in the FSM to best inform the national and state governments as they invest in sustainable local food system development.

Approximately 270 farming households and 270 consumers and 196 professionals involved in food production and food security from the state, national and educational communities will participate in the study across the four FSM states, and each individual's participation will last approximately 30-45 minutes. From each household selected, surveys will be conducted for men and women (ages 18-65 years).

The study procedures include responding to an in-person survey about Improved Food System Information Systems, development of a flexible and responsive Food Innovation Center, Food System capacity building infrastructure including technical and management capacity and employment opportunities, and community management and policy advocacy capability. within all four FSM states. The objective is to understand better your state's current situation relative to food system information systems, development of a flexible and responsive Food Innovation Center, Food System capacity building infrastructure including technical and management capacity and employment opportunities, and community management and policy advocacy capability. The FSM Department of R&D, the FSM Federal Government, in concert with your state government, will use this data and your responses to better invest in strategies that improve peoples' livelihoods and food security.

This research is anonymous. Anonymous means that I will record no information about you that could identify you. This means that I will not record your name, address, phone number, date of birth, etc. If you agree to take part in the study, you will be assigned a random code number that will be used on each test and the questionnaire. There will be no way to link your responses back to you. Therefore, data collection is anonymous.

The research team and the Institutional Review Board at Rutgers University are the only parties that will be allowed to see the data, except as may be required by law. If a report of this study is published, or the results are presented at a professional conference, only group results will be stated. All study data will be kept for at least three years. Responses may be used or distributed to investigators for other research without obtaining additional informed consent from you.

There are no foreseeable risks to participation in this study. You may receive $10 for taking part in this study. Participation in this study is voluntary. You may choose not to participate, and you may withdraw at any time during the study procedures. In addition, you may choose not to answer any questions with which you are not comfortable.

RUTGERS

Food Systems Solutions Technical Contacts and/or IT Personnel Survey

If you have any questions about the study or study procedures, you may contact either of us at:

Principal Investigator:
Ramu Govindasamy, Professor and Chair, Dept. of Agricultural, Food and Resource Economics
Food Distribution Research Society (FDRS) Past President
Associate Director, New Use Agriculture and Natural Plant Products
Extension Specialist, Rutgers Cooperative Extension
Rutgers-The State University of New Jersey
55 Dudley Road
New Brunswick, NJ 08901-8520
Tel: 848-932-9192; Fax: 732-932-8887

OR:
James E. Simon, Distinguished Professor of Plant Biology
Director, New Use Agriculture and Natural Plant Products Program (NUANPP),
Director, Center for Agricultural Food Ecosystems (RUCAFE), The New Jersey Institute of Food, Nutrition & Health, Rutgers University, Department of Plant Biology-Foran Hall
59 Dudley Road New Brunswick, New Jersey 08901
Email: jimsimon@rutgers.edu
Tel: 848-932-6239; Fax: 732-932-9377

If you have questions, concerns, problems, information or input about the research or would like to know your rights as a research participant, you can contact the Rutgers IRB/Human Research Protection Program via phone at (973) 972-3608 or (732) 235-9806 OR via email irboffice@research.rutgers.edu, or you can write us at 335 George Street, Liberty Plaza Suite 3200, New Brunswick, NJ 08901.

By beginning this research, you acknowledge that you are 18 years of age or older, have read the information and agree to take part in the research, with the knowledge that you are free to withdraw your participation without penalty.

Signature of Investigator/Individual Obtaining Consent:

To the best of my ability, I have explained and discussed all the important details about the study including all the information contained in this consent form.

Investigator/Person Obtaining Consent from Respondent: (Print)

Signature:_____Date:_____

Food System Solutions Survey for Technical Contacts or IT Personnel

Thank you for participating in this survey.

Please select the most appropriate answer for each question provided.

1. ENUMERATOR INFORMATION

Q1	Question	Response
1.1	Enumerator name	
1.2	Date of Interview	
1.3	Location (State/City)	**CIRCLE ONE AND WRITE ISLAND NAME (IF APPLIES)** 1 = Chuuk City_____ 2 = Kosrae City_____ 3 = Pohnpei City_____ 4 = Yap City_____ 5 = Other (Please specify) _____

2. DEMOGRAPHIC INFORMATION

Q2	Question	Response (Enumerator may fill this in without asking)
2.1	Gender of informant	**CIRCLE ONE** 1 = Male 2 = Female
2.2	Age of informant (years)	**CIRCLE ONE** 1 = 18-30 2 = 31-45 3 = 46-60 4 = Over 60

	Question	Response
3	In your capacity as communication officer, how would you describe your communication systems?	**PLEASE DESCRIBE:**
4	Do you now monitor your information systems to track the performance of communication systems, including latency, download speeds, and user feedback?	**CIRCLE ONE** 1 = Yes (please answer 4.1) 2 = No (please answer 4.2)
4.1	If yes, what have you learned?	**PLEASE DESCRIBE:**
4.2	If no, why not?	**PLEASE DESCRIBE:**
5	How do you suggest that your network be continuously monitored? Who does it now?	**PLEASE DESCRIBE:**
6	Do you assess your server performance?	**CIRCLE ONE** 1 = Yes (please answer 6.1) 2 = No. (please answer 6.2)
6.1	If yes, how?	**PLEASE DESCRIBE:**
6.2	If no, do you think it should?	**PLEASE DESCRIBE:**
7	How can your server be improved?	**PLEASE DESCRIBE:**

8	Have you collected data on user feedback regarding their experiences with the communication systems? If yes, what data and can you share?	**CIRCLE ONE** 1 = Yes 2 = No
9	When you are preparing information to share, do you test features such as pre-downloading content, local data storage, and offline data synchronization when internet connectivity is available?	**CIRCLE ONE** 1 = Yes 2 = No
10	Have you done any stakeholder mapping as to where you believe your customers/clients reside and thus Identify such distribution points across the islands where growers and residents could access offline content updates?	**CIRCLE ONE** 1 = Yes 2 = No
11	How do you distribute updated information?	**CIRCLE ONE** 1= Use physical media (e.g., USB drives, DVDs) 2= Create or link to a state-wide website that allows free access to all FSM users to access information on agriculture, weather and other critical information on food production systems and food security. 3= Other_____
12	What support does the state or national government provide?	**PLEASE DESCRIBE:**

SECTION: COMMUNICATION

	Question	Response
13	Do you now use SMS-based systems to deliver agricultural information, market updates, and weather forecasts to growers and residents?	**CIRCLE ONE** 1= Yes 2= No
14	Do you now optimize message size and compress data to minimize the impact of slow internet connections?	**CIRCLE ONE** 1= Yes 2= No
15	Do you now use voice-based hotlines with interactive voice response (IVR) systems to provide agricultural information and guidance?	**CIRCLE ONE** 1= Yes 2= No
16	Can you modify the bandwidth codecs?	**CIRCLE ONE** 1 = Yes 2 = No
17	Can you utilize low-bandwidth codecs to test the transmission of voice data efficiently over slow internet connections?	**CIRCLE ONE** 1 = Yes 2 = No
18	Do you optimize data transmission by using compressed data formats such as ***gzip*** or ***deflate***?	**CIRCLE ONE** 1 = Yes 2 = No 3= I don't know
19	Are you able to compress large files, including images and videos, before transmission to reduce data size and enhance download speed?	**CIRCLE ONE** 1 = Yes 2 = No
20	Can you utilize content delivery networks (CDNs) to distribute agricultural content across servers closer to the islands, reducing the distance data needs to travel?	**CIRCLE ONE** 1 = Yes 2 = No

21	Can you leverage CDNs' caching capabilities to deliver content faster to users, especially for static information like guides and tutorials?	**CIRCLE ONE** 1 = Yes 2 = No
22	What type of dissemination methods do you now use to make information available to others?	**CIRCLE ALL THAT APPLY** 1= Use a centralized information platform that consolidates data and analytical products, accessible through web portals 2= Or through mobile applications 3= Do you now develop tailored communication strategies, including regular reports, bulletins, and alerts, to reach different stakeholder groups 4= Radio 5= TV 6= Newspapers, bulletins (hard print) 7= Other (please specify):
23	What kinds of trainings are needed for those involved in preparing information?	**CIRCLE ALL THAT APPLY** 1= Maintaining and operating communication systems 2= Skills to troubleshoot connectivity issues 3= Perform hardware maintenance 4= Manage local data centers 5= Ways growers and residents can effectively utilize the communication systems. 6= Accessing offline content, using mobile applications, and understanding SMS and voice-based services. 7= Other (please specify):

24	What would you consider your biggest challenge and how would you resolve it?	**PLEASE DESCRIBE:**

End of survey script

We thank you for taking the time to spend with us, answering the survey.

RUTGERS
School of Environmental and Biological Sciences

Food Systems Solutions Trainer Survey

INFORMED CONSENT FORM

As your state moves forward in developing strategies for strengthening food production, food security and the value chain from collecting, to harvest, to production, postharvest handling, storage, processing and distribution for food production, food preservation and food consumption, your communities will rely on you to provide them with the information they need directly or through the training of students via a vocational school or through COM. Thus, this series of questions is to ask you what are the gaps and training needs that are missing relative to you, your colleagues, your institutions from human capacity to infrastructure and facilities (labs in fields, greenhouse, marinas, hatcheries etc.) that are needed to training the younger generation in food production and to keep you informed as a teacher/trainer.

Project Title: Strengthening Food Security in the Federated States of Micronesia: An Innovative Approach to Enhancing Information Systems, Establishing an FSM Food Innovation Center and Supporting Local Capacity Building.

You are invited to participate in a research study that is being conducted by Rutgers University on behalf of the Federated States of Micronesia (FSM)'s Department of Resources and Development led by Dr Ramu Govindasamy, a Professor in the Department of Agricultural, Food and Resource Economics at Rutgers University, Rutgers Researchers and Faculty with collaborating NGO's and other local partners in each of the four states. The purpose of this research is to gather information from food-system participants in the FSM regarding their specific needs for enhanced Information Systems, a Food Innovation Center, and Capacity Building to strengthen food security in the FSM to best inform the national and state governments as they invest in sustainable local food system development.

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Food Systems Solutions Trainer Survey

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Food System Solutions Trainer Survey

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1. ENUMERATOR INFORMATION

Q1	Question	Response
1.1	Enumerator name	
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1.3	Location (State/City)	**CIRCLE ONE AND WRITE ISLAND NAME (IF APPLIES)** 1 = Chuuk City_____ 2 = Kosrae City_____ 3 = Pohnpei City_____ 4 = Yap City_____ 5 = Other (Please specify) _____

2. DEMOGRAPHIC INFORMATION

Q2	Question	Response (Enumerator may fill this in without asking)
2.1	Gender of informant	**CIRCLE ONE** 1 = Male 2 = Female
2.2	Age of informant (years)	**CIRCLE ONE** 1 = 18-30 2 = 31-45 3 = 46-60 4 = Over 60

	Question	Response
Q3	Are you prepared and have the needed training to assist families and others on:	**CIRCLE ALL THAT APPLY** 1 = Producing more food 2 = Post-harvest handling and processing of locally grown foods 3 = Traditional methods of agroforestry 4 = Production systems to sustain and improve the land and marine

	Question	Response
Q4	Are you trained to teach and mentor others on CLIMATE CHANGE?	**CIRCLE ALL THAT APPLY** 1 = Climate change adaptation (Save crops from sea level rise, saltwater inundation, heavy rain) - Climate resilient crops (e.g. Saltwater resistant taro) 2 = Sustainable farming and land management (How to keep the soil good for years, prevent erosion, etc.) 3 = Ways to access emergency weather information and emergency responses for water, safety, other 4 = Invasive species management 5 = Techniques and approaches to reducing soil erosion 6 = Techniques in restorative forestry 7 = Techniques in rehabilitation or improving coral reefs and coastal land preservation 8 = Water collection and storage 9 = Tools to measure and track the weather
Q4.1	Would you be interested in taking workshops and trainings to get up to speed or better trained in any/all of the above?	**CIRCLE ONE** 1 = Yes 2 = No
Q4.2	What equipment or supplies would you like to have available in order to address this topic?	

	Question	Response
Q5	Are you trained to teach and mentor others in basic AGRICULTURE for home consumption and/or commercial farming and fisheries?	**CIRCLE ALL THAT APPLY** AGRICULTURE 1 = General crop production/Agriculture training/Crop planting timing 2 = Local/Traditional Agriculture/Fishery Knowledge (Agroforestry, etc.) 3 = Seed collection, seed saving and growing from seed and vegetative propagation 4 = Improving your soil, working with soils, types of soils, testing, soil amendments 5 = Making local fertilizer/compost and then ways to store and applying (solid & compost tea) 6 = Do you have sufficient expertise and hands-on experience with each of the following crops do you want/need more training and information on growing, harvesting, processing of these specific crops (check or circle each that is of interest): 6 - A - Swamp taro or hard taro 6 - B - Land taro or soft taro 6 - C - Breadfruit 6 - D - Banana 6 - E - Coconut 6 - F - Copra (coconut product) 6 - G - Yam/Sweet Potato 6 - H - Mango 6 - I - Pineapple 6 - J - Limes/lemons 6 - K - Watermelon and other Melons 6 - L - Tapioca 6 - M - Papaya 6 - N - Soursop 6 - O - Black Pepper 6 - P - Hot peppers 6 - Q - Sakau (Kava) 6 - R - Sugar cane 6 - S - Cucumber and Squash 6 - T - Vegetables (Cabbage, Green Beans, Spinach) 6 - U - Eggplant and Tomatoes 6 - V - Chestnut 6 - W - Betelnut/Betel Leaf 6 - X - Tangerine/Orange

		6 - Y - Medicinal crops (example: Noni) 6 - Z - Other (please specify) _____ LIVESTOCK 7 = General livestock management 8 = Make local pig/chicken feed 9 = How to use wood chipper 10 = Other (please specify) _____ MARINE/ACQUACULTIURE 11 = How to fish, fishing safety, Search & Rescue 12 = Local/Traditional fishing knowledge, moon-phase calendar 13 = Sustainable fishing, spawning knowledge, male/female ID 14 = Marine invasive species management 15 = Make local FADs using local materials 16 = Other (please specify) _____
Q5.1	Would you be interested in taking workshops and trainings to get up to speed or better trained in any/all of the above?	**CIRCLE ONE** 1 = Yes 2 = No
Q5.2	What equipment or supplies would you like to have available in order to address this topic?	**PLEASE DESCRIBE:**

	Question	**Response**
Q6	Are you trained to teach and mentor others on these TECHNOLOGIES:	**CIRCLE ALL THAT APPLY** 1= Greenhouse growing with protected systems 2= Hydroponics 3= Nursery management 4= Sac and container gardening 5= Water collection, storage, and management 6= Aquaculture (fish, invertebrates, mangrove crabs, turtles, shrimp/eel) 7= Hydroponics

		8= Hatchery 9= Cold storage (affordable lower cost) 10= Inclusion of solar power 11= Irrigation technologies (drip, trickle, overhead)
Q6.1	Would you be interested in taking workshops and trainings to get up to speed or better trained in any/all of the above?	**CIRCLE ONE** 1 = Yes 2 = No
Q6.2	What equipment or supplies would you like to have available in order to address this topic?	**PLEASE DESCRIBE:**

Q7	Are you trained to teach and mentor others on MARKETING?	**CIRCLE ALL THAT APPLY** 1 = Food preservation/processing/ packaging/marketing/handling (Tuna jerky, pork to sell, fish jerky, fish meal, smoking foods, drying foods, grinding and making into flour, mixing and product development) 2 = How to market products (make sellable) 3 = Value added/niche markets
Q7.1	Would you be interested in taking workshops and trainings to get up to speed or better trained in any/all of the above?	**CIRCLE ONE** 1= Yes 2= No
Q7.2	What equipment or supplies would you like to have available in order to address this topic?	**PLEASE DESCRIBE:**

	Question	Response
Q8	Are you trained to teach and mentor others on HEALTH AND NUTRITION relative to people and/or animals/poultry?	**CIRCLE ALL THAT APPLY** 1 = General health and nutrition 2 = How to prepare (easy) dishes with local foods (fish)
Q8.1	Would you be interested in taking workshops and trainings to get up to speed or better trained in any/all of the above?	**CIRCLE ONE** 1 = Yes 2 = No
Q8.2	What equipment or supplies would you like to have available in order to address this topic?	

	Question	Response
Q9	Are you trained to teach and mentor others on BUSINESS MANAGEMENT?	**CIRCLE ALL THAT APPLY** 1 = How to run a business, management, leadership, business plan 2 = Financing/financial management including record keeping and accounting 3 = How to prepare application for a loan or investment 4 = How to inform others of your business and ways to generate business 5 = Training on applicable laws/regulations 6 = Other Technologies (please specify): _____
Q9.1	Would you be interested in taking workshops and trainings to get up to speed or better trained in any/all of the above?	**CIRCLE ONE** 1 = Yes 2 = No

Q9.2	What equipment or supplies would you like to have available in order to address this topic?	

Q10	Does your employer (national, state, local government, private sector, educational institution) provide opportunities for your personal and professional training and development?	**CIRCLE ONE** 1 = Yes 2 = No
Q10.1	If YES to Q10 Please state what they are.	
Q10.2	If NO to Q10 Please indicate what opportunities would further your professional development.	

Q11	Are you trained in internet searching of data bases?	**CIRCLE ONE** 1 = Yes 2 = No
Q12	Are you comfortable in using computers and software?	**CIRCLE ONE** 1 = Yes 2 = No
Q13	Are you comfortable preparing reports and documenting your work and outputs?	**CIRCLE ONE** 1 = Yes 2 = No
Q14	Do you have access to computers and the internet?	**CIRCLE ALL THAT APPLY** 1 = Yes, at work 2 = Yes, at home 3 = No

Q15	Would you be interested in further graduate studies, if you can still keep your job?	**CIRCLE ONE** 1 = Yes, definitely 2 = Maybe 3 = No
Q16	Would you be willing to spend some time overseas for such training (or does your work/family preclude that opportunity)?	**CIRCLE ONE** 1= Yes 2= No
Q17	Would you be willing to pursue on-line trainings and even graduate programs and certification programs on-line?	**CIRCLE ONE** 1 = Yes 2 = No

Q18	What facilities including equipment would help you in training your students?	**PLEASE DESCRIBE:**
Q19	Have you conducted lab and/or field/marine research?	**CIRCLE ONE** 1 = Yes 2 = No
Q19.1	If YES to Q19: Please provide an example.	
Q19.2	If NO to Q19: Are you interested in learning this?	**CIRCLE ONE** 1 = Yes 2 = No

Q20) What do you see as the biggest gaps in expertise and knowledge in this sector?

End of survey script. We thank you for taking the time to spend with us, answering the survey.