**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 Kosrae State:

## *Food Systems Solutions Data Collection*

## *Methods and Results*

RUTGERS

## Acknowledgements:

This addendum is part of the US Department of Commerce's Economic Development Administration (EDA) funded project to the national Government of the Federated States of Micronesia: *"Food Systems Solutions: 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"* (Grant # ED22SEA3070014).

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 for Kosrae 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 University. 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, our partnering NGO Kosrae Conservation and Safety Organization (KCSO) facilitated trained local enumerators to conduct the food system stakeholder interviews. 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 data collection for this FSM National Food Systems Solution Project was conducted across Kosrae's four municipalities of Utwe, Malem, Lelu, and Tafunsak from July 2024 to September 2024. A total of 186 interviews were completed. Of this total, 65 surveys were conducted with food producers, another 65 with consumers, 10 with community management leaders, 11 with food distributors and retailers representing store owners and other commercial operators, 4with food distributors and retailers representing restaurants, 10 with trainers, 8 with information content providers, 3 with information infrastructure providers, 3 with technical IT contacts, and 7 with policymakers.

The interviewees were randomly selected and included men and women between the ages of 18 and 65. The surveys were conducted by Kosrae Conservation and Safety Organization (KCSO) staff, all of whom were CITI certified prior to conducting the studies. Surveys were administered through one-on-one interviews as well as small group and stakeholder consultations. The small group consultation method was used to collect data from producers, consumers, trainers, community managers, and policymakers, while the one-on-one interview method was applied to the other target groups.

*Study population and sample selection:* Producers accounted for 66 of the surveys conducted across the four municipalities of Tafunsak, Lelu, Malem, and Utwe. To capture a broad representation of food production activities, enumerators identified producers as individuals engaged in fishing, livestock rearing, or farming and harvesting, regardless of whether these activities were full time occupations or supplemental income sources. Given Kosrae's small population, very few individuals engage in large scale or purely commercial food

production. Therefore, the surveyed producers primarily included those who engage in food related activities on a part time or supplemental basis.

Consumers represented another 65 surveys distributed across all four municipalities. These individuals were identified as those who purchase or use food products within their households but do not produce food for sale. In order to reflect a range of consumption habits, enumerators ensured that participants were drawn from various age brackets.

Community management was represented by 10 survey participants who held significant social and leadership roles in Kosrae's communities. Respondents included local hamlet leaders, leaders of women's groups, community group organizers, and all four municipal mayors. The selection process ensured representation across municipalities and the leadership systems, capturing diverse perspectives on governance, community management, and community life.

Seven policymakers participated in the survey, all of whom were members of Kosrae's legislative branch. Their perspectives provided insights into the policy environment shaping food systems, commerce, and community welfare.

**2024 Kosrae State Food System Solutions Survey summary:**

Producer Survey: 66 surveys conducted
Consumer Survey: 65 surveys conducted
Community Management Leader Survey: 10 surveys conducted
Food Distributors and Retailers: 15 surveys conducted
- Local markets: 11 surveys conducted
- Restaurants: 4 surveys conducted

Trainer Surveys: 10 surveys conducted
Information Content Providers Survey: 8 surveys conducted
Information Infrastructure Provider Survey: 3 surveys conducted
Technical IT Survey: 3 surveys conducted
Policymaker Survey: 7 surveys conducted

*Questionnaire and interview of study participants:* The surveys included several other categories of stakeholders whose participation was important to the overall understanding of Kosrae's food system.

Eight information content providers were surveyed, including representatives from the Kosrae State Public Information Office, the Weather Station, and the private sector. These participants play key roles in generating and sharing information on agriculture, food safety, and public health.

Three information infrastructure providers were surveyed, representing the Kosrae State Broadcast Authority, FSM Telecom, and the emerging internet provider Startlink. These surveys

offered critical insights into the accessibility and functionality of information technology on the island, highlighting both challenges and opportunities for digital infrastructure.

Three technical IT contacts from the Department of Education, the Project Management Office, and the Department of Health Services participated. Their perspectives are crucial for understanding the current state of IT resources and the potential for technological development in support of food systems.

Eleven food distributors and retailers representing stores were surveyed. These included individuals responsible for food orders and sales in their businesses, offering a clear view of availability and demand for local food products. Some participants sold their own products while others sold goods supplied by different producers. These insights are valuable in understanding distribution, retail dynamics, and the prospects for growth in local agriculture markets.

Four restaurant owners were also surveyed, specifically Kosrae Nautilus Resort, Treelodge Restaurant, Pete's Diner, and Island Hopper Restaurant. These participants highlighted recurring challenges such as high production costs and limited availability of raw local products.

Ten trainers, including College of Micronesia Cooperative Research and Extension certified trainers, were interviewed. Their input underscores the importance of capacity building in sustainable agriculture, food production, and resource management. Trainers serve as key knowledge brokers within their communities, transferring skills that support local producers and sustainable practices.

*Data limitation:* While the survey covered a broad and diverse range of stakeholders, certain limitations exist. Kosrae's small population size meant that many producers and distributors are engaged in activities on a part time basis rather than as full commercial enterprises. Similarly, the limited number of IT specialists and infrastructure providers restricted the scope of insights in this area. Despite these limitations, careful sampling across municipalities and social categories allowed the survey to capture meaningful diversity and balance across respondents.

*Summary of survey insights:* This survey initiative provided a comprehensive perspective on the food system in Kosrae by engaging producers, consumers, community managers, policymakers, distributors, trainers, and information providers. The data reflects a multi-sectoral and inclusive understanding of the local socio-economic dynamics that shape food production, distribution, and consumption. It highlights both the strengths of Kosrae's community-based systems and the challenges posed by limited infrastructure, small scale production, and dependency on imported foods. The findings also serve as an important resource for designing future initiatives aimed at strengthening Kosrae State's food system, supporting local agriculture, and enhancing infrastructure in ways that better serve community needs.

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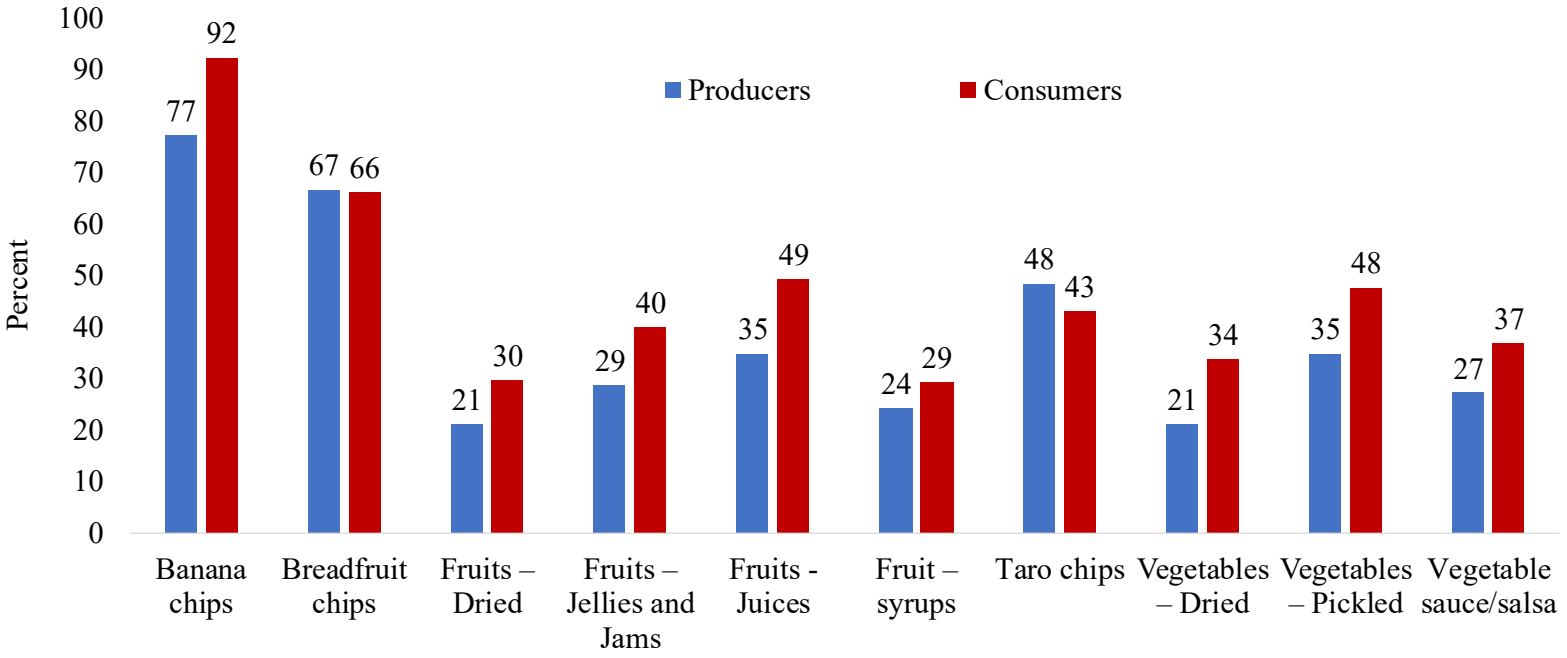
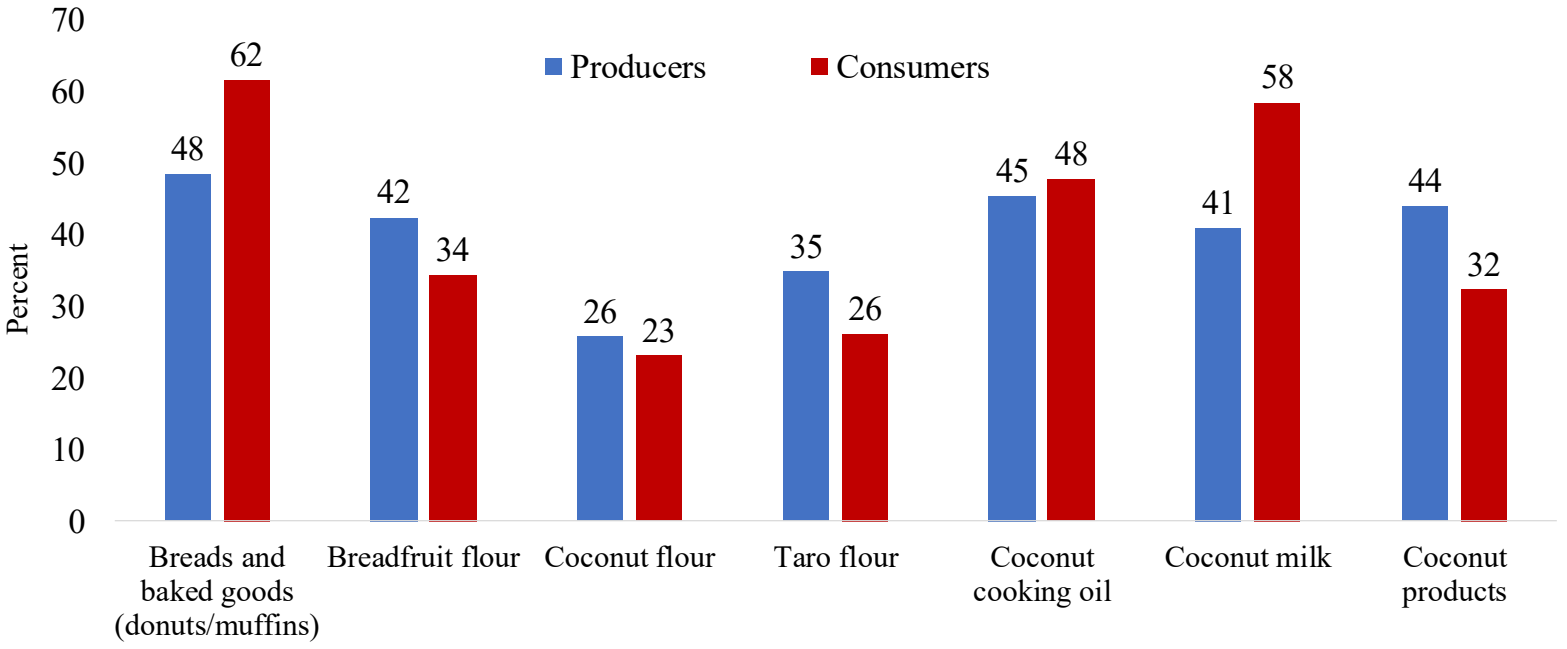
# General and Combined
# Stakeholders

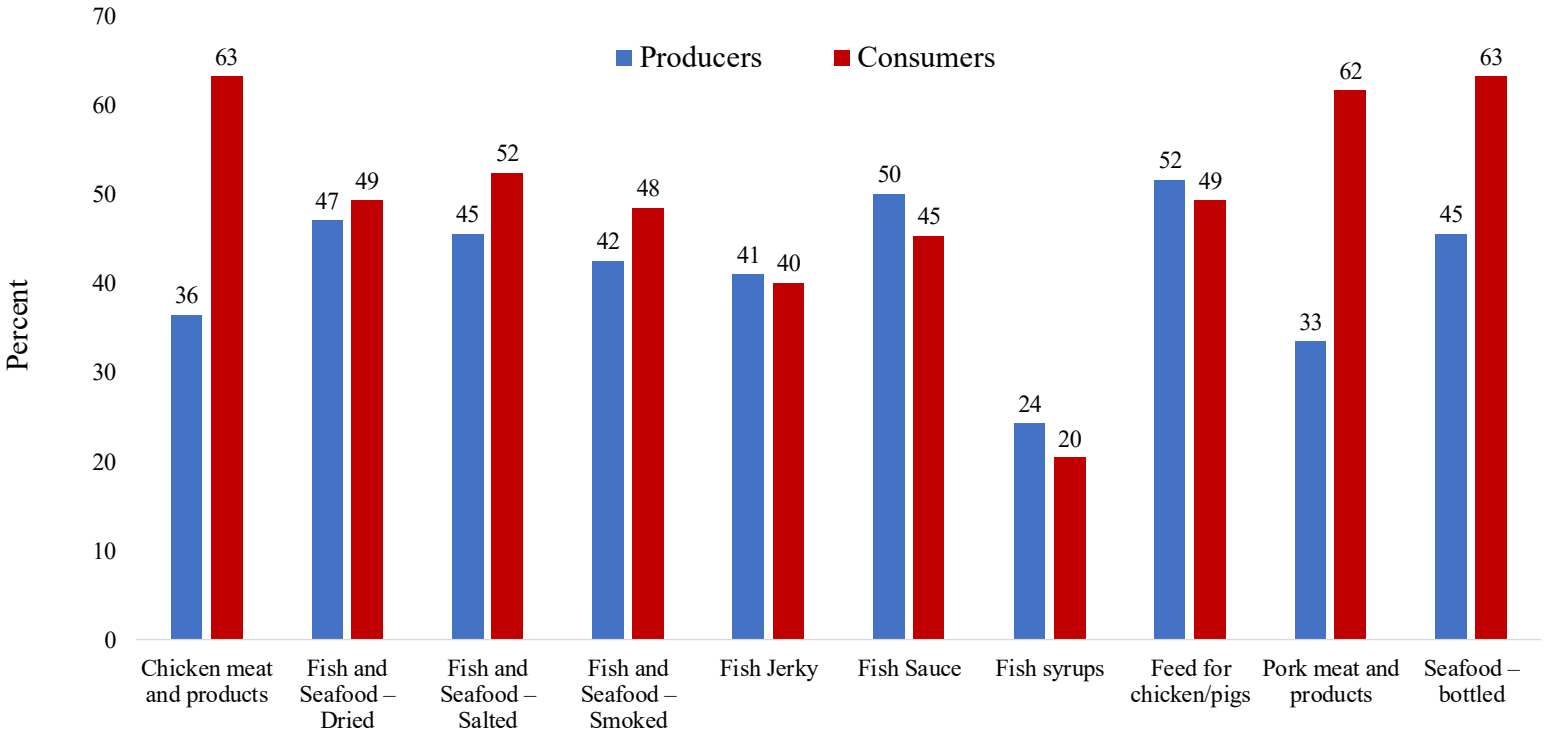
## Kosrae State : Producers and Consumer Preference – Fruits and Vegetables



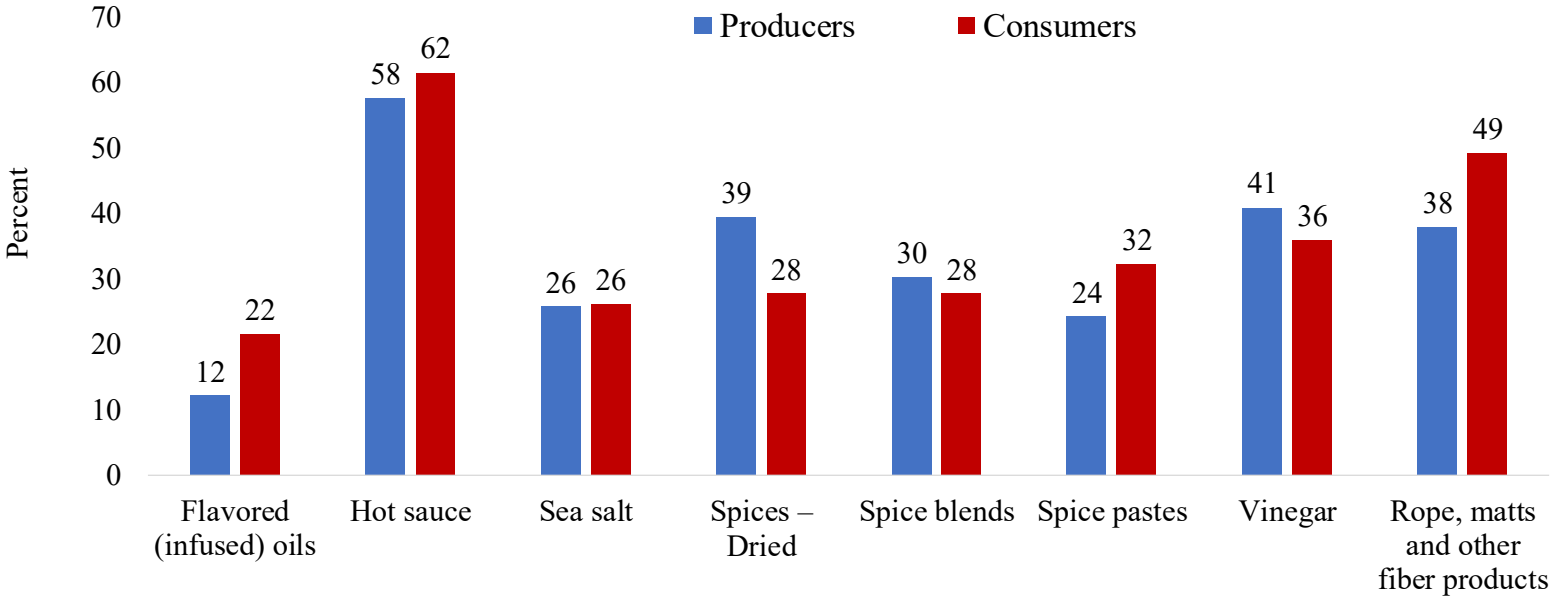

## Kosrae State : Producers and Consumer Preference – Baking Products



## Kosrae State : Producers and Consumer Preference – Meat and Seafood Products

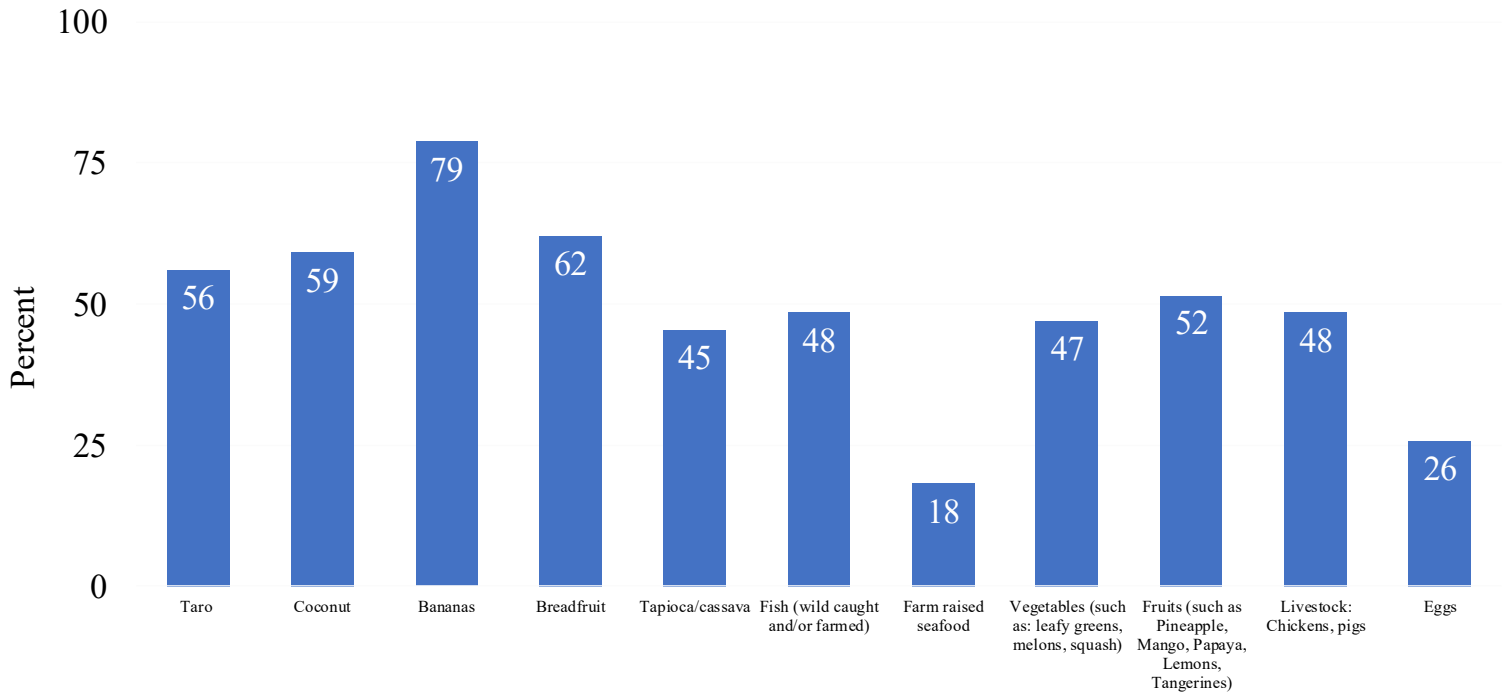



## Kosrae State : Producers and Consumer Preference – Seasoning and Misc. Products

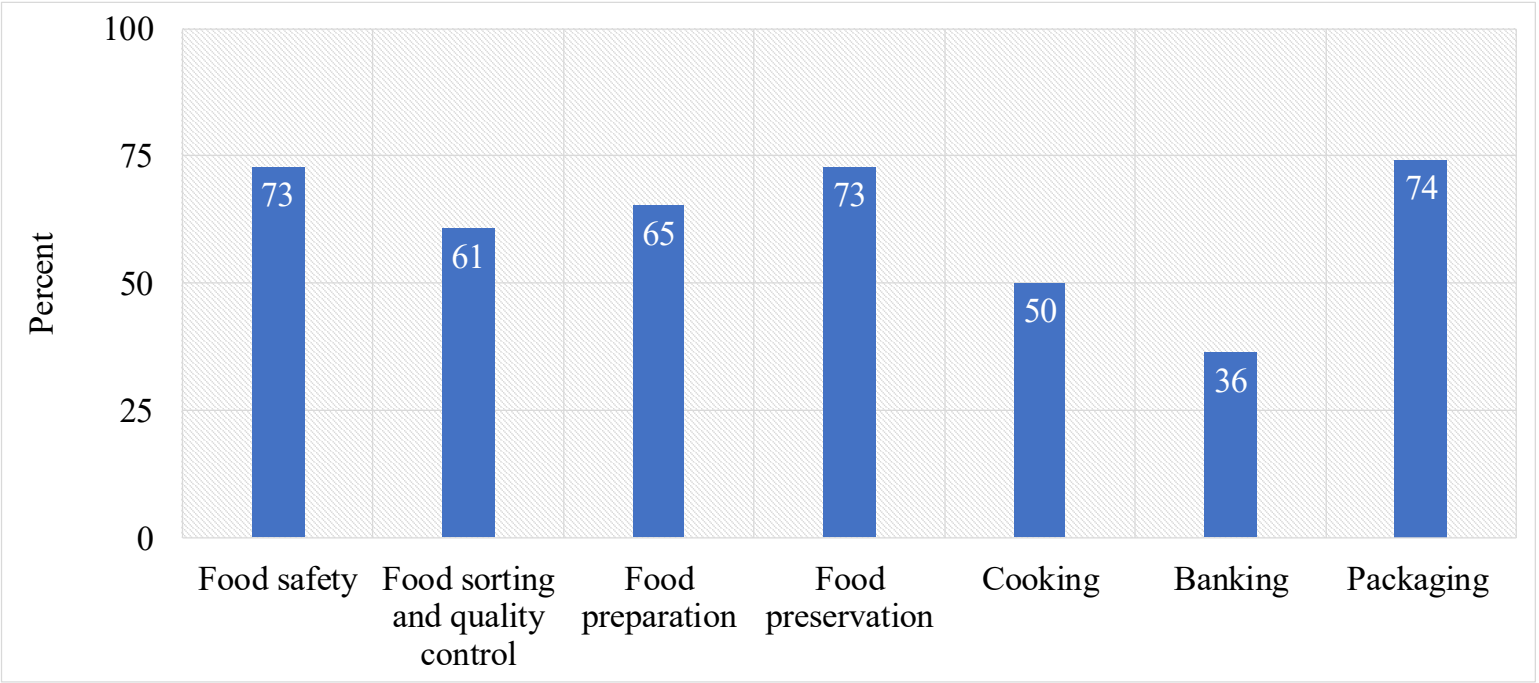


# Federated States of Micronesia
# Food Systems Solutions Project
# FSS Survey Data Tables and Charts
# Kosrae State
# Producers

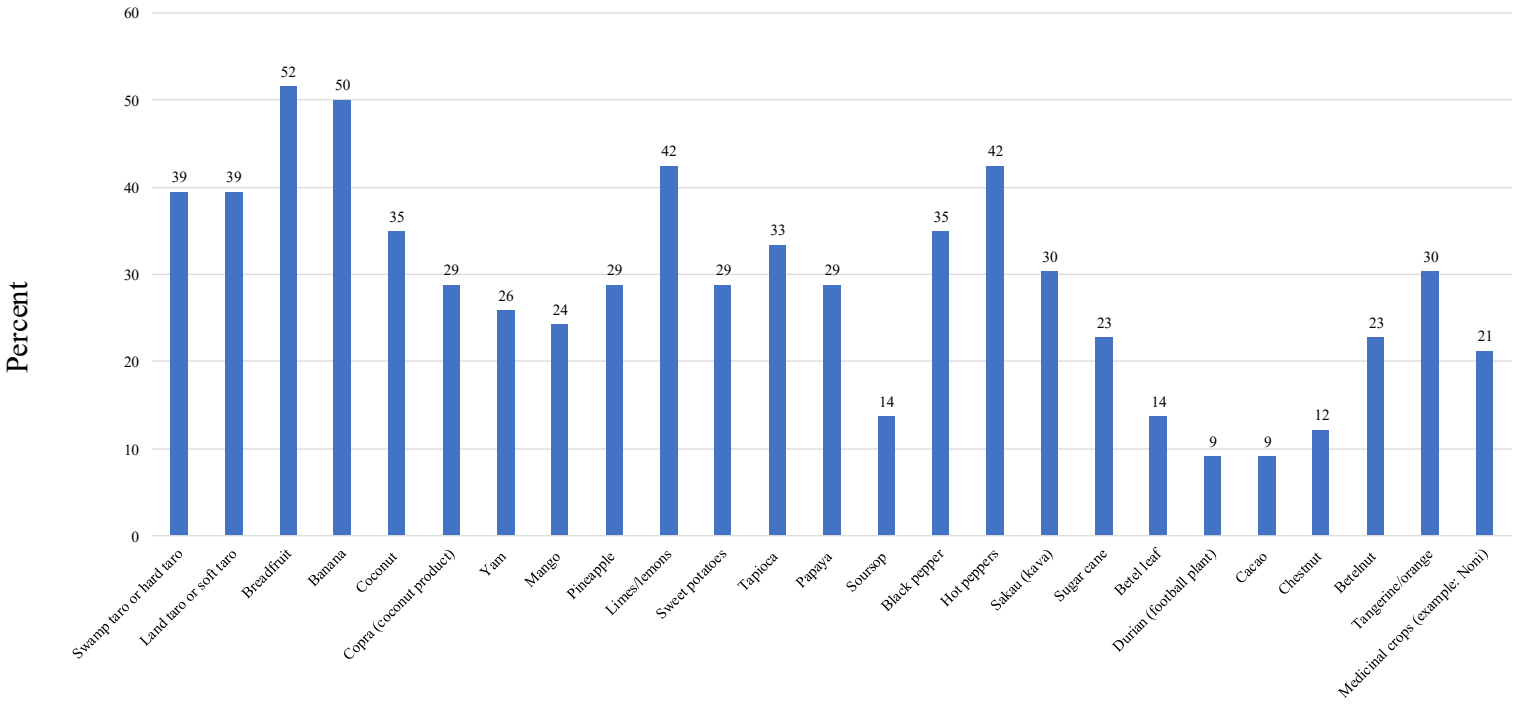
Kosrae State : What food could you regularly provide to a food processing plant ?



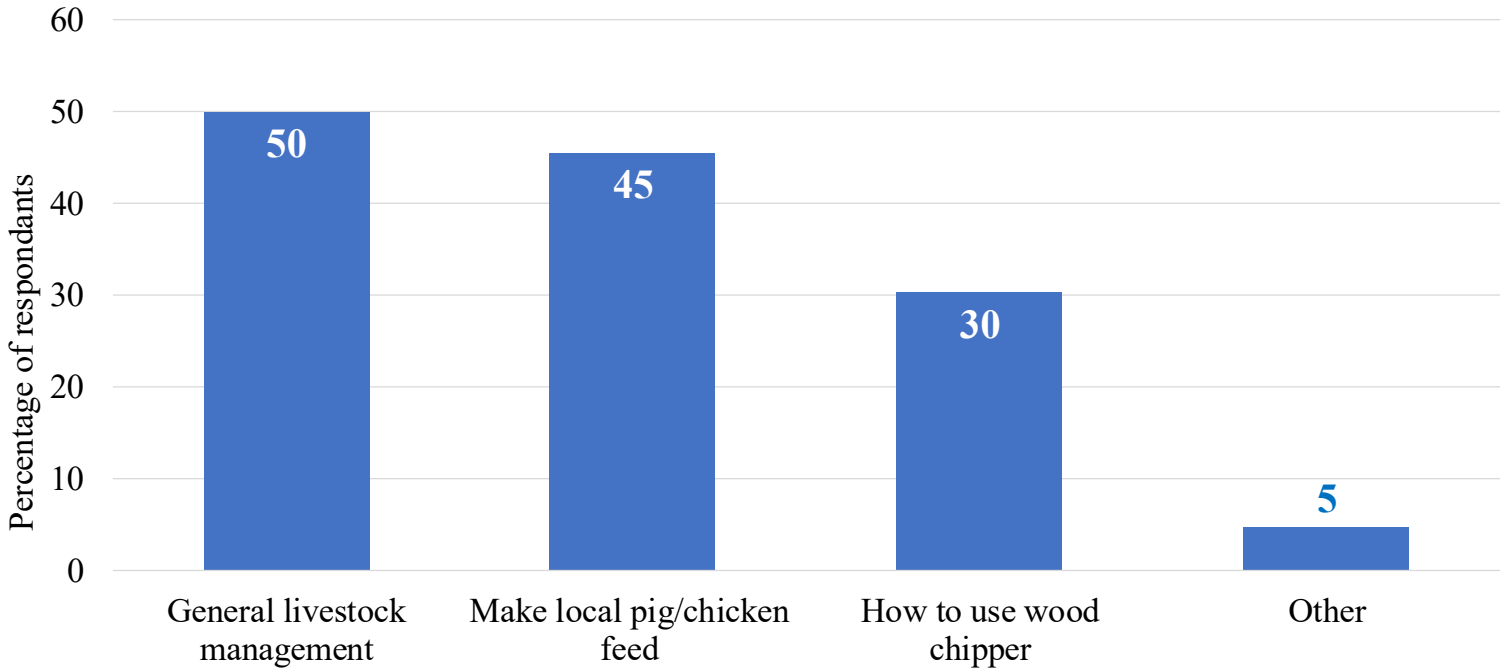

Kosrae State: Which food processing skills are you interested in developing ?



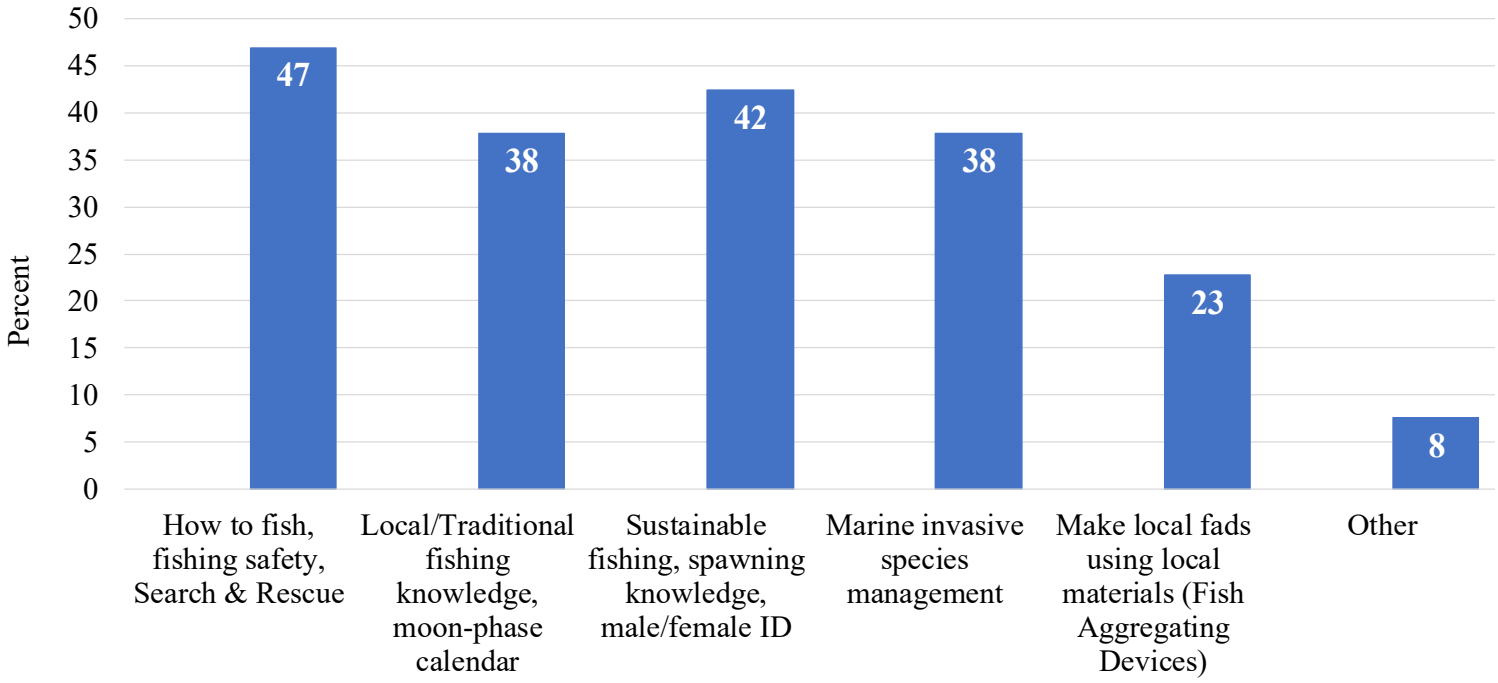
## Kosrae State : What agricultural skill would you like to develop ?



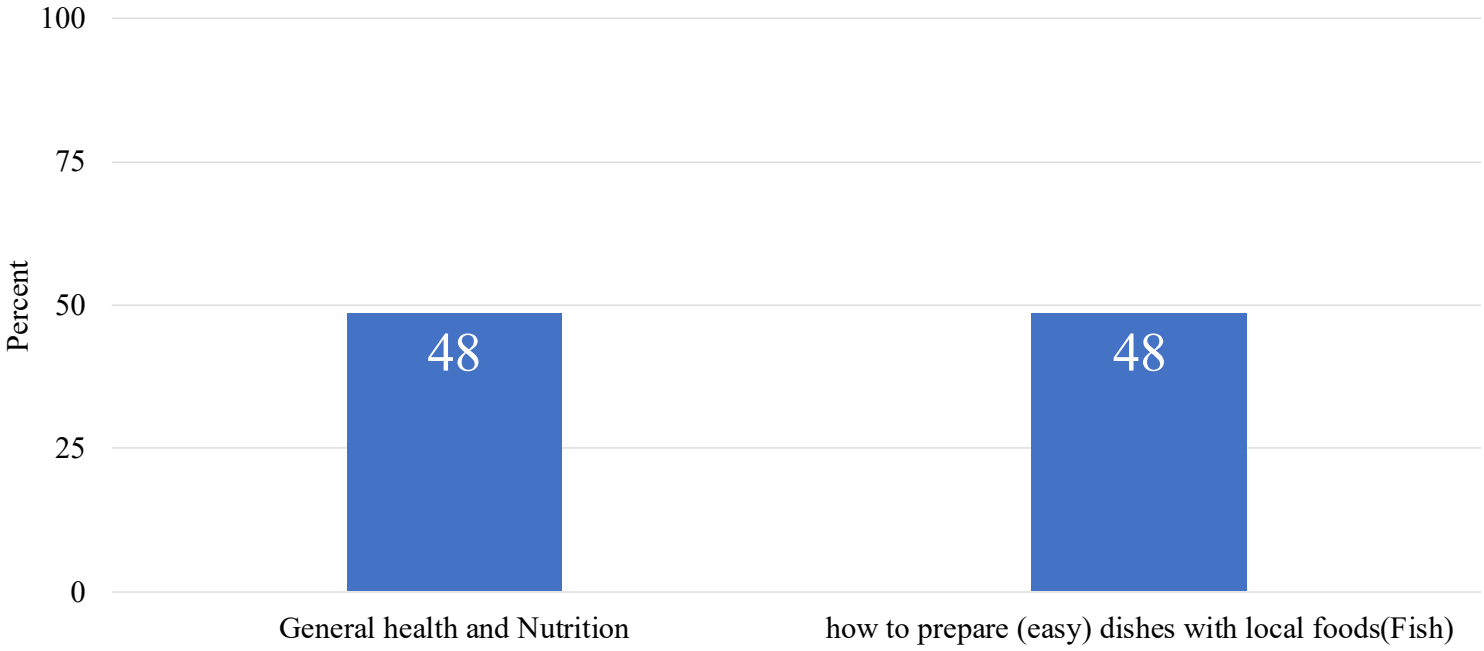

## Kosrae producers: What training would you like : LIVESTOCK ?



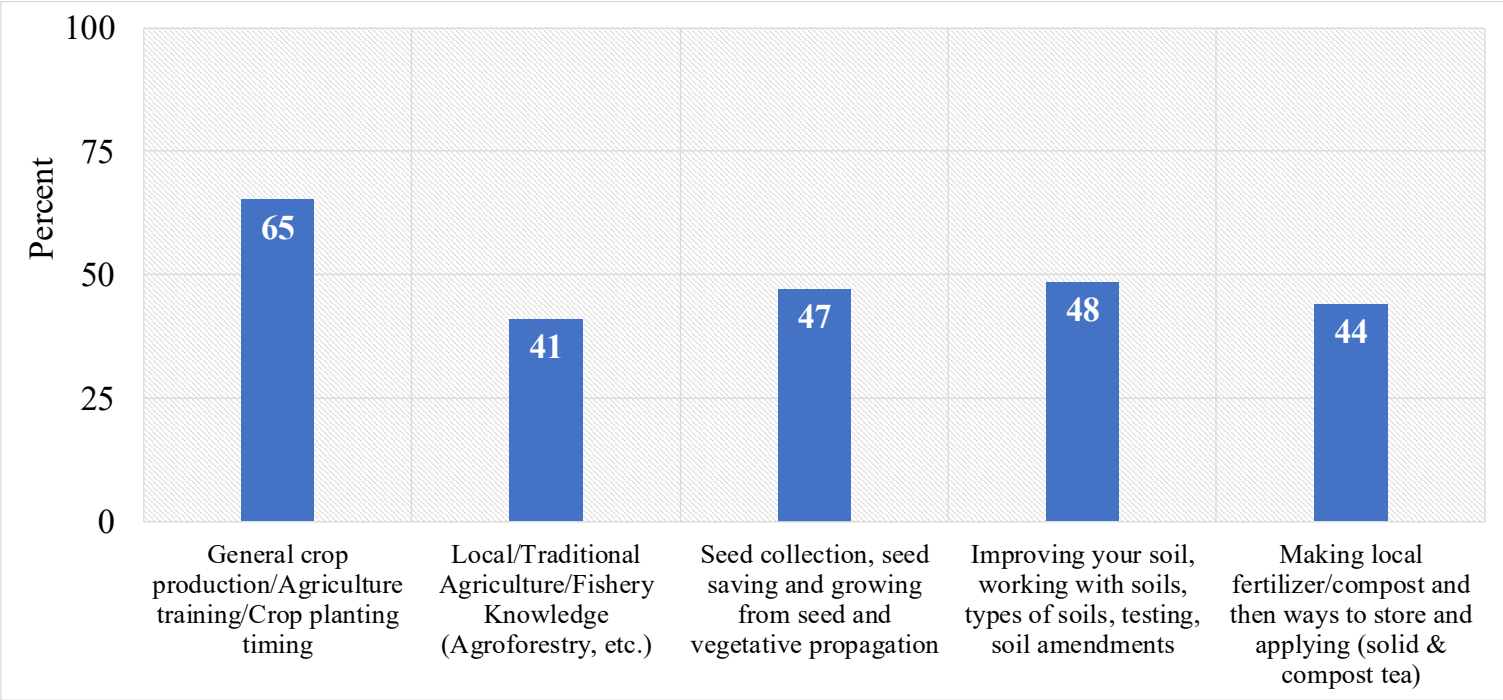
Kosrae producers: What training would you like? MARINE/AQUACULTURE ?



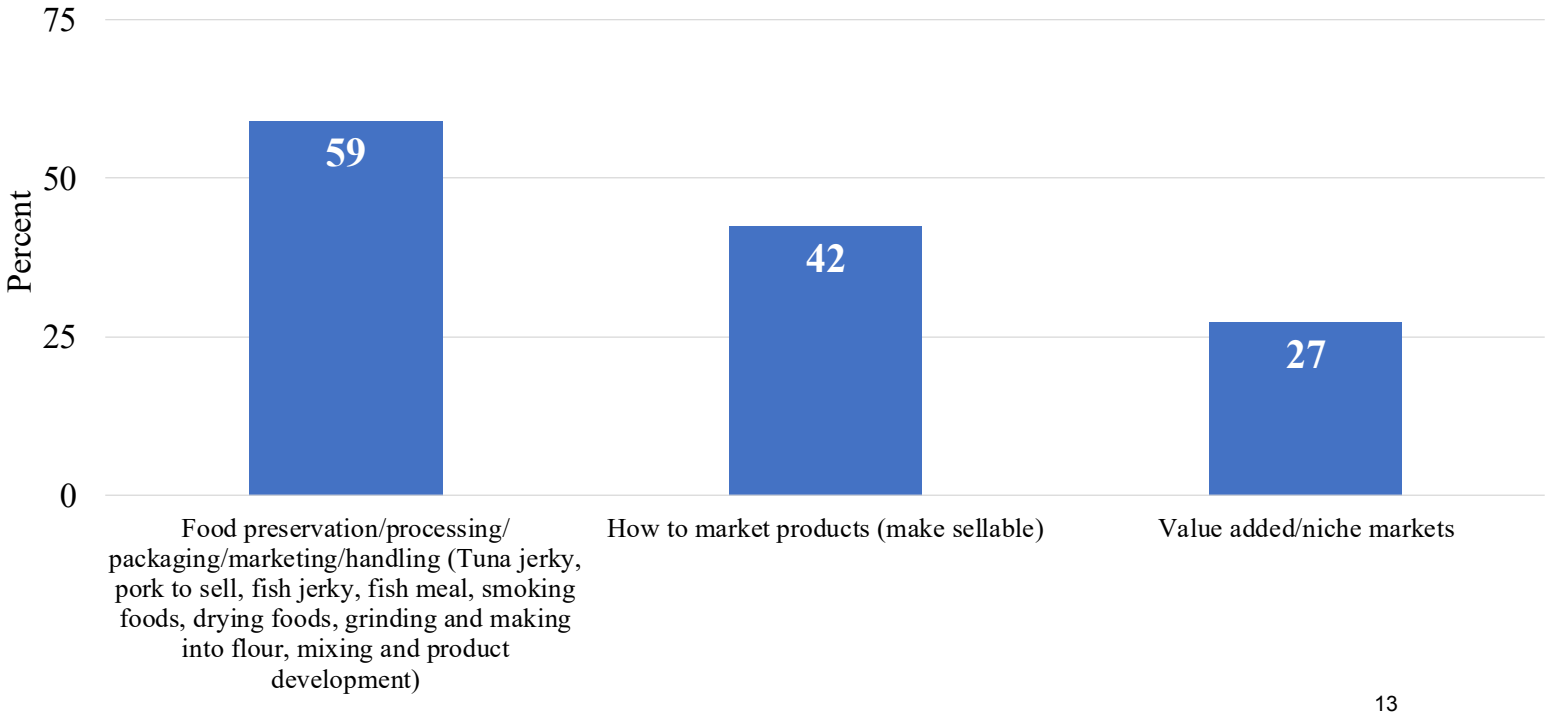

Kosrae producers: What training would you like : HEALTH AND NUTRITION ?



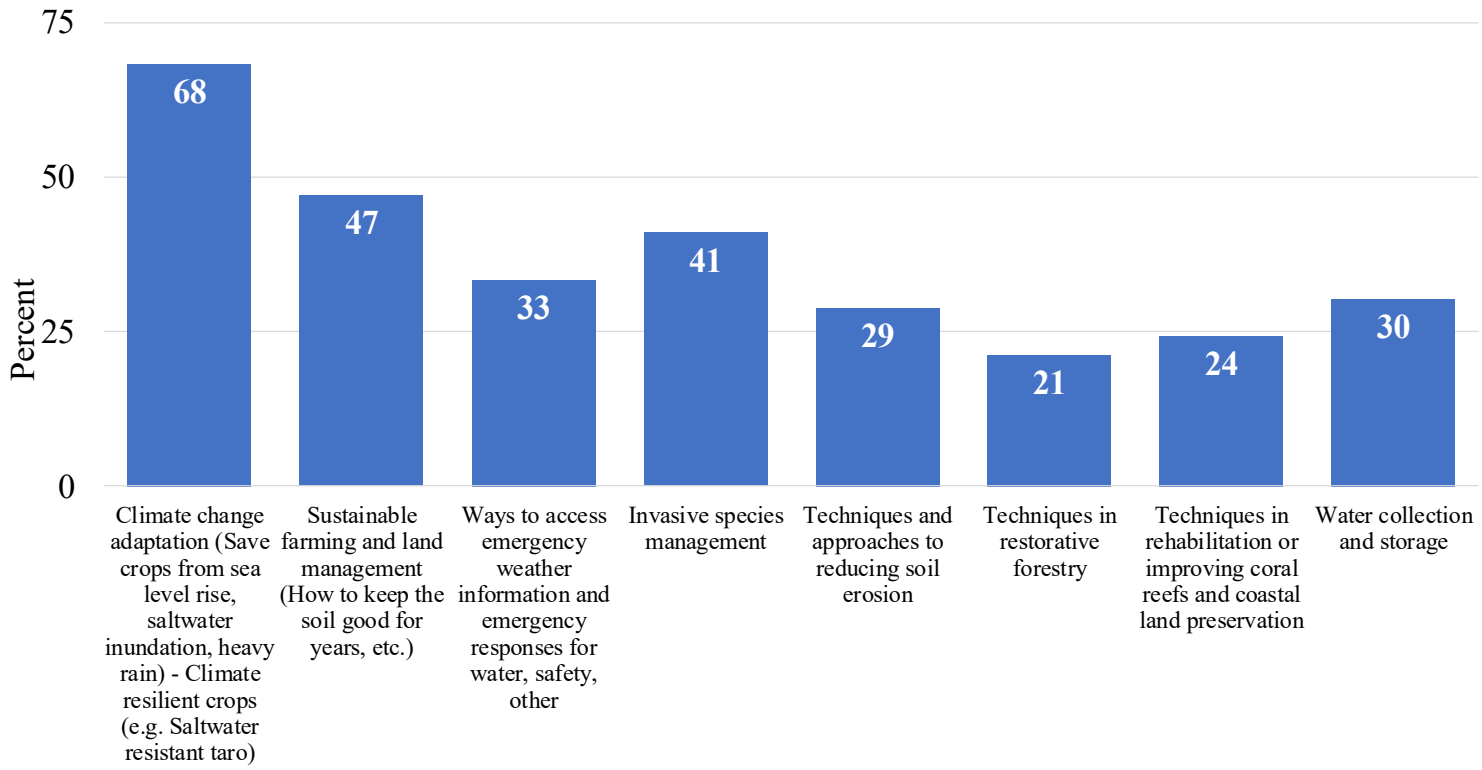
## Kosrae producers: What training would you like AGRICULTURE ?



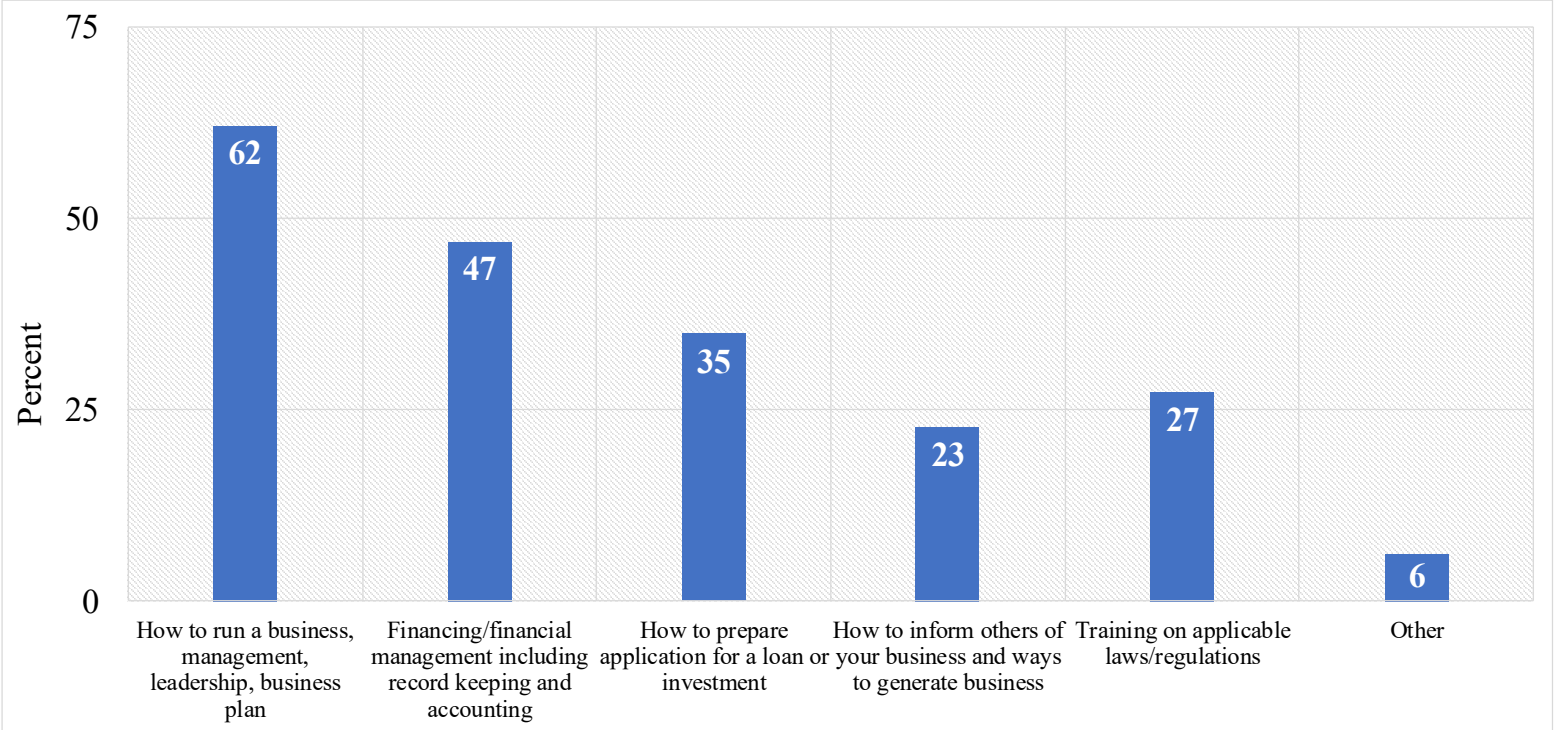

## Kosrae producers: What training would you like: MARKETING ?



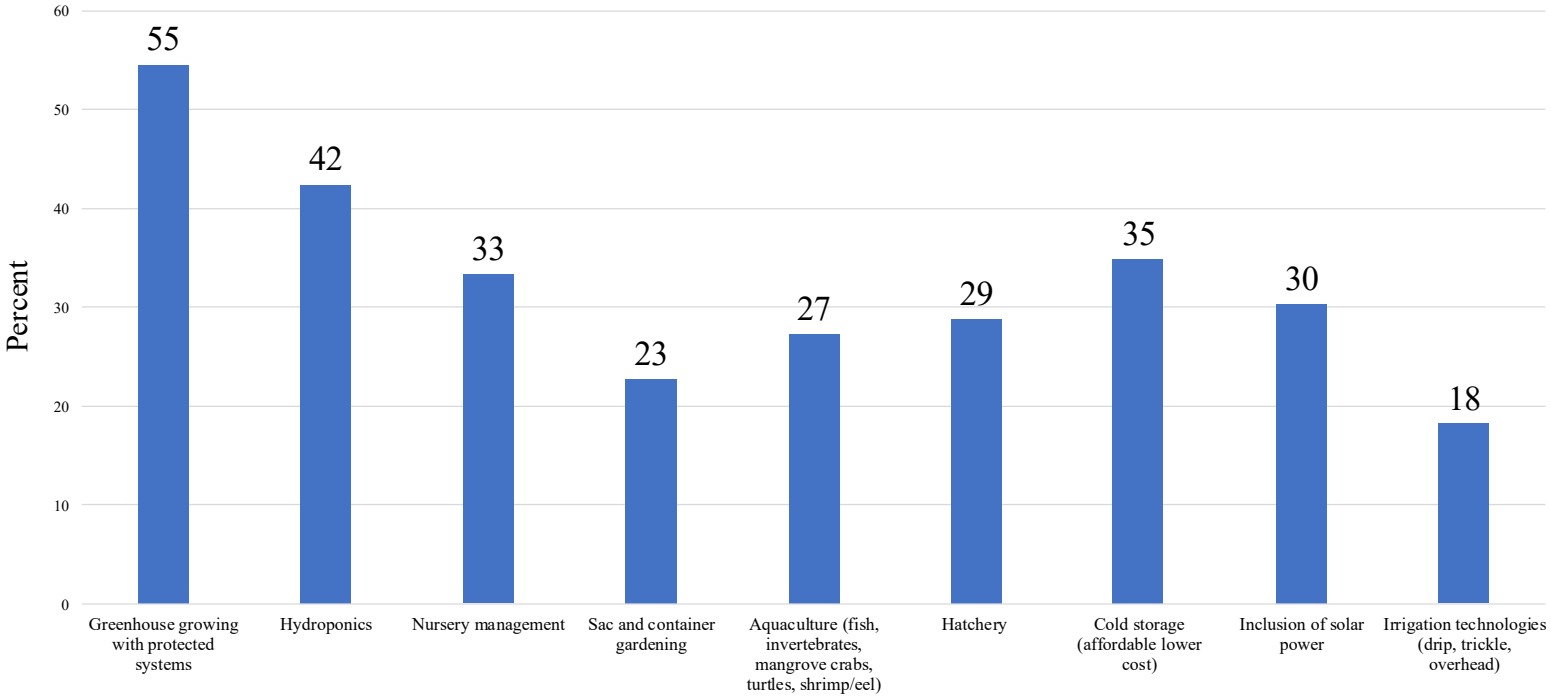
## Kosrae producers: What training would you like: CLIMATE CHANGE ?



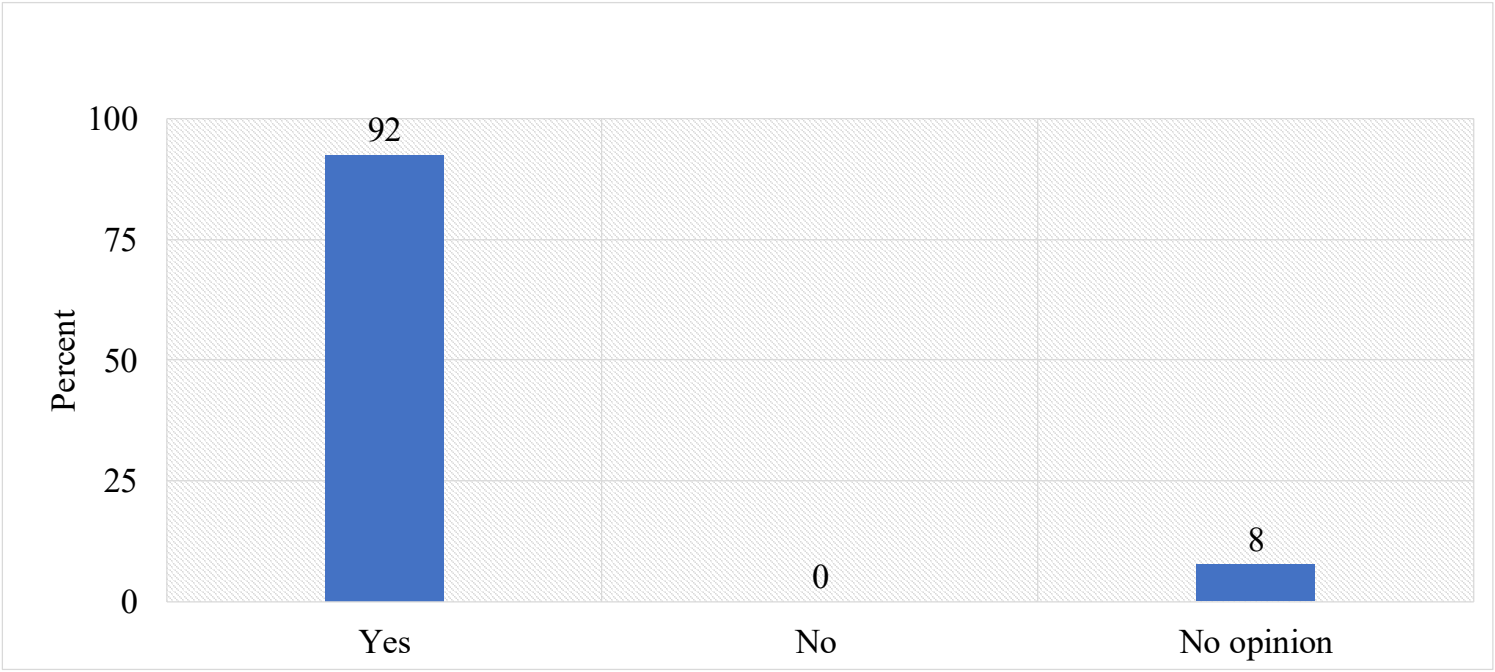

## Kosrae producers: What training would you like:  BUSINESS MANAGEMENT ?



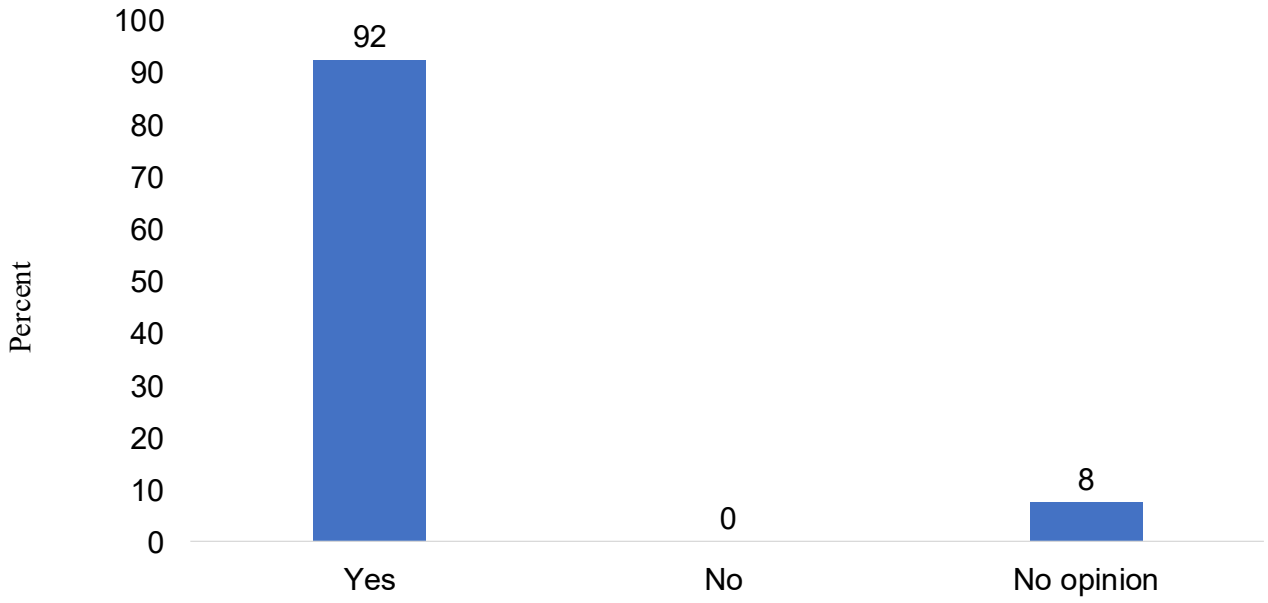
Kosrae producers :What technologies would you like: AGRICULTURAL TECHNOLOGIES ?



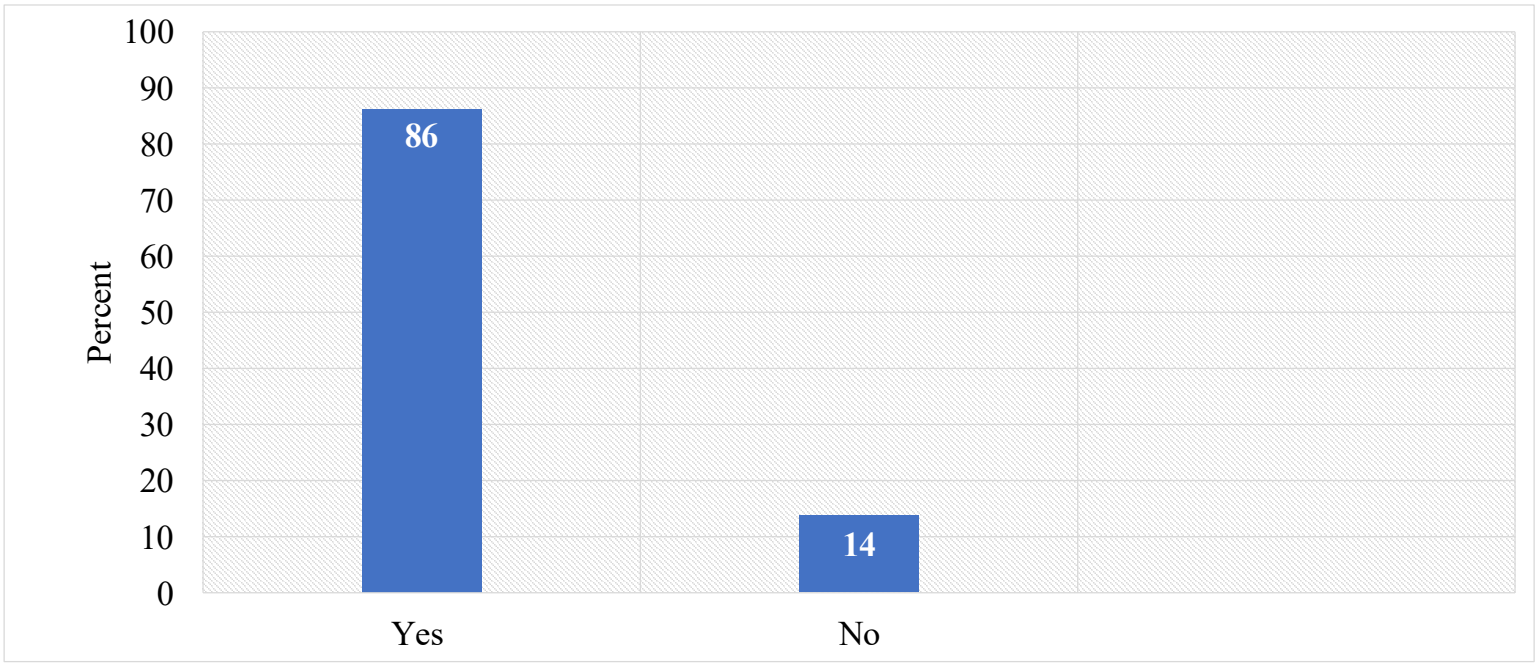

Kosrae Producers: Would it be helpful to offer agriculture and farming training for women?



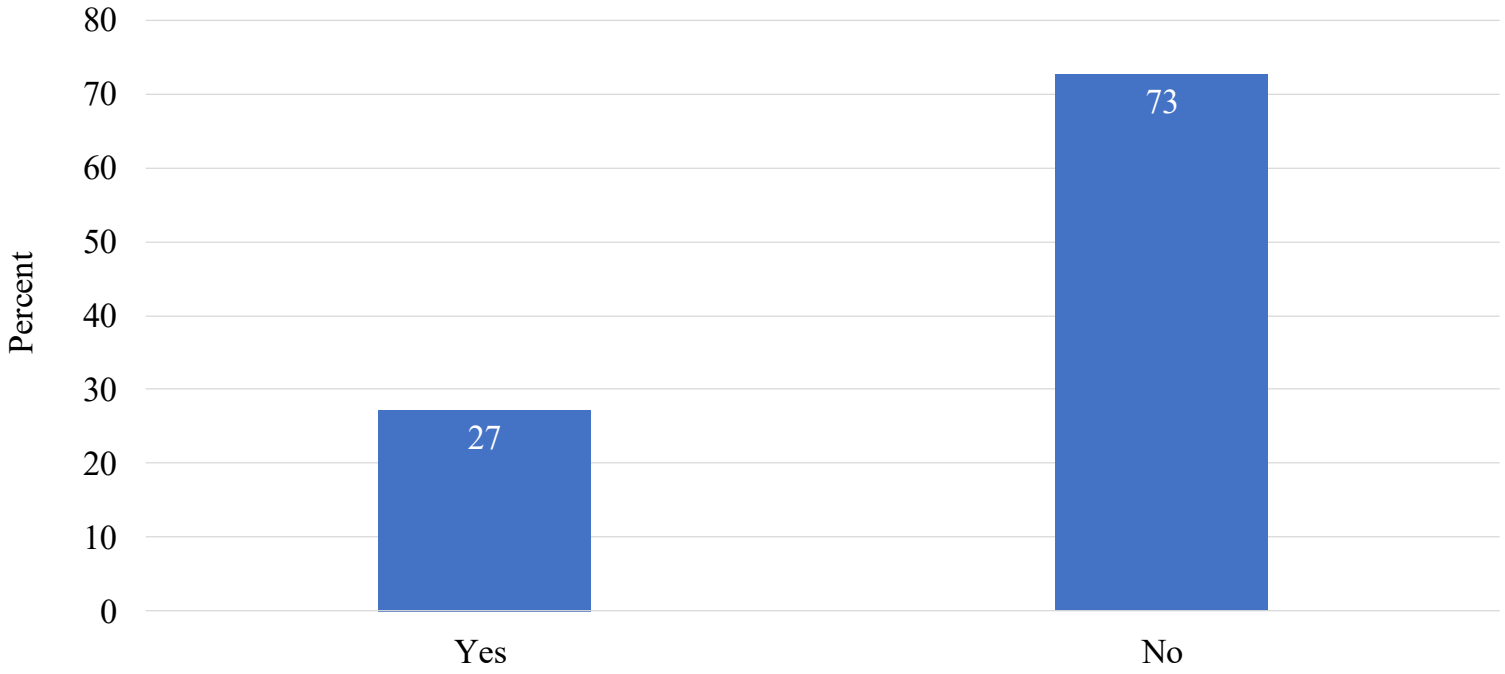
Kosrae Producers: Would it be helpful to offer agri business training for women ?



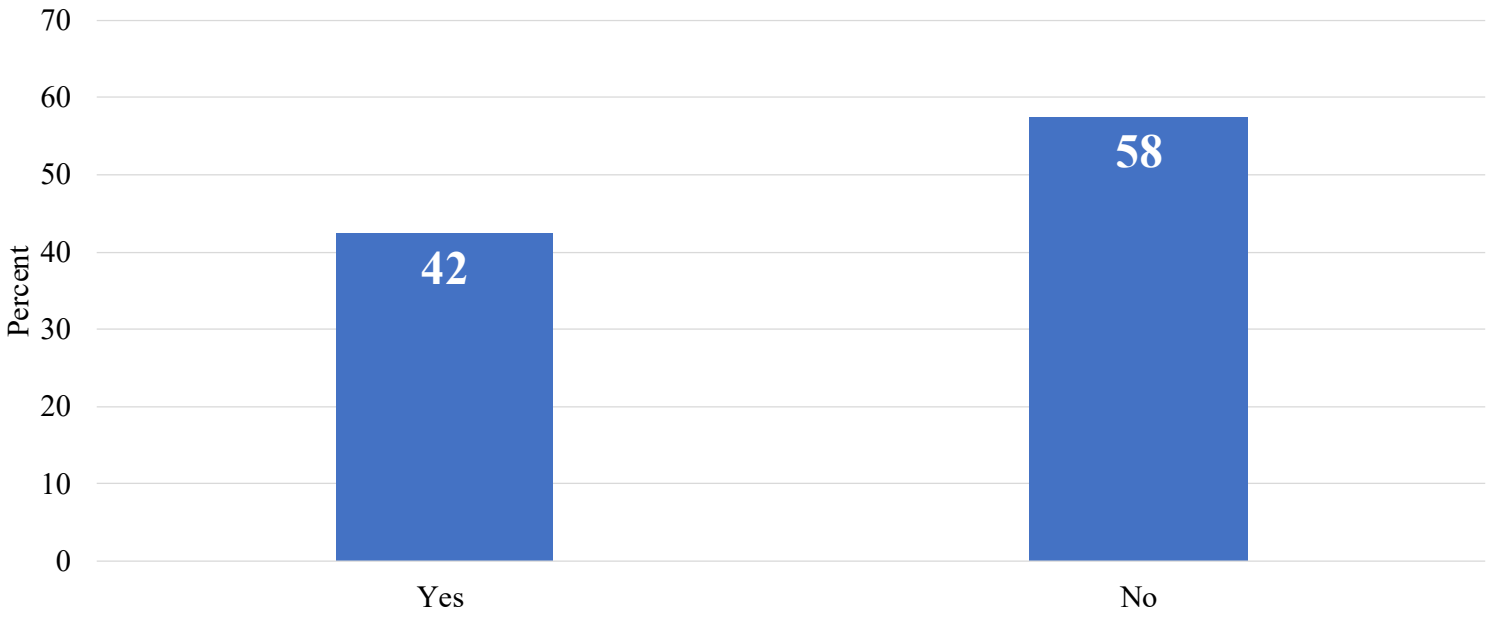

Kosrae producers: Would you be interested in being more active in your community relative to preserving land, water resources ?



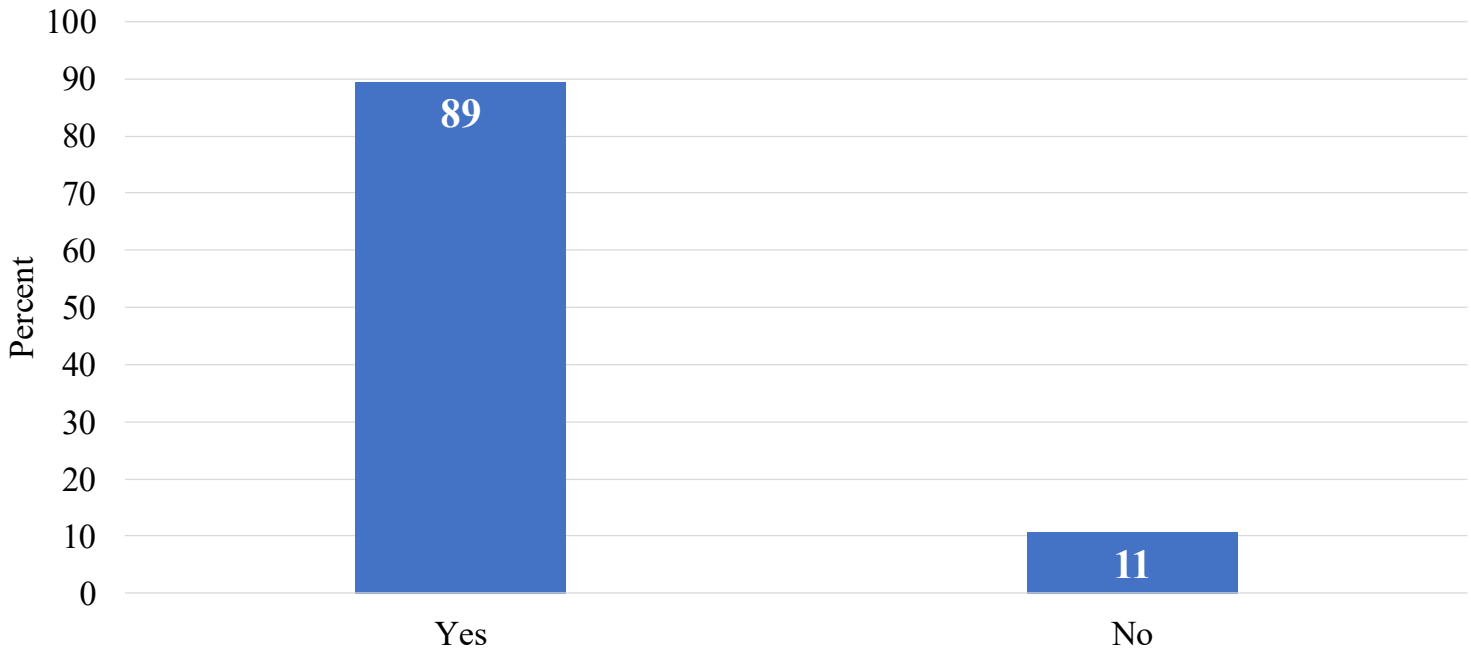
Kosrae Producers: Have you been trained in or have managerial experience?



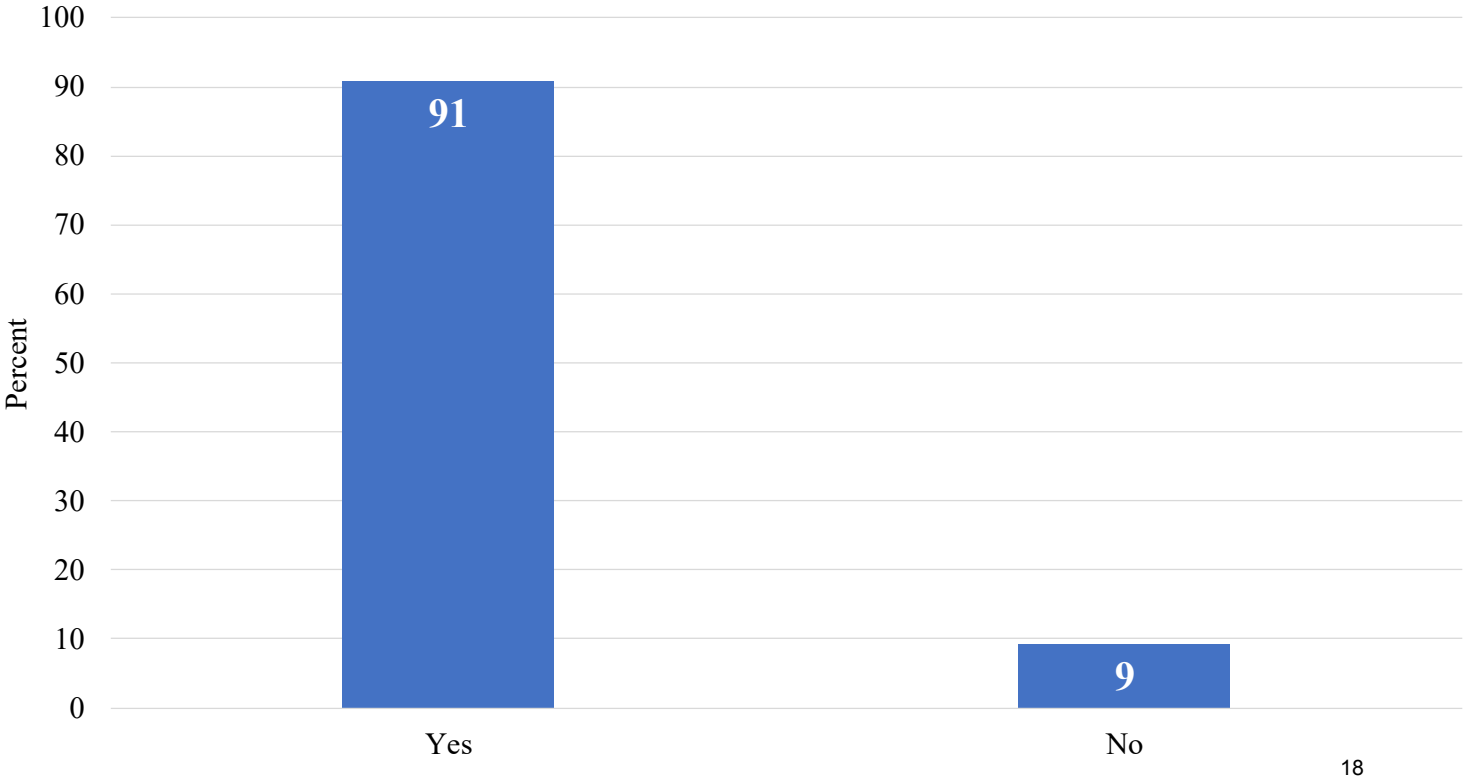

Kosrae Producers: Have you been trained in or have organizational experience?



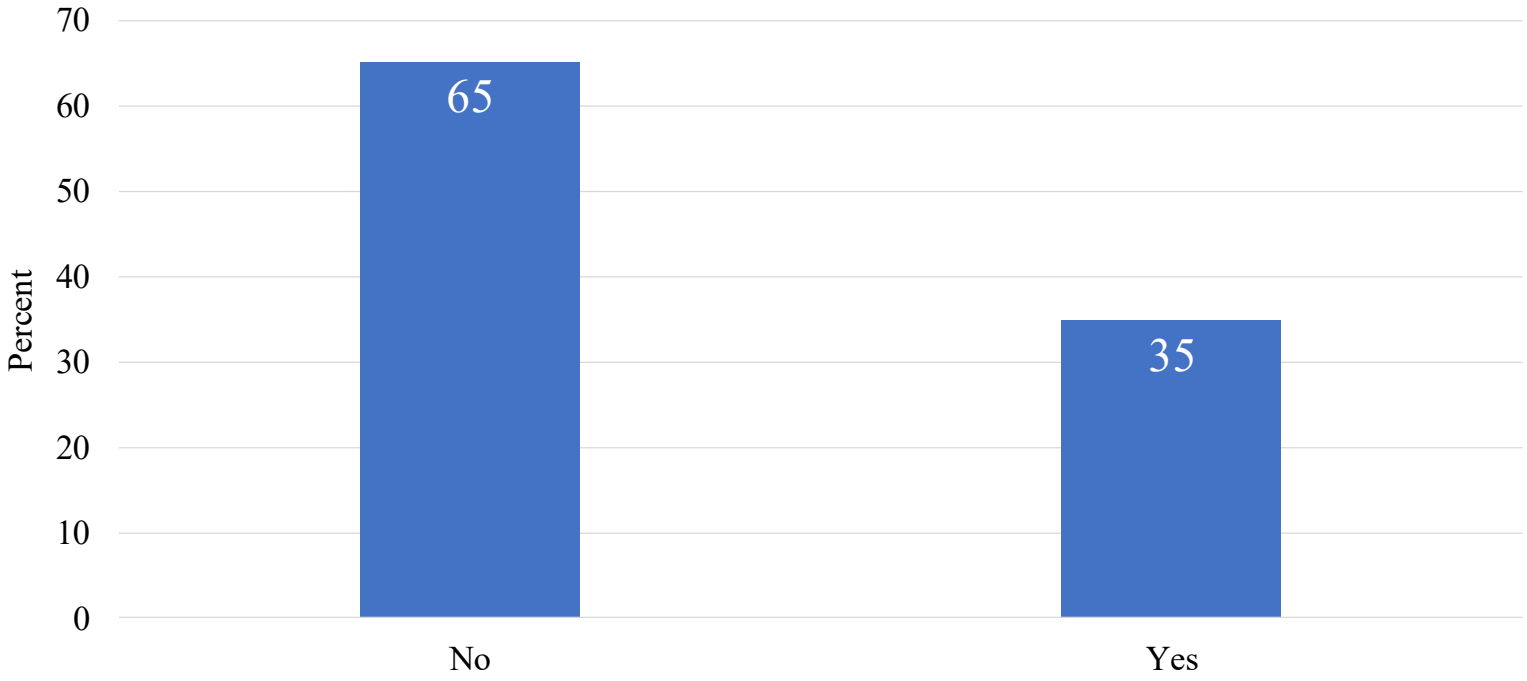
Kosrae Producer:  Would you like any training to help you produce more food ?



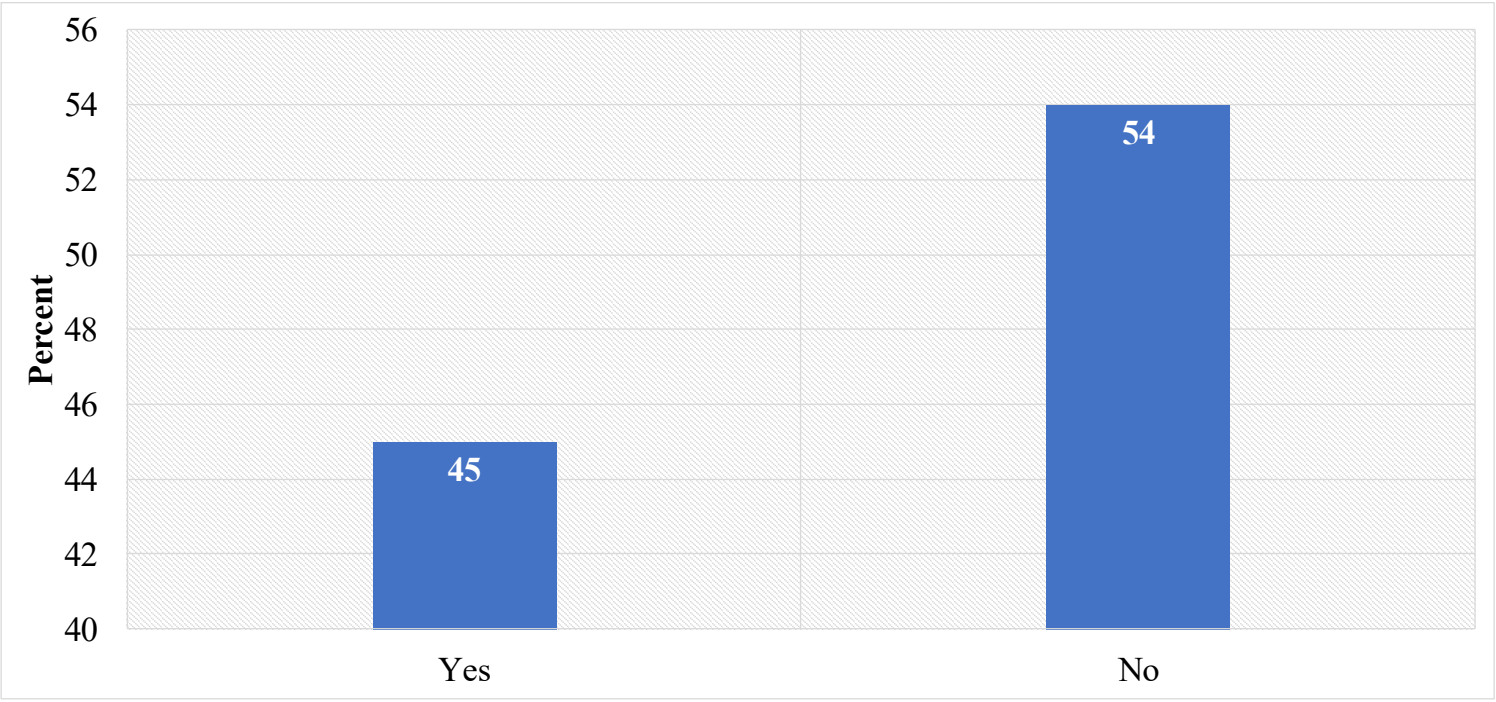

Kosrae Producers: Would you be interested in being trained in commercial food processing ?



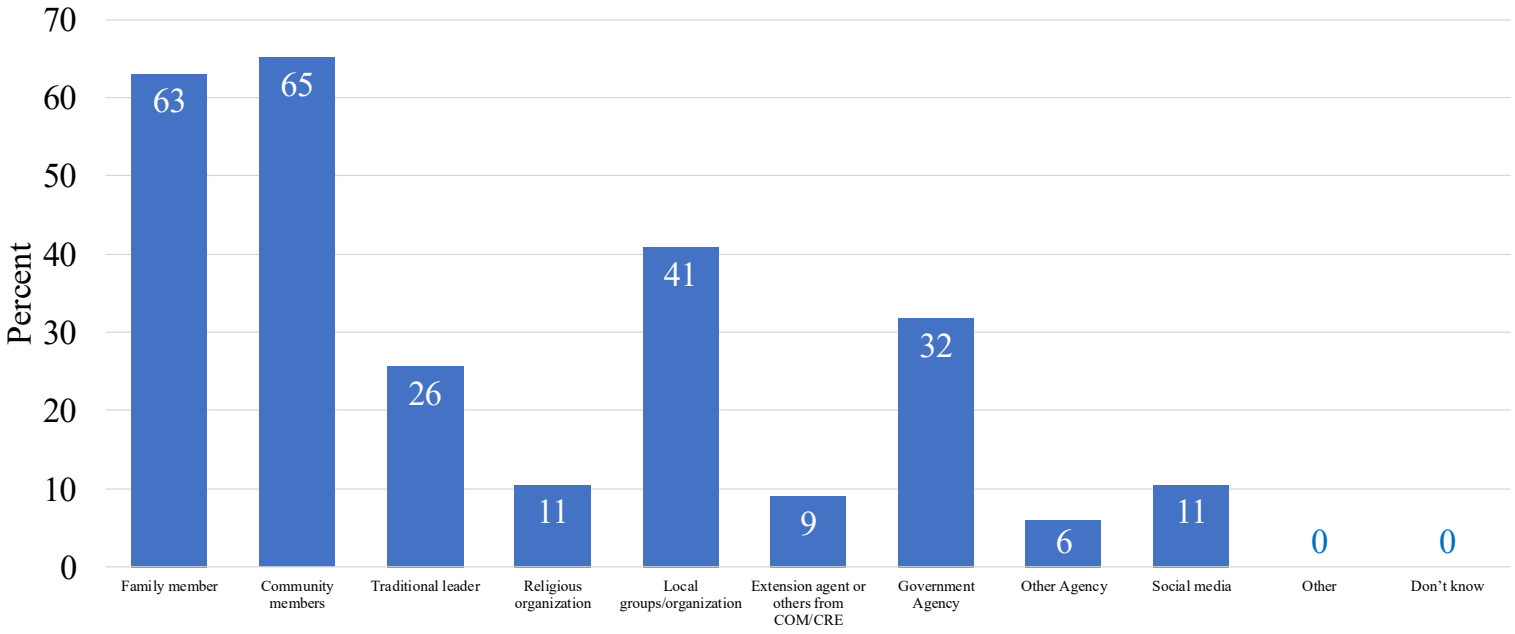
Kosrae producers: Can you currently access online notification for trainings opportunities (example cooking, seedling training etc.) ?



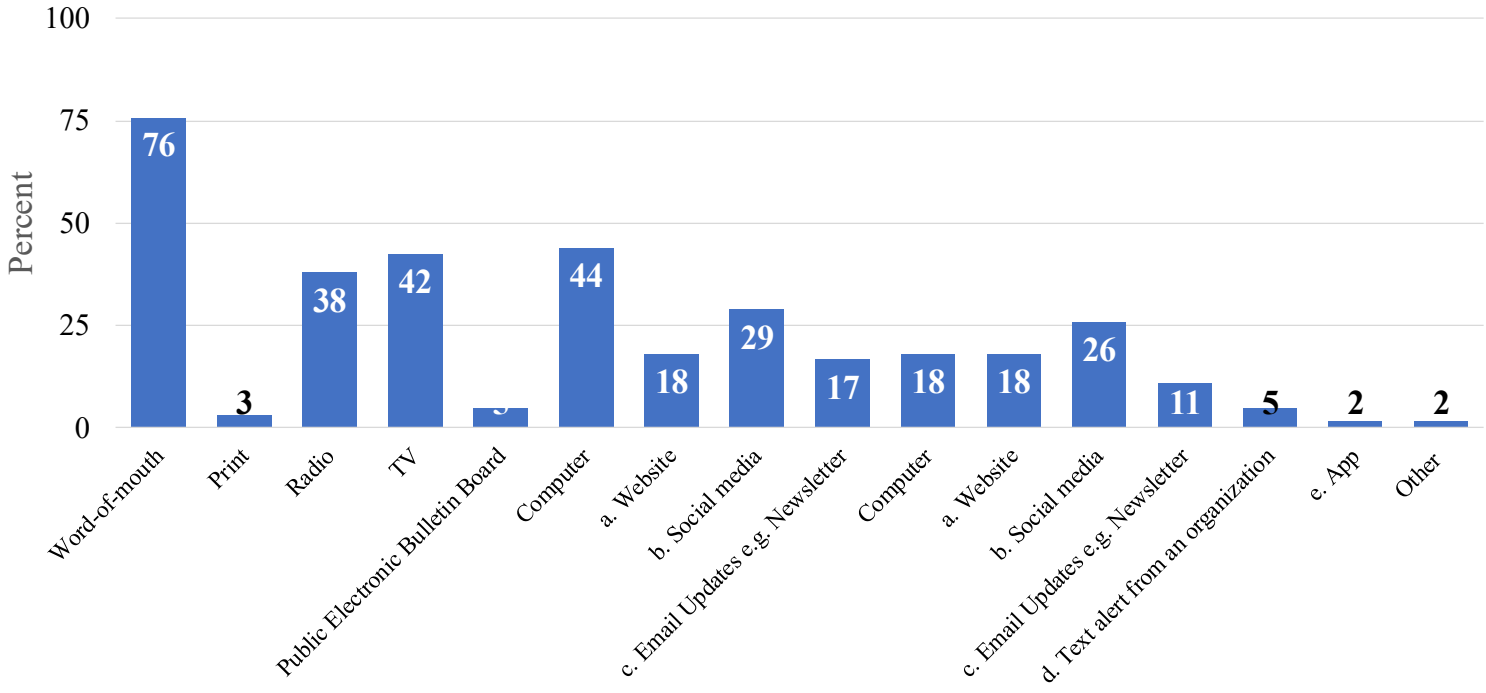

Kosrae Producers: Would you pay to get additional food production information ?



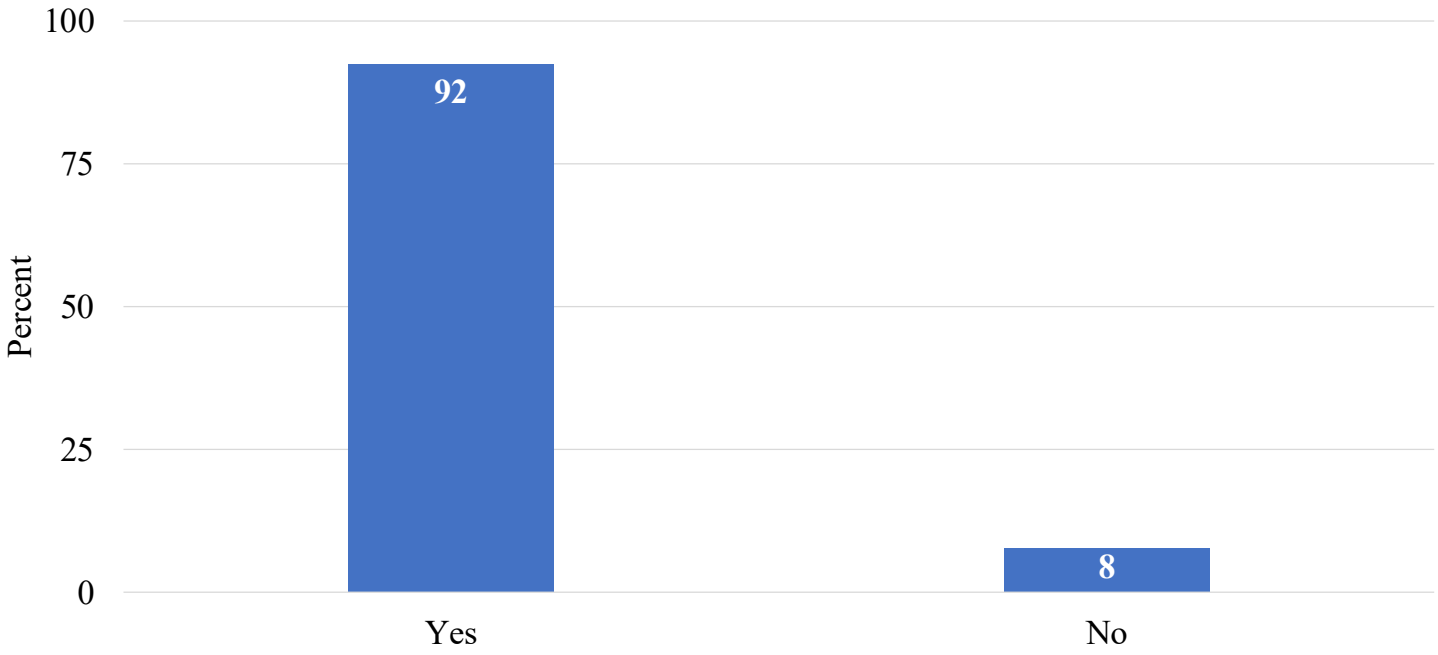
Kosrae Producers: Who gives you, or can give you the information you need (source person/agency/organization) ?



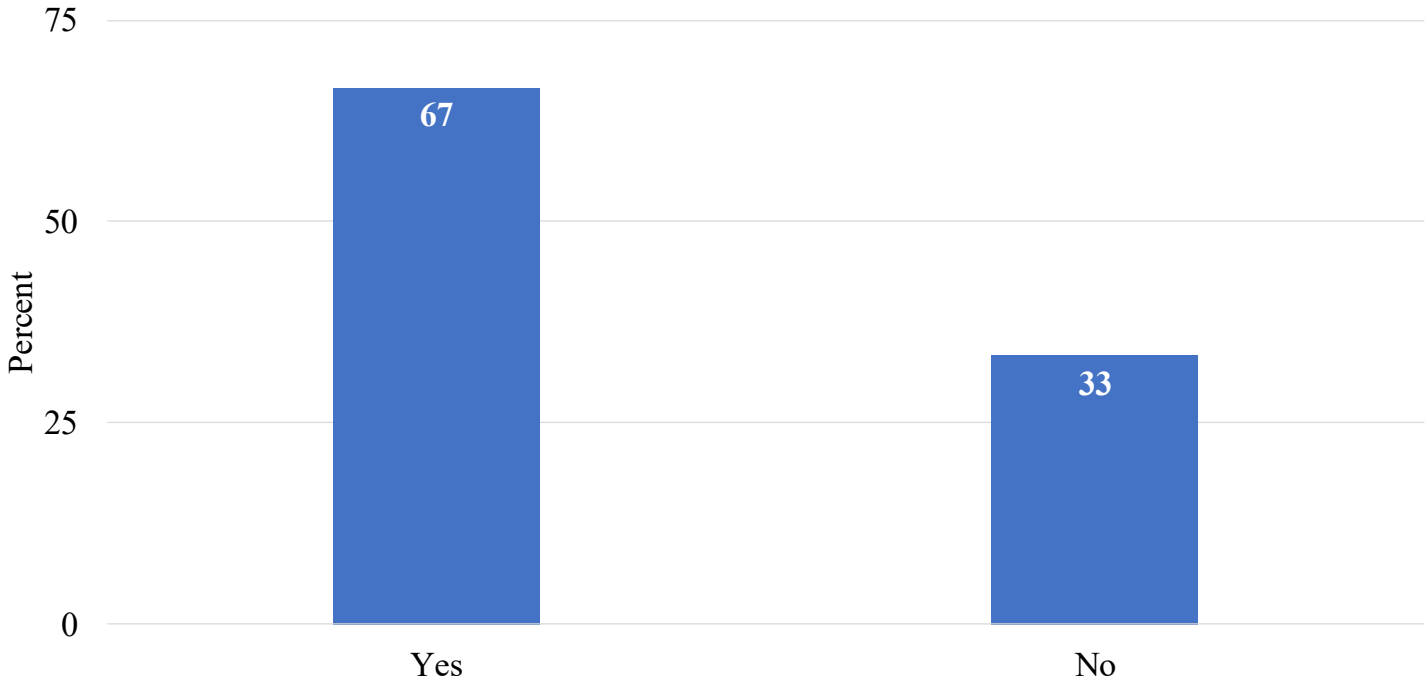

Kosrae producers: How do you currently access the information you need ?



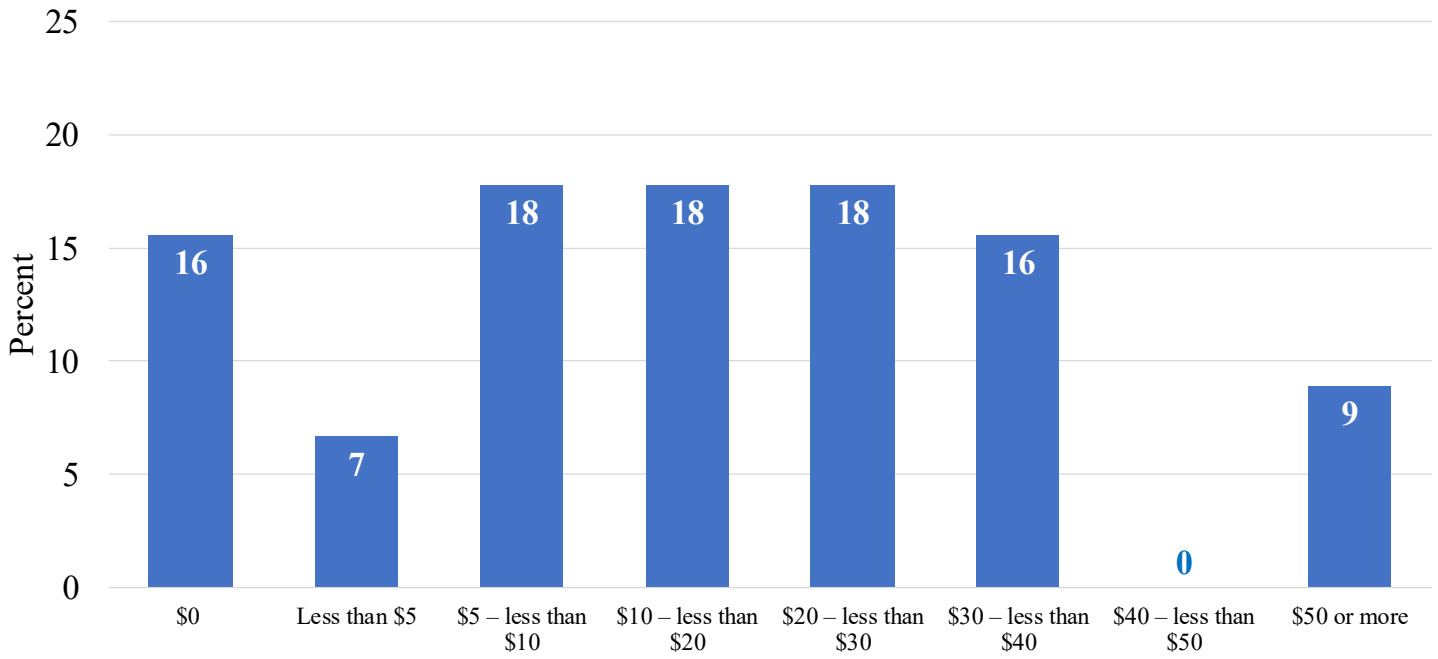
Kosrae Producers: Do you need better access to information ?



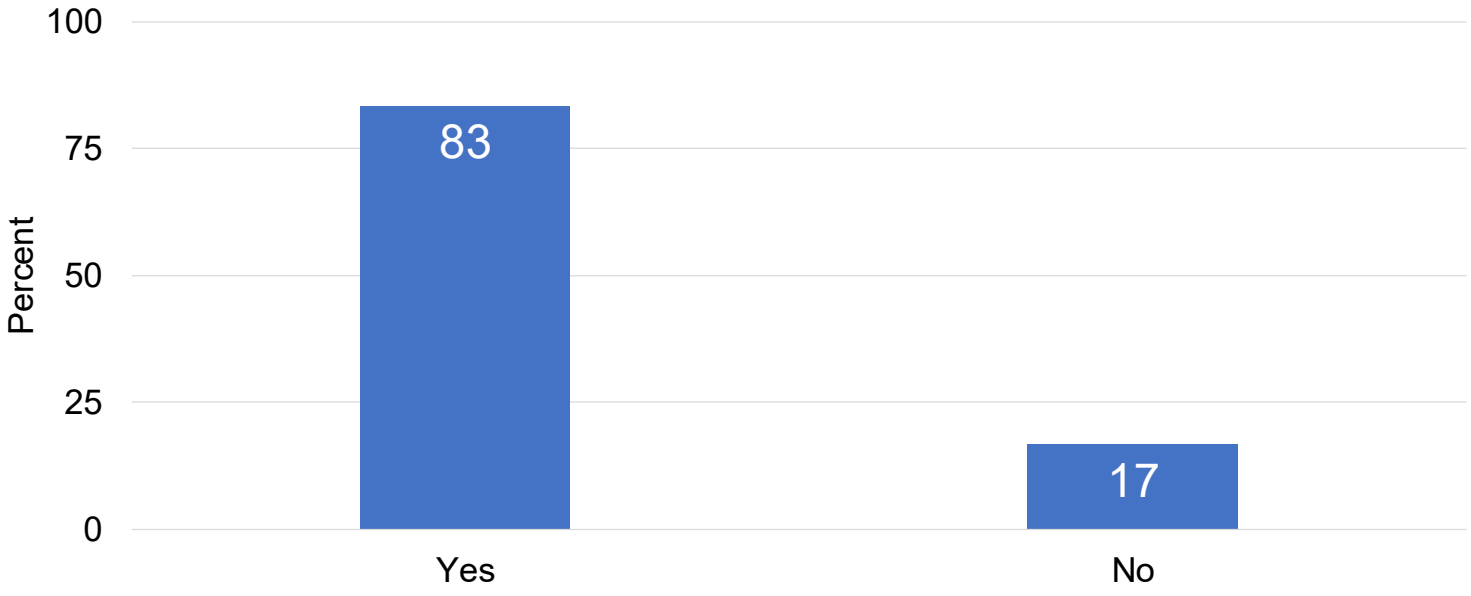

Kosrae Producers: Do you have your own cell phone ?



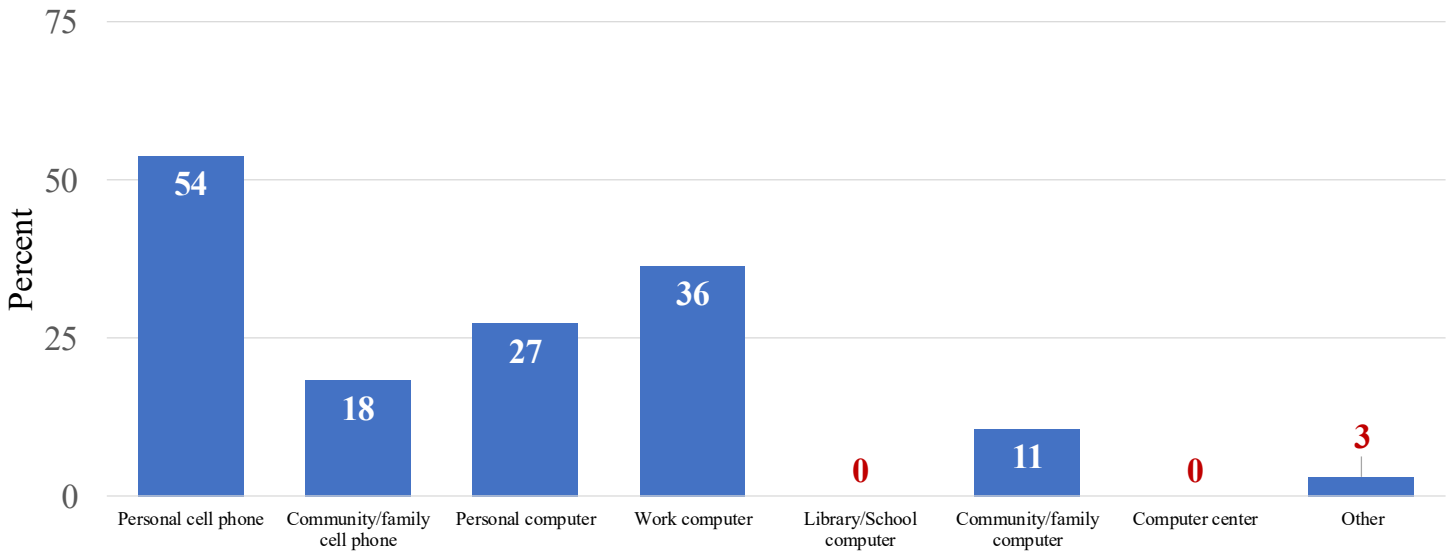
Kosrae Producers: How much do you spend per month on cellular data?



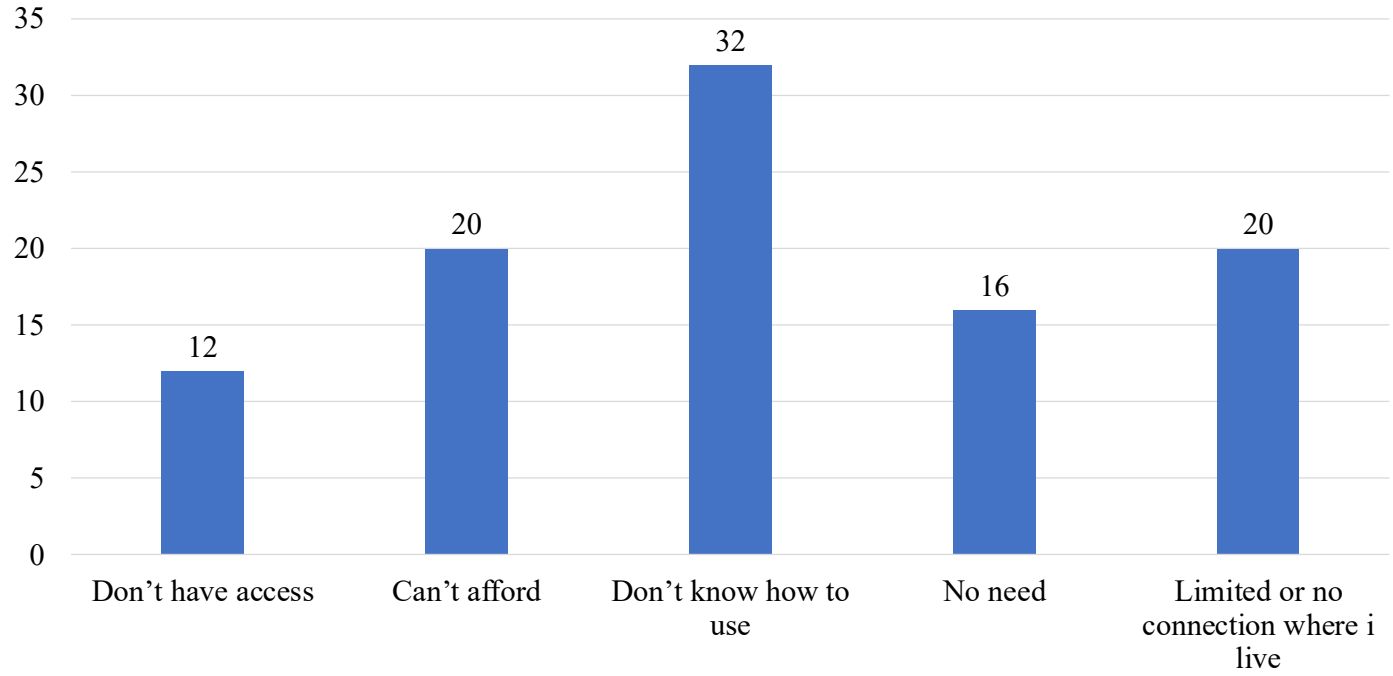

Kosrae Producers: Do you have access to the internet ?



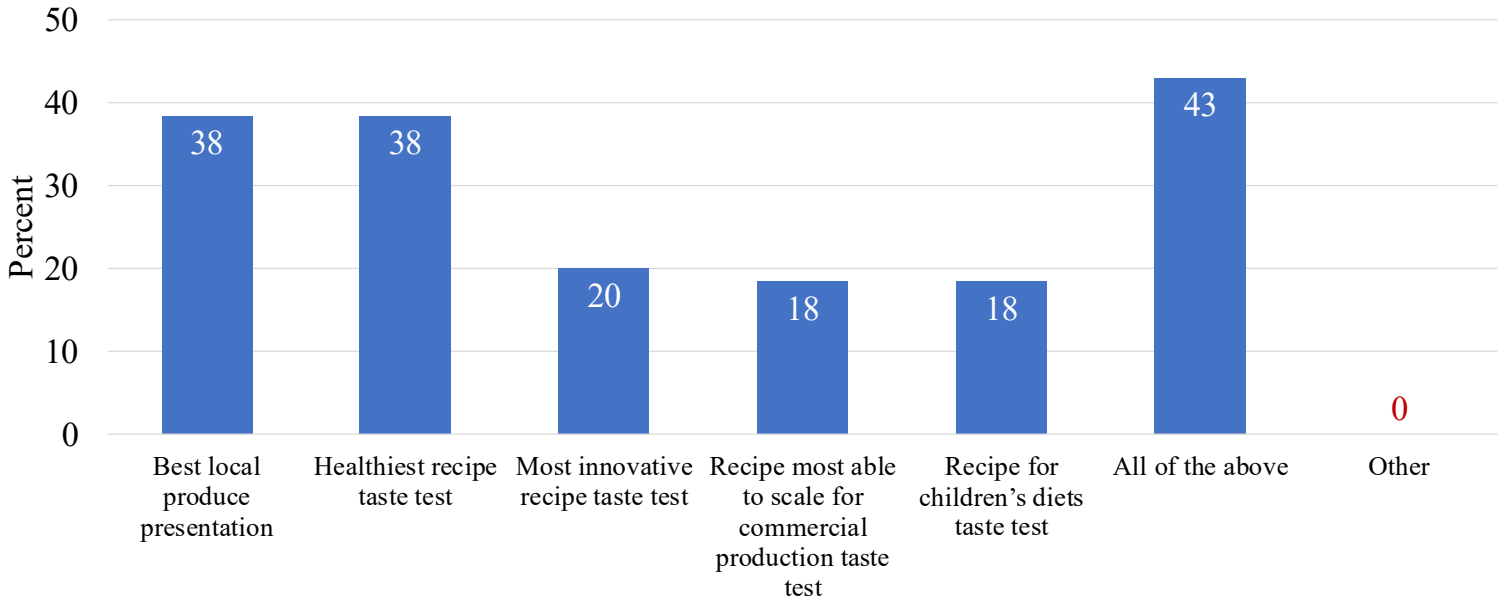
## Kosrae Producers: How do you access the internet ?



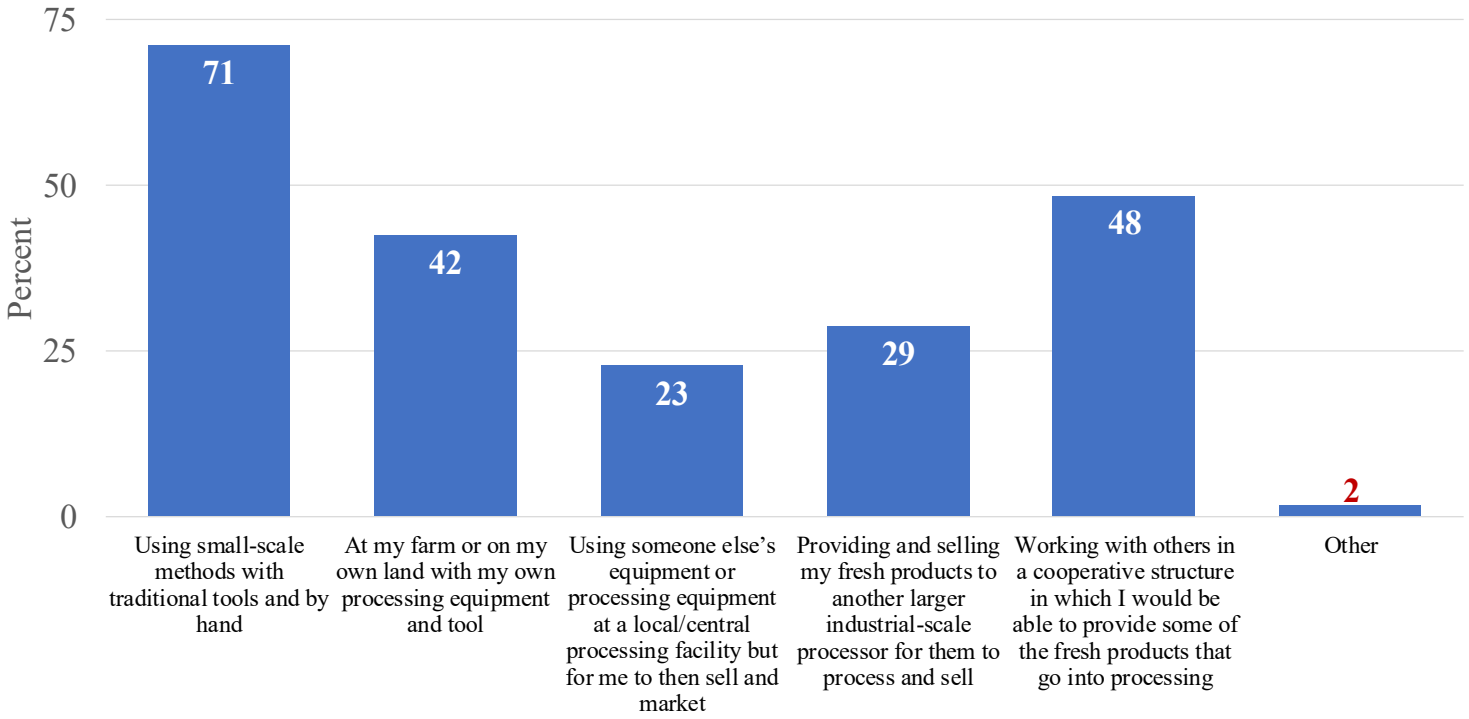

## Kosrae Producers: if you don’t have internet access, why not ?



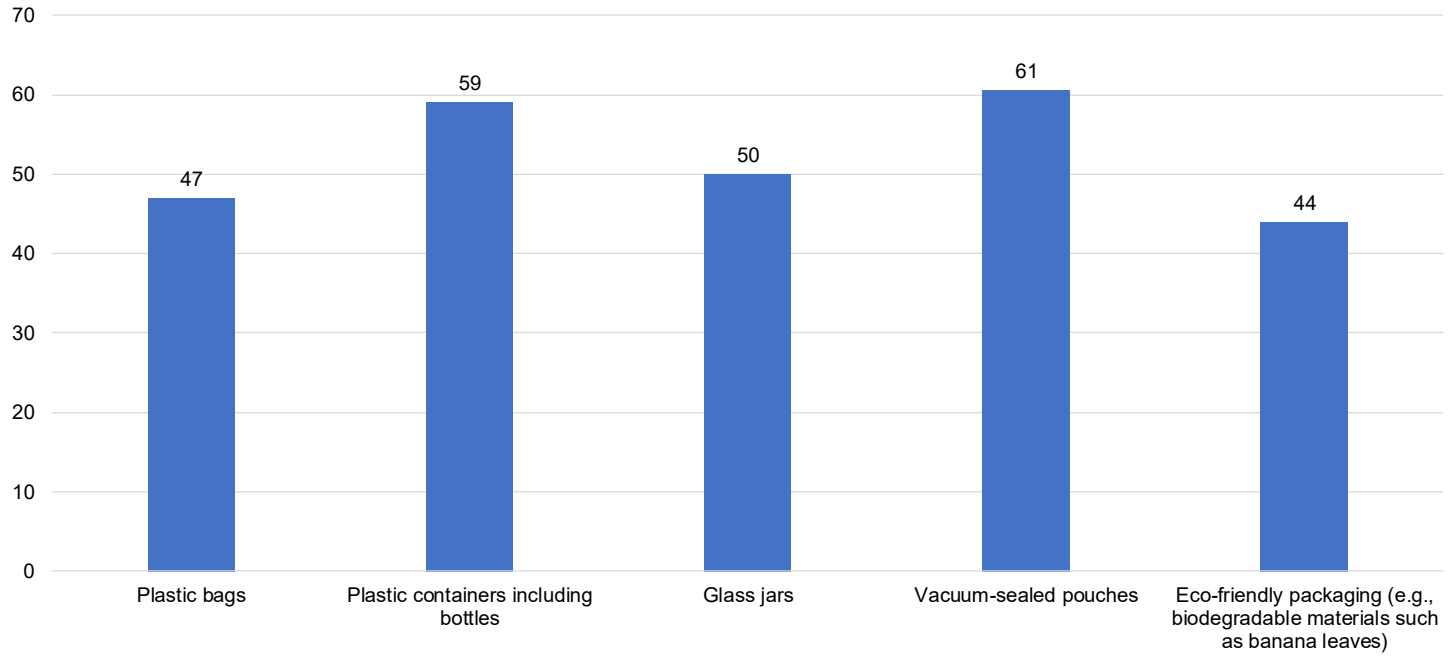
## Kosrae Producers: What types of competition categories would interest you ?



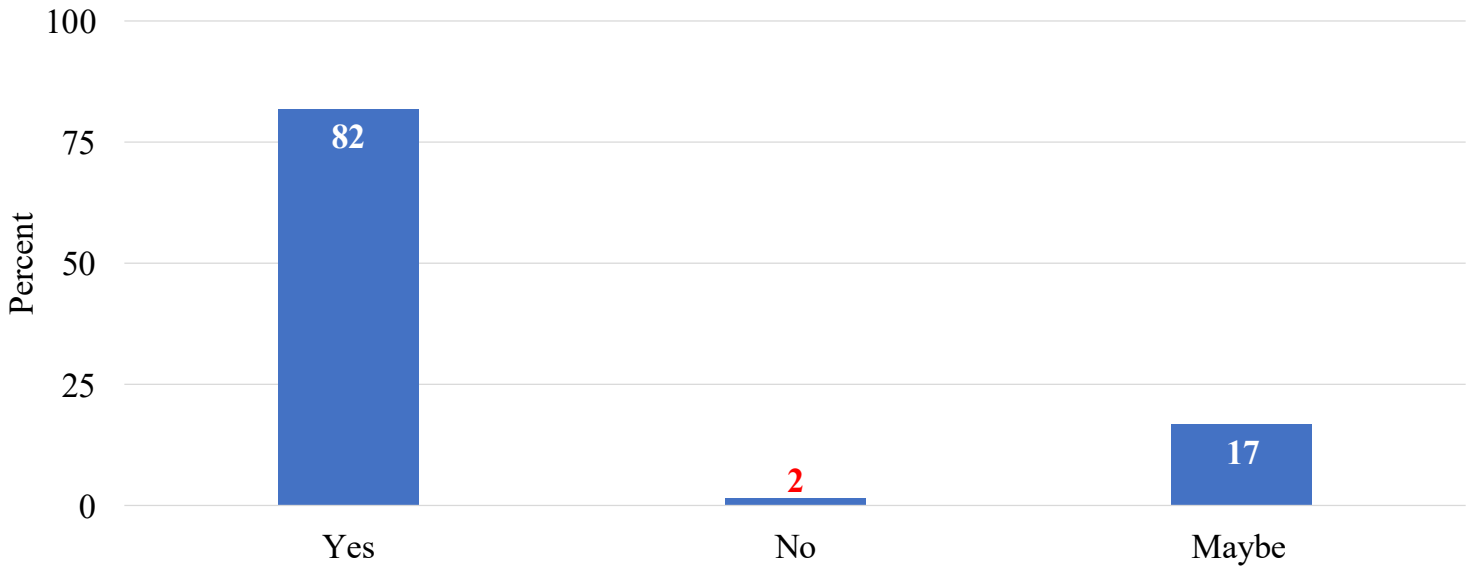

## Kosrae Producers: How would you prefer to process these locally processed foods ?



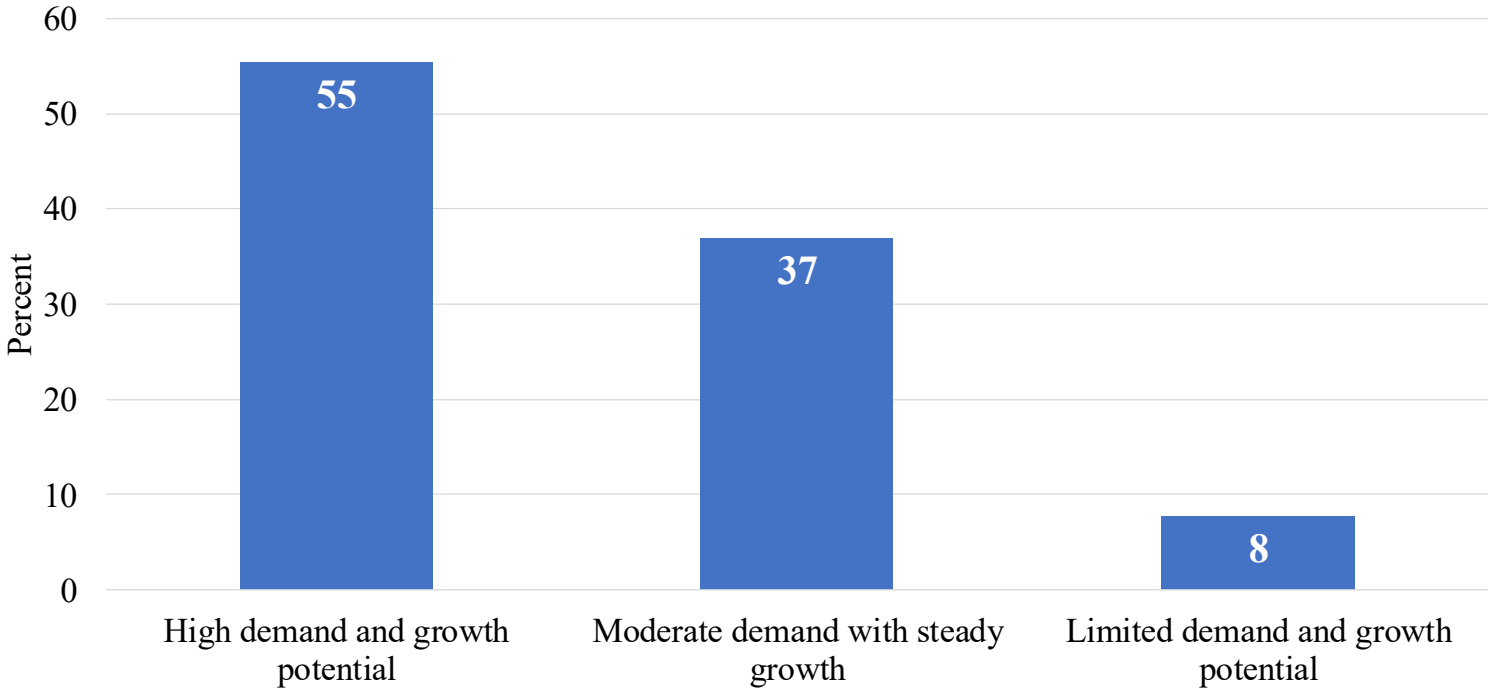
Kosrae Producers:  What type of packaging do you think would best suit to the locally processed foods ?



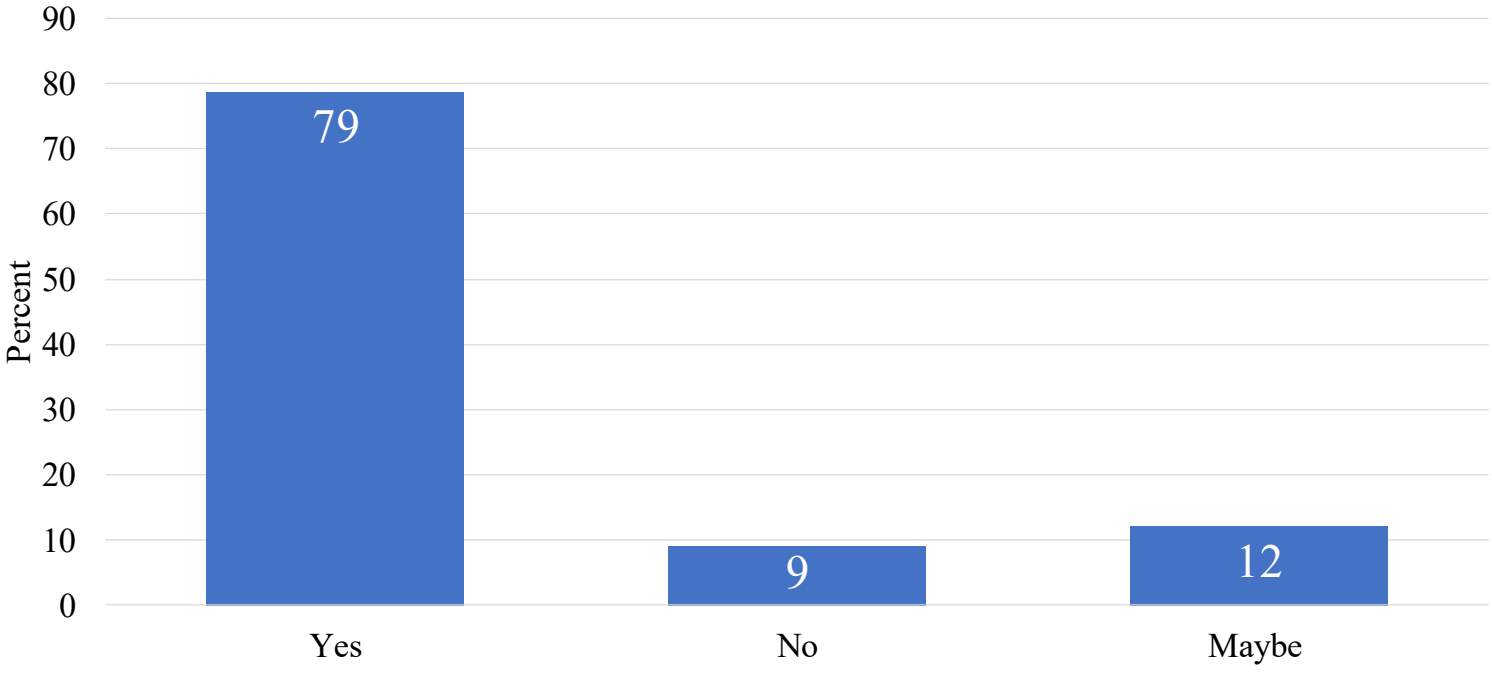

Kosrae Producers: Would you prioritize using local ingredients for the production of locally processed foods?



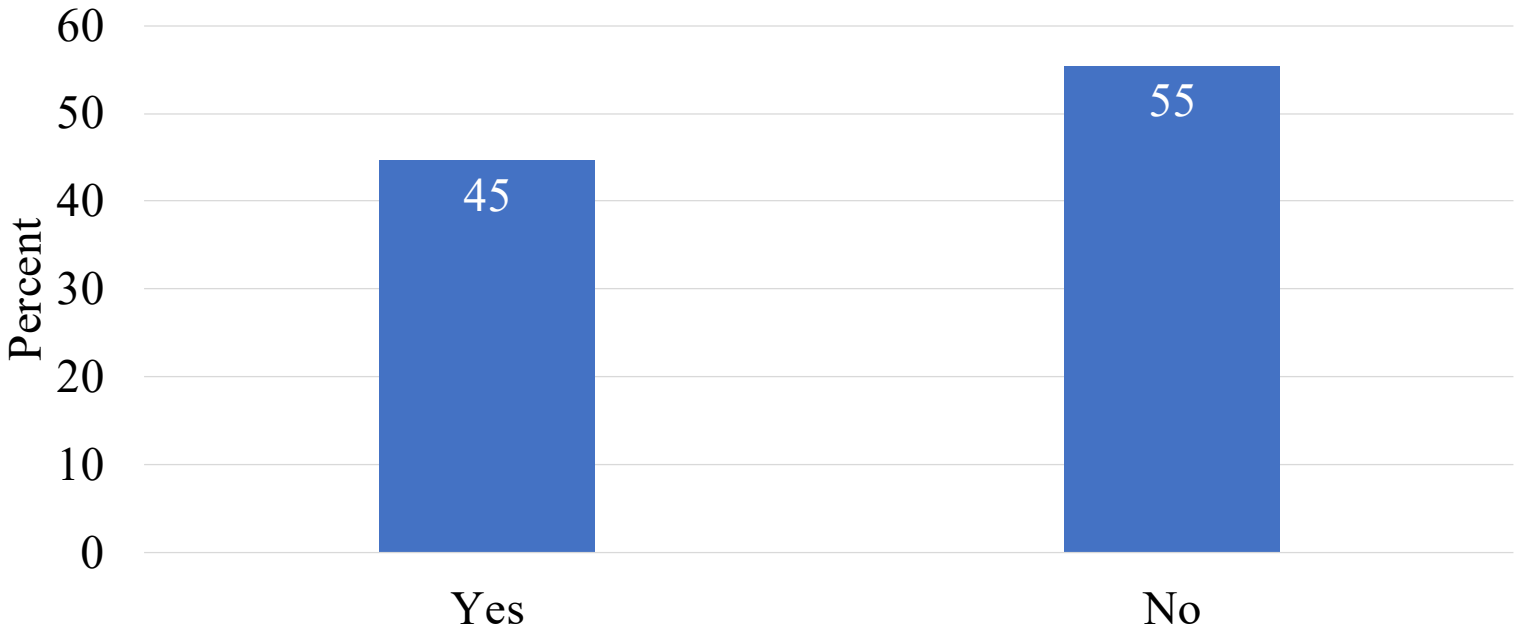
Kosrae Producers: How do you perceive the market potential for locally processed foods in the FSM and potentially beyond?



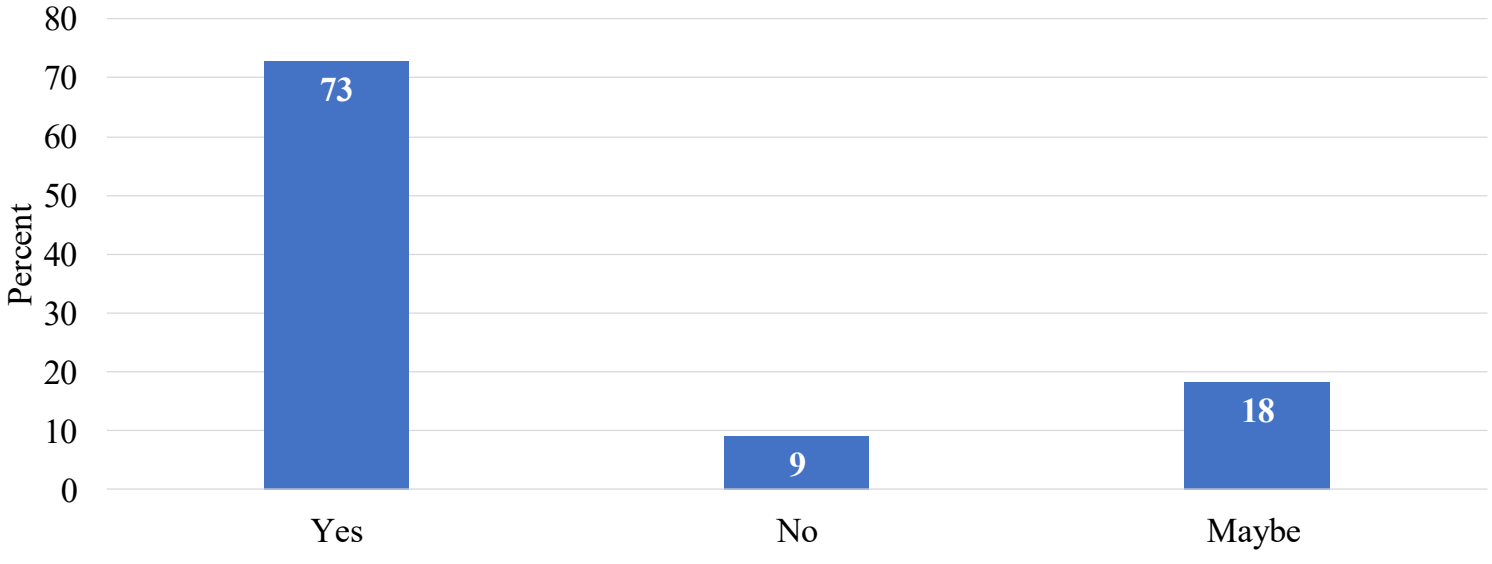

Kosrae Producers: Would you require any technical or financial support or assistance in terms of training, access to technology, marketing, or other aspects ?



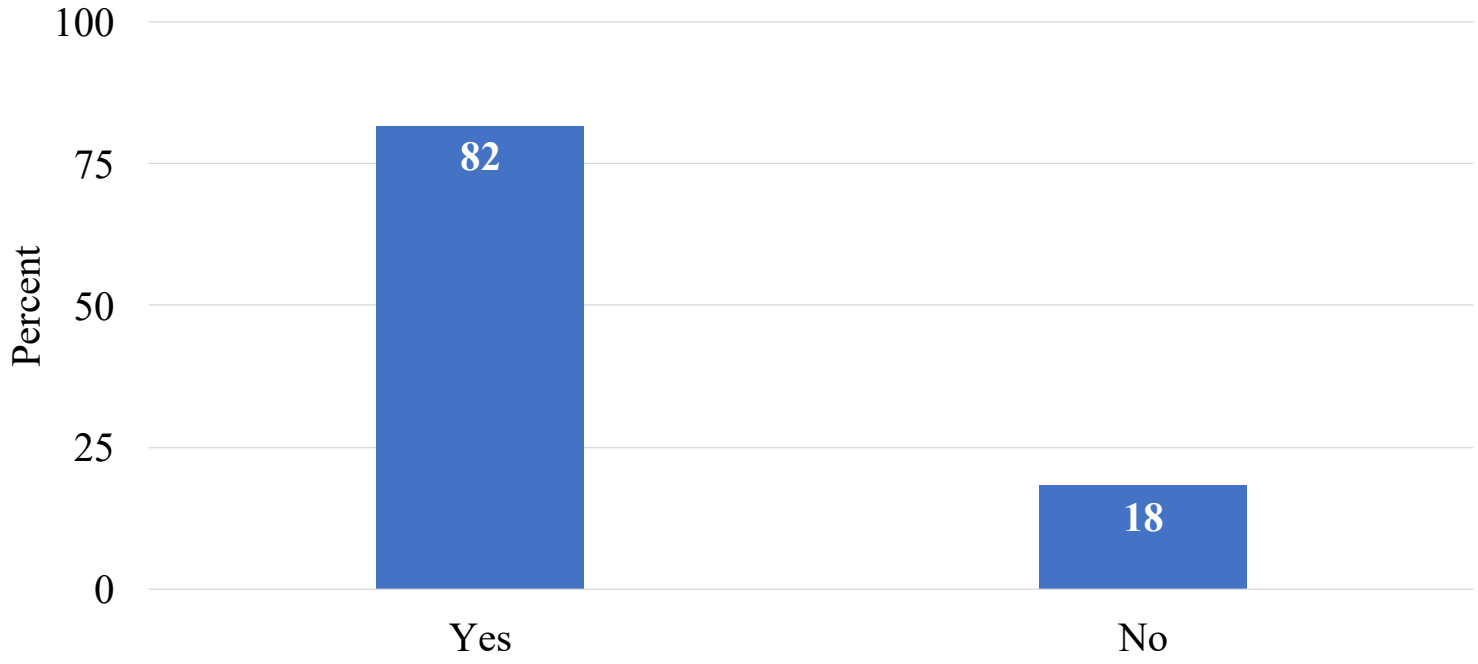
Kosrae producers: Are you aware of the regulatory requirements and standards for processing and selling local food products in the FSM [NOTE: there are differences in regulatory compliance issues for fish, meat, poultry, juices, foods] ?



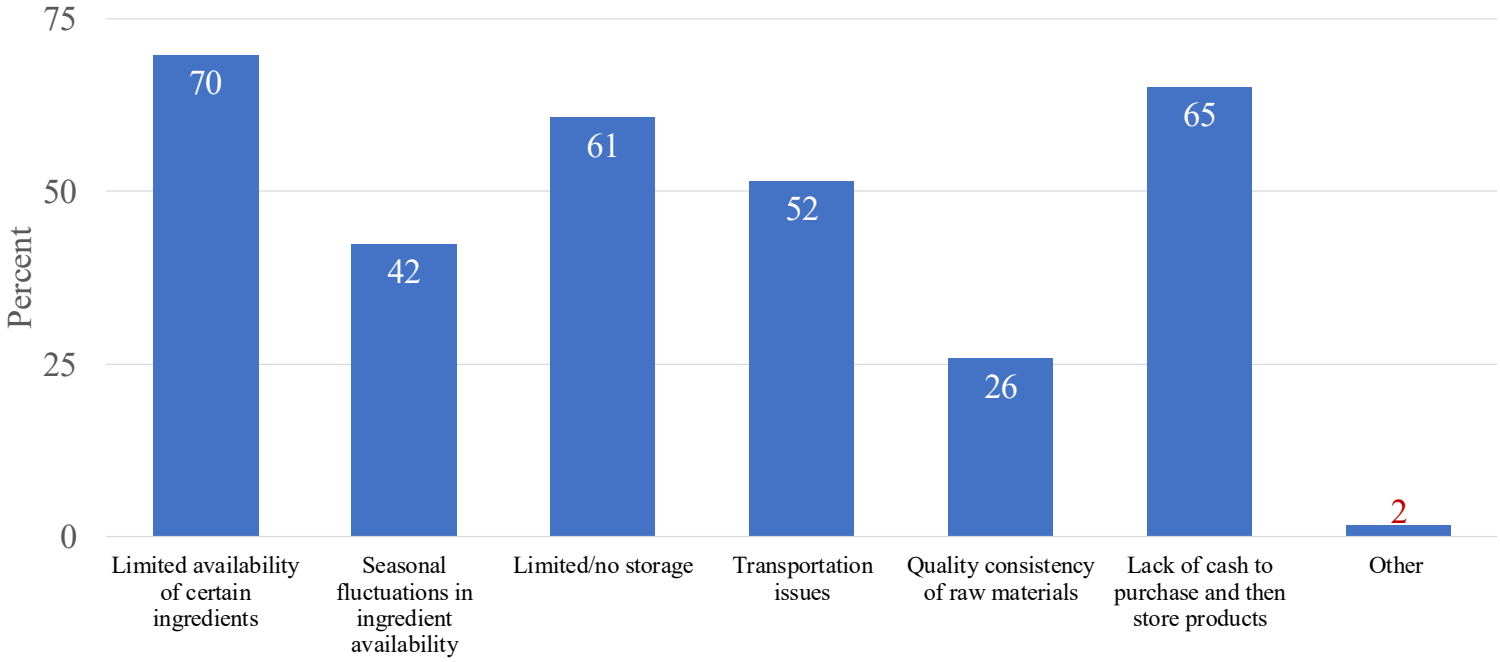

Kosrae Producers: Would you be interested in collaborating with other producers or stakeholders in your community, or locality or state for joint processing or marketing initiatives ?



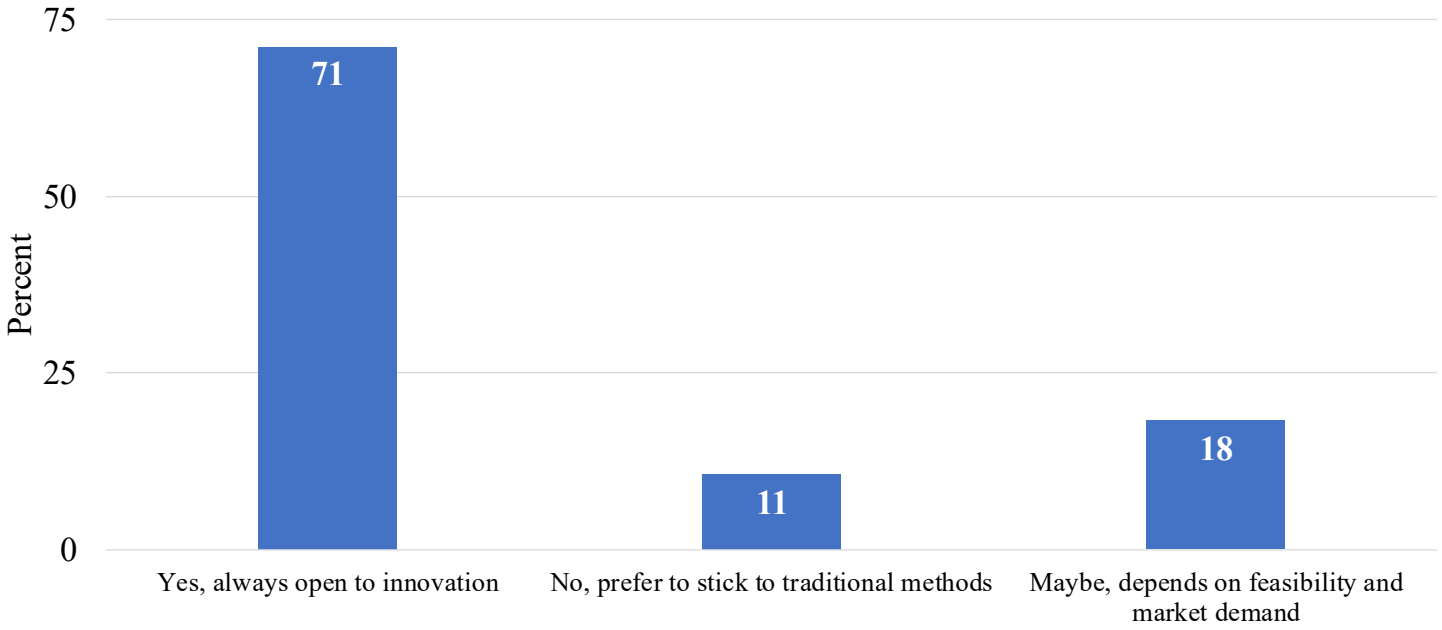
Kosrae Producers: Do you require assistance with the regulatory requirements and standards ?



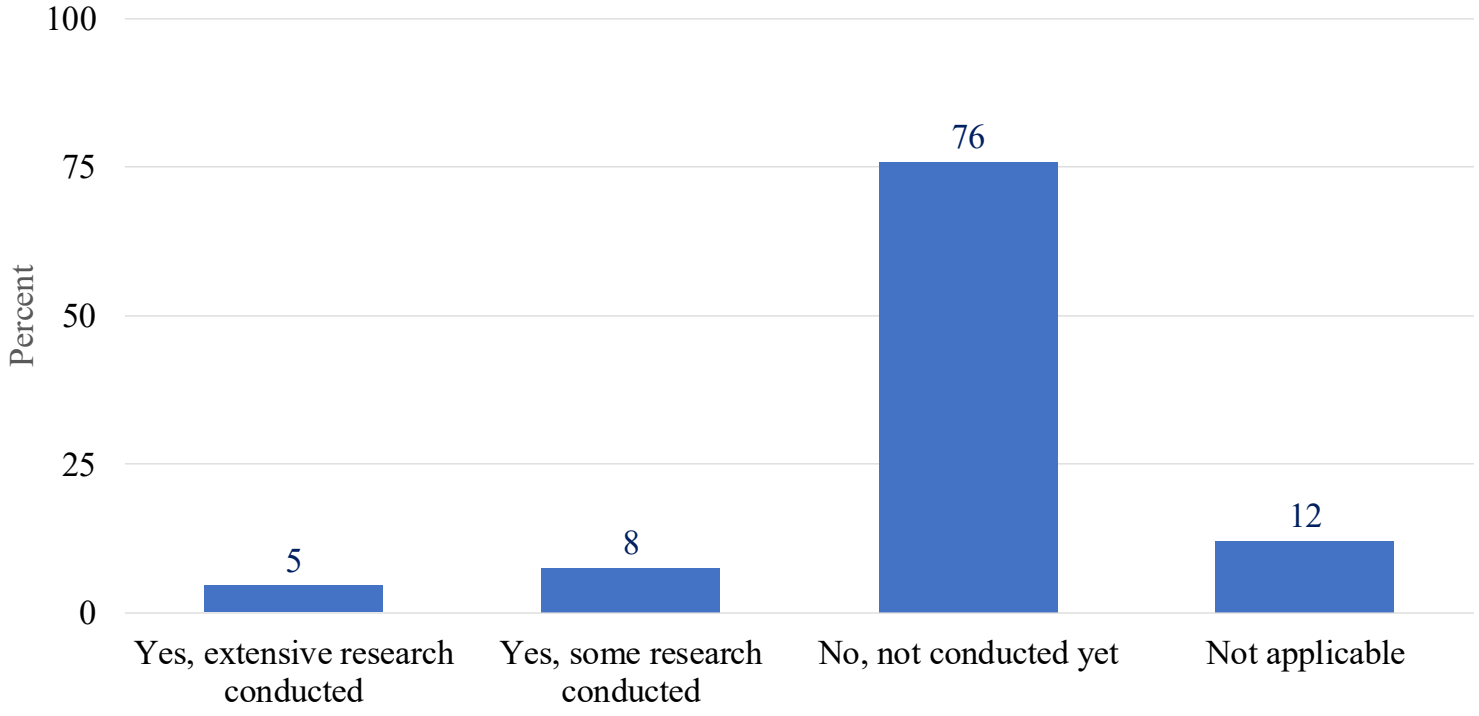

Kosrae Producers: What are the challenges you face in sourcing local ingredients to ensure you have enough materials for processing local foods ?



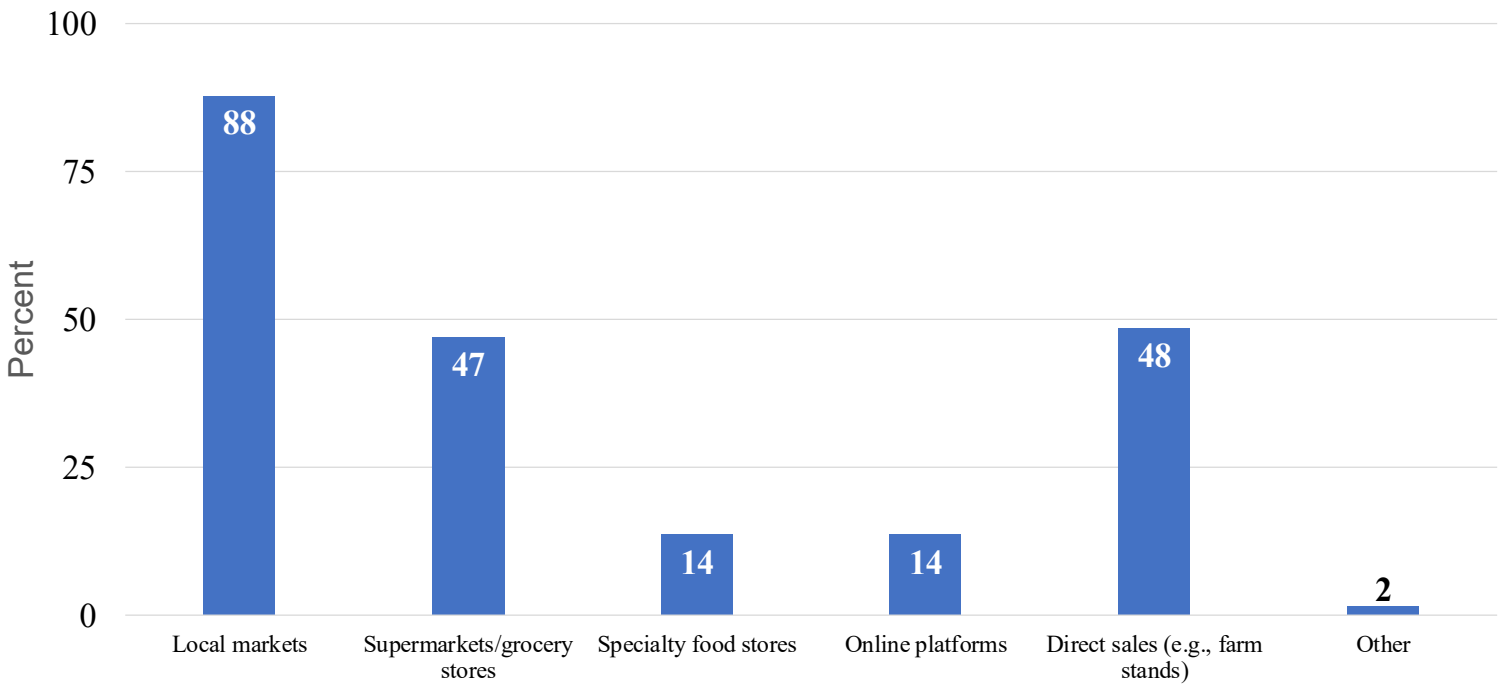
Kosrae Producers: Are you open to exploring innovative techniques or recipes for locally processed foods to cater to evolving consumer preferences ?



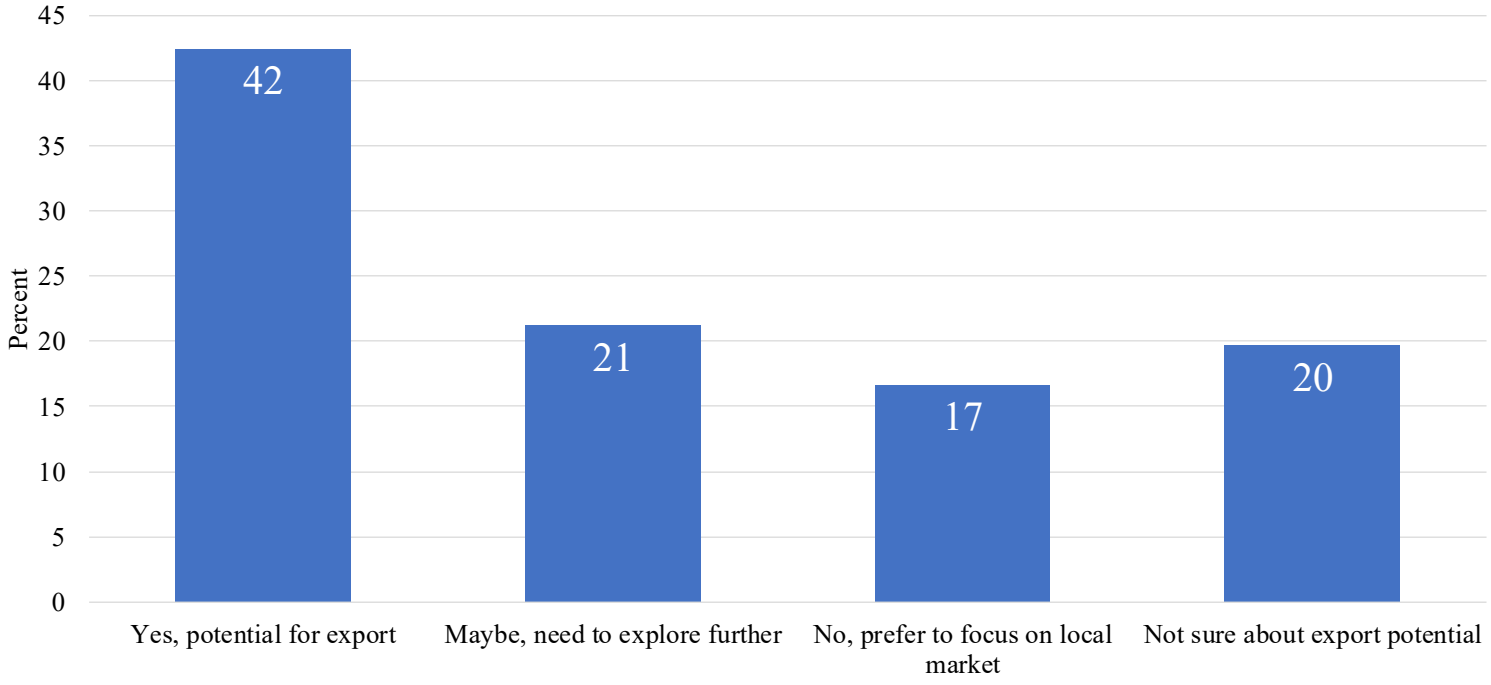

Kosrae Producers: Have you conducted any market research or feasibility studies to assess the demand for locally processed foods in the FSM market ?



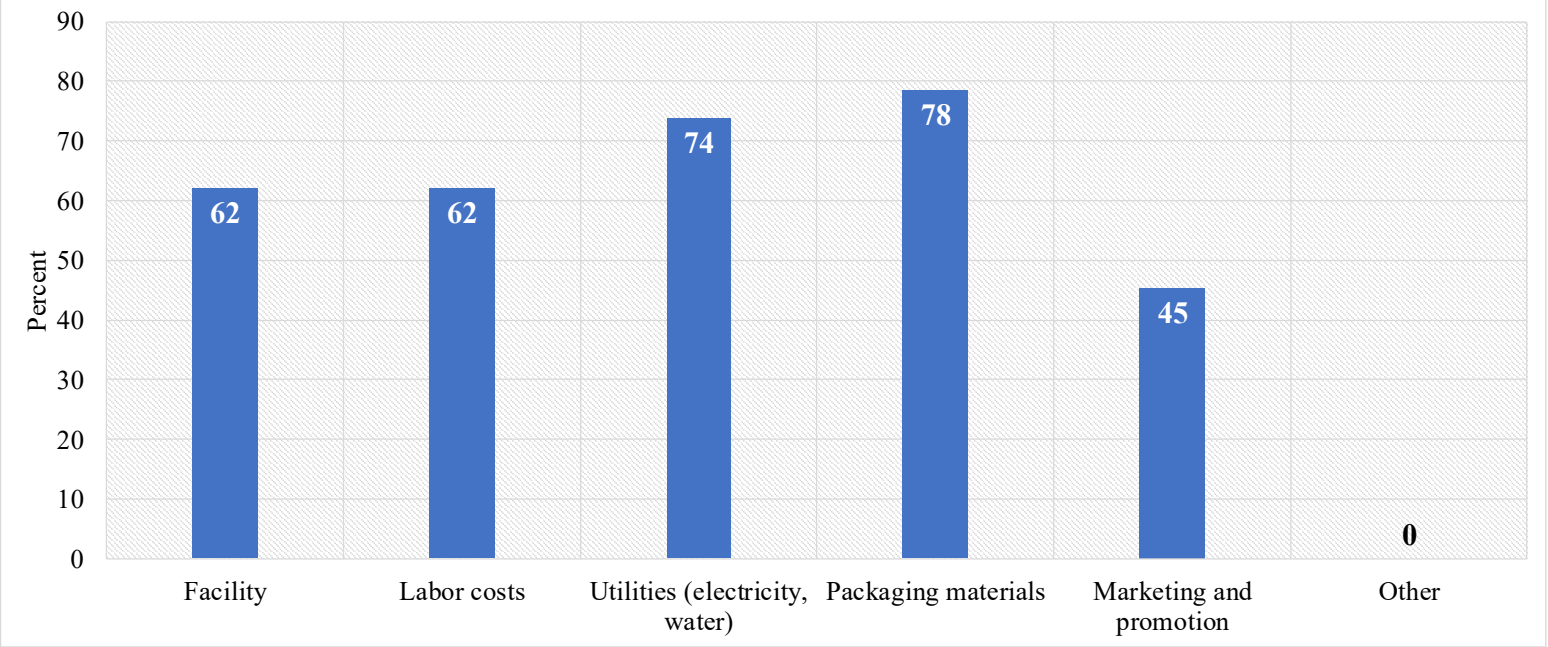
## Kosrae Producers: What distribution channels do you envision for selling locally processed foods ?



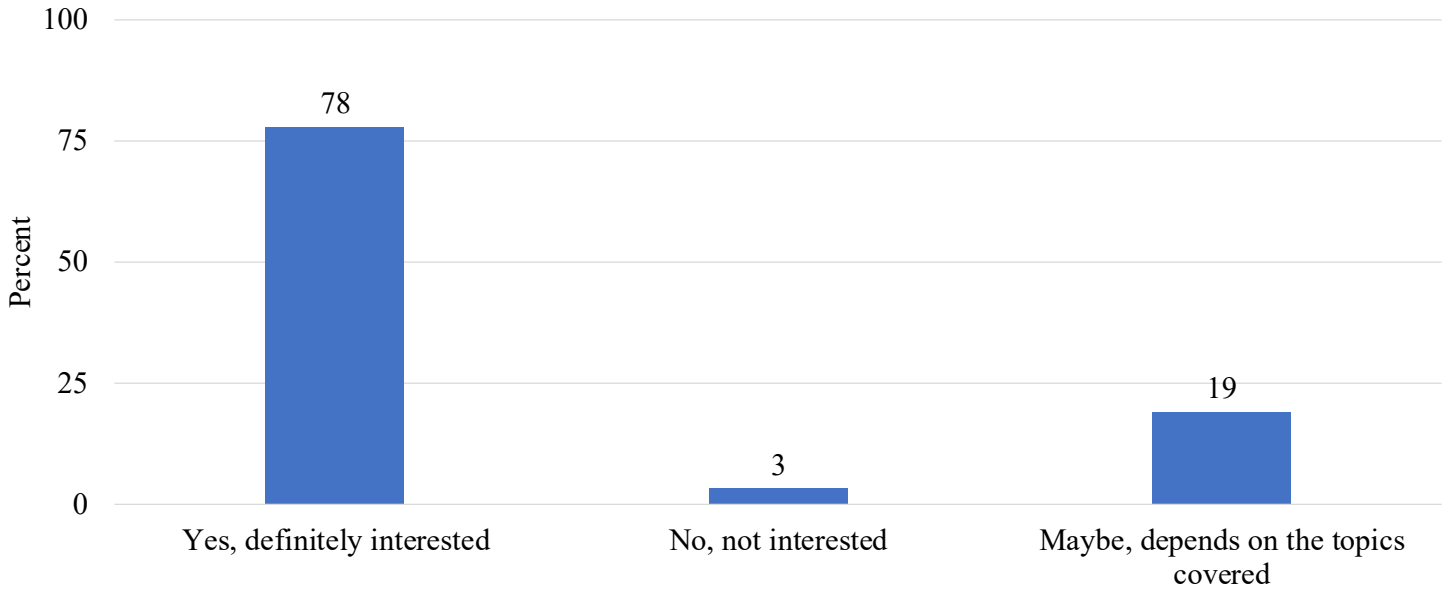

## Kosrae Producers: Do you see potential for exporting locally processed foods into other states in the FSM or beyond the FSM ?



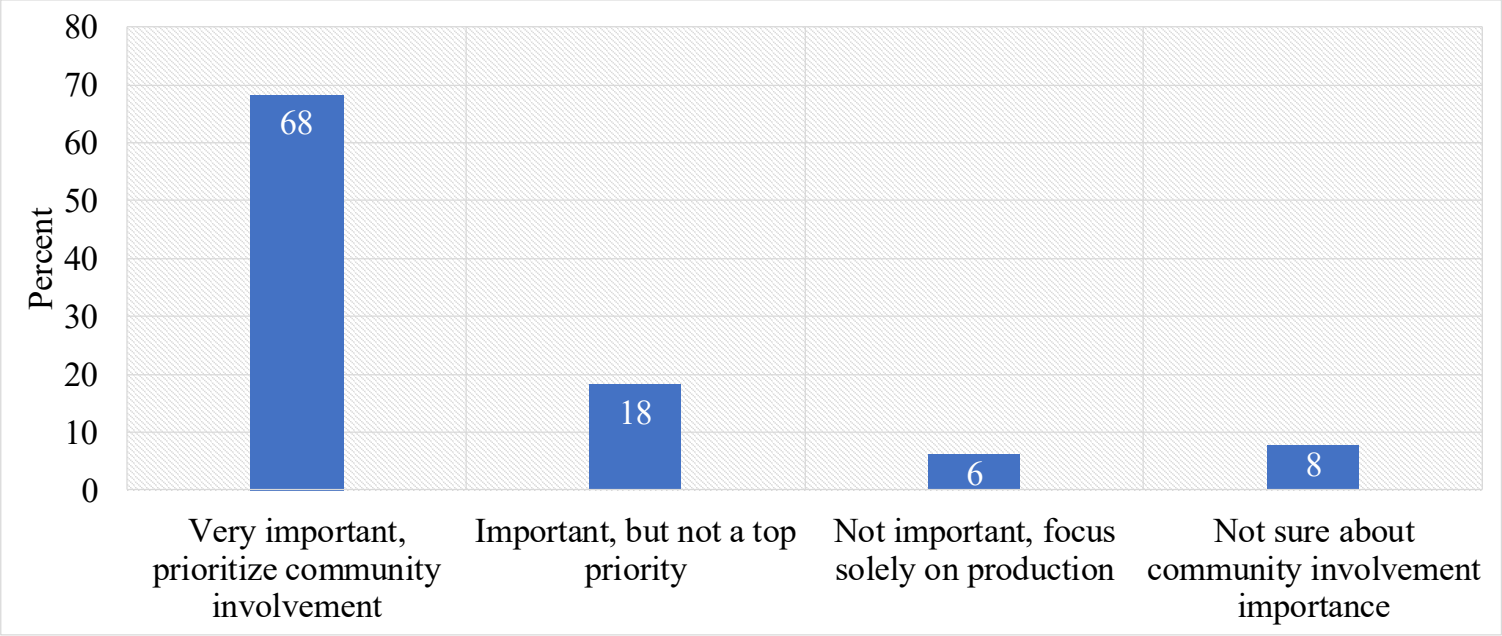
Kosrae Producers: Besides raw materials and processing equipment, what other costs do you anticipate in the production of locally processed foods (e.g., labor, utilities, packaging) ?



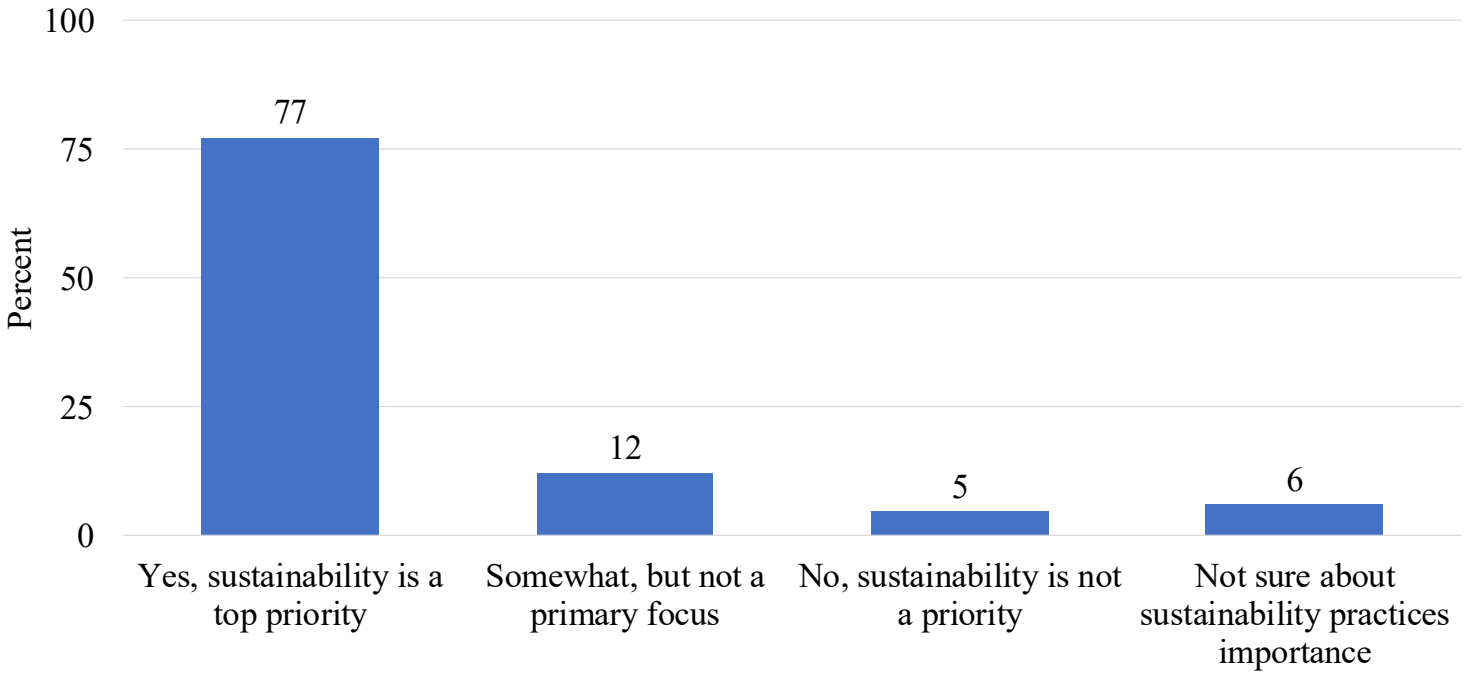

Kosrae Producers: Would you participate in training programs or workshops offered by the Food Innovation Center to enhance your skills in traditional food processing techniques, quality control, or business management ?



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

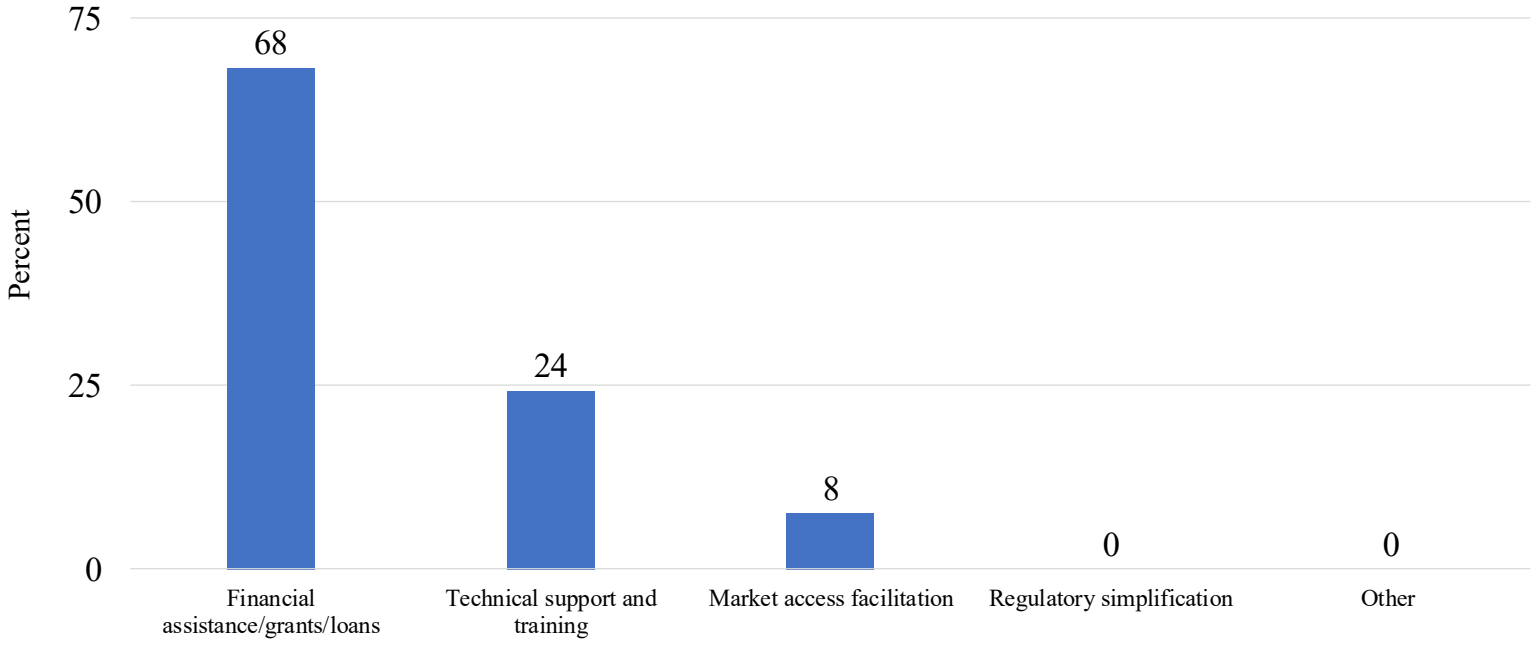



Kosrae Producers: Do you prioritize sustainable practices in your production processes, such as minimizing waste, conserving resources, or supporting local ecosystems ?

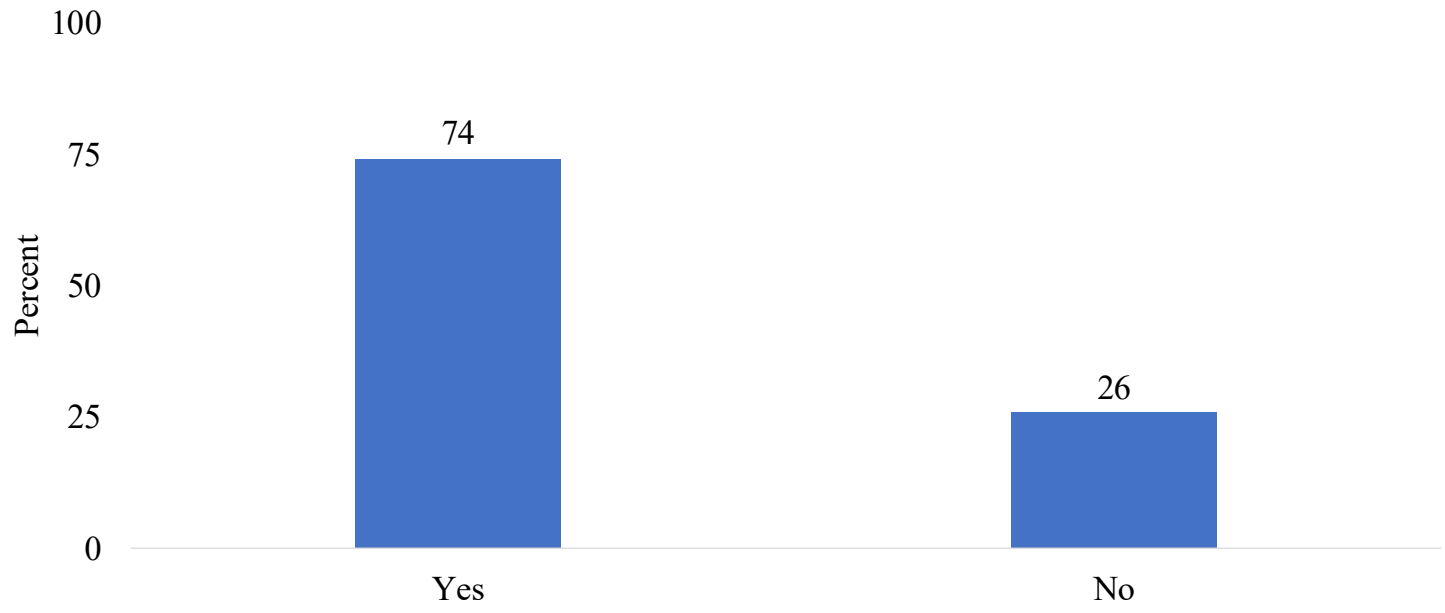


Kosrae producers: What are your long-term goals and aspirations for your involvement in producing locally processed foods. How do you see your role evolving in the future ?

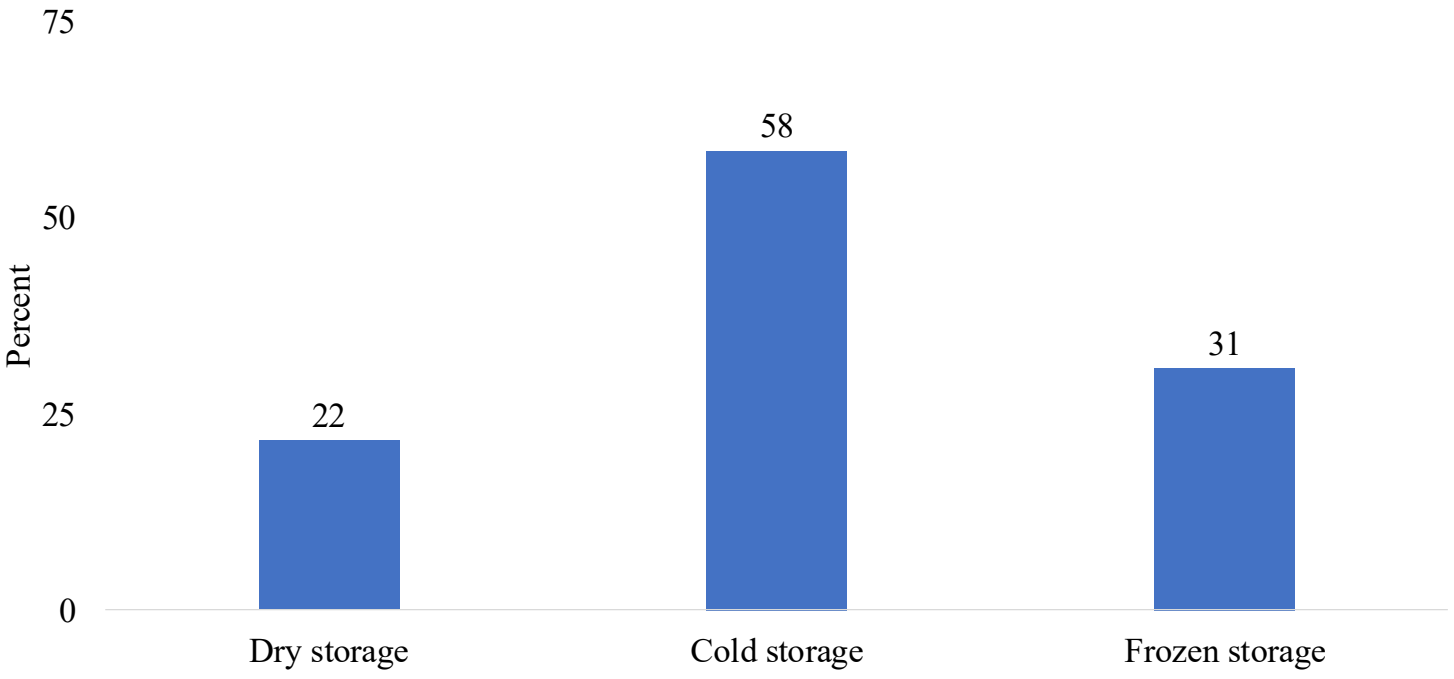

Kosrae Producers: What kind of support or incentives from the government would be most beneficial to you for promoting the production and marketing of locally processed foods in the FSM ?



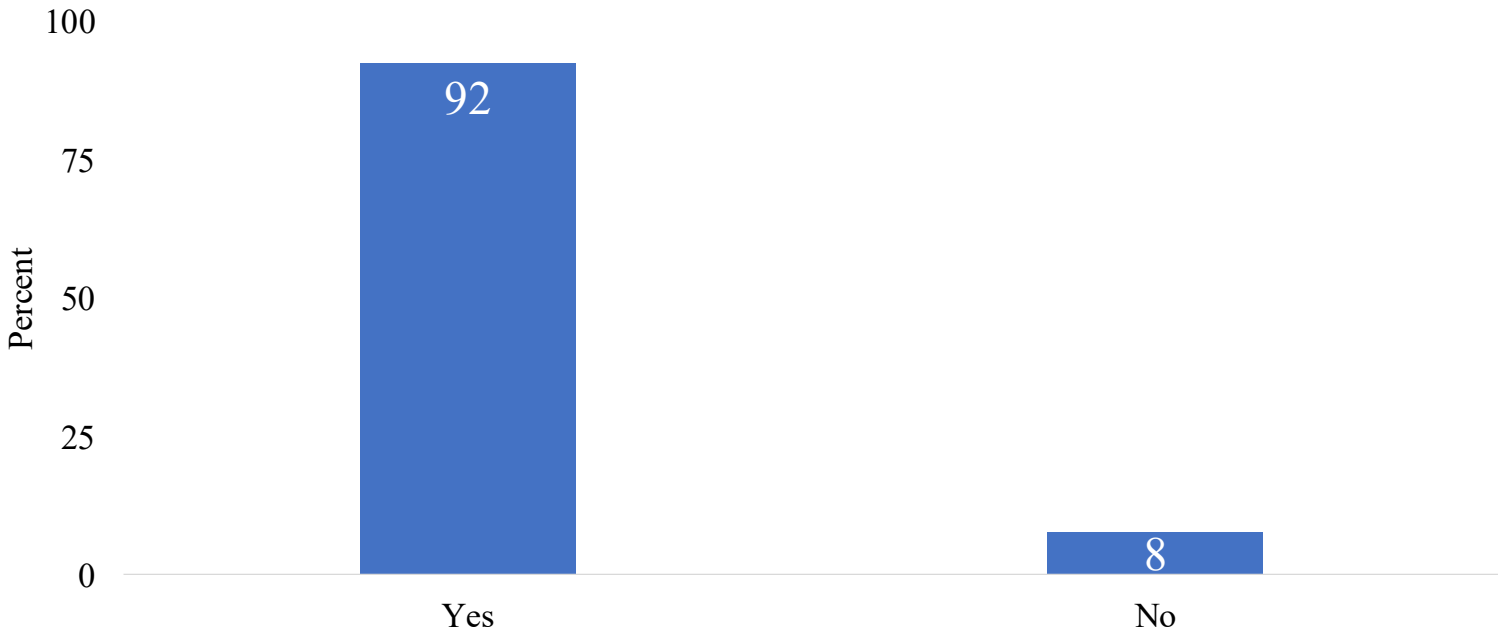
Kosrae Producers: Would you use a food storage facility if one was provided to your municipality / Community ?



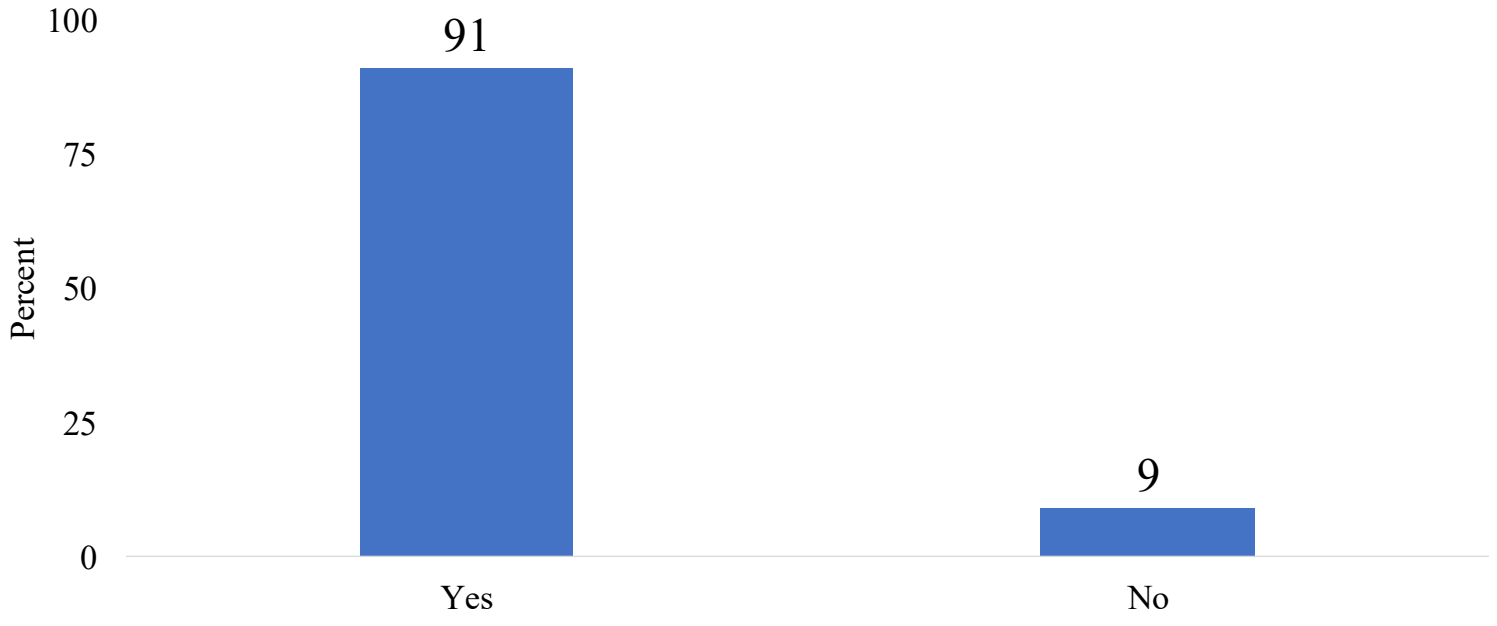

Kosrae Producers: Which Kind of Food storage facility would you use ?



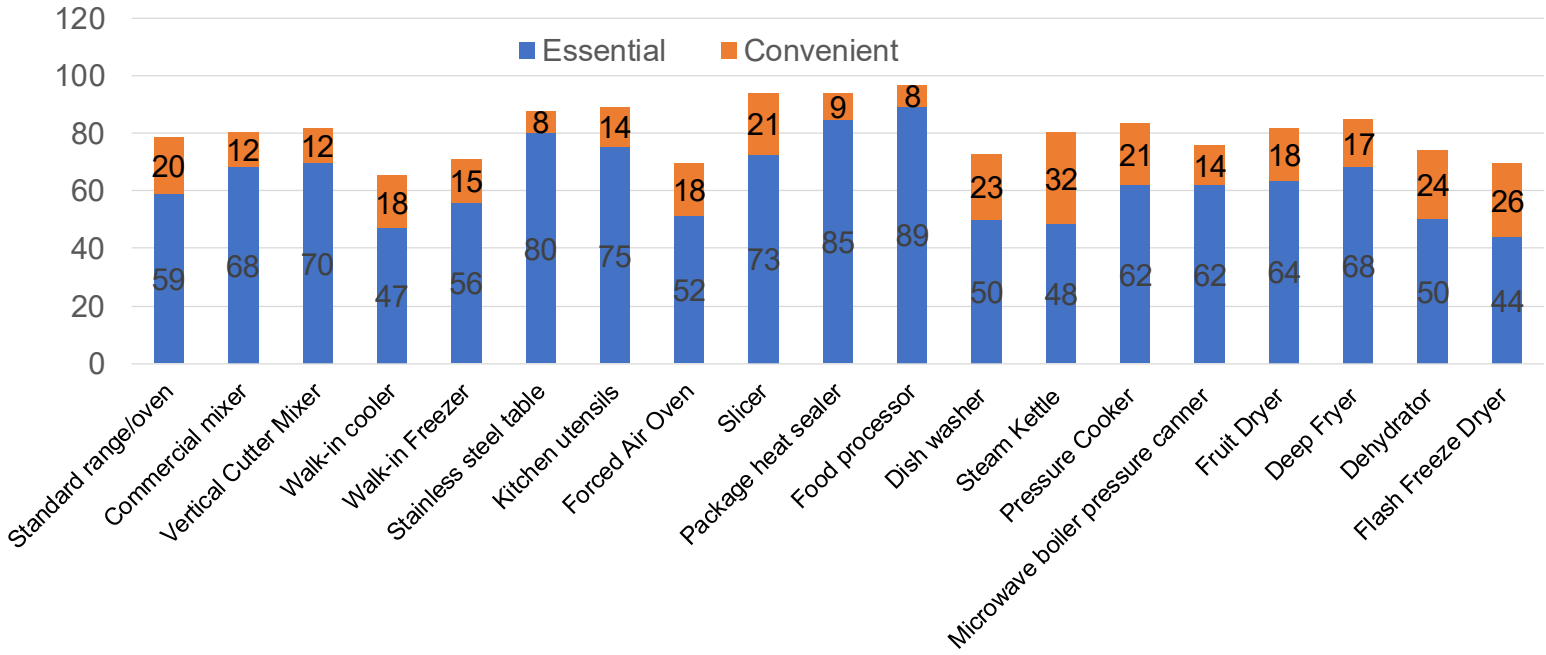
Kosrae Producers: Would you be interested in selling the food you produce to a local food processing plant ?



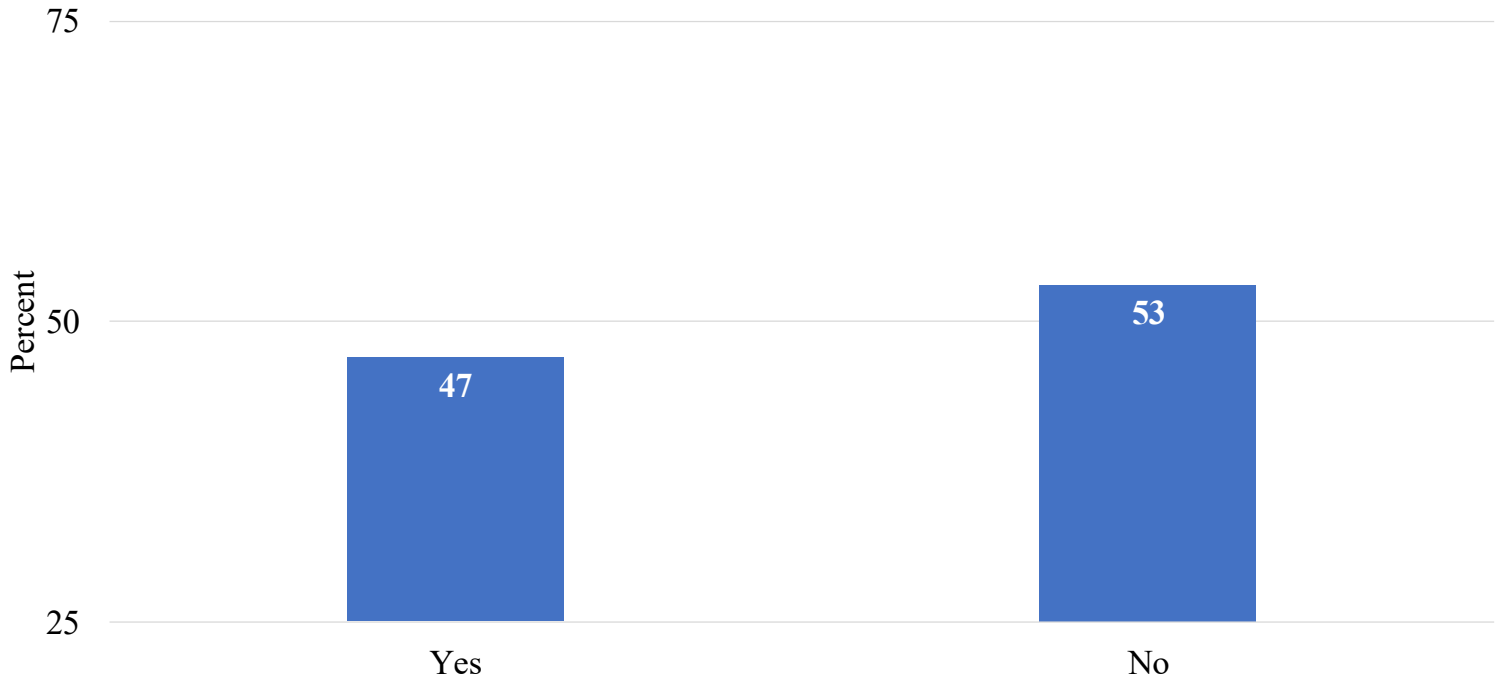

Kosrae Producers: . Would you be interested in having your raw food products purchased directly from your farm/island (So, you do not have to transport them to market) ?



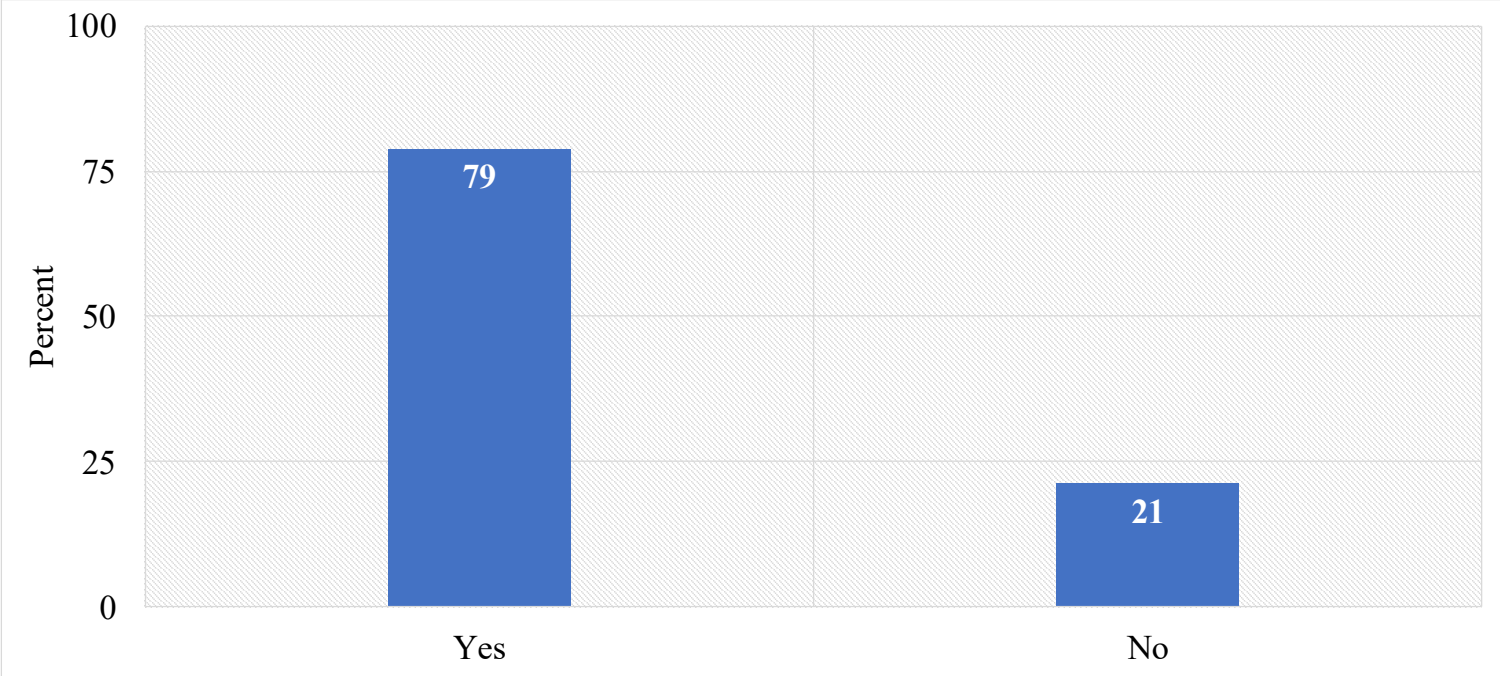
Kosrae Producers: Rate your level of need for the following type of equipment's ?



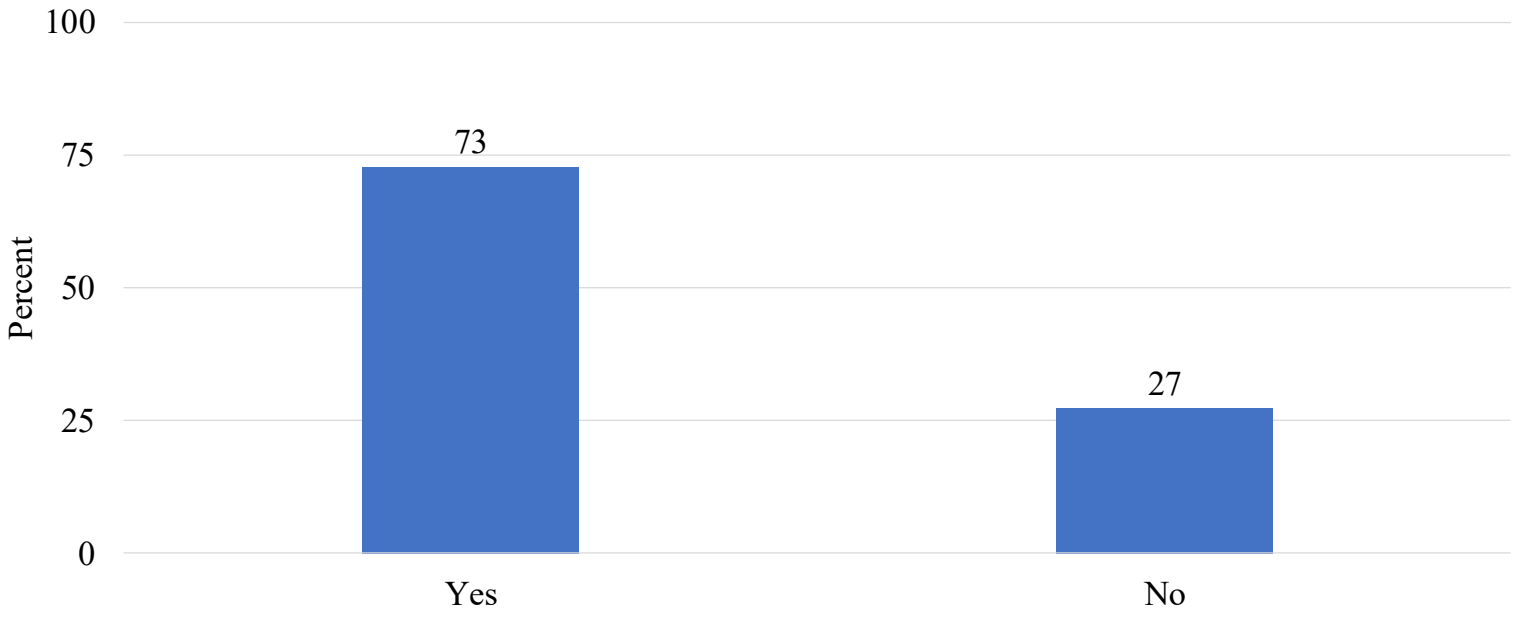

Kosrae Producers: Do you have a business plan ?



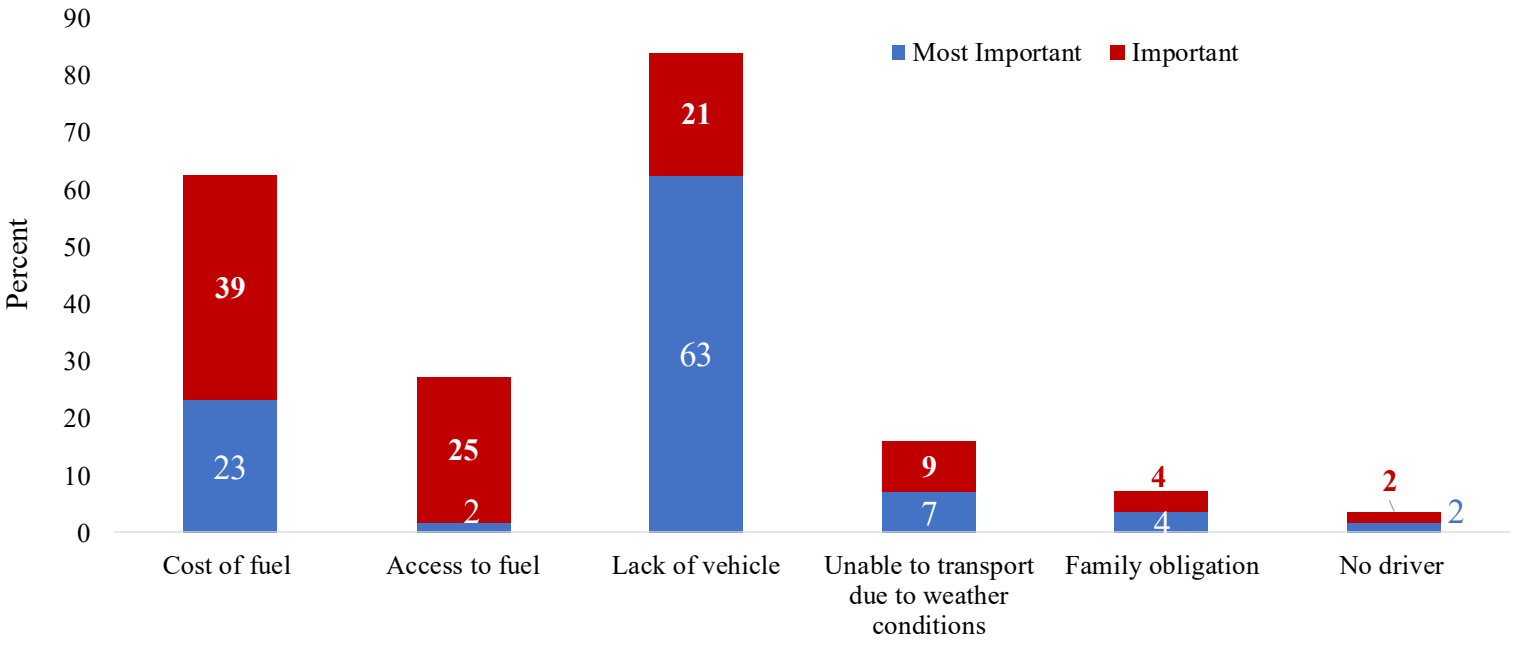
Kosrae Producers: Would you be willing to work with business advisors to create or improve an existing business plan ?



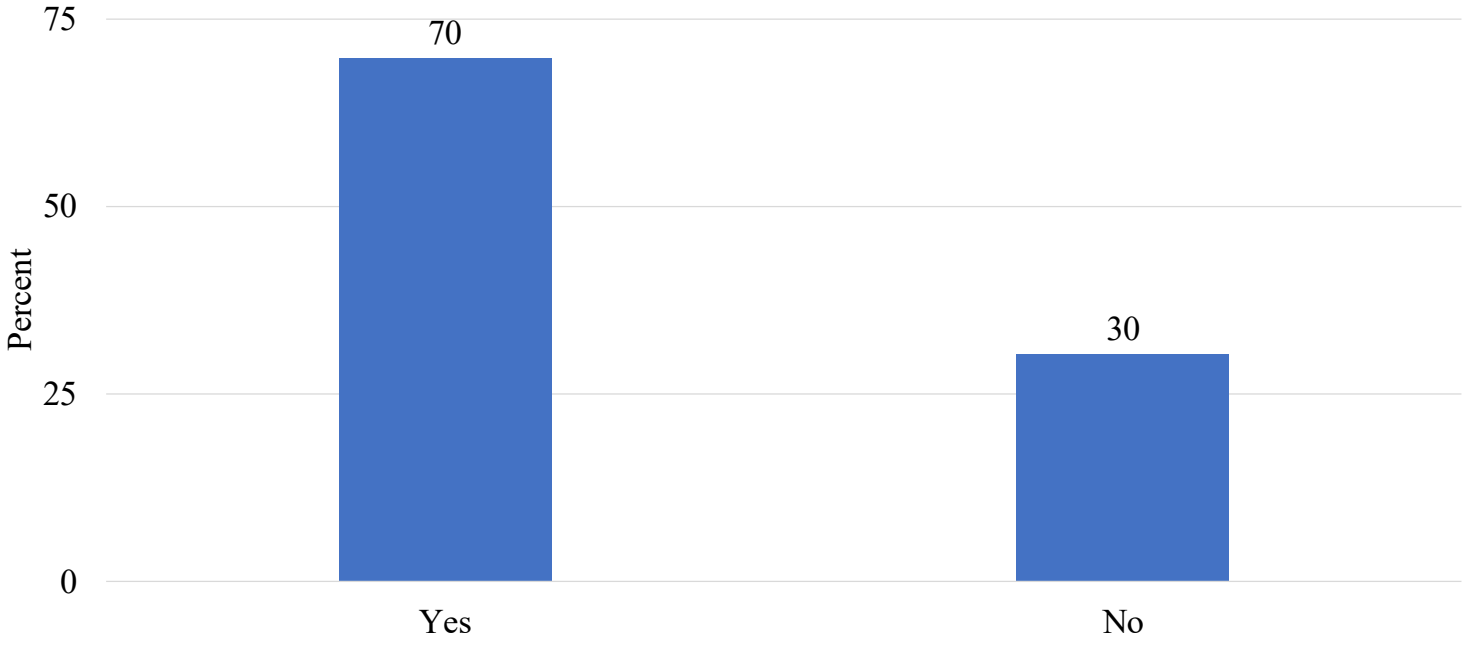

Kosrae Producers: Is transportation of your food products and food crops to market a serious constraint ?



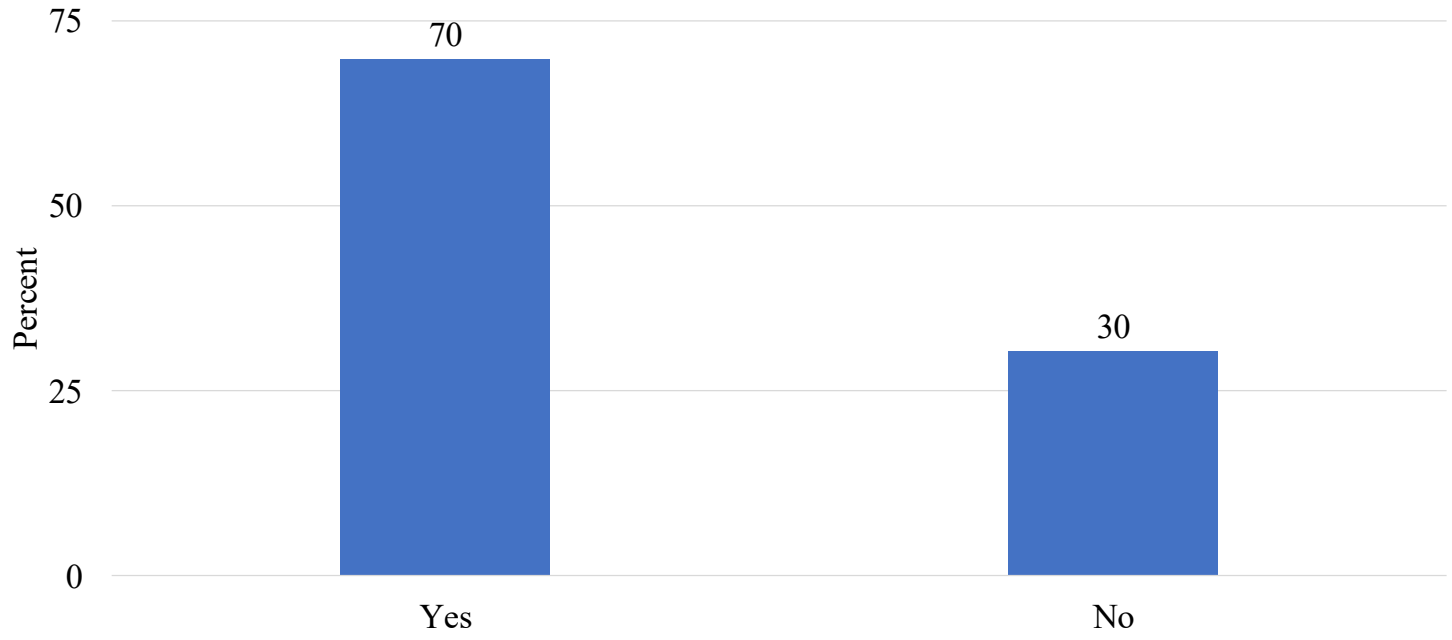
## Kosrae Producers:  How is transportation a constraint ?



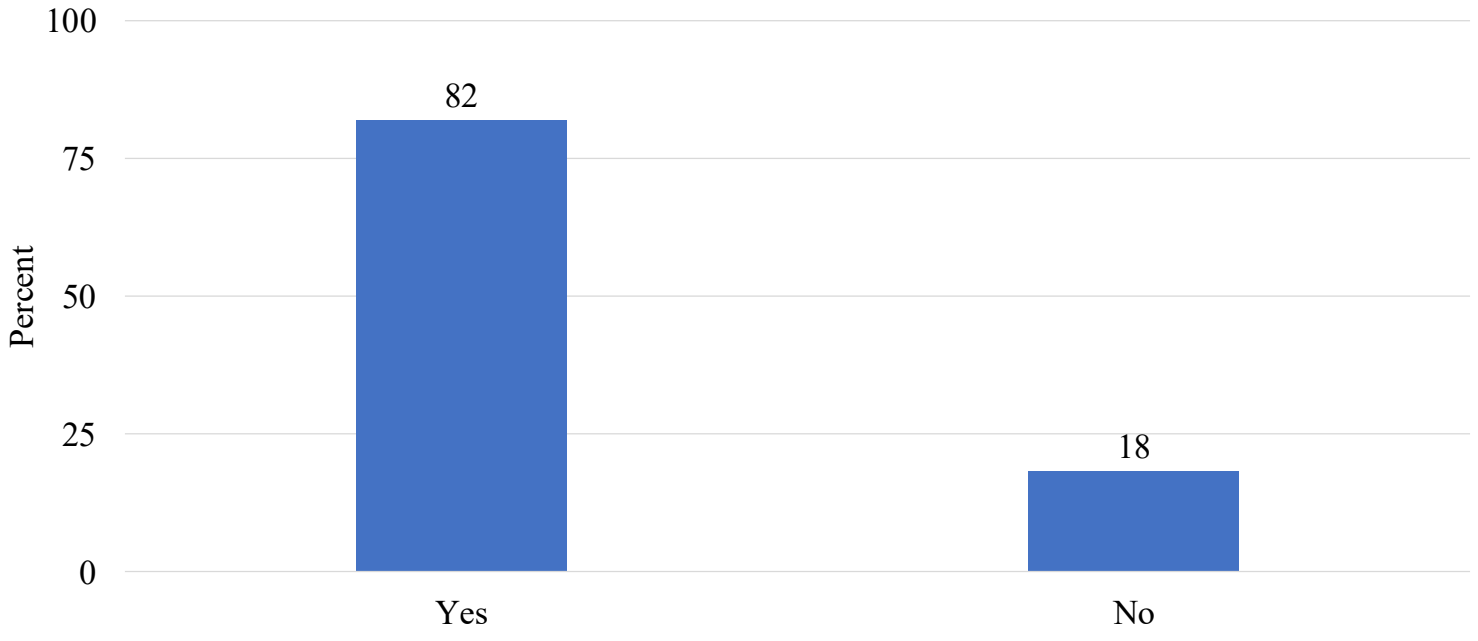

## Kosrae Producers: Is lack of labour a serious constraint to your food harvesting ?



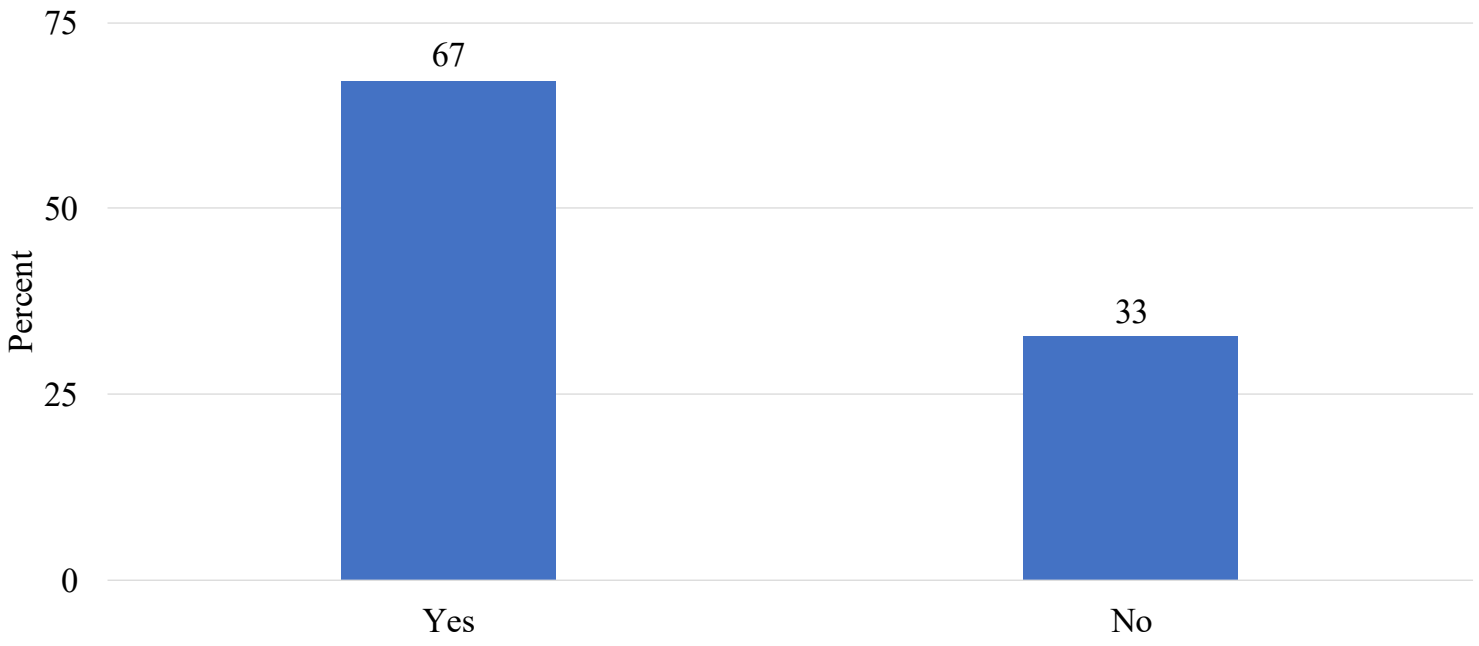
Kosrae Producers: Is lack of labour a serious constraint to your food production and packaging ?



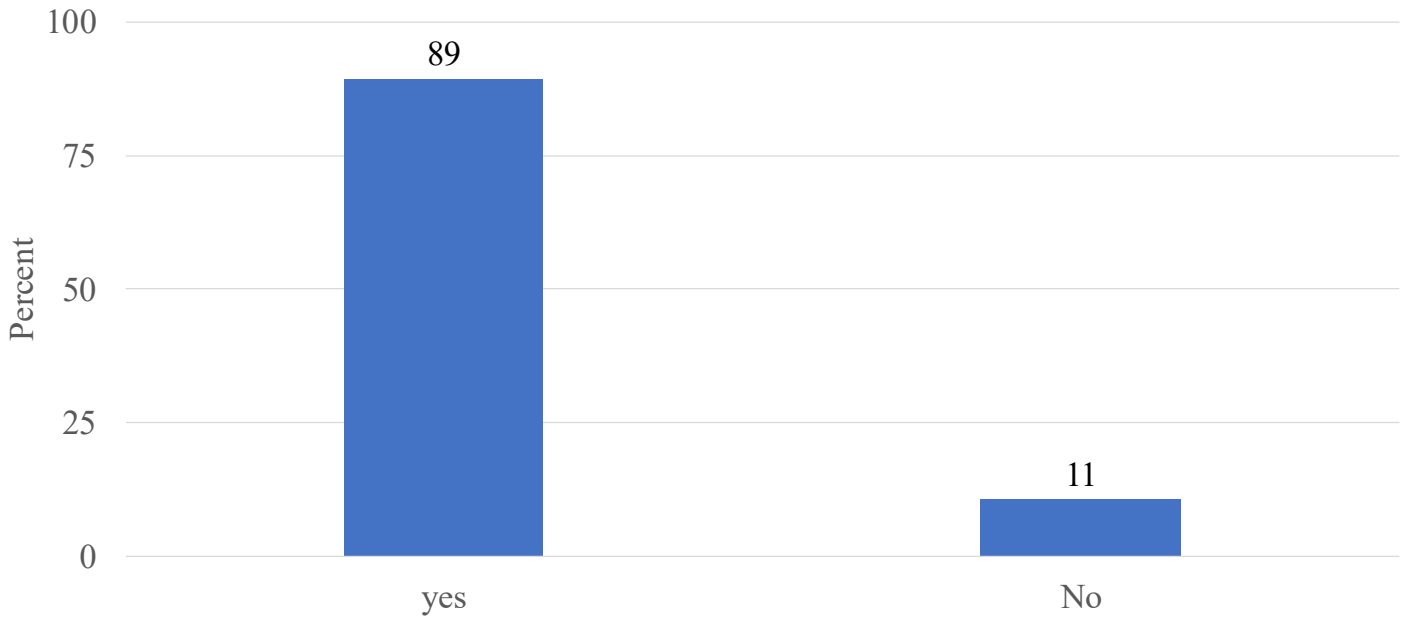

Kosrae Producers : Do you also sell your food products directly to customers ?



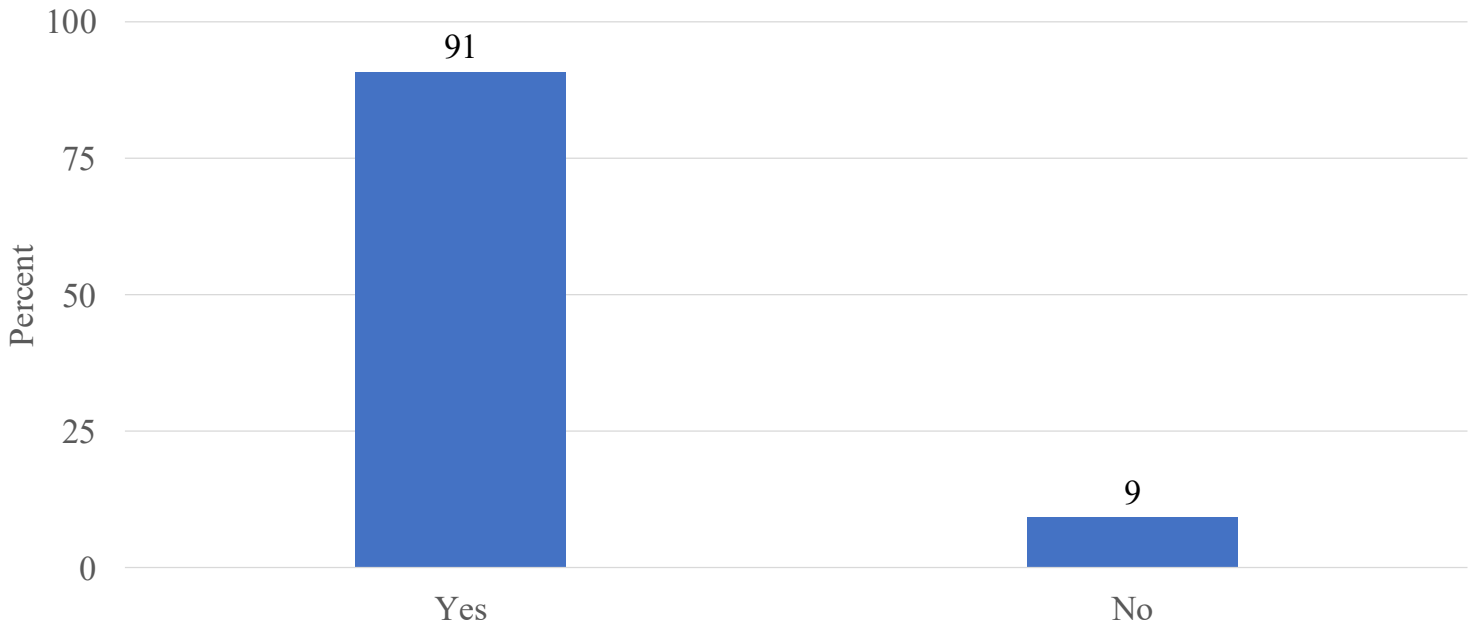
Kosrae Producers: If so, is lack of labour a serious constraint to the selling of your food products ?



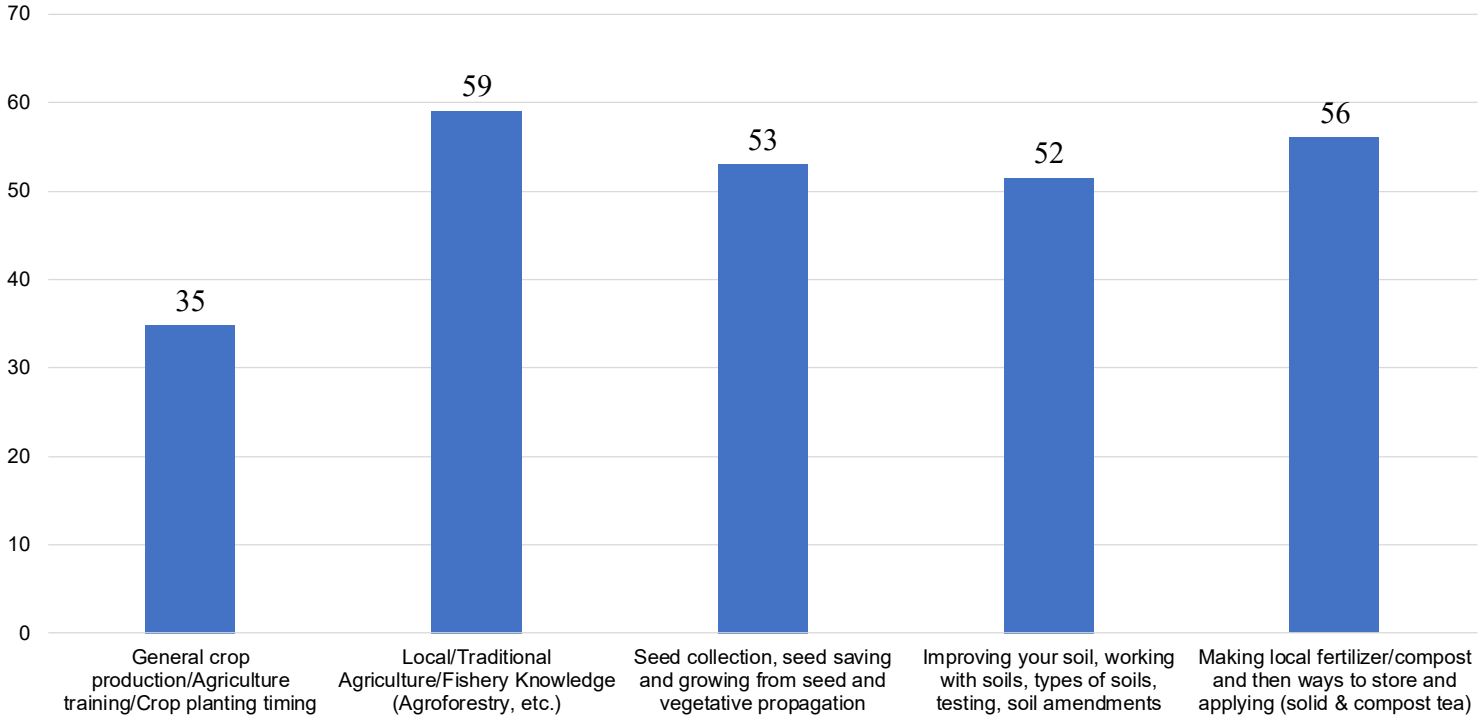

Kosrae Producers : would you like any training to help you produce more food ?



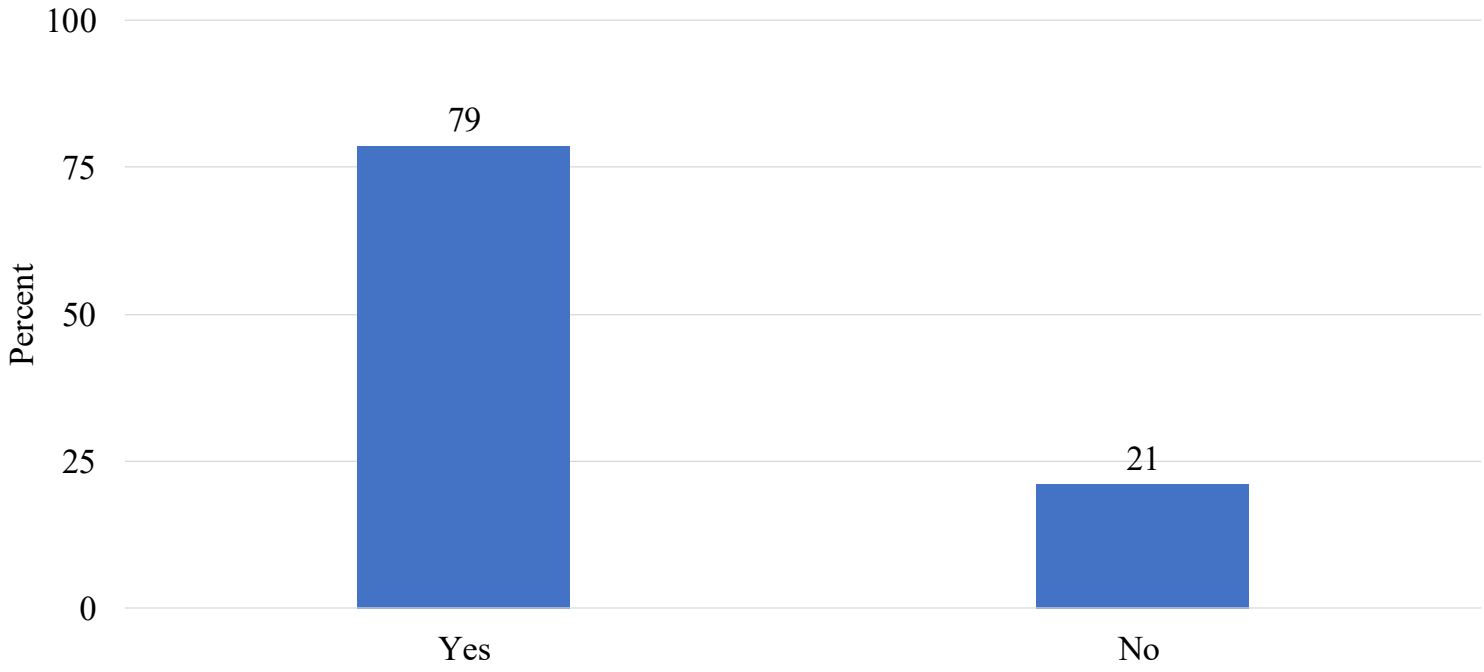
## Kosrae Producers : Would you be interested in being trained in commercial food processing ?



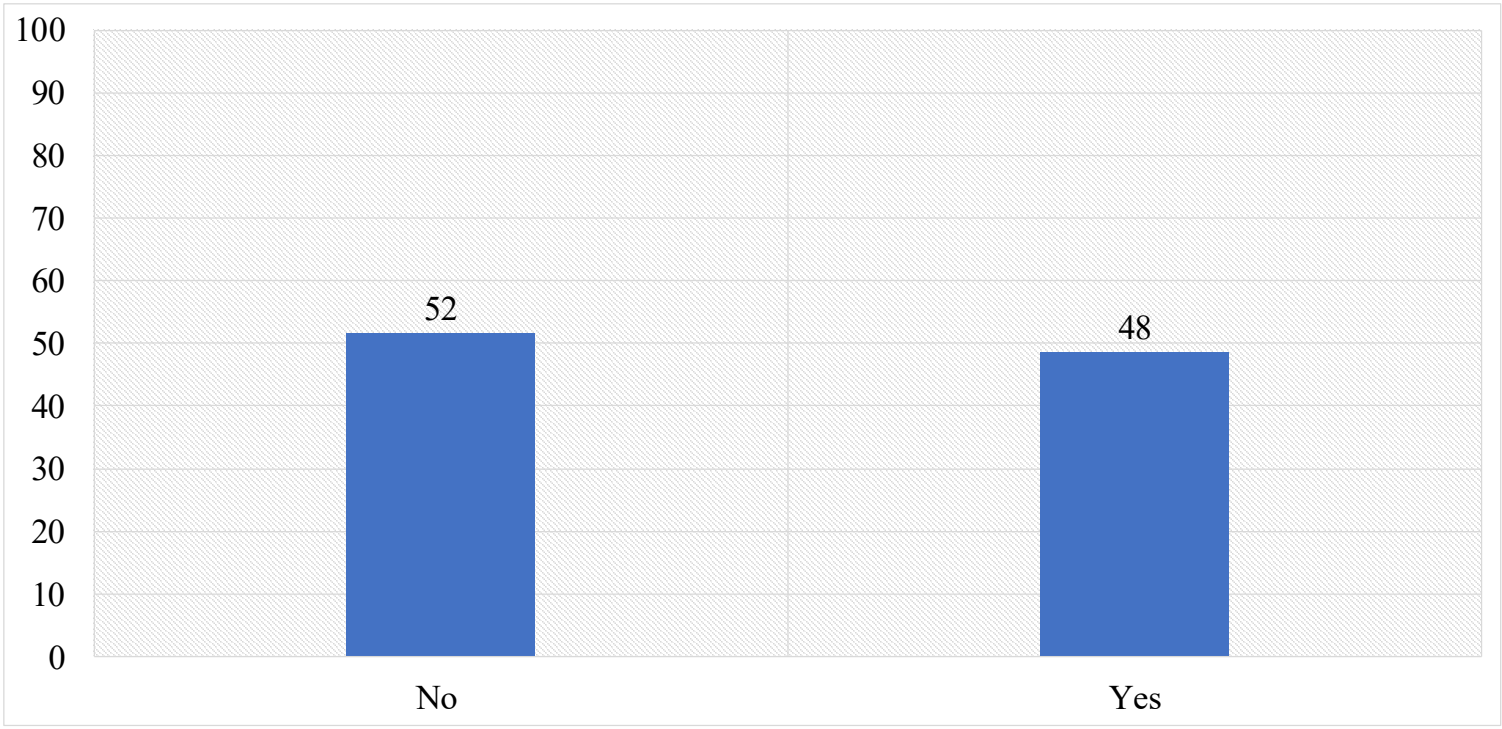

## Kosrae Producers : What kinds of agricultural training would you like to receive ?



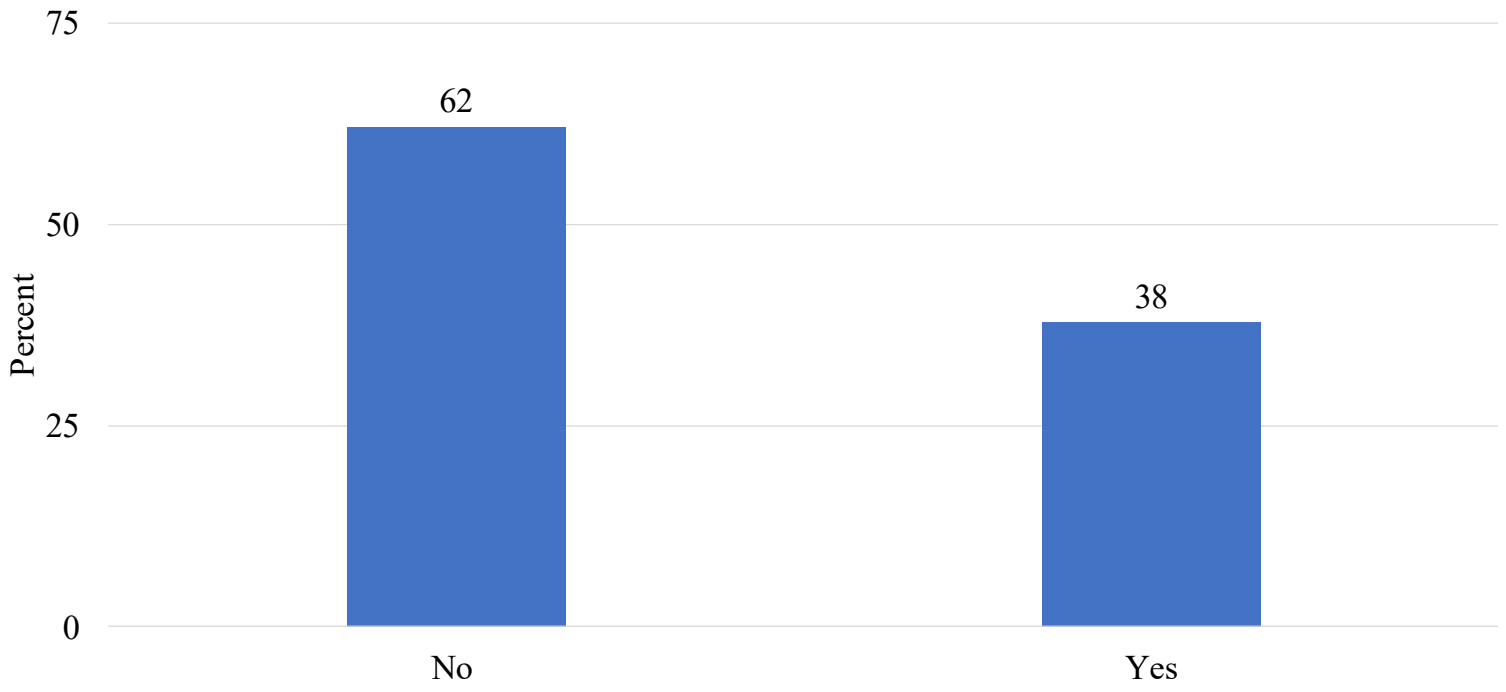
Kosrae Producers: Would you like to teach other food producers from your own experiences ?



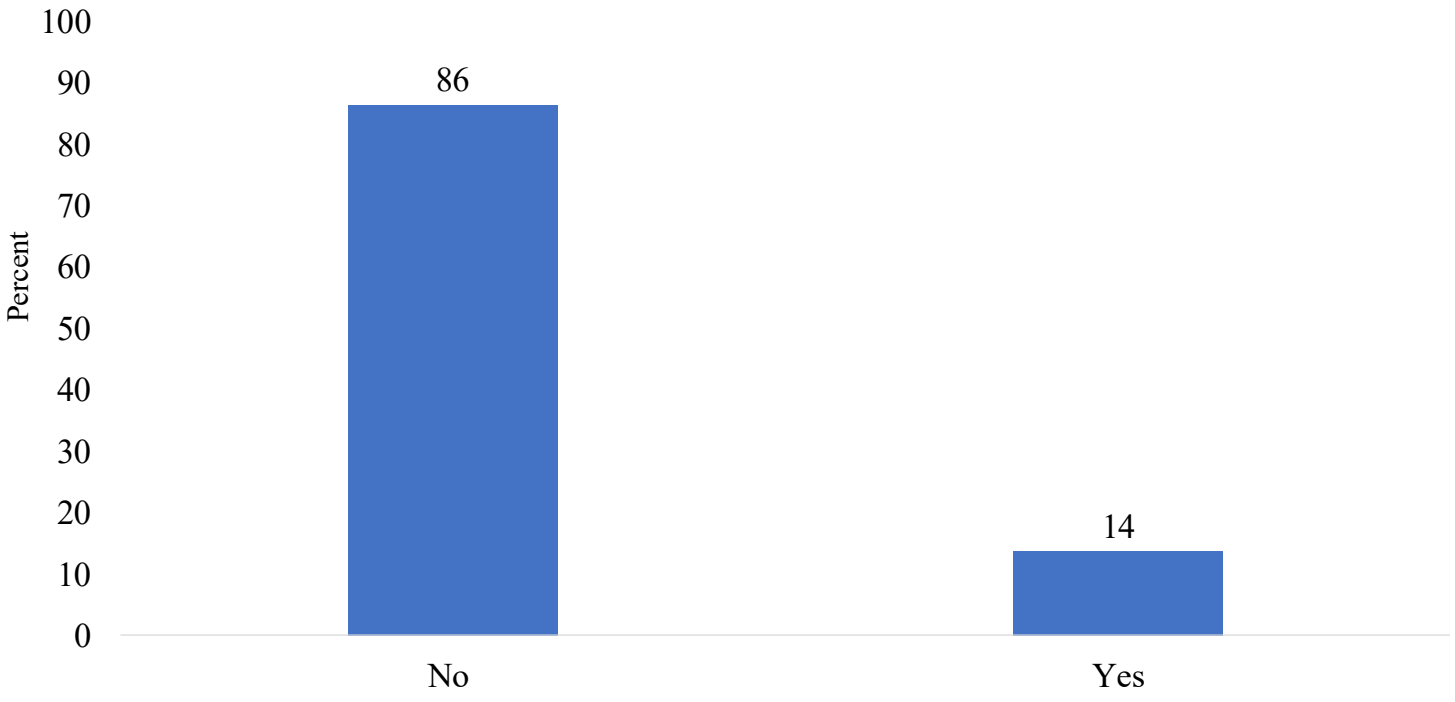

Kosrae Producers: Do you belong to  any local community group ?



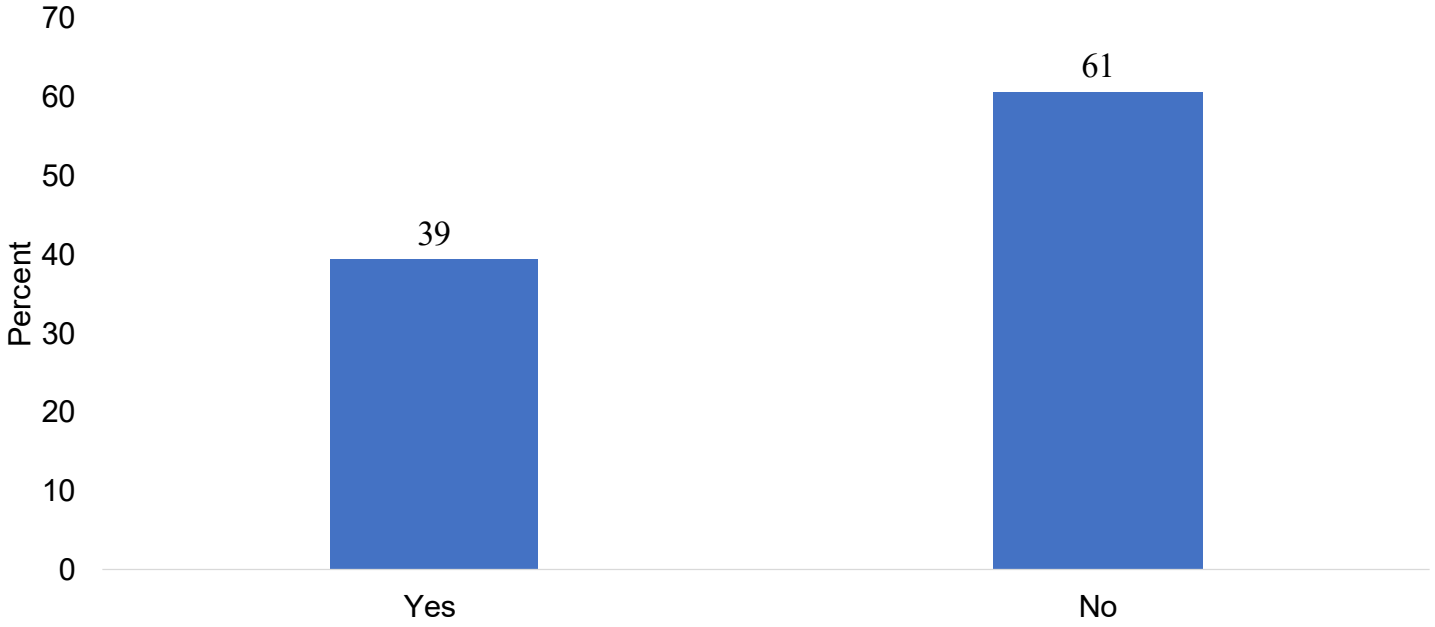
Kosrae Producers: Do you belong to any local Farmers association ?



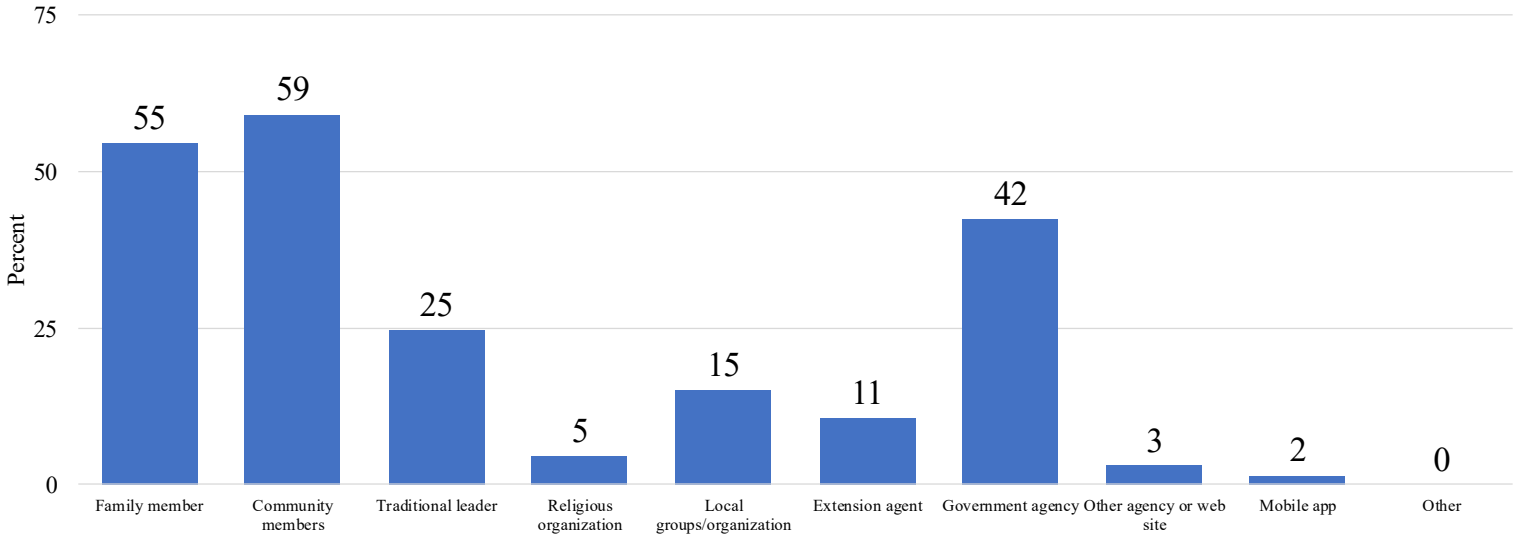

Kosrae Producers: Do you belong to any local fishing organization ?



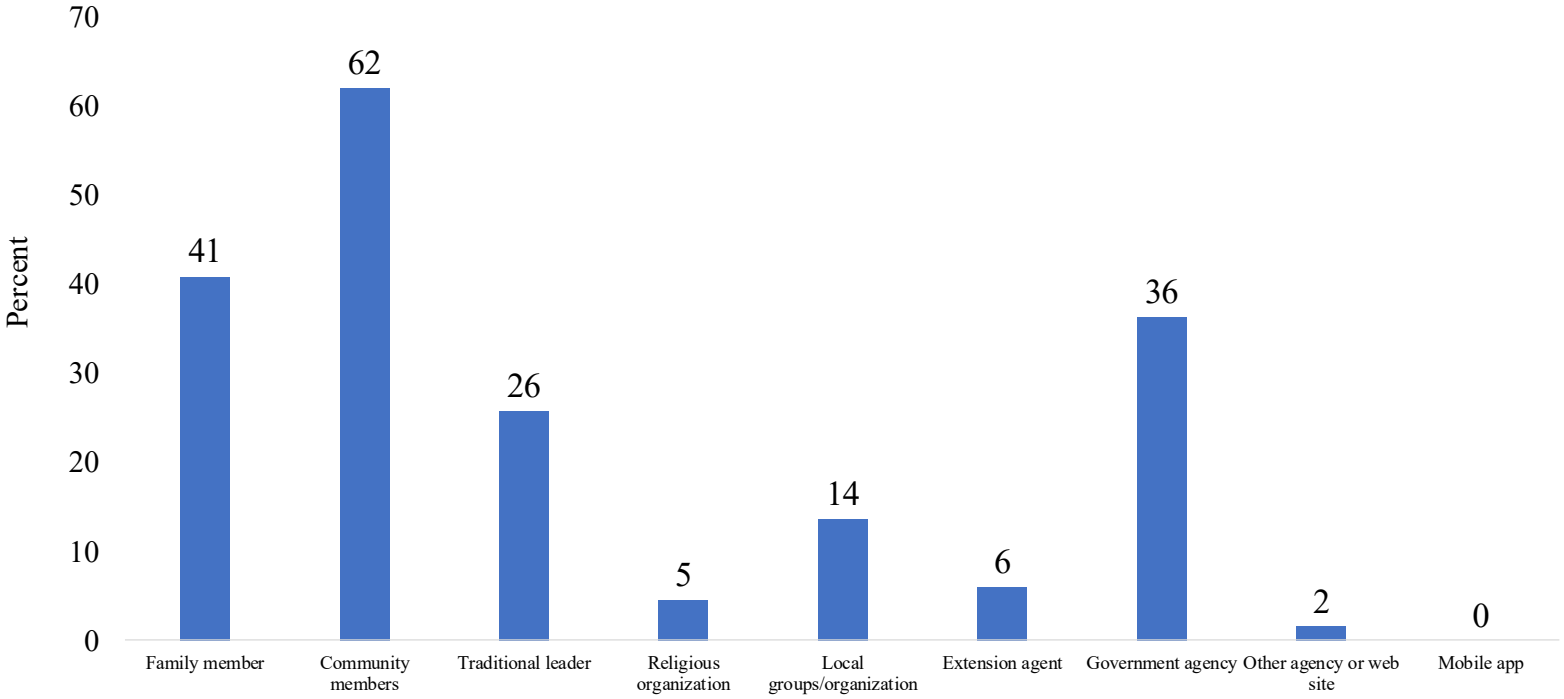
Kosrae Producers: Are you familiar with the State and National laws and policies that affect your food production ?



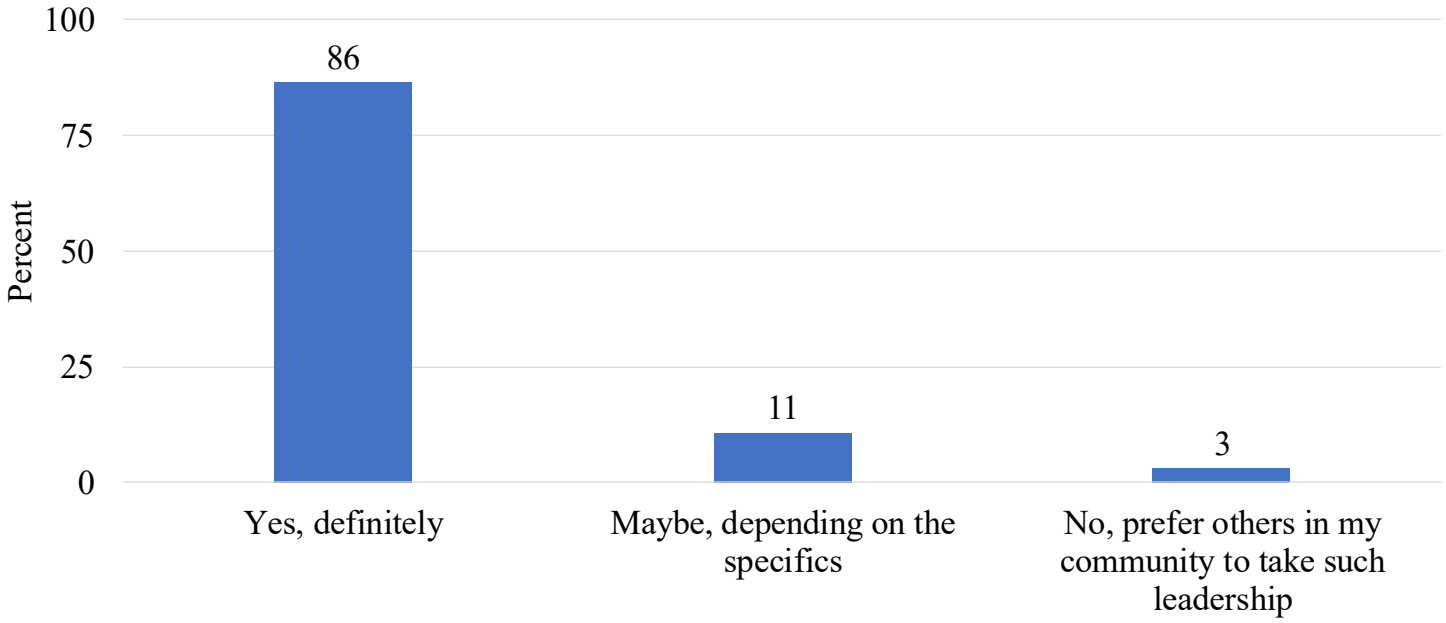

Kosrae Producers: If you need information about the State and National laws and policies, where would you go ?



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

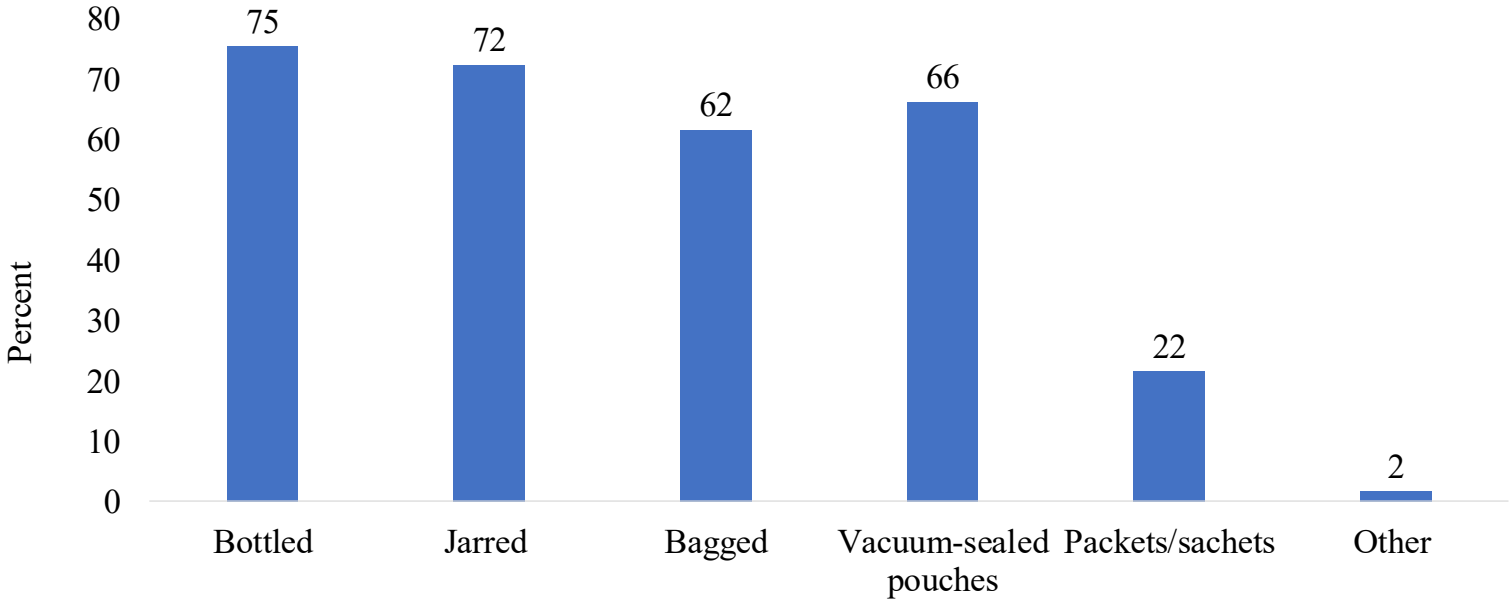



Kosrae Producers: Would you be interested/willing to participate in trainings and workshops that provide those skills ?

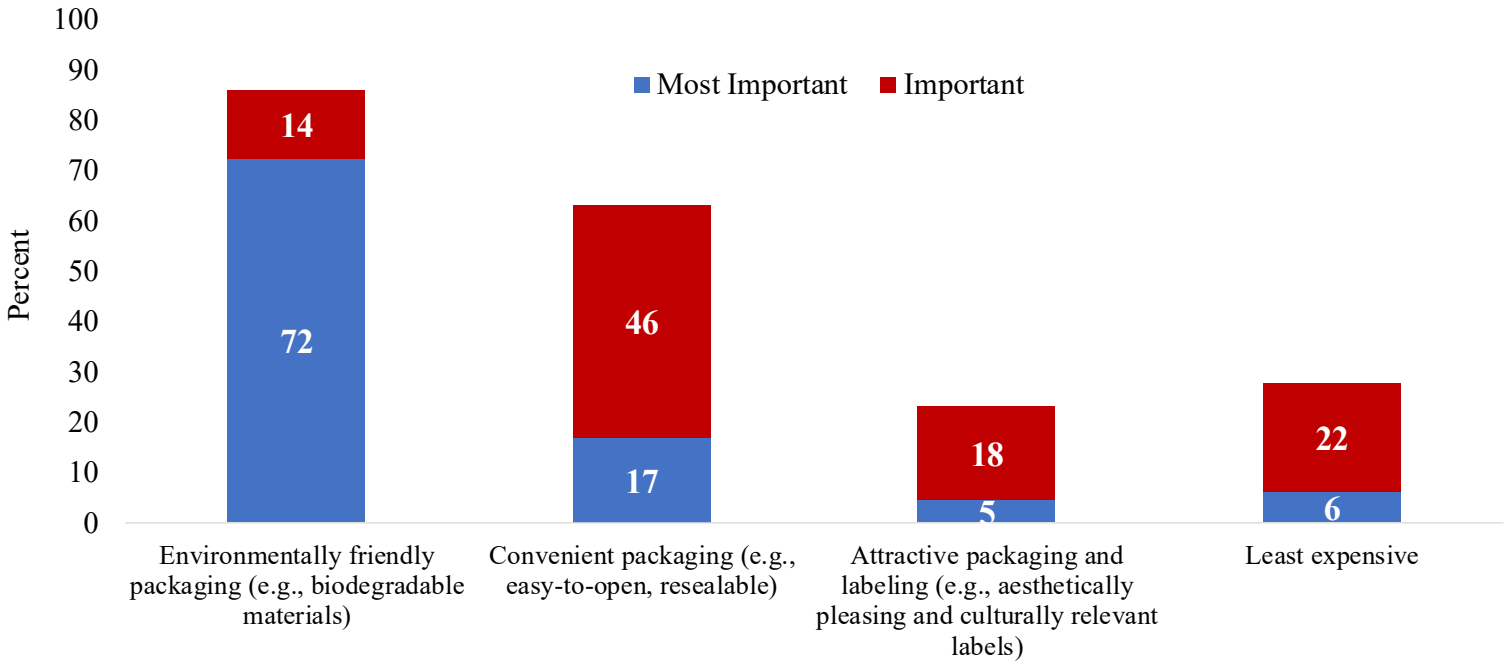


# Federated States of Micronesia
# Food Systems Solutions Project
# FSS Survey Data Tables and Charts
# Kosrae State
# Consumers

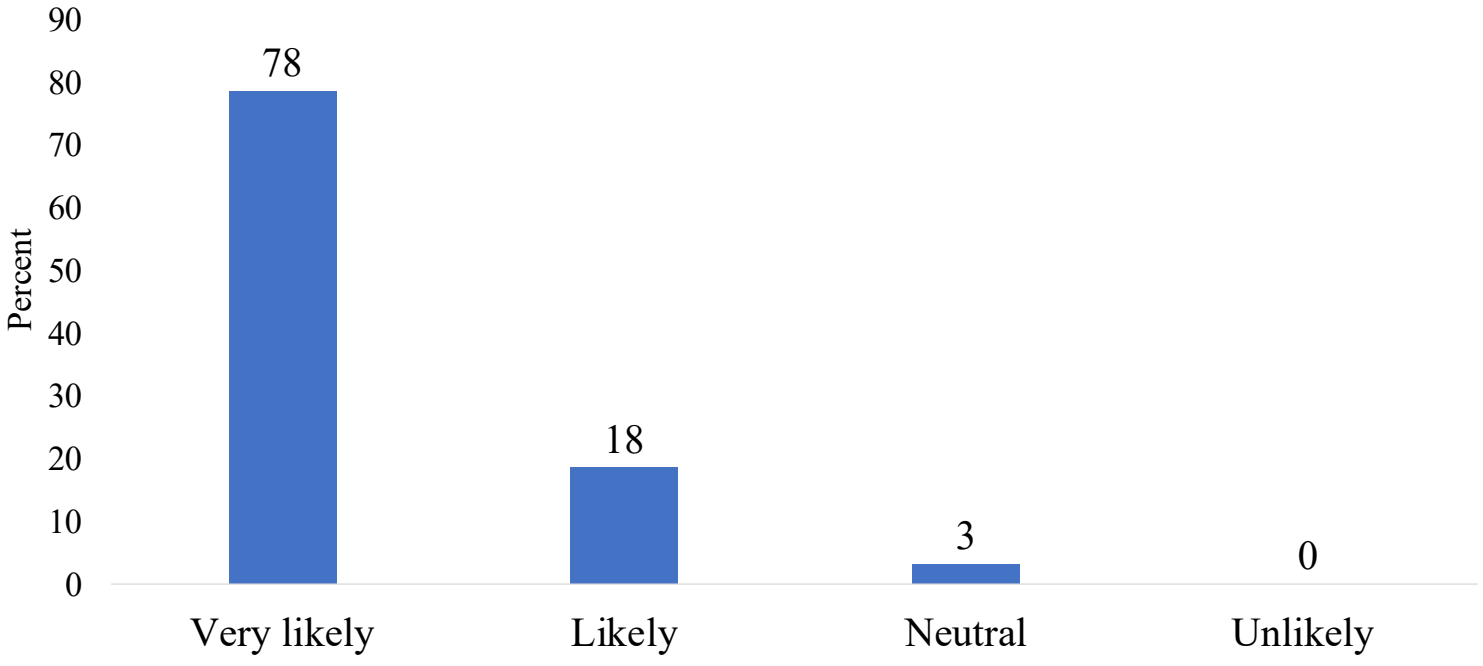
## Kosrae Consumers : What type of packaging would you prefer ?



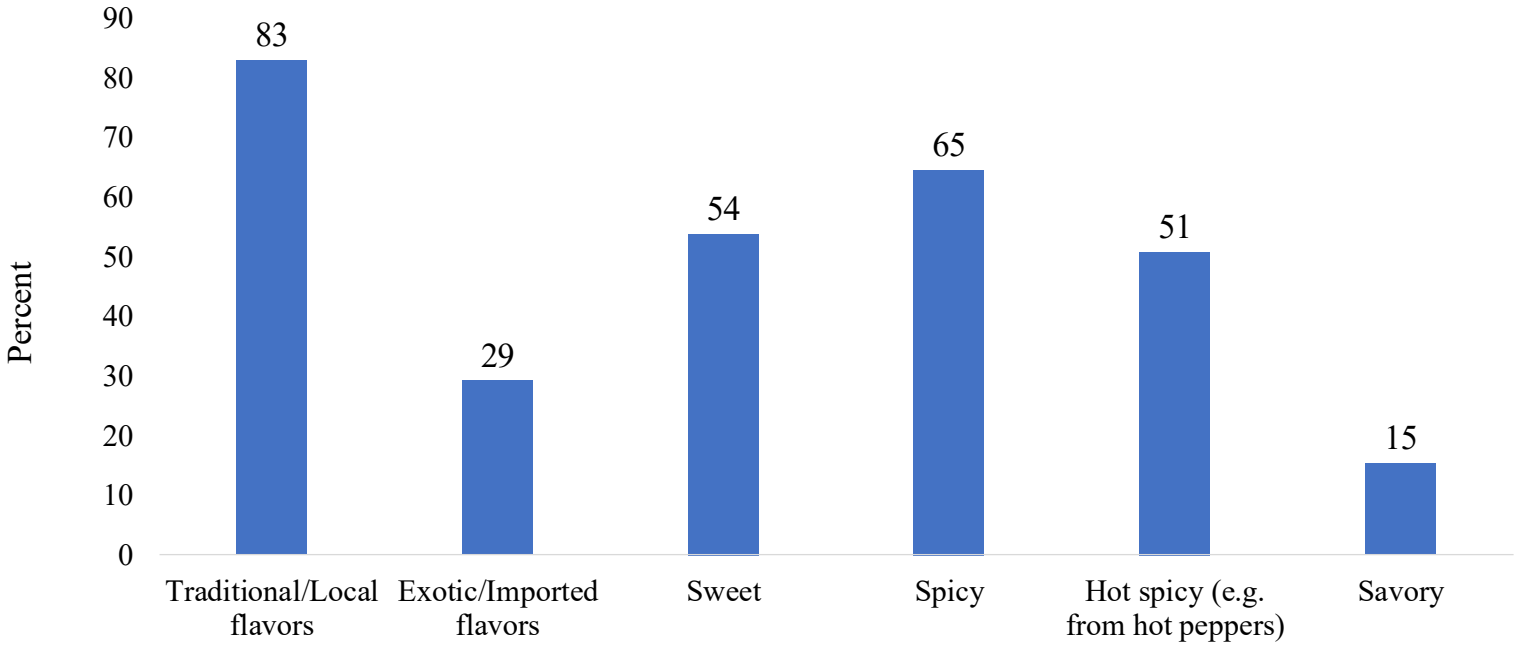

## Kosrae Consumers : What features of the packaging do you consider most important ?



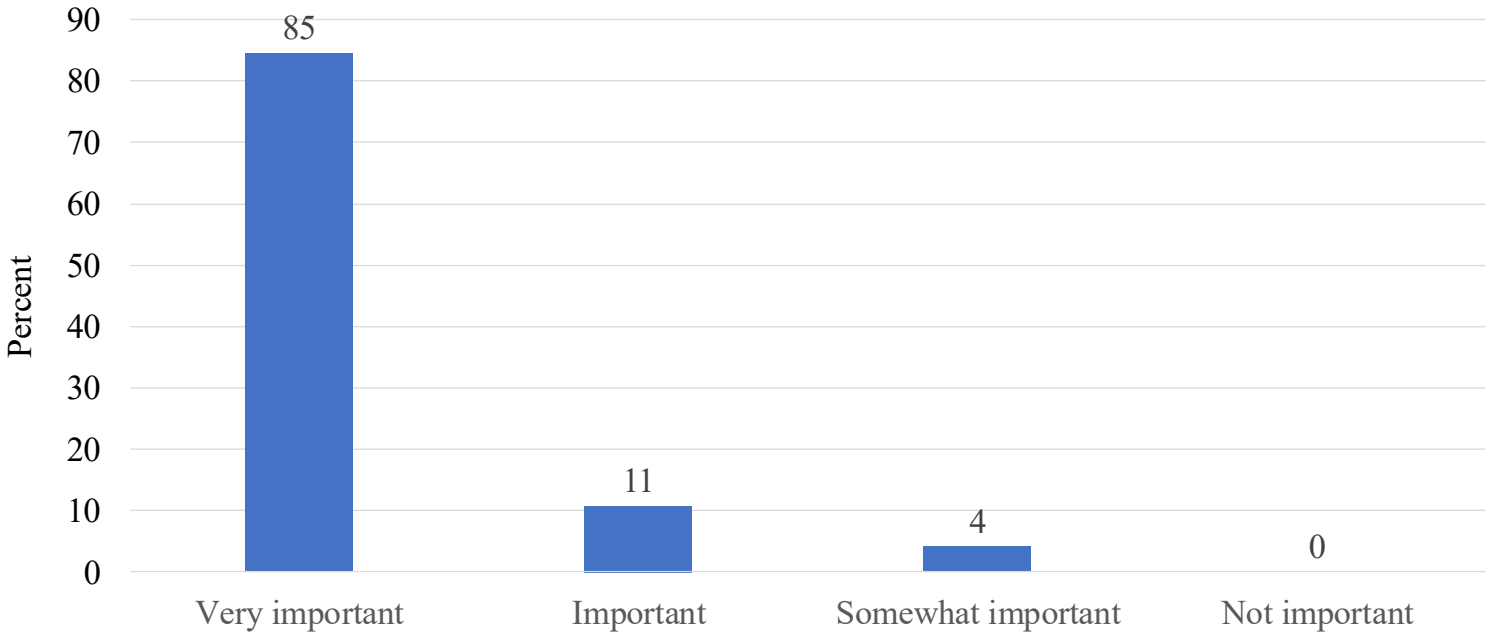
Kosrae Consumers : How likely are you to purchase locally processed food products if they are the same price and the same quality, as comparable imported products (example: local coconut oil versus imported cooking oils) ?



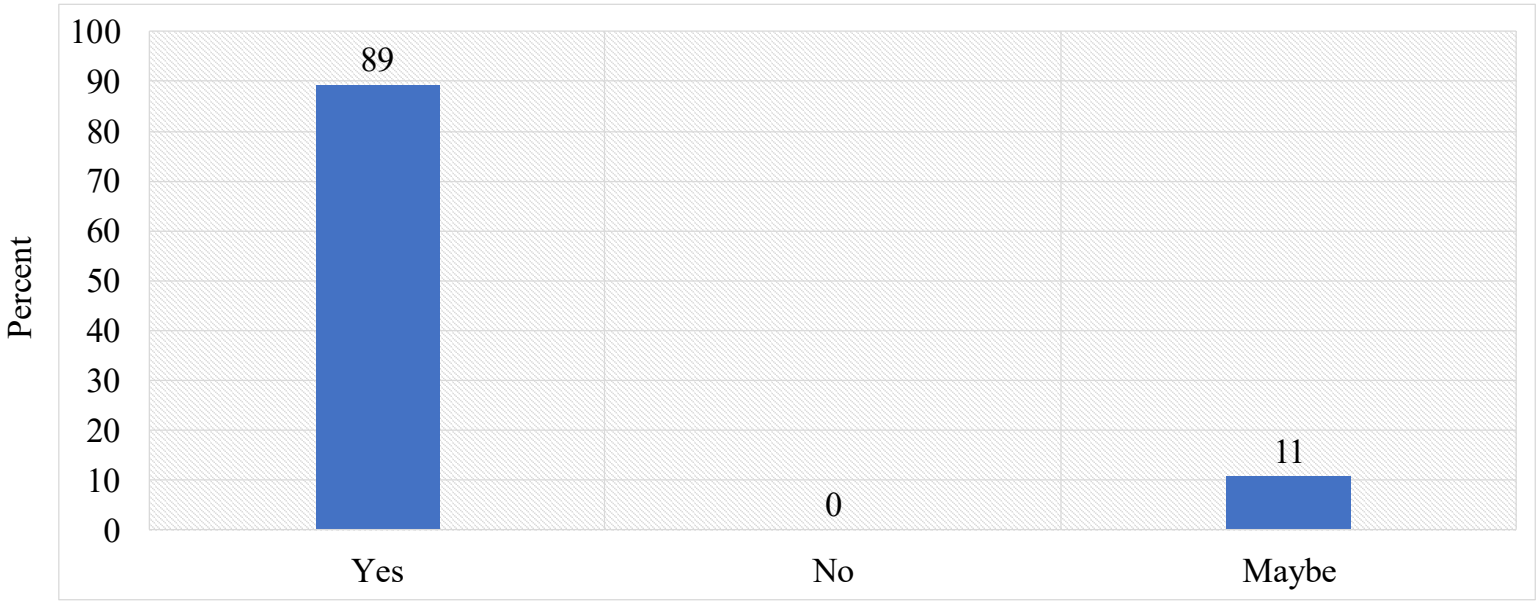

Kosrae Consumers : Which flavors or varieties of locally processed foods would you be most interested in ?



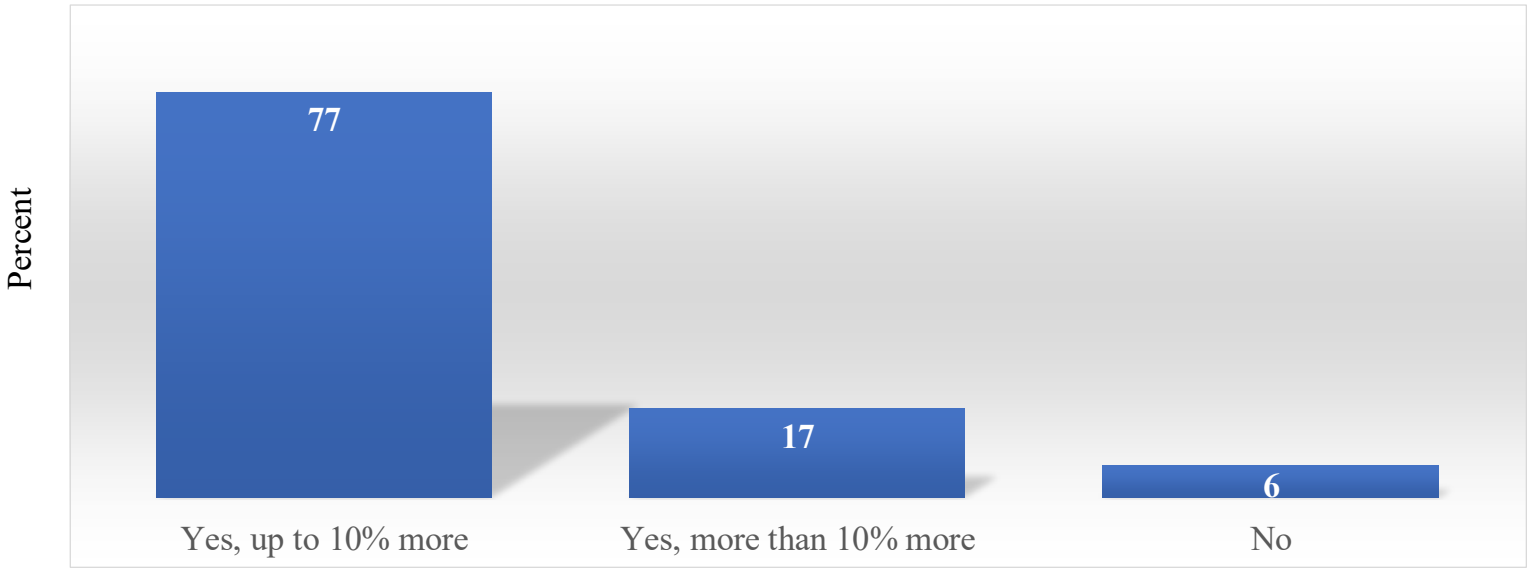
Kosrae Consumers : How important is it for you that locally processed foods are nutritious and contribute to a healthy diet ?



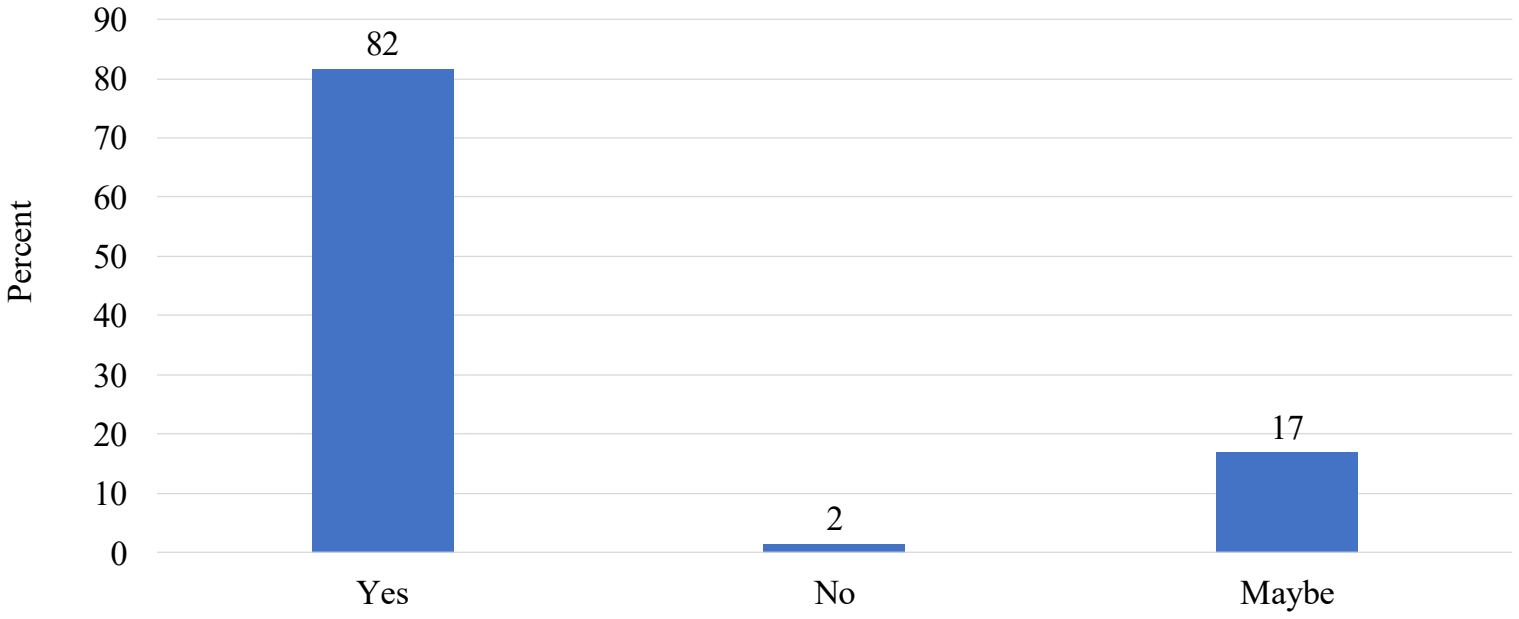

Kosrae Consumers : Would you support the purchasing of locally processed foods that contribute to community development or social causes (e.g., supporting local farmers, empowering women's groups)?



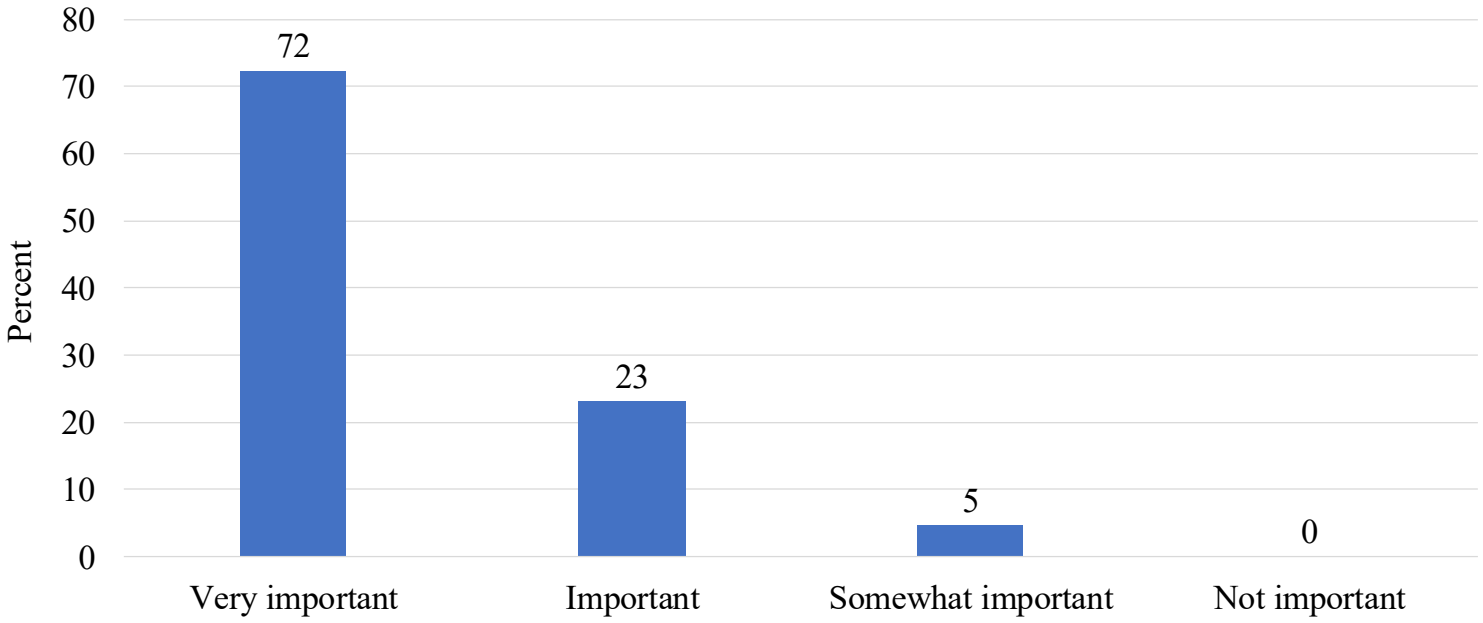
Kosrae Consumers : Would you be willing to pay more for products that support community/social causes ?



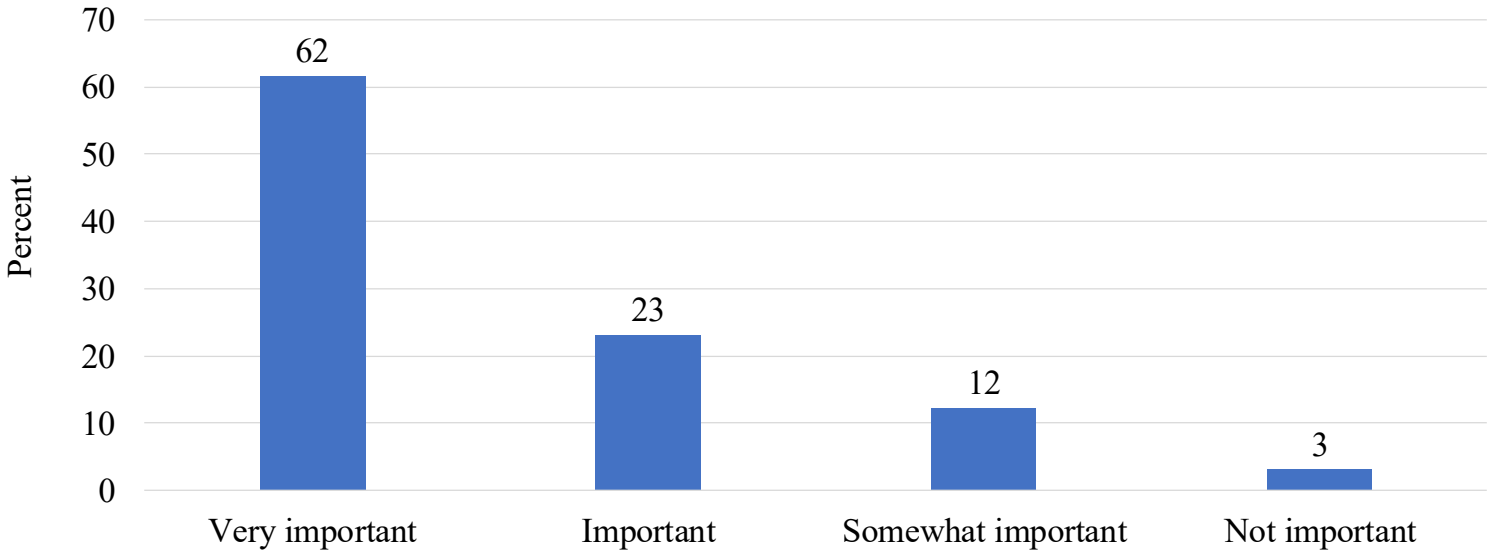

Kosrae Consumers : Would you participate in educational programs or workshops offered by the Food Innovation Center on local food processing techniques, cooking contests, nutrition programs, or culinary skills?



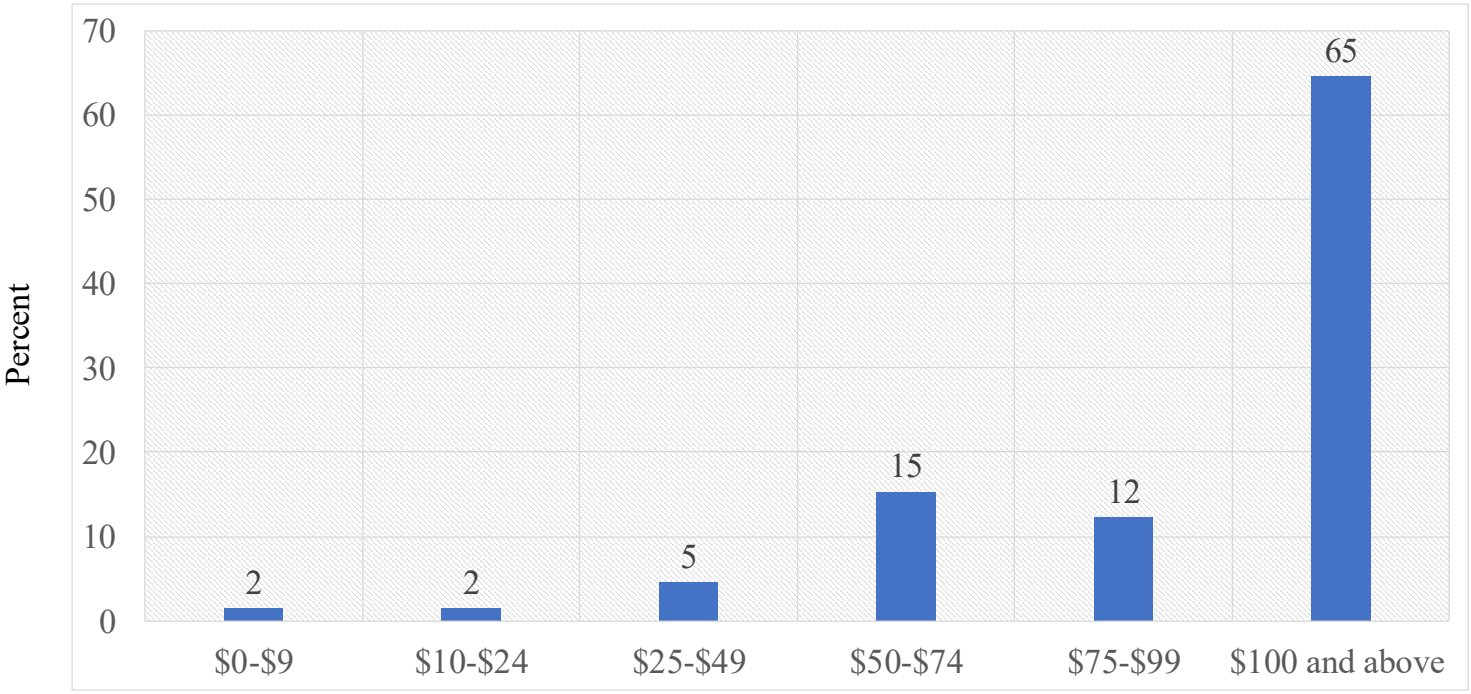
Kosrae Consumers : How important is it for you that locally processed foods have a long shelf life (does not easily spoil)?



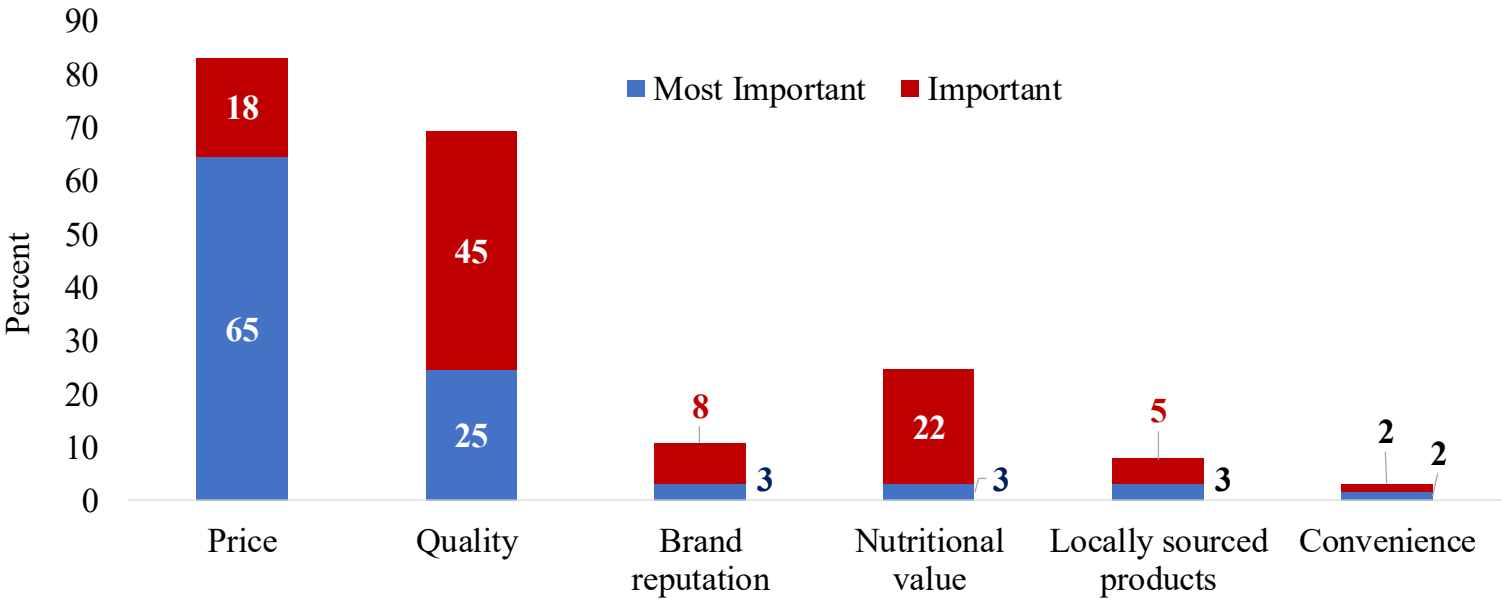

Kosrae Consumers : How important is it for you to have clear information on the nutritional content, ingredients, of your locally processed foods (labeling) (Example: How many calories, how much sugar, how much salt)?



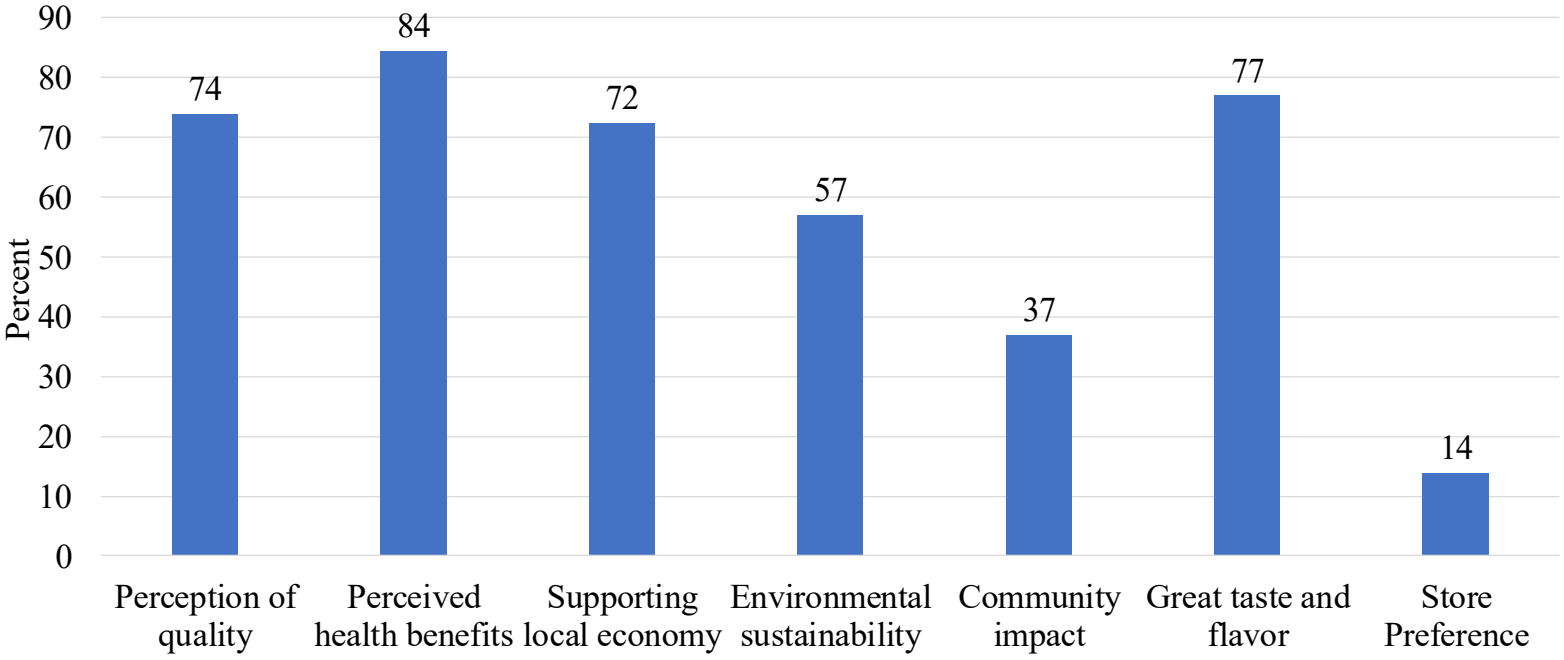
Kosrae Consumers : Approximately, how much money do you spend each bi-weekly on imported food?



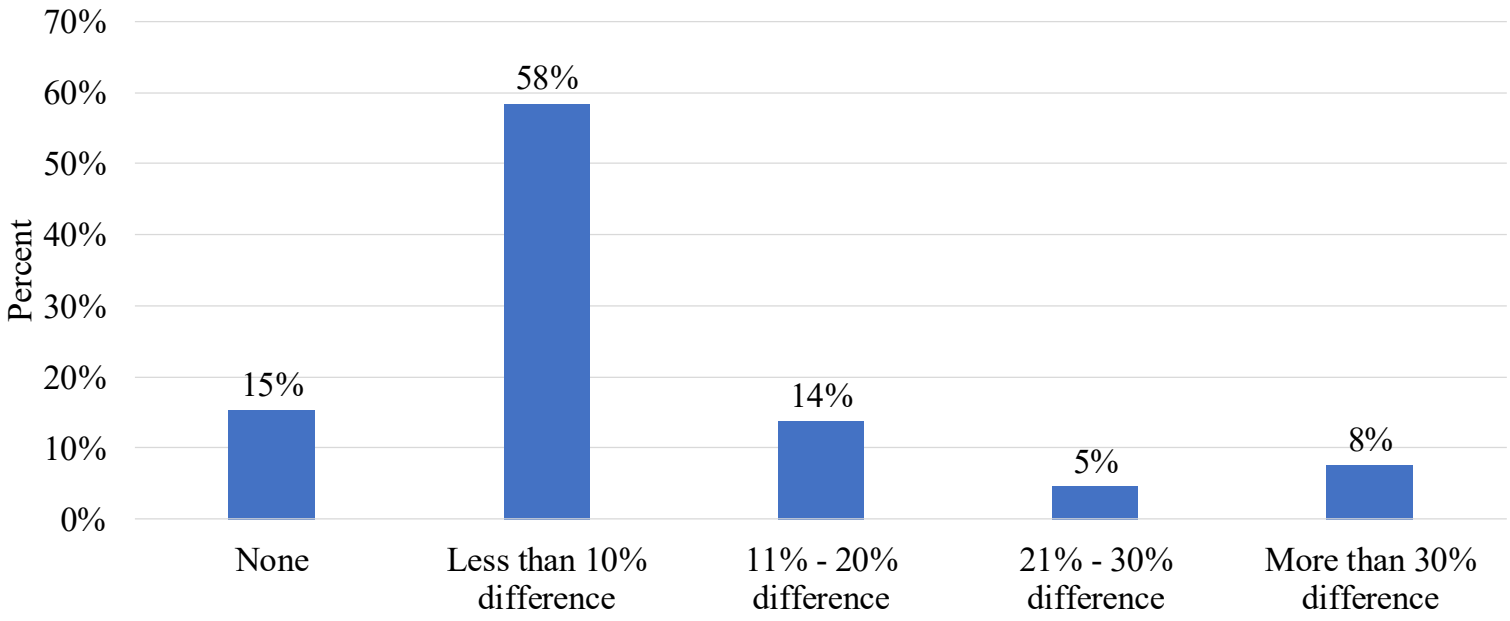

Kosrae Consumers : When it comes to purchasing food products, which of the following factors influence your spending decisions the most ?



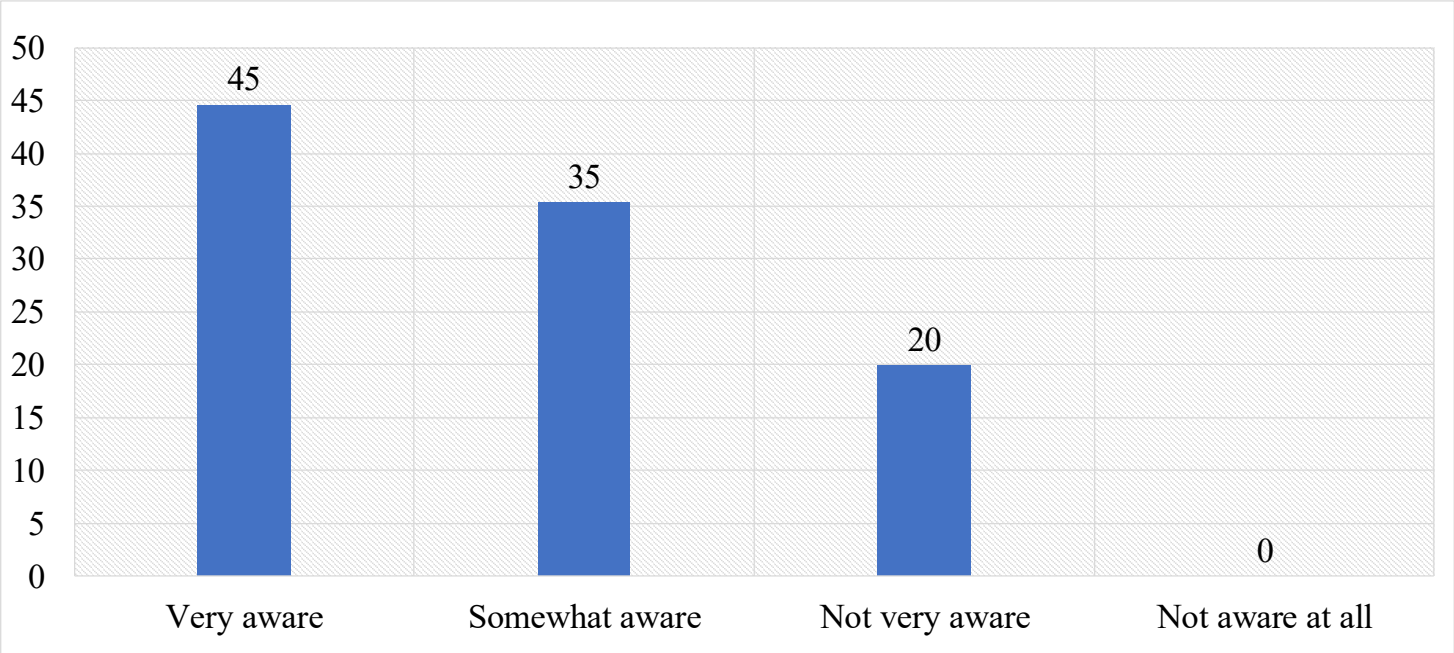
Kosrae Consumers : What factors would influence your willingness to pay more for local processed products?




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

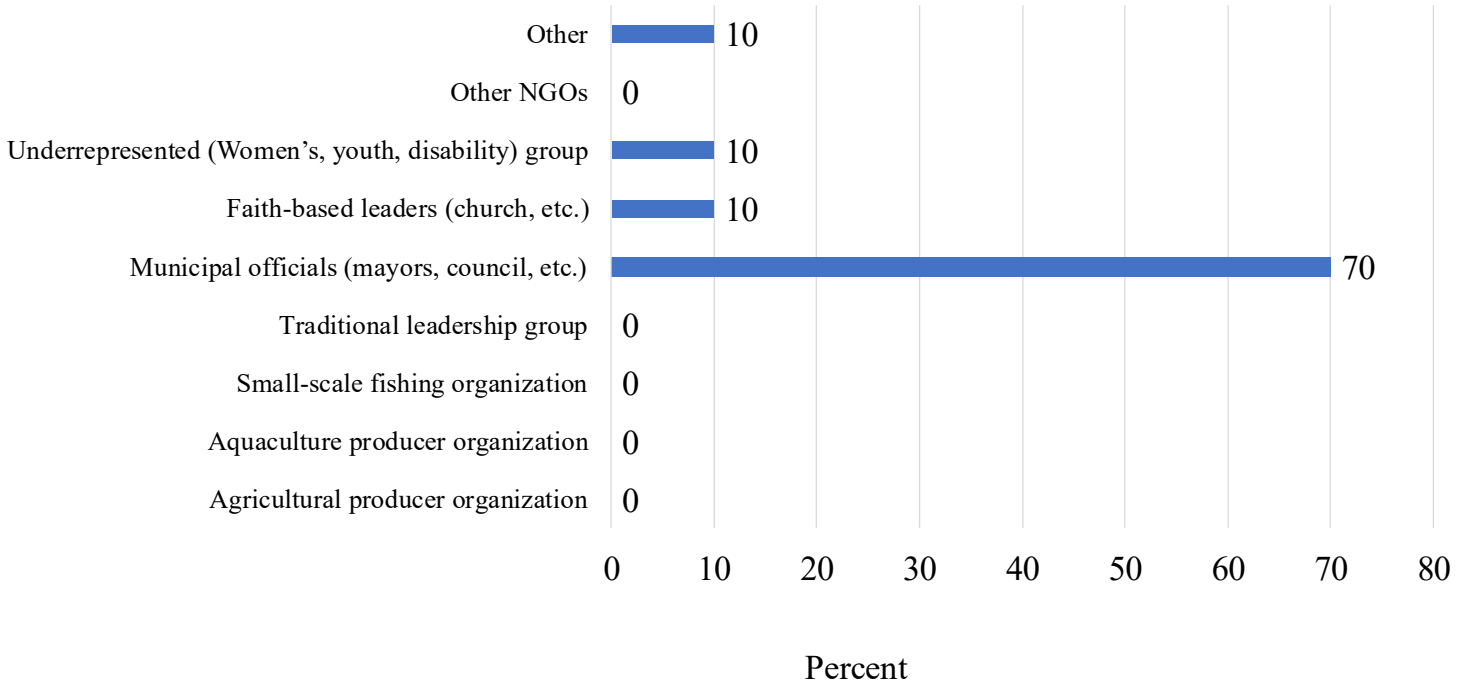


Kosrae Consumers :How aware are you of locally produced processed products currently available in your town, state and the FSM

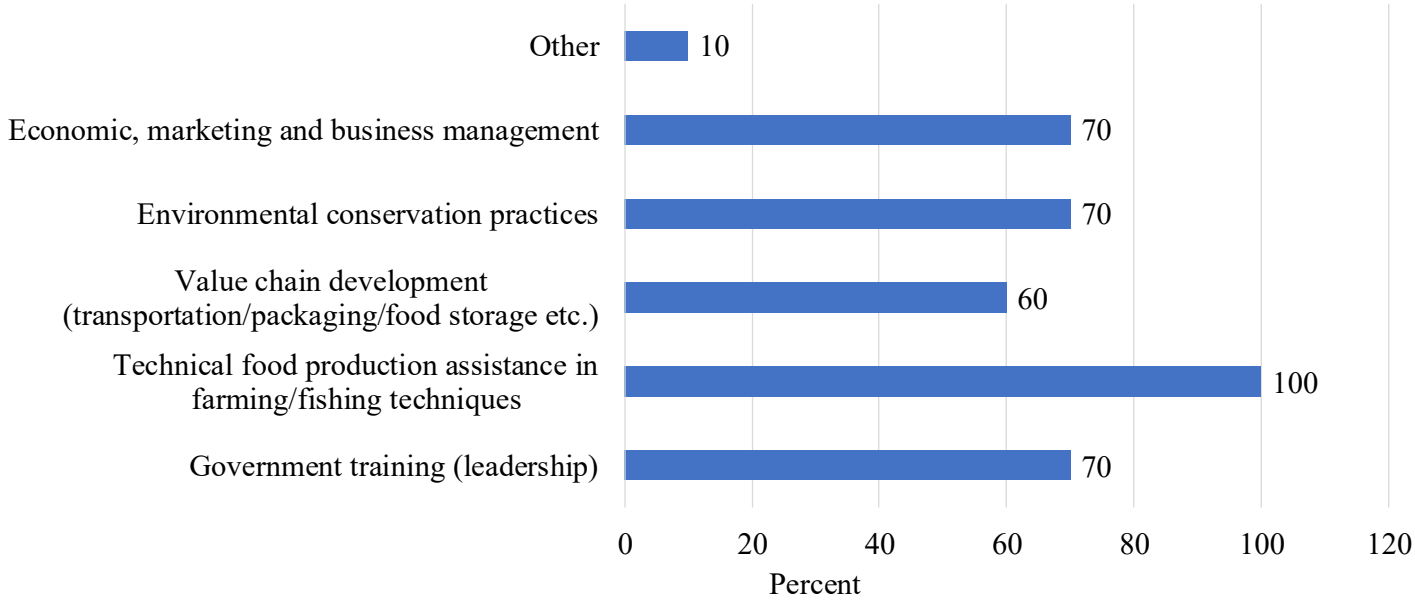


# Federated States of Micronesia
# Food Systems Solutions Project
# FSS Survey Data Tables and Charts
# Kosrae State
# Community Management

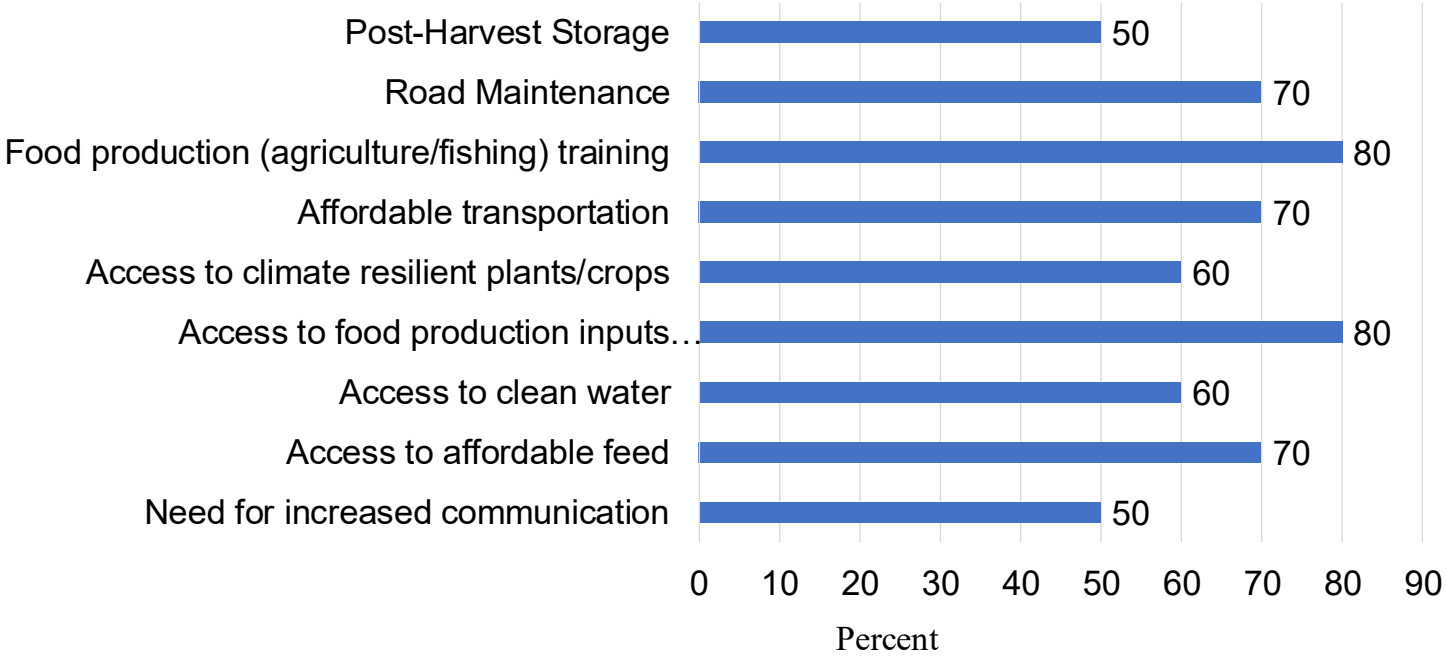
## Kosrae Community Managers : What type of organization/group (NGOs) do you represent?



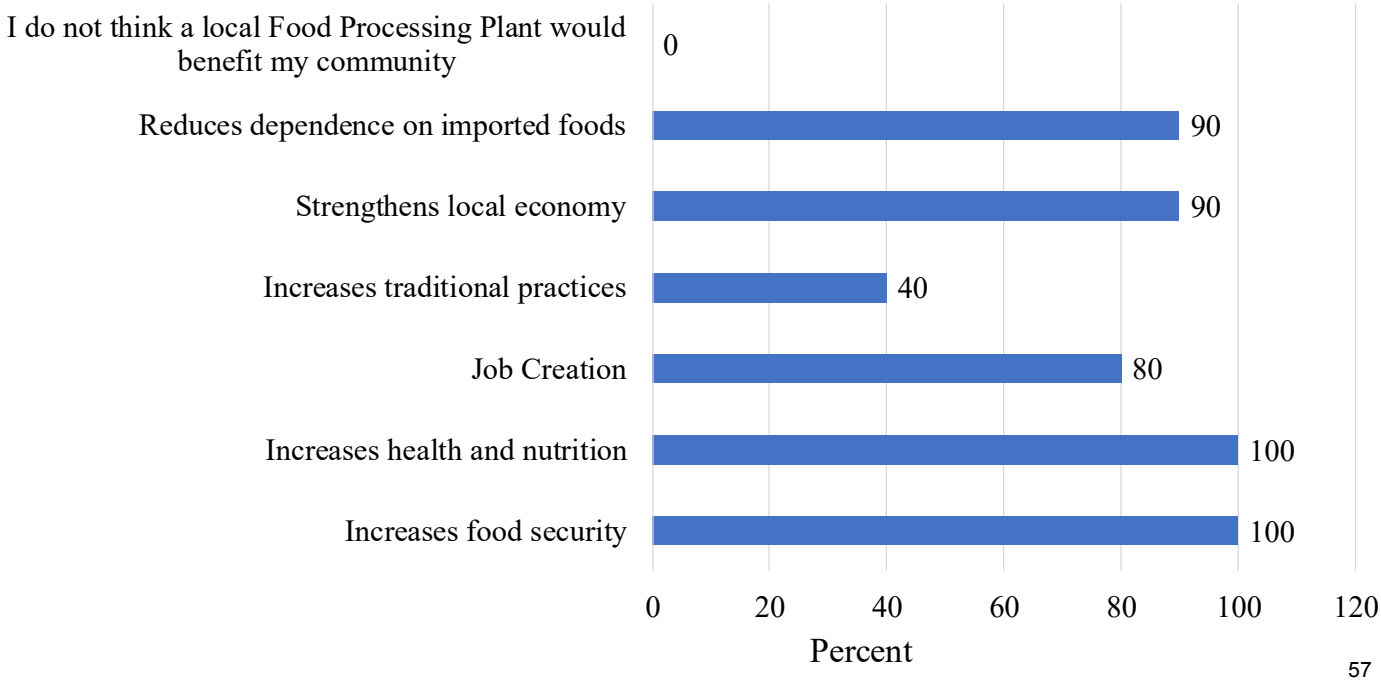

## Kosrae Community Managers : What areas do you think your organization/community may need support for more effective management of your farming families and food producers ?



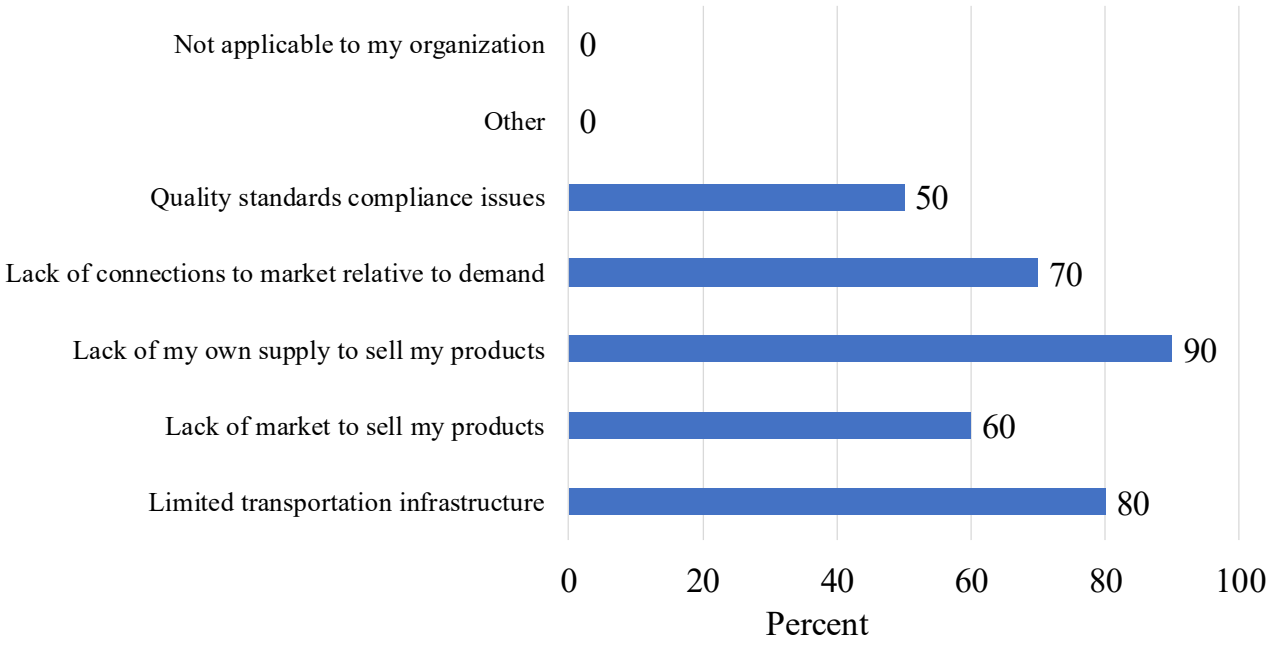
Kosrae Community Managers : What food production challenges/needs are your organization/community members bringing to you seeking assistance ?



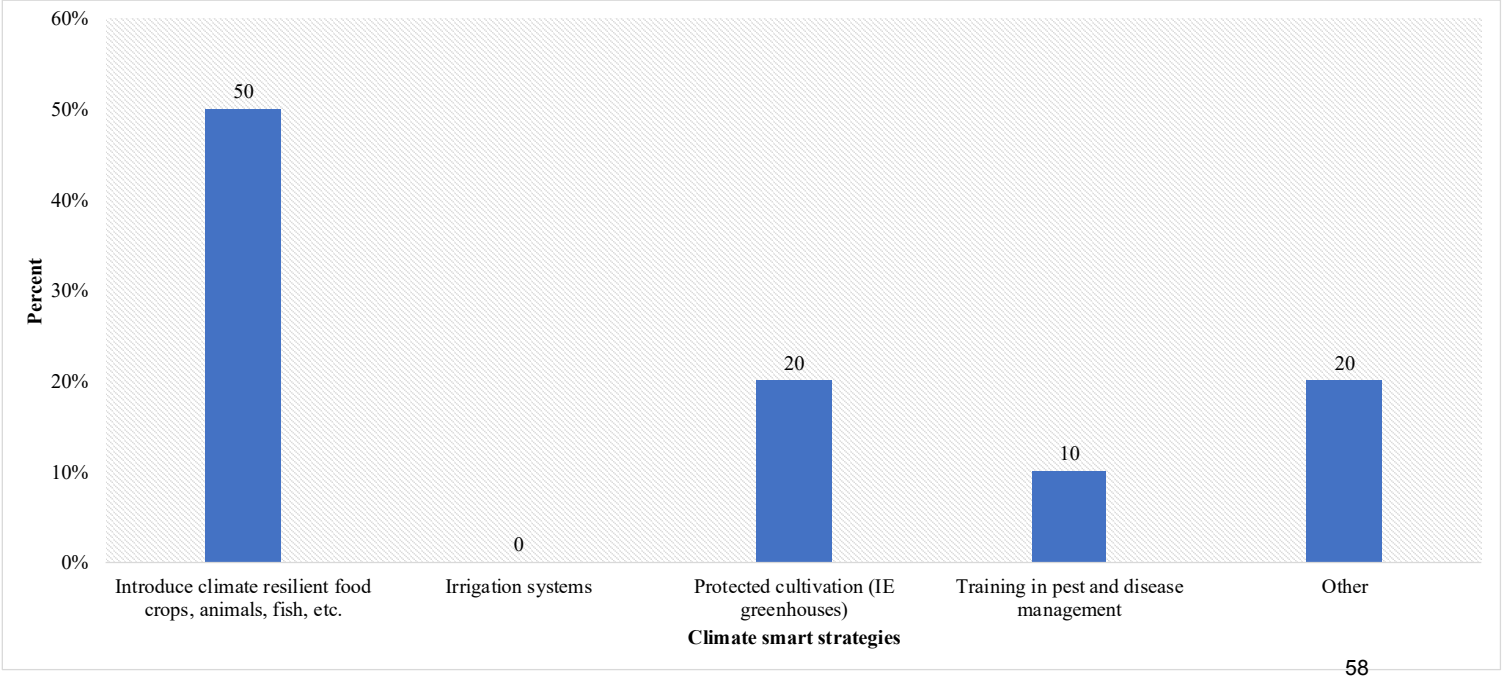

Kosrae Community Managers : In what ways do you feel a local food processing plant (Food Innovation Center) supports the goals and needs of your organization/community ?



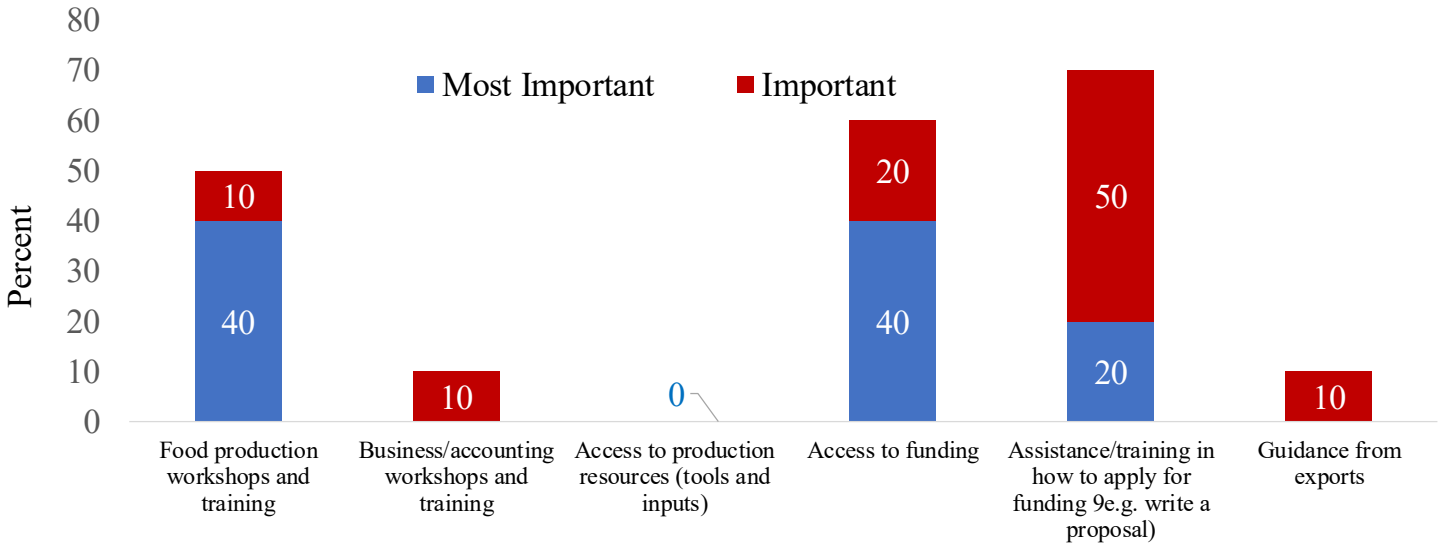
## Kosrae Community Managers : What challenges does your organization/community face in accessing markets for your agricultural or aquatic products



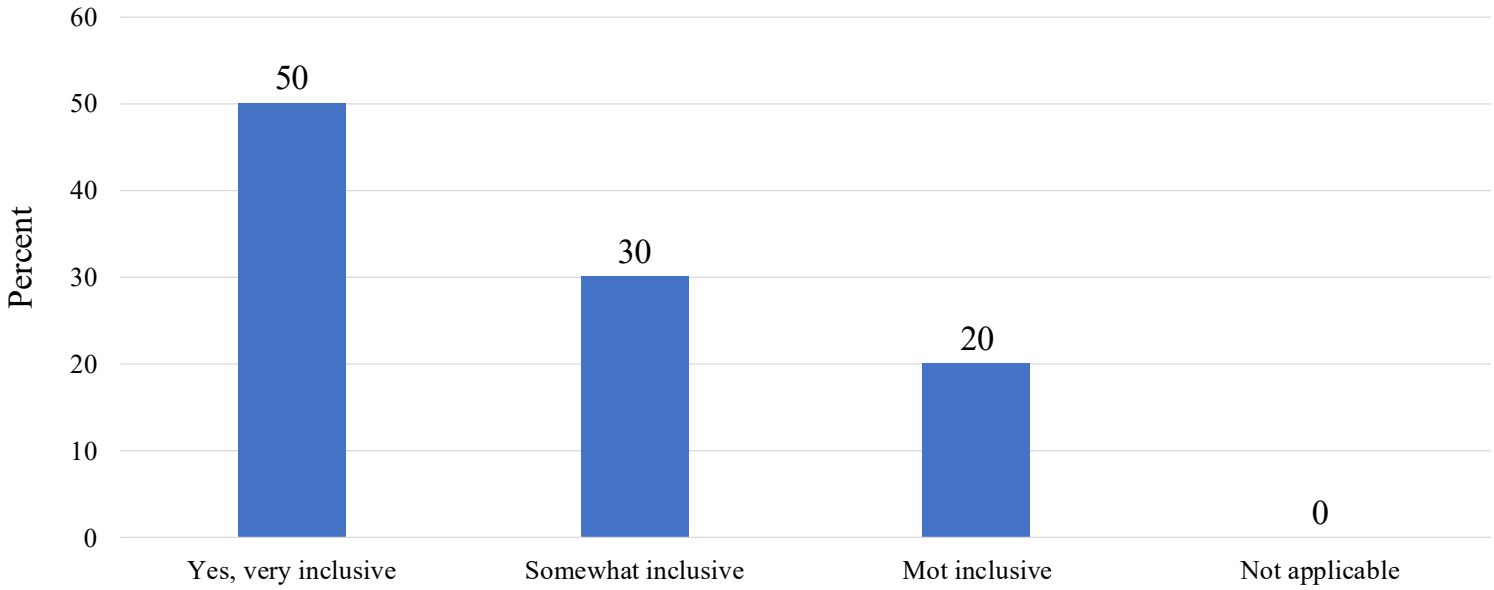

## Kosrae Community Managers : What climate smart strategies would you be interested in employing to best support the needs of your organization/community ?



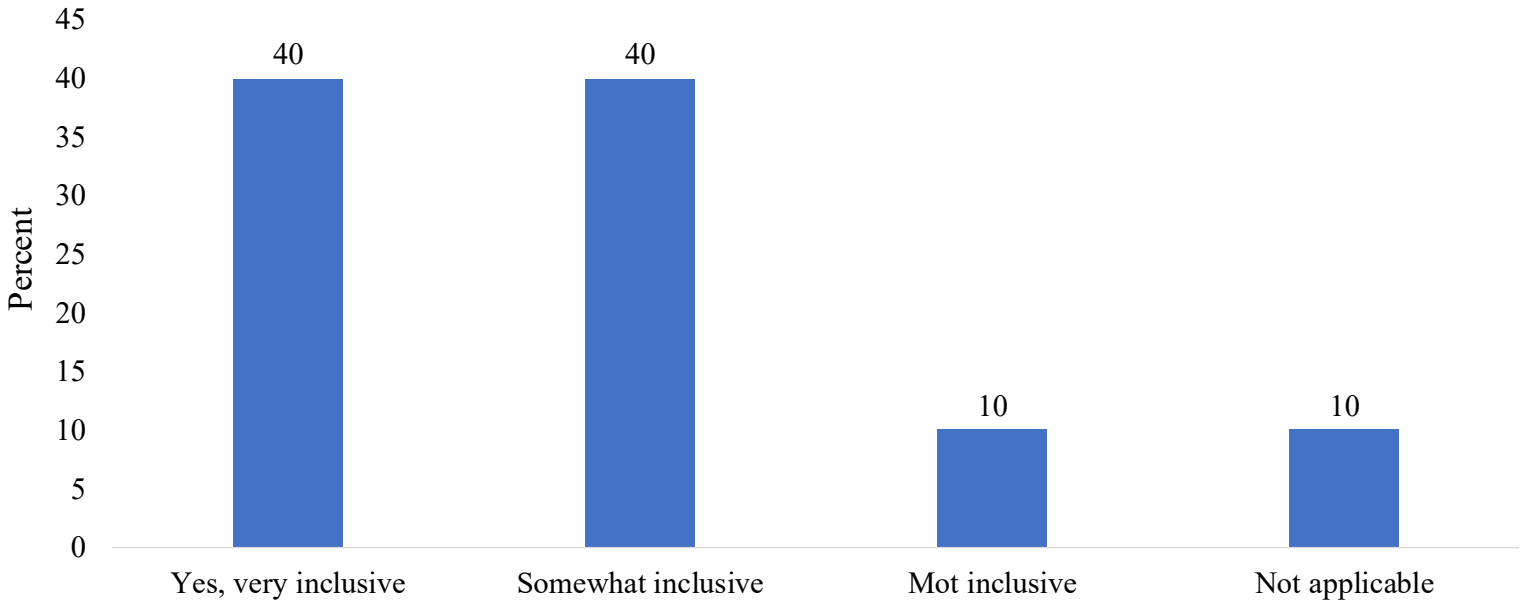
Kosrae Community Managers : What type of support do you feel would be most helpful to your food producers ?




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



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

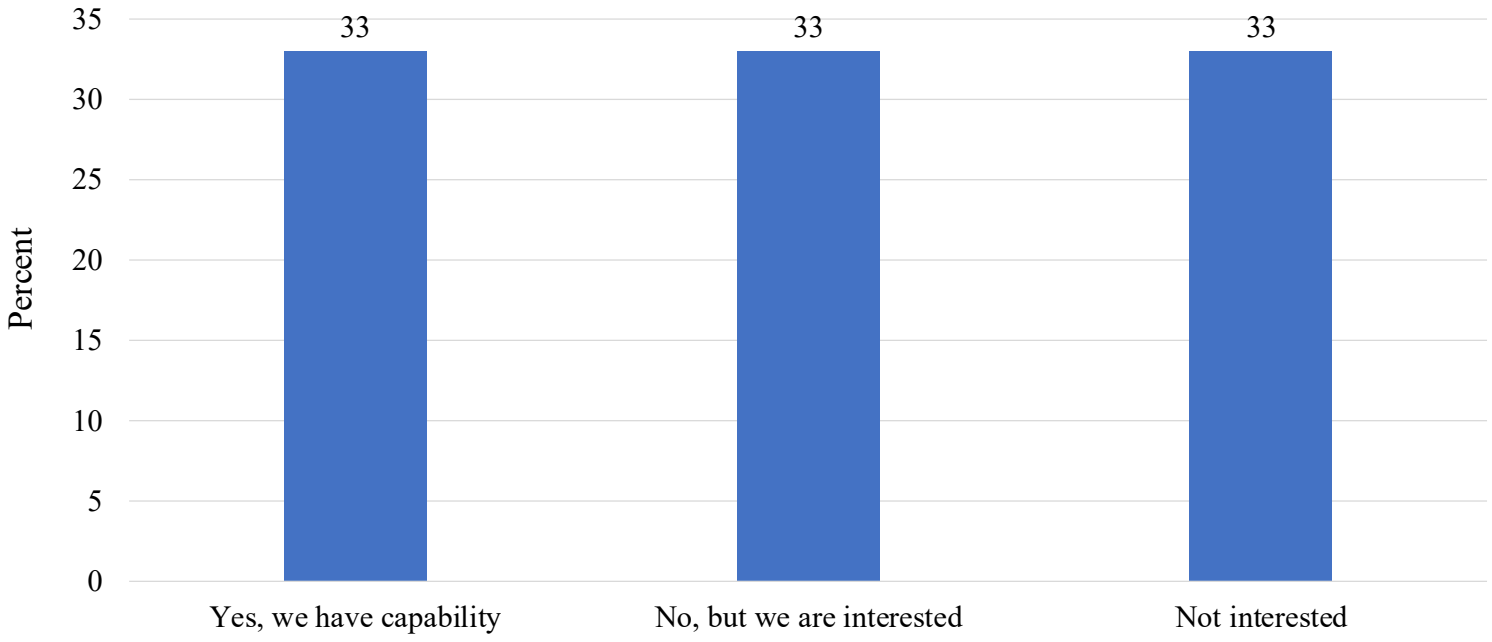


# Federated States of Micronesia
# Food Systems Solutions Project
# FSS Survey Data Tables and Charts
# Kosrae State
# IIP & IT

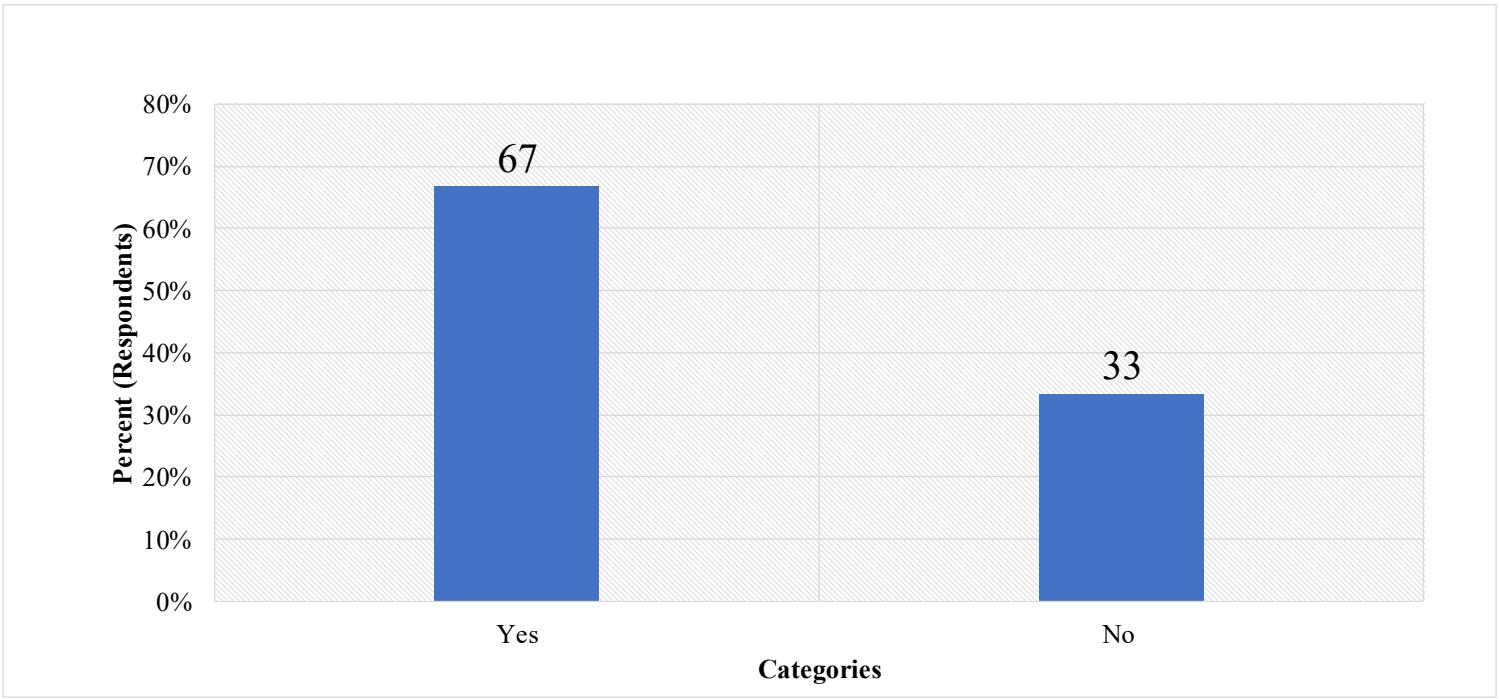
Kosrae IIP and IT : Is there now (using Emergency Responders or other specialized means) a way to utilize content delivery networks (CDNs), for example to distribute agricultural content across servers closer to the islands, reducing the distance data needs to travel ?


Kosrae 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 ?

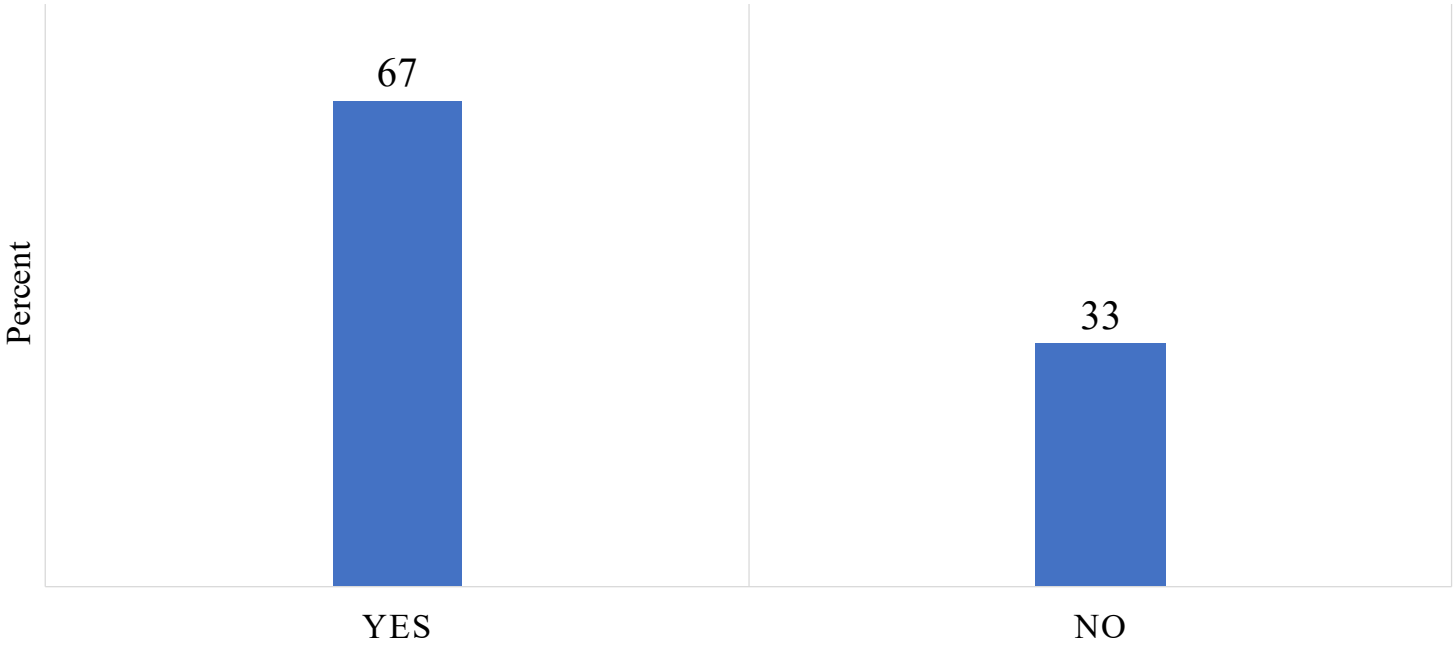
Kosrae IIP and IT : Do you capability and interest in SMS based systems to deliver agricultural information, market updates and weather forecasts to growers and residents?




Kosrae 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?

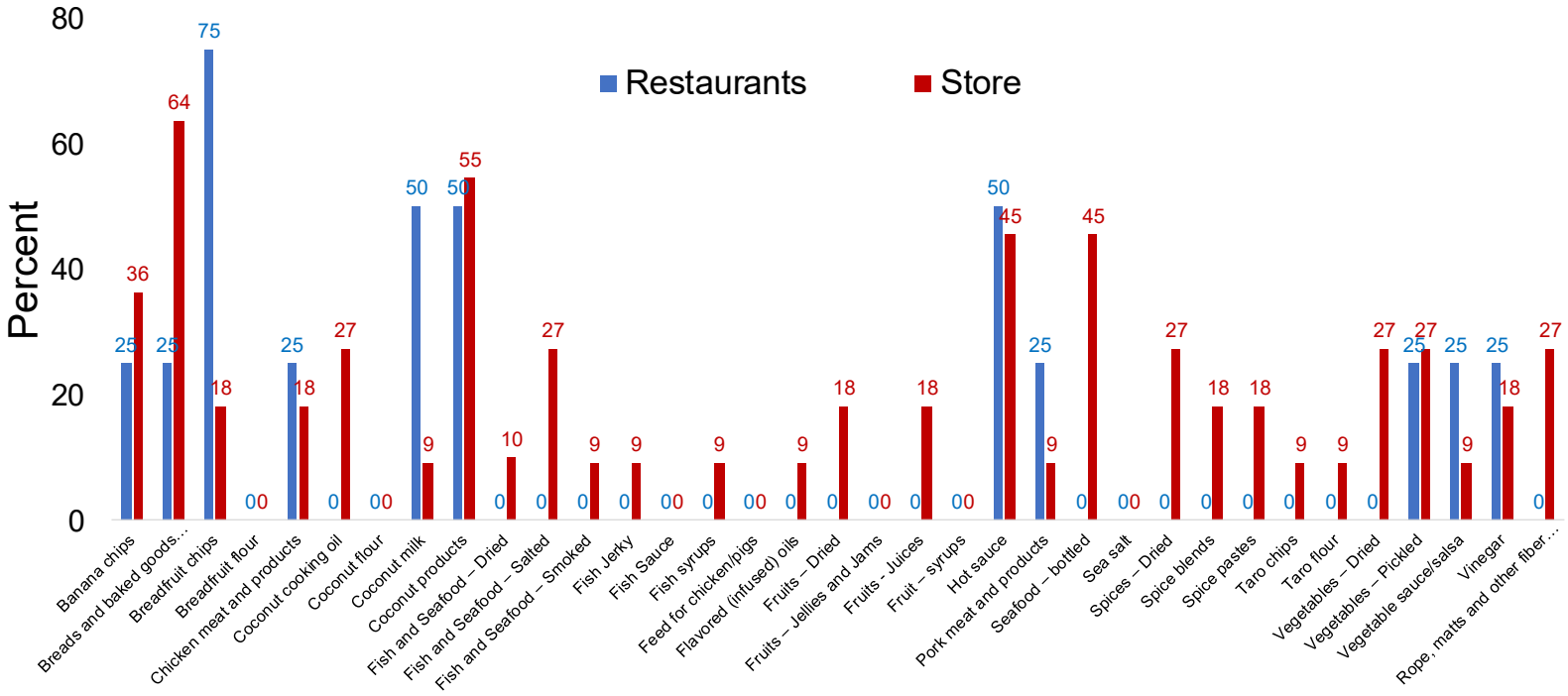


Kosrae IIP and IT : Do you now use cloud-based solutions to enhance scalability and accessibility ?



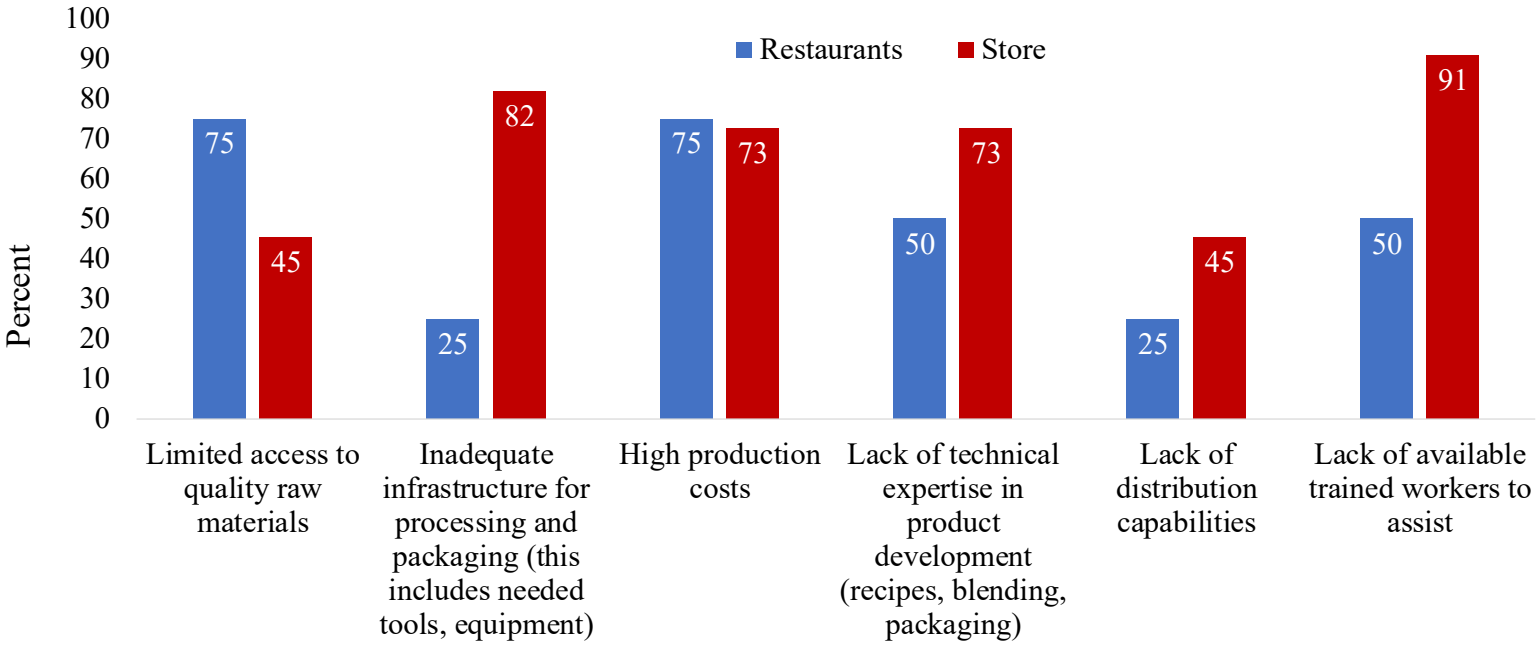
# Federated States of Micronesia
# Food Systems Solutions Project
# FSS Survey Data Tables and Charts
# Kosrae State
# Restaurants and Stores

Kosrae Restaurants and Store : What type of locally made processed food products does your business currently sell?



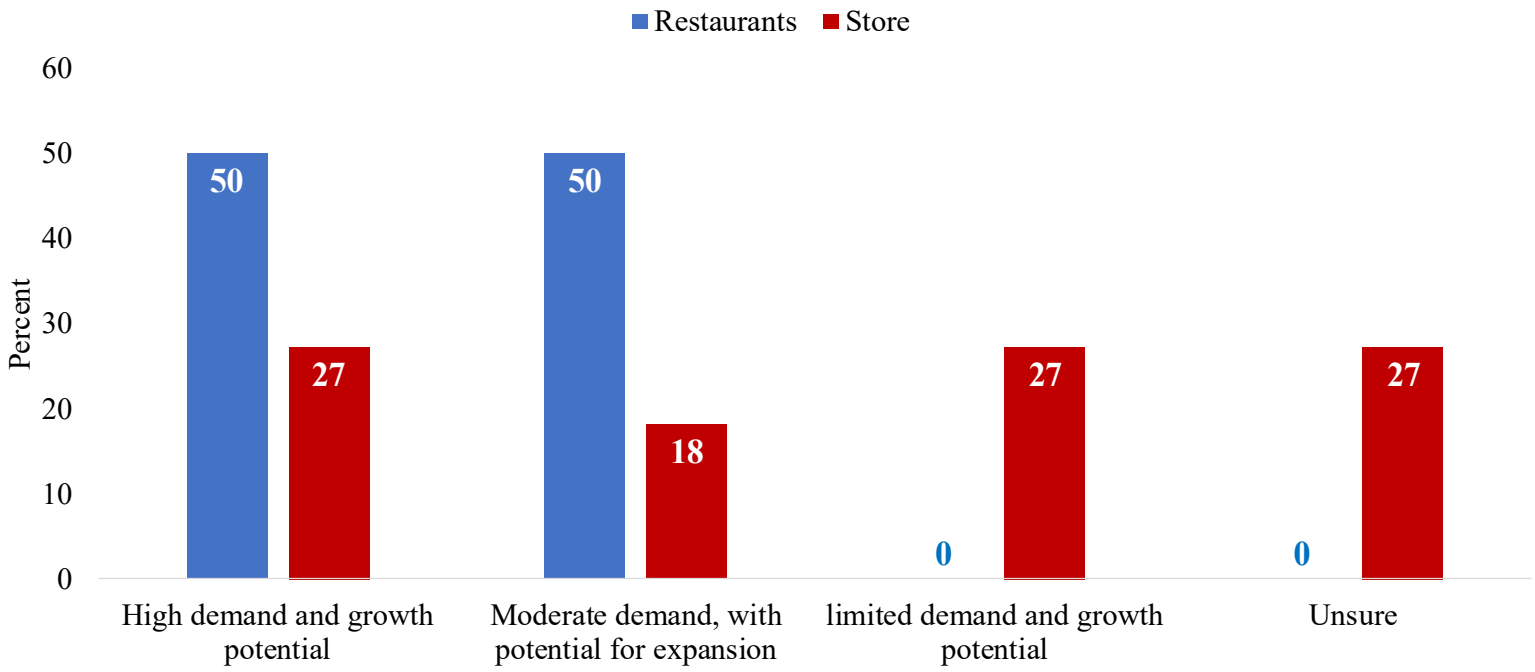

Kosrae Restaurants and Store : How important do you believe making available locally made processed food products for the food industry in your state ?

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

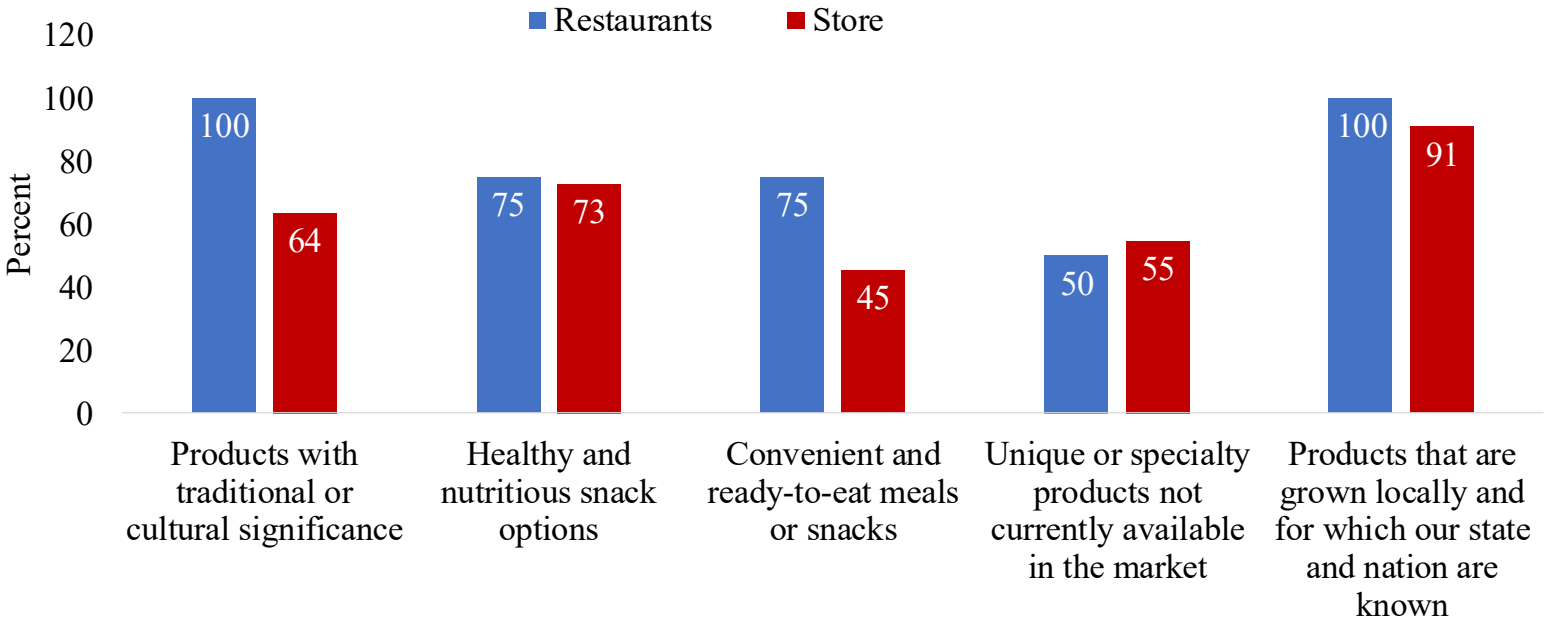



Kosrae Restaurants and Store : How do you think a food innovation (or incubator) center could benefit your business and the food industry in your state ?

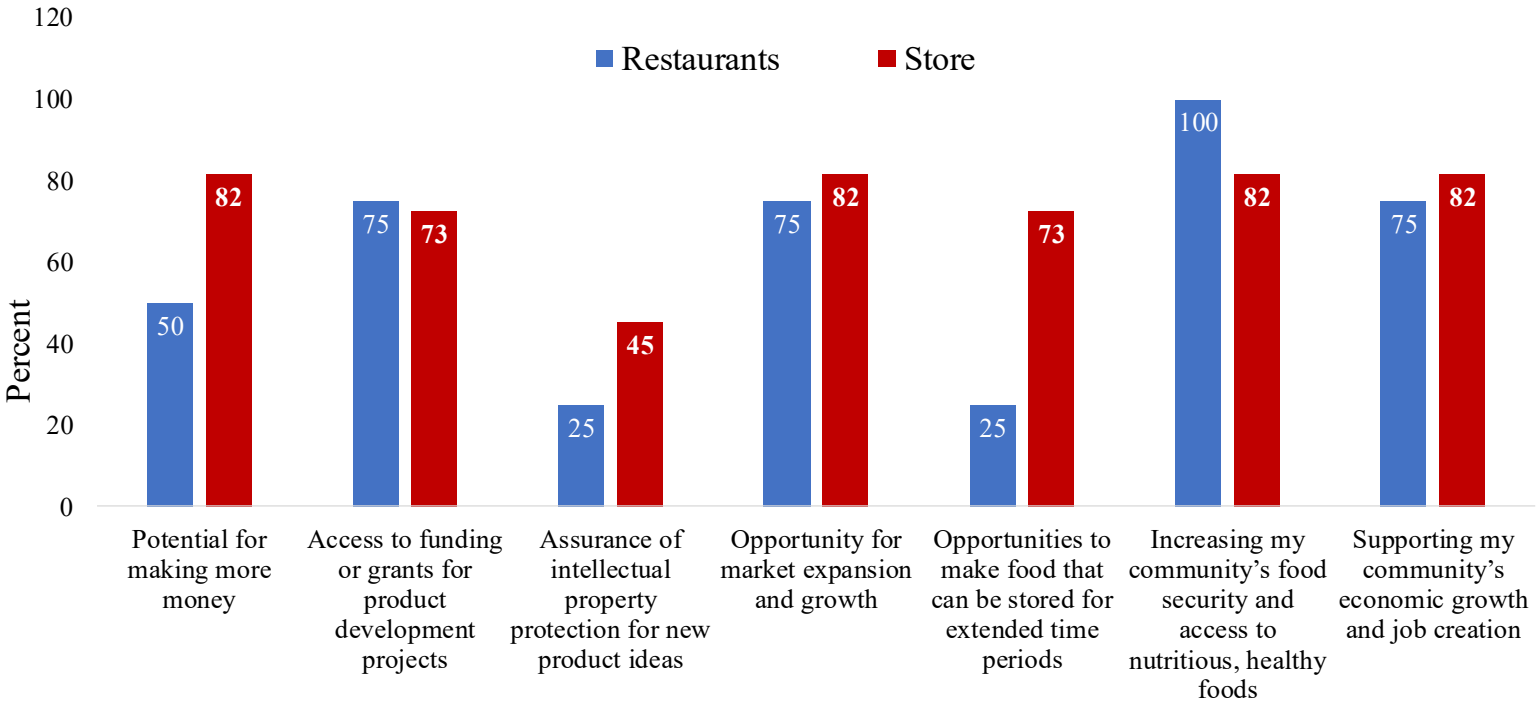
Kosrae Restaurants and Store : How do you perceive the current demand for locally processed food products in your state and FSM ?



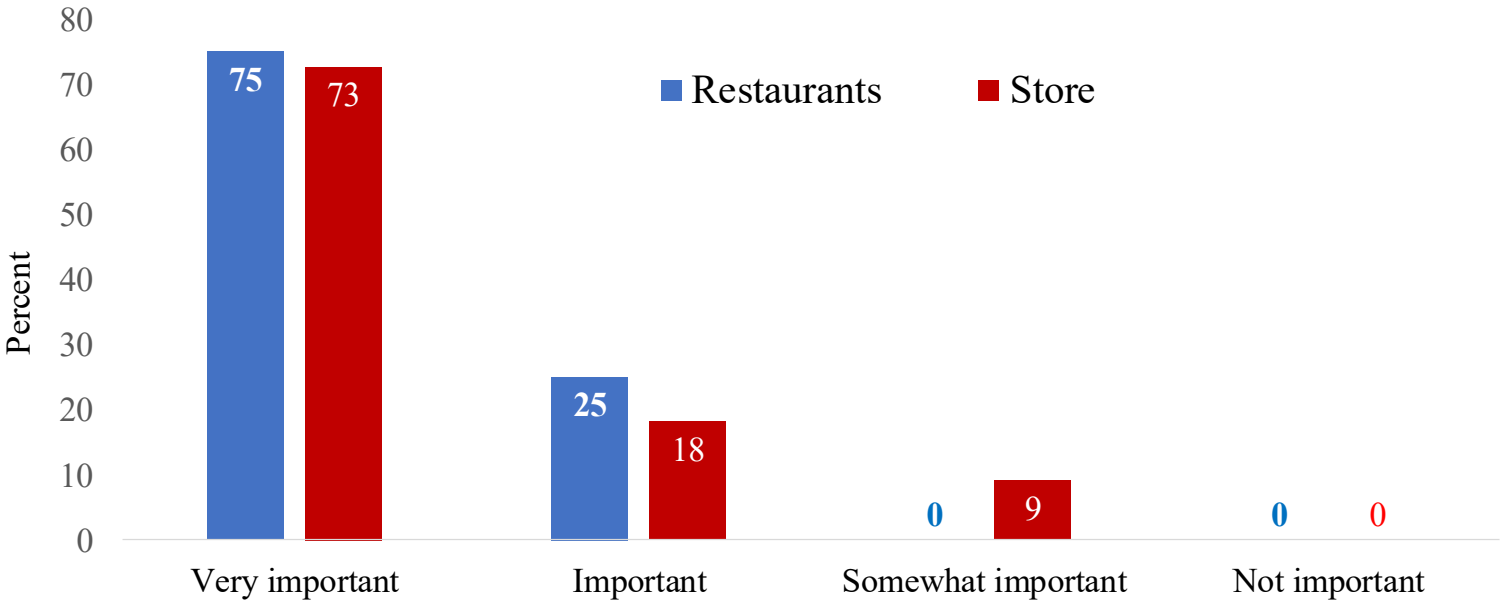

Kosrae Restaurants and Store : What types of locally processed food products do you believe have the highest potential for success in your state and in the FSM market ?



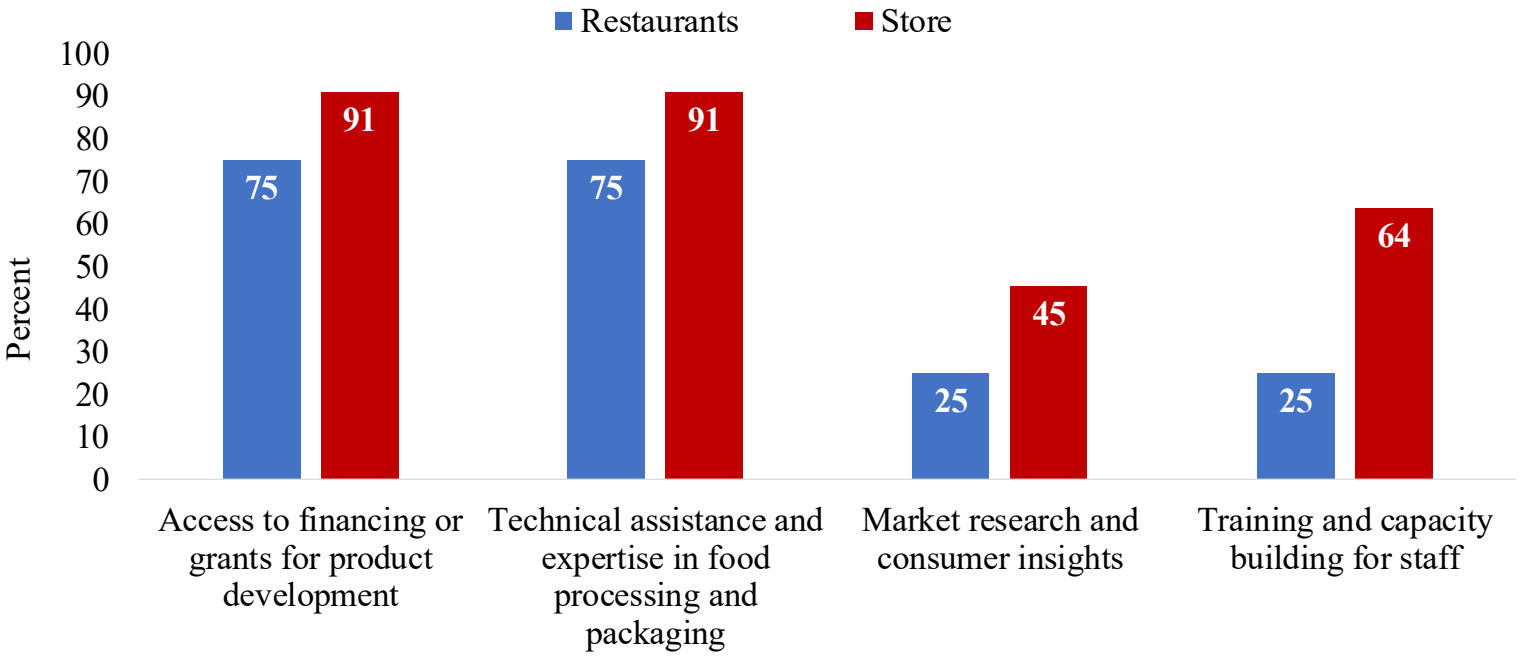
Kosrae Restaurants and Store : Which factors would influence your willingness to collaborate with a food innovation center ?



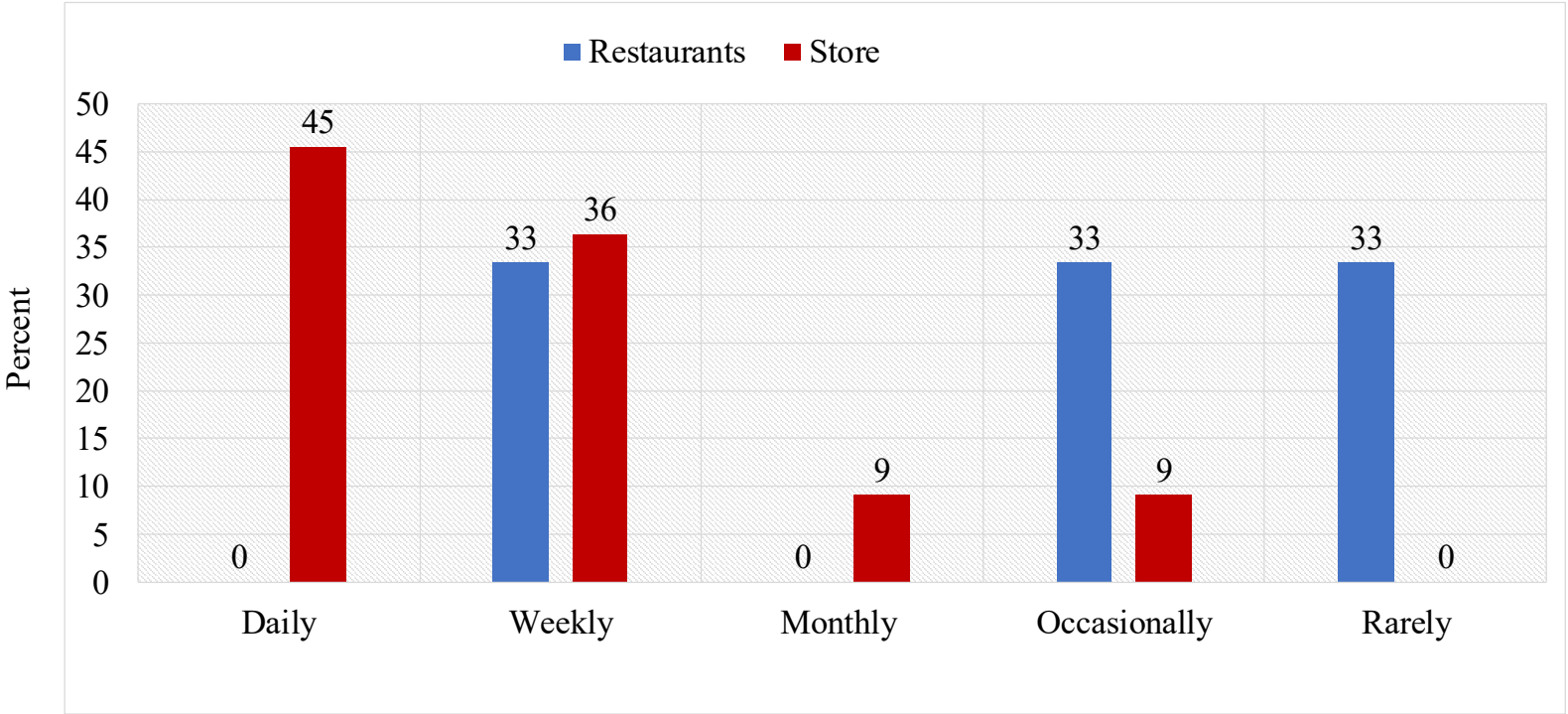

Kosrae Restaurants and Store : How important do you think it is for locally made processed food products to incorporate locally sourced ingredients or flavors ?



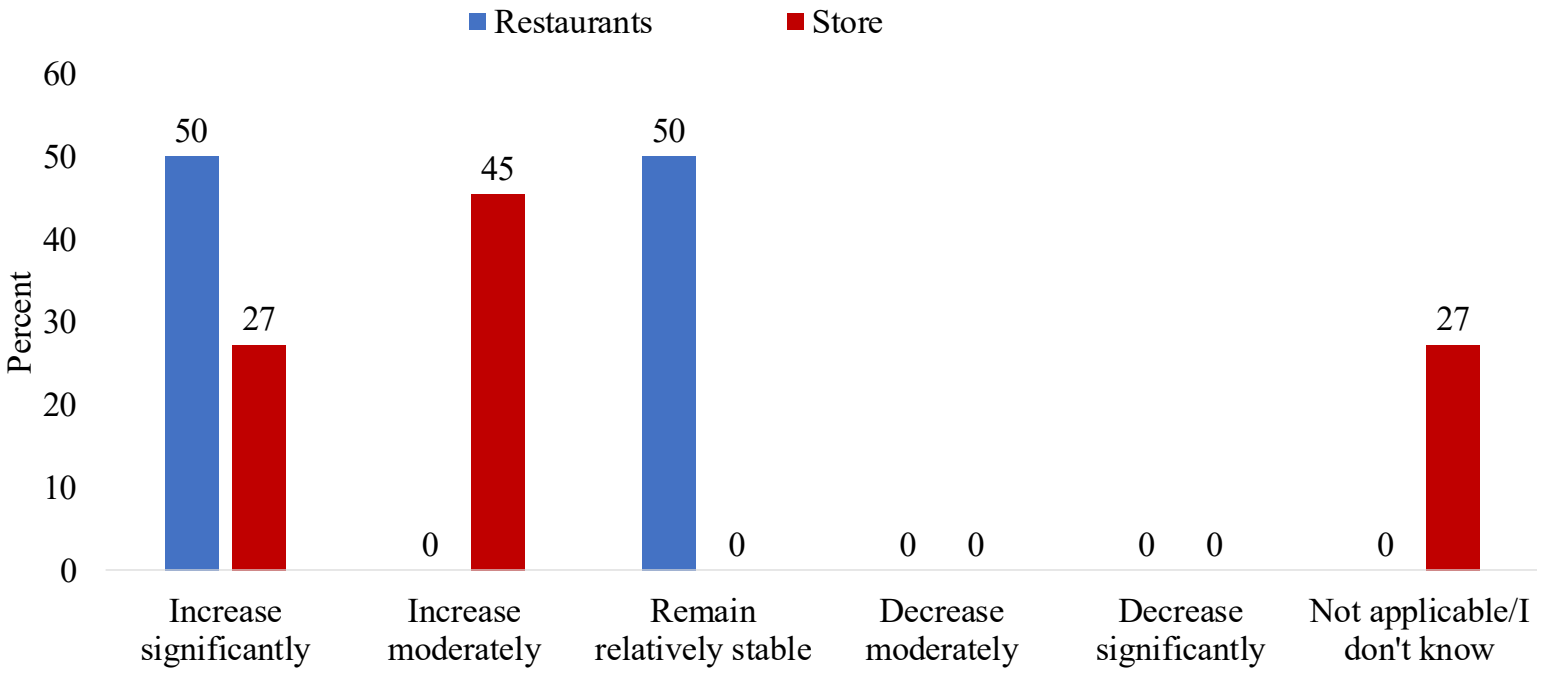
Kosrae Restaurants and Store : What support or resources do you believe would be most beneficial for your business in developing and marketing new locally processed food products ?



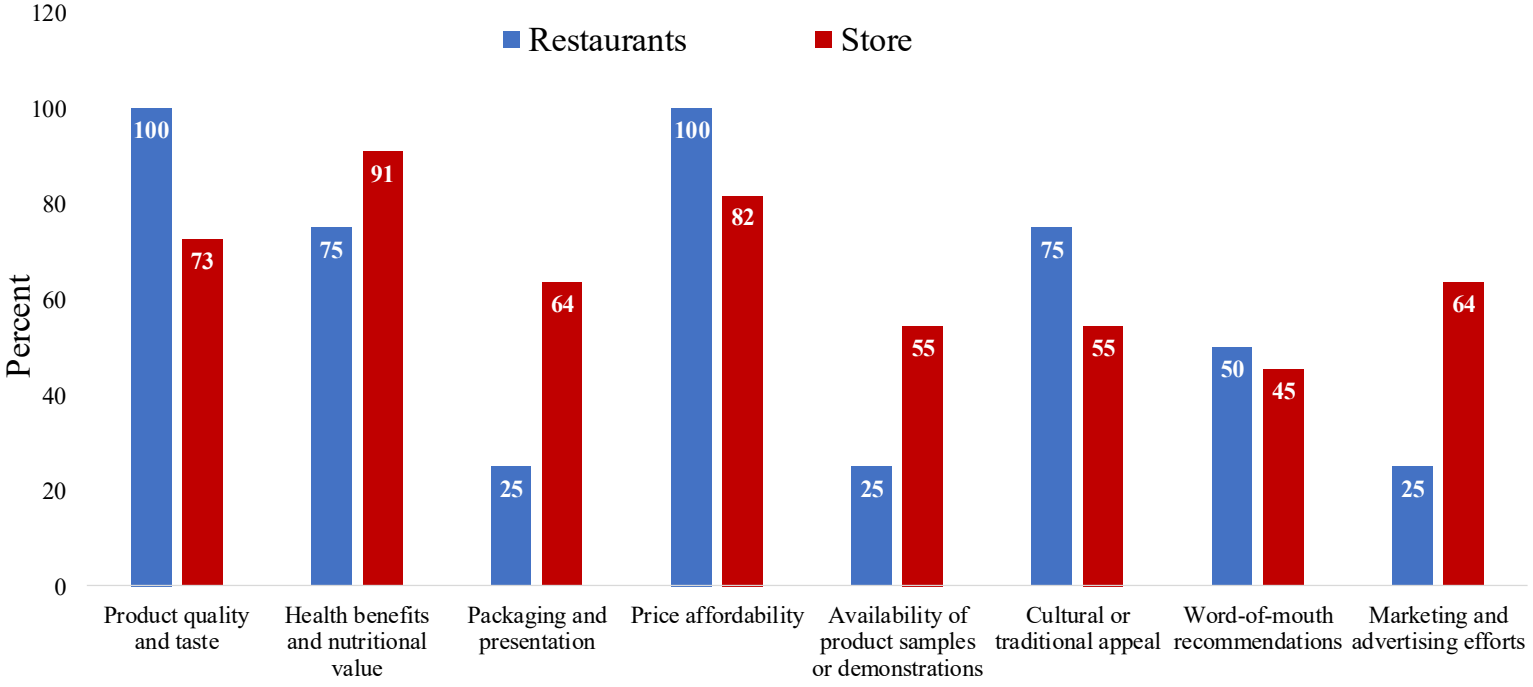

Kosrae Restaurants and Store : On average, how frequently do your customers purchase locally processed food products from your store(s) ?



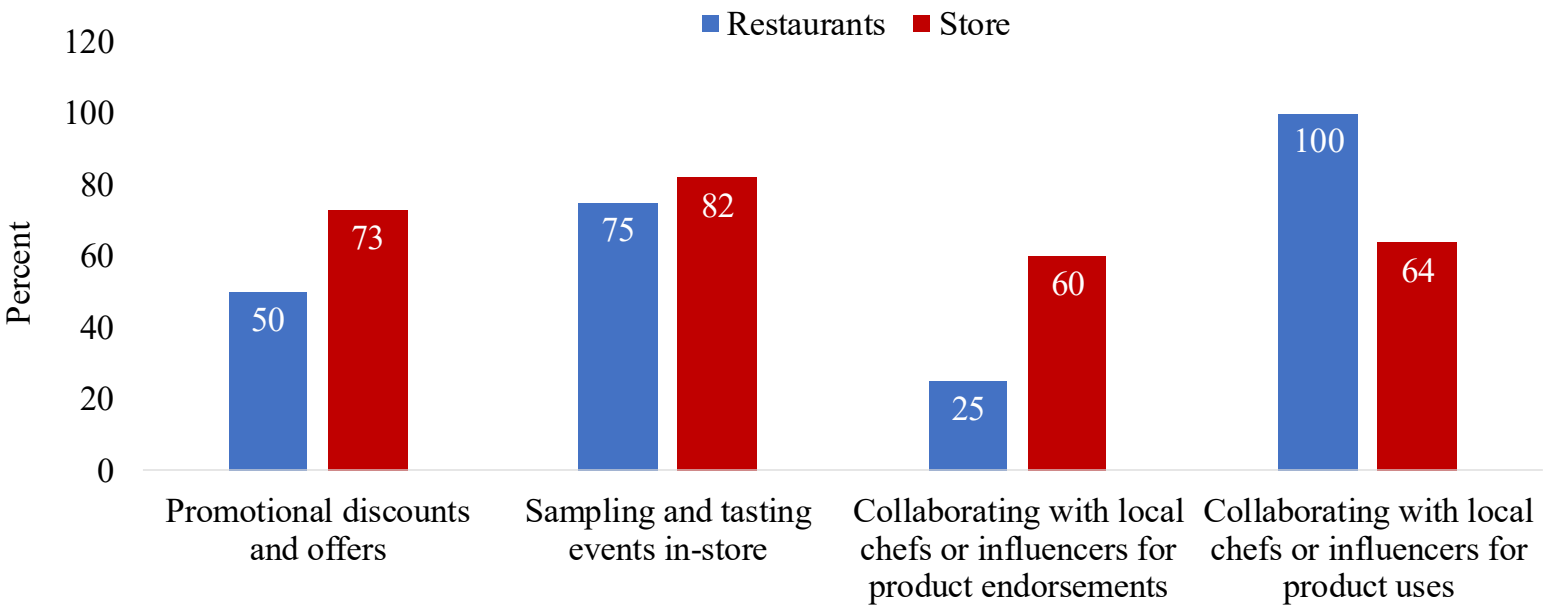
Kosrae Restaurants and Store : How do you anticipate consumer demand for locally processed food products to change in the nex6t 2-3 years in your state and the FSM?




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

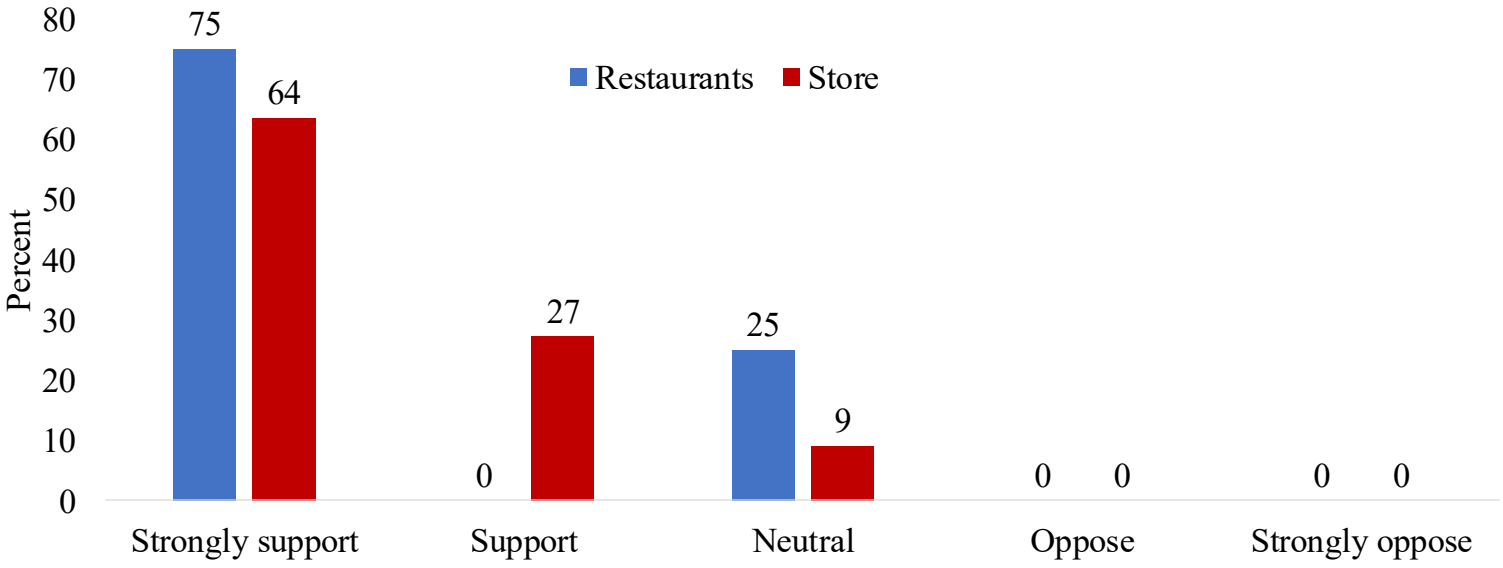


Kosrae Restaurants and Store : What strategies would you recommend to increase consumer awareness and acceptance of new locally processed food products in FSM ?



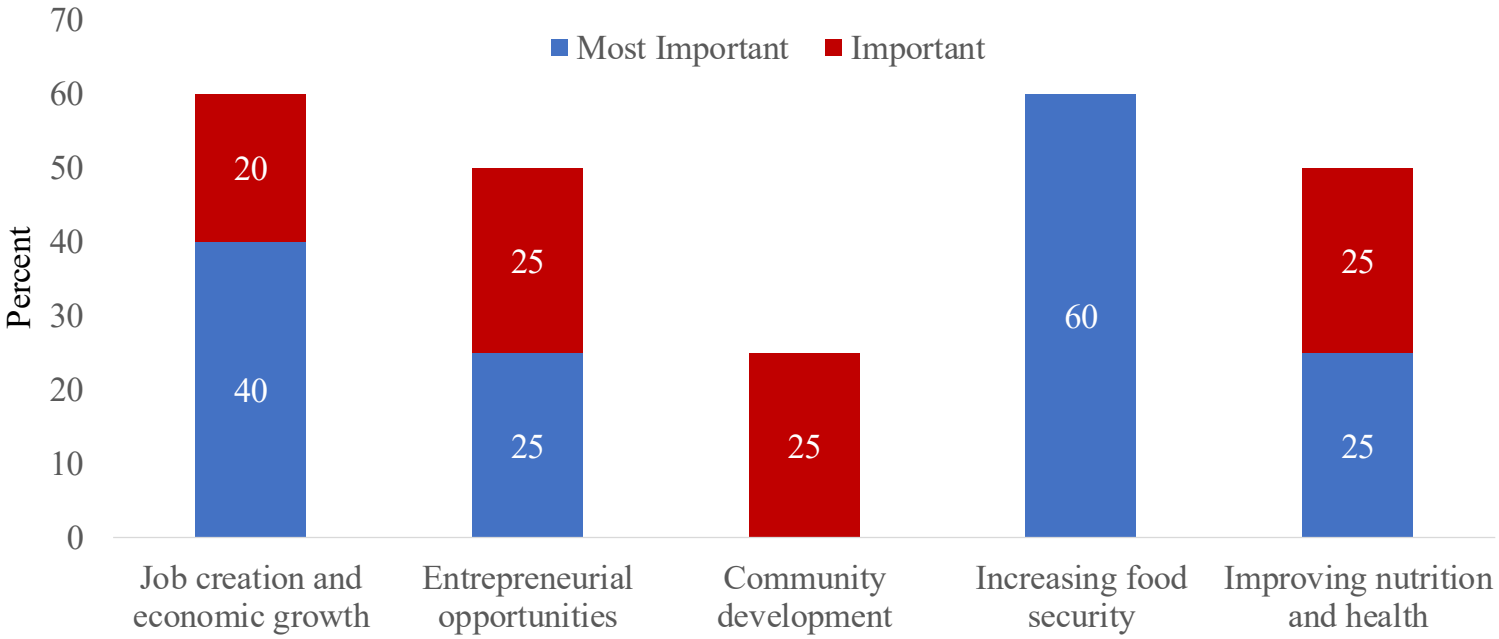

Kosrae Restaurants and Store : What do you feel would strengthen your partnership with local food producers?

Kosrae Restaurants and Store : 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 ?

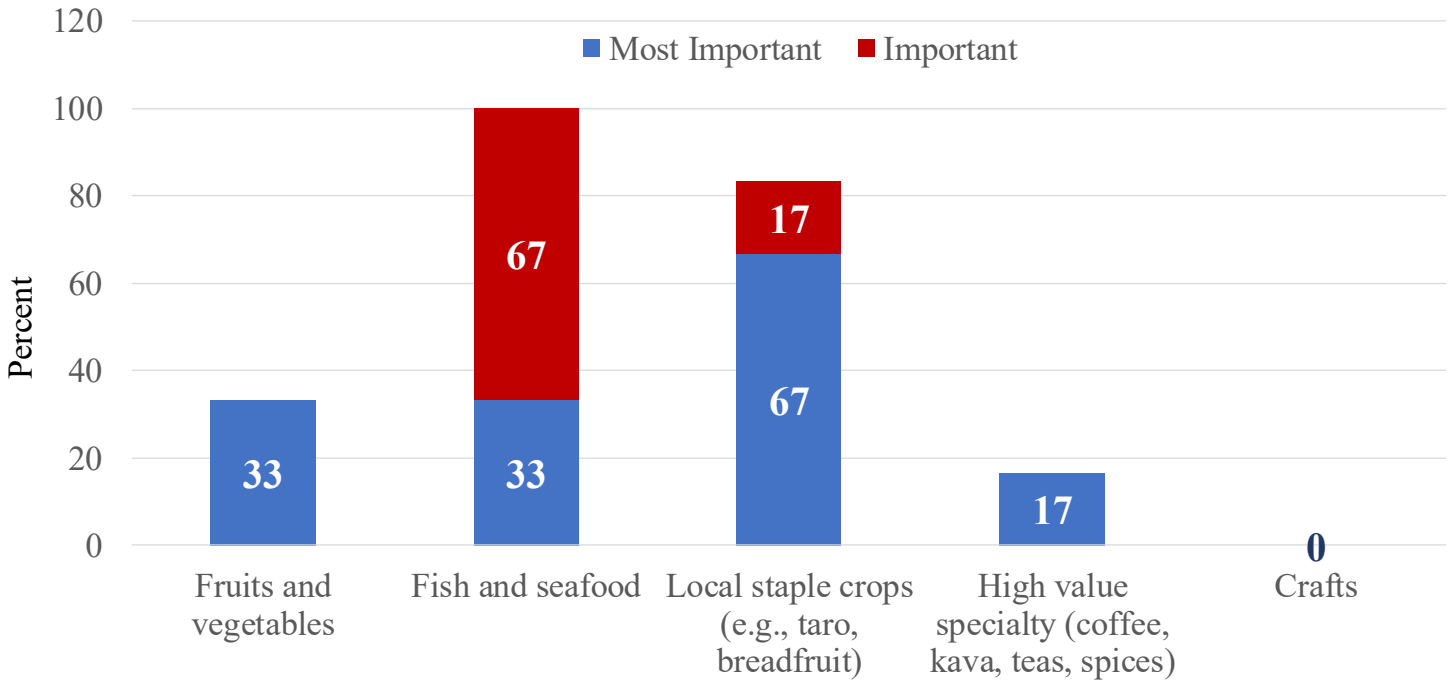


# Federated States of Micronesia
# Food Systems Solutions Project
# FSS Survey Data Tables and Charts
# Kosrae State
# Policymakers

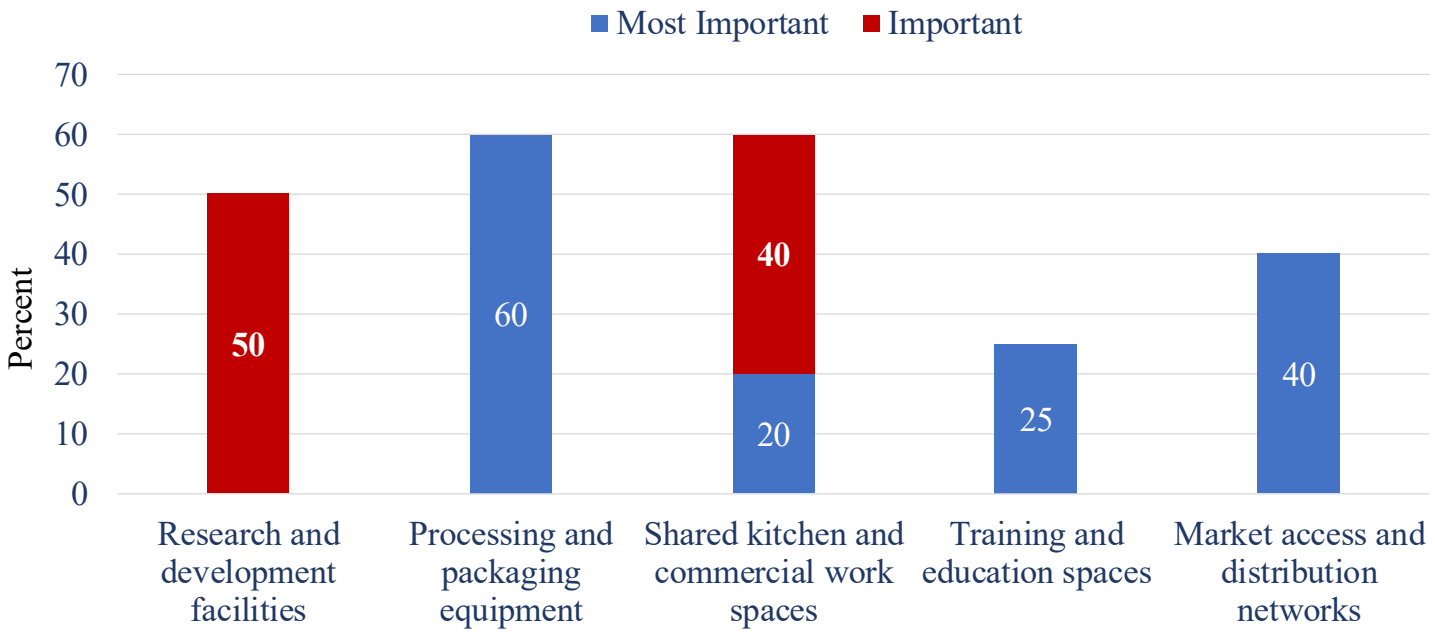
Kosrae Policymakers : What do you perceive as the primary benefit of establishing a Food Innovation Center in FSM ?



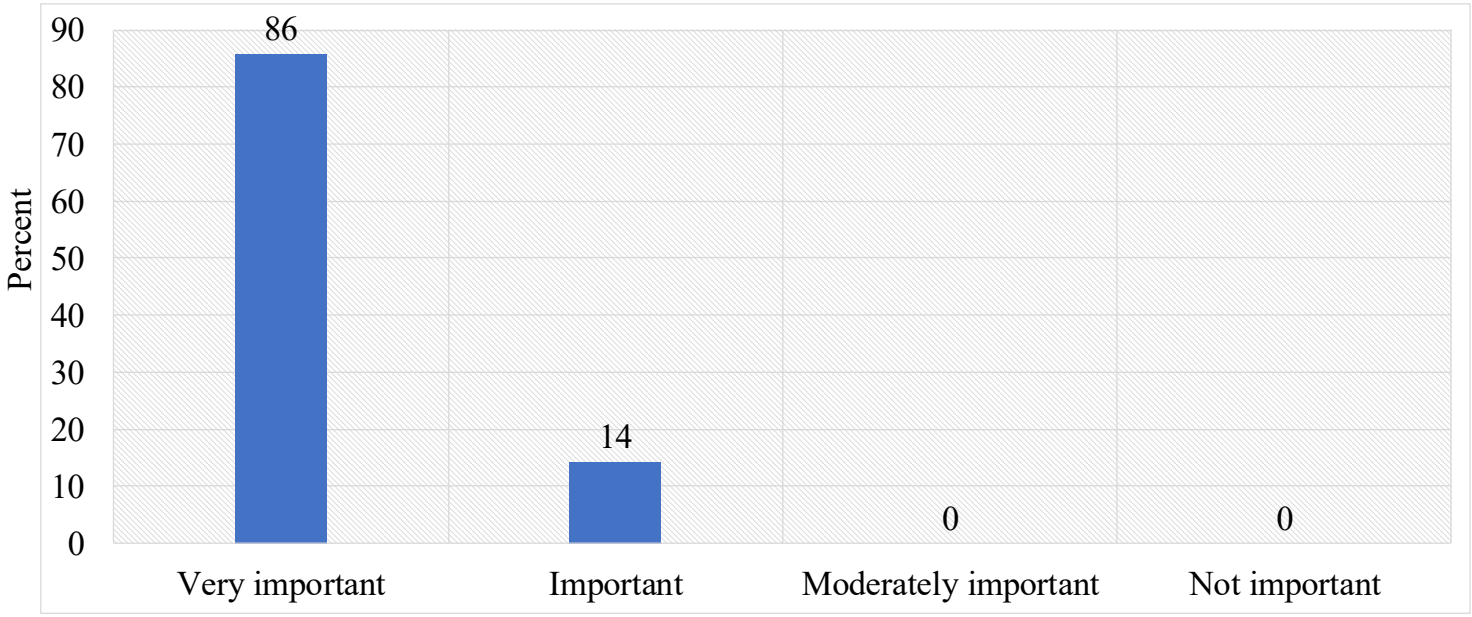

Kosrae Policymakers : Which types of locally processed foods should the center focus on ?



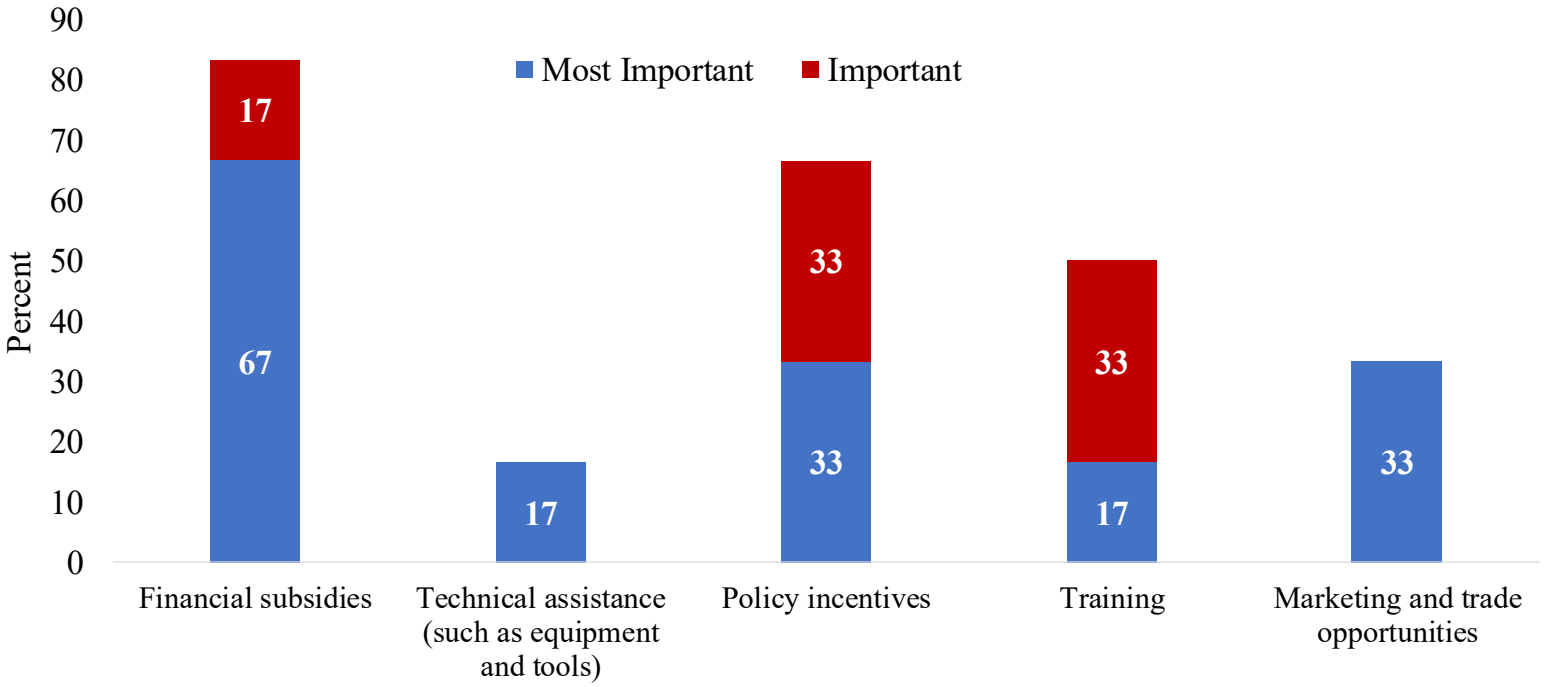
Kosrae Policymakers : What should be the key features of the Food Innovation Center ?



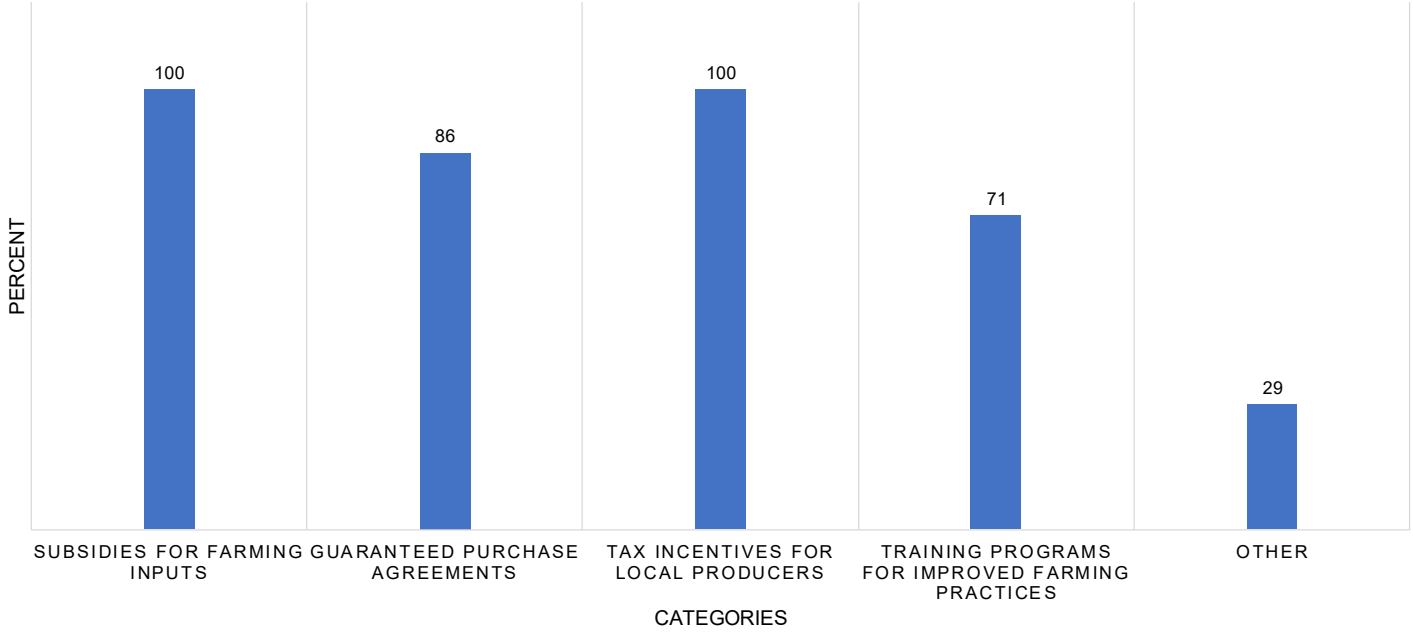

Kosrae Policymakers : How important is it to involve local farmers and producers in the planning of a Food Innovation Center?



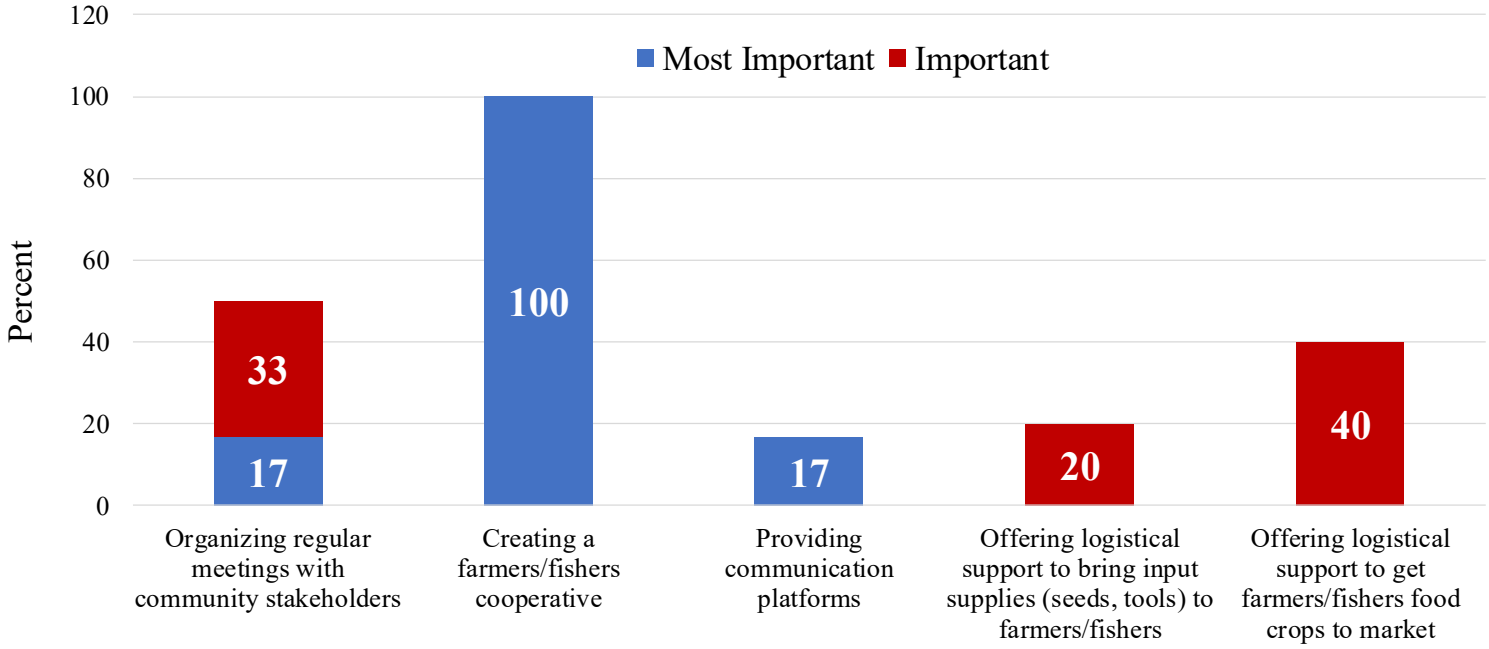
Kosrae Policymakers : What kind of support do you believe the government should provide to a Food Innovation Center ?



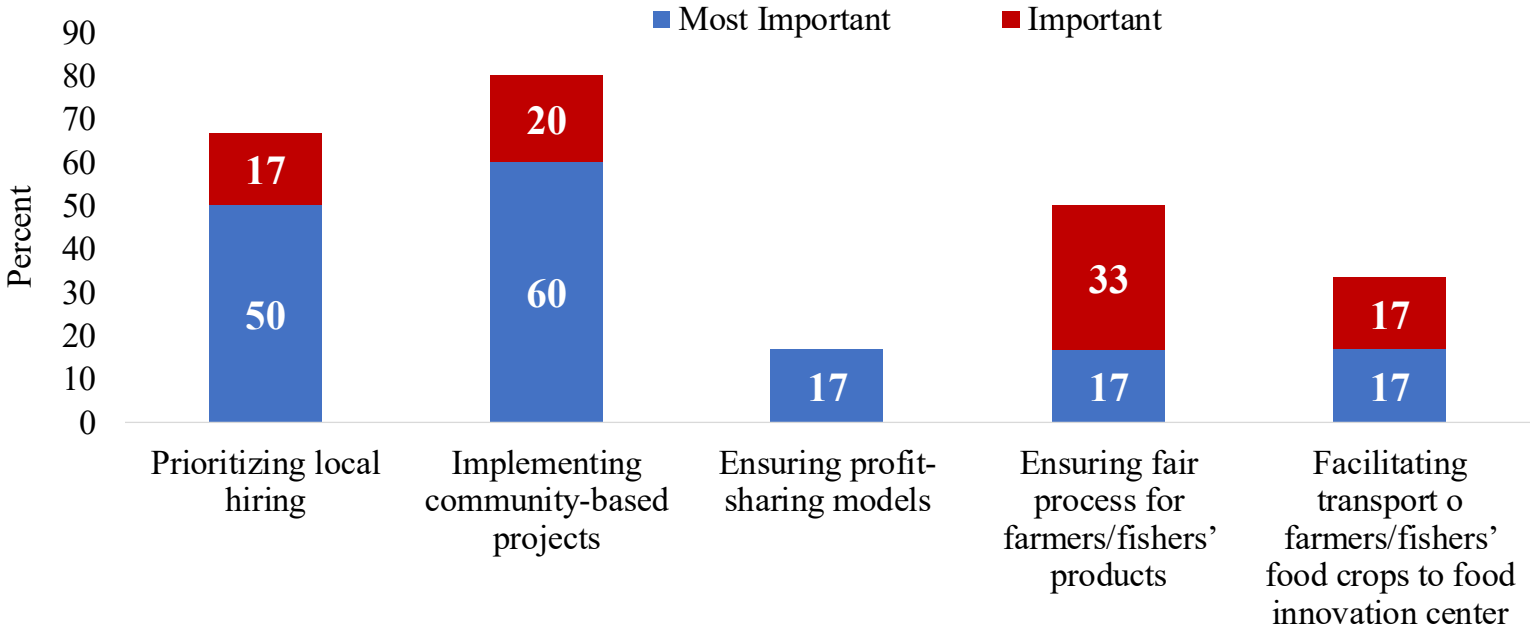

Kosrae Policymakers : What specific policies can support farmers in supplying raw materials to a food innovation center ?



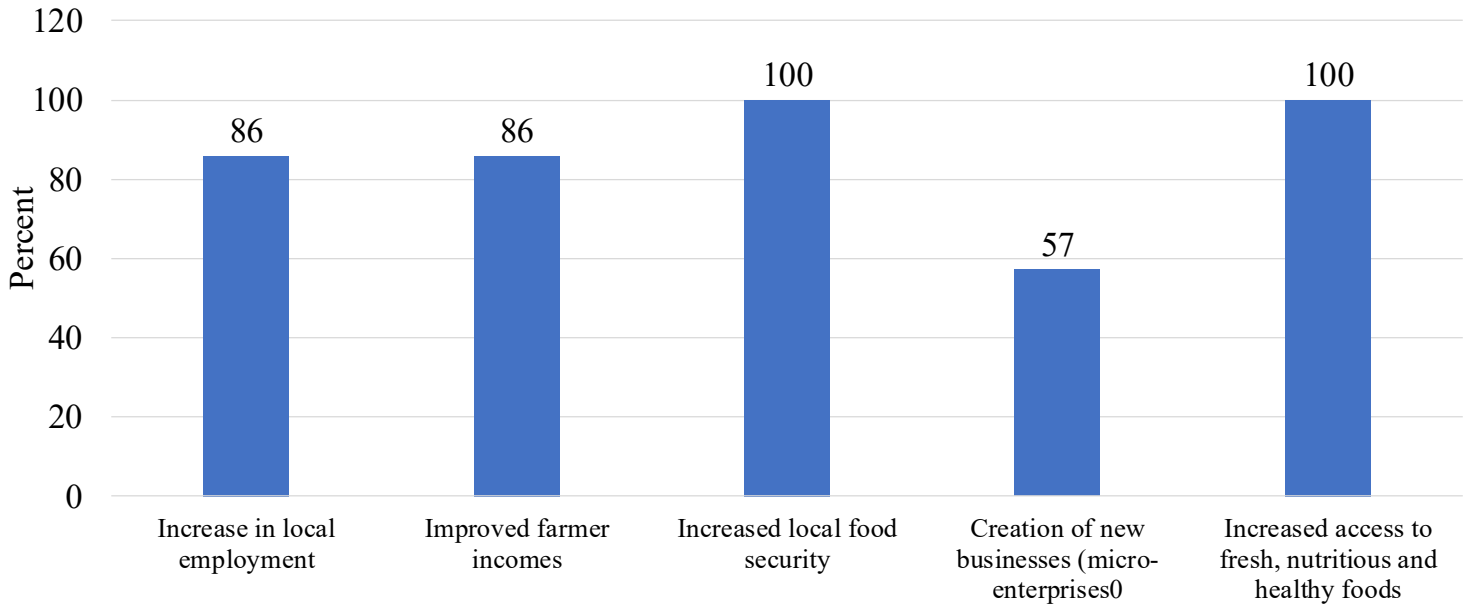
Kosrae Policymakers : How can policymakers facilitate collaboration between farmers and a Food Innovation Center ?



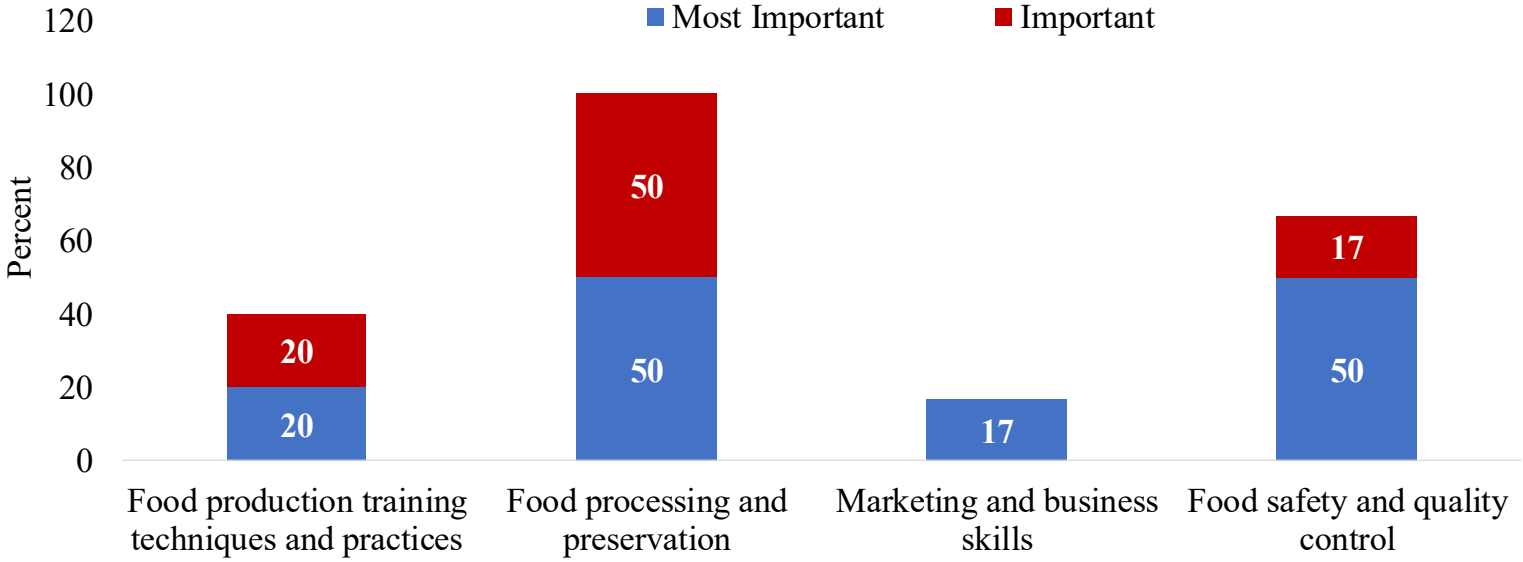

Kosrae Policymakers : What measures can be taken to ensure a Food Innovation Center benefits local communities ?



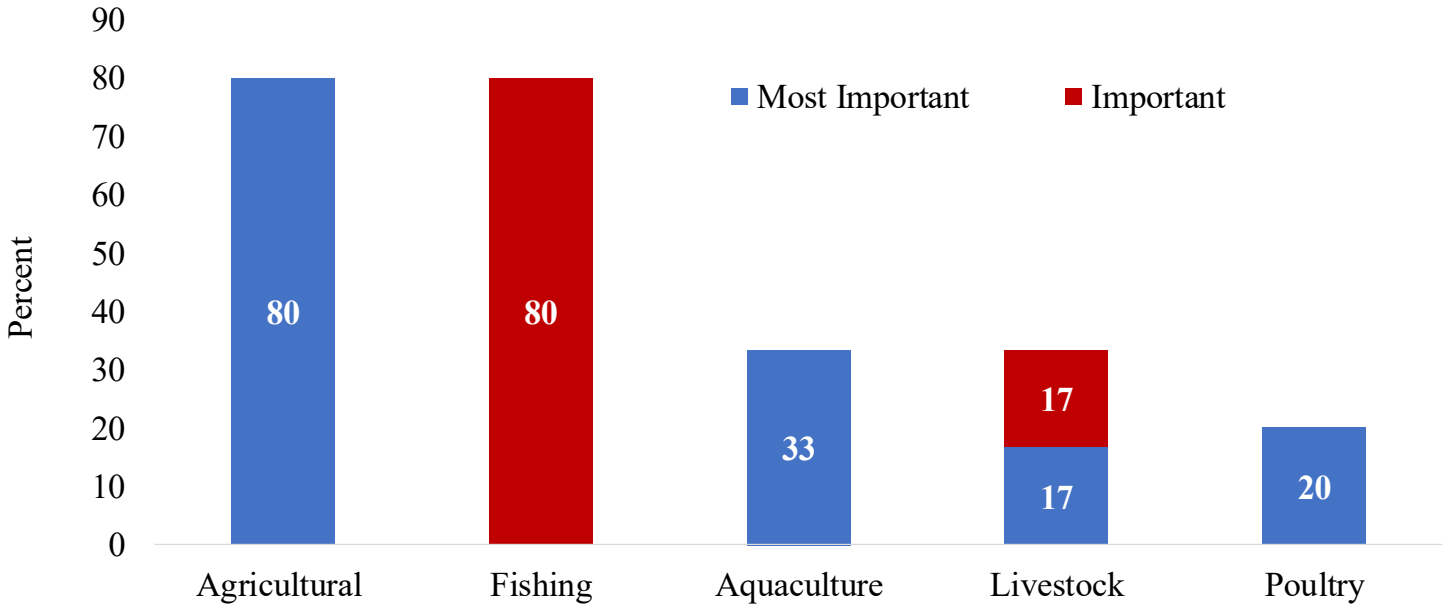
## Kosrae Policymakers : How should the success of a Food Innovation Center be evaluated in relation to farmer and community benefits?



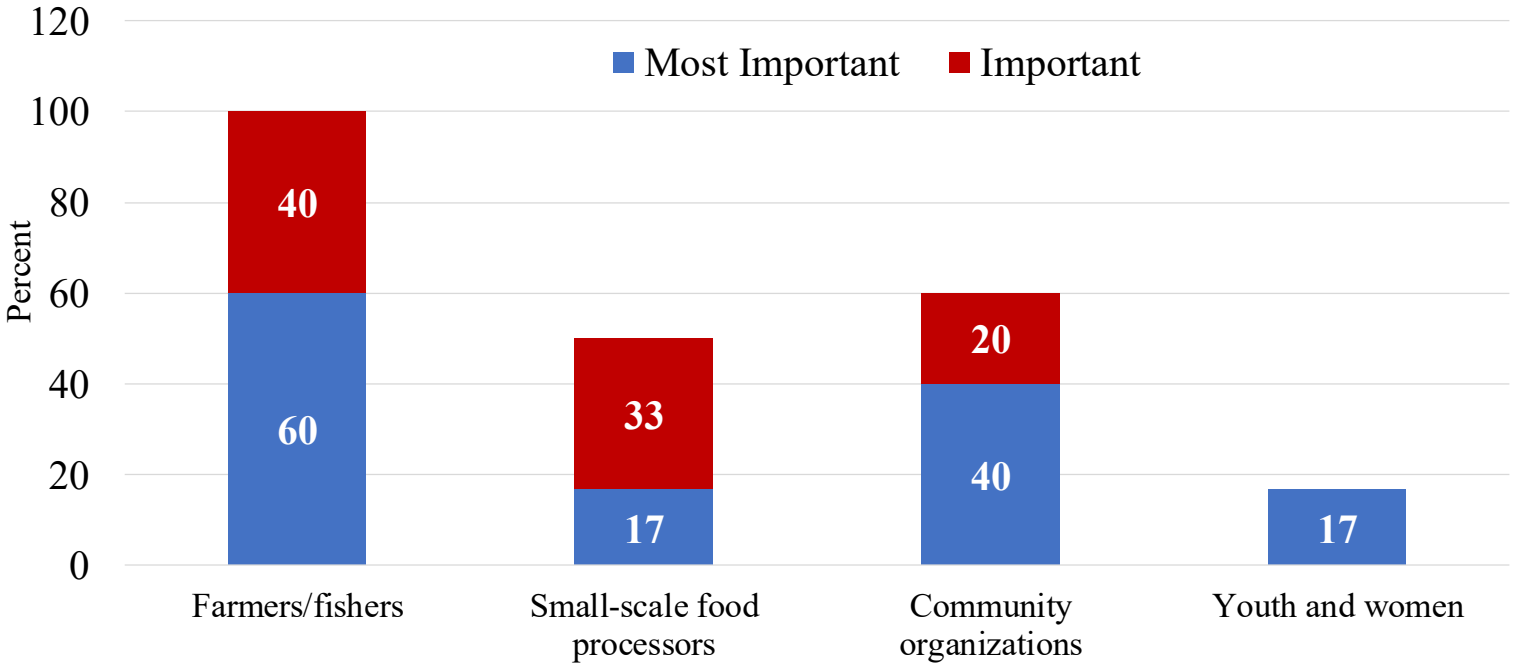

## Kosrae Policymakers : What are the most critical areas for capacity building in the local food system ?



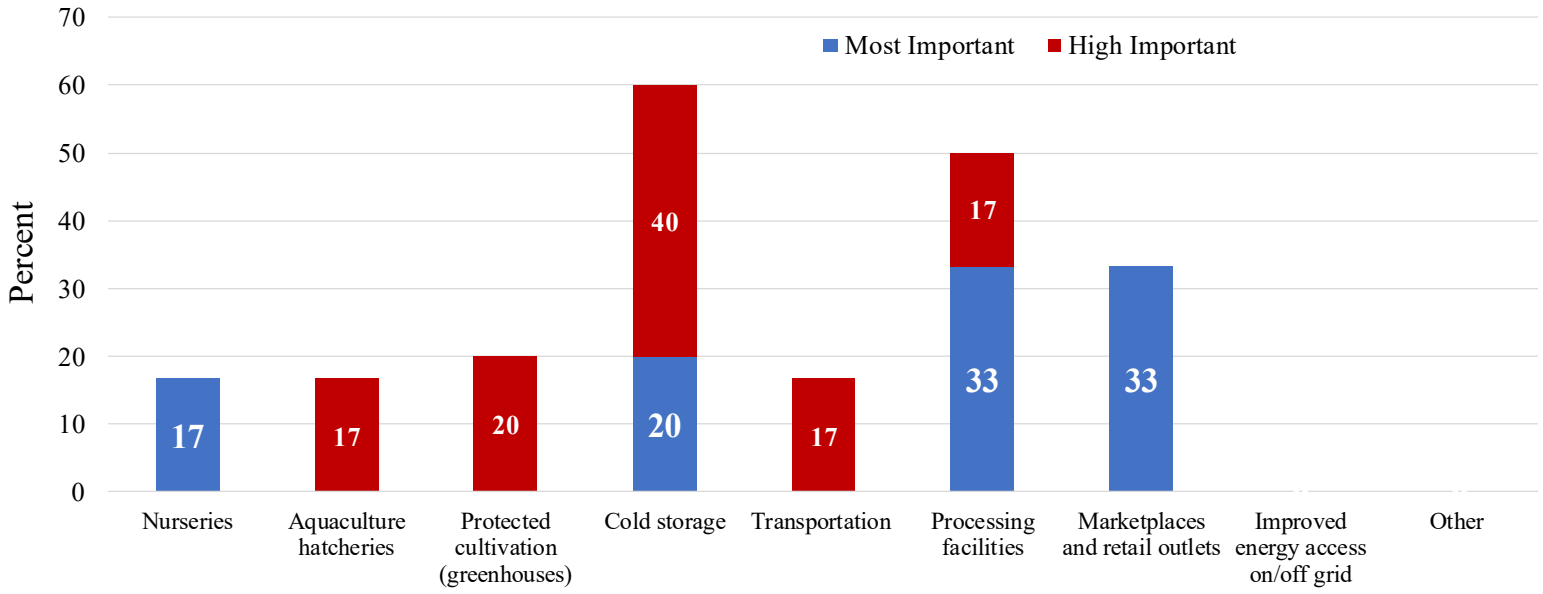
Kosrae Policymakers : To strength your local food system, which areas need most training ?



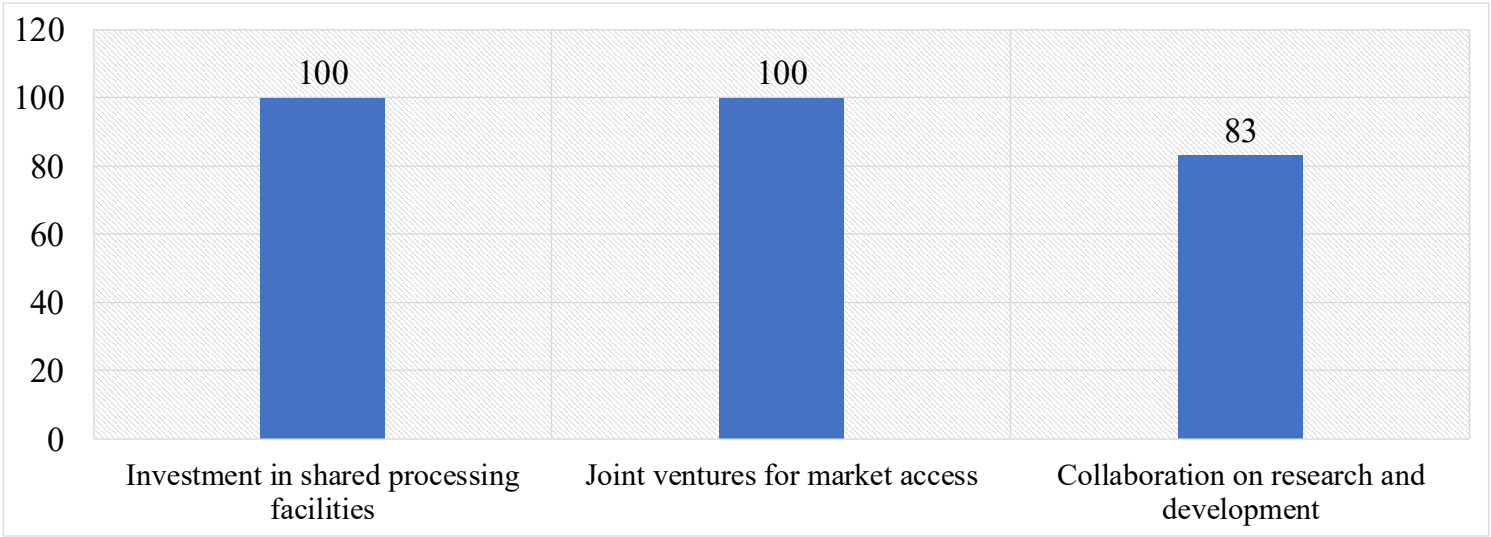

Kosrae Policymakers : Which groups should be prioritized for capacity building initiatives?



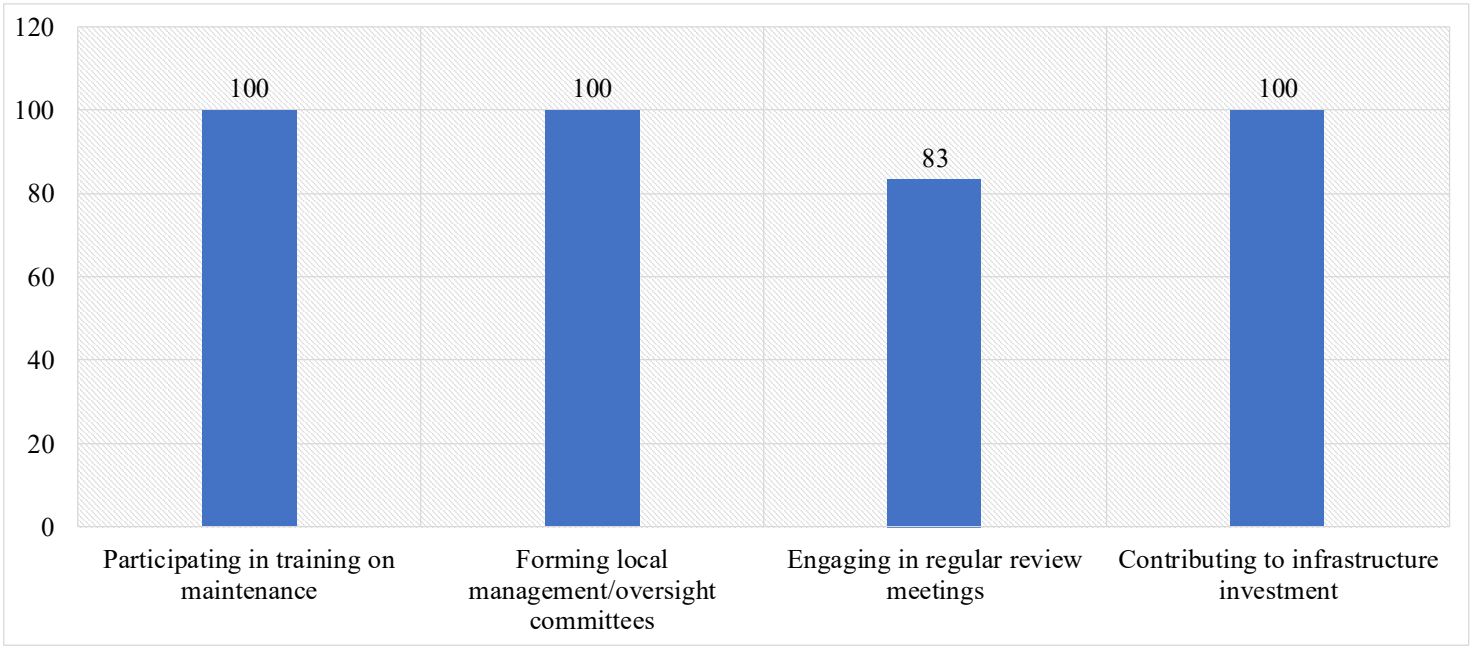
## Kosrae Policymakers : What type of infrastructure investments are most needed to support the local food system?



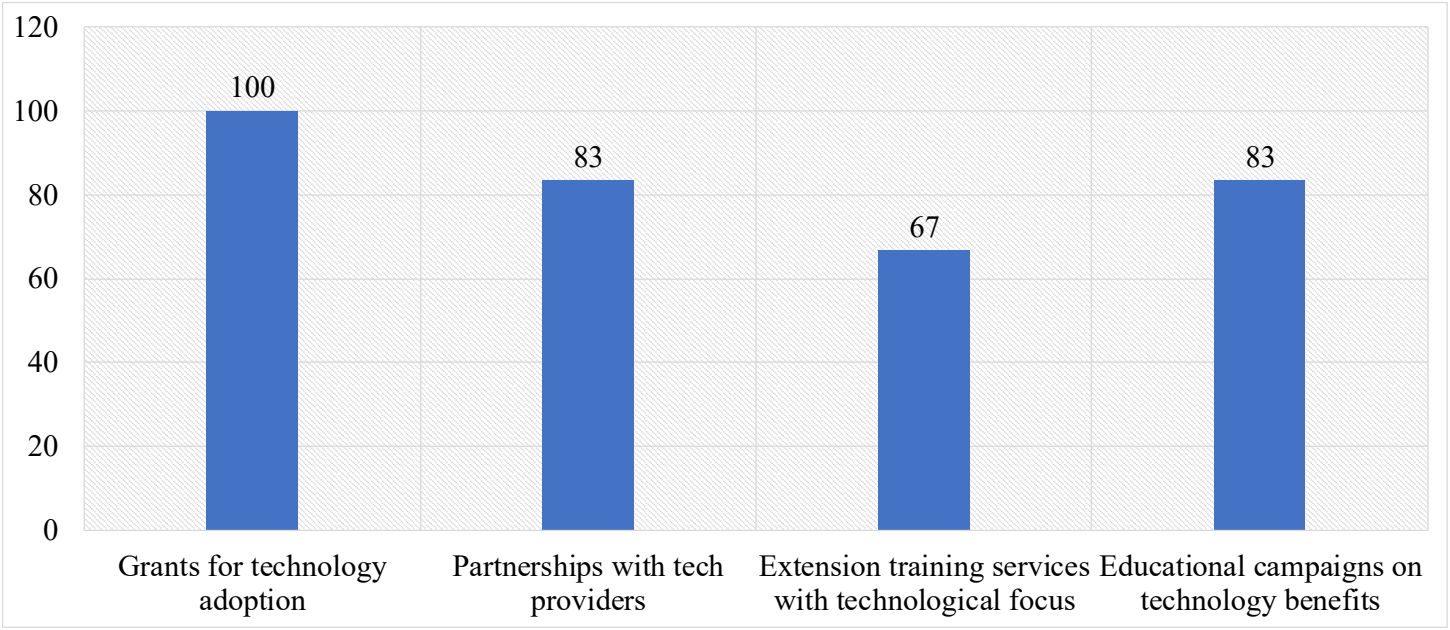

## Kosrae Policymakers : What kind of public-private partnerships do you think are necessary to enhance food system infrastructure ?



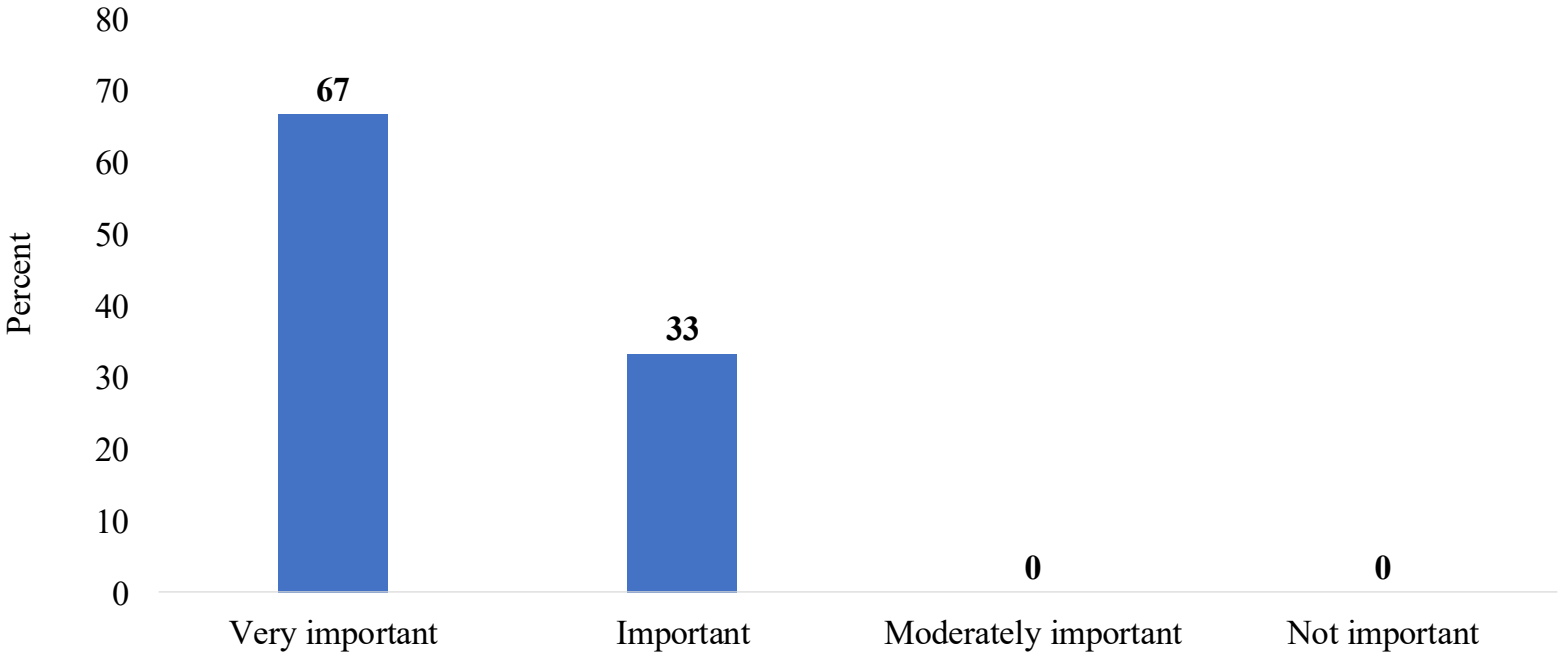
Kosrae Policymakers : What role should local communities play in the maintenance and management of new infrastructure?



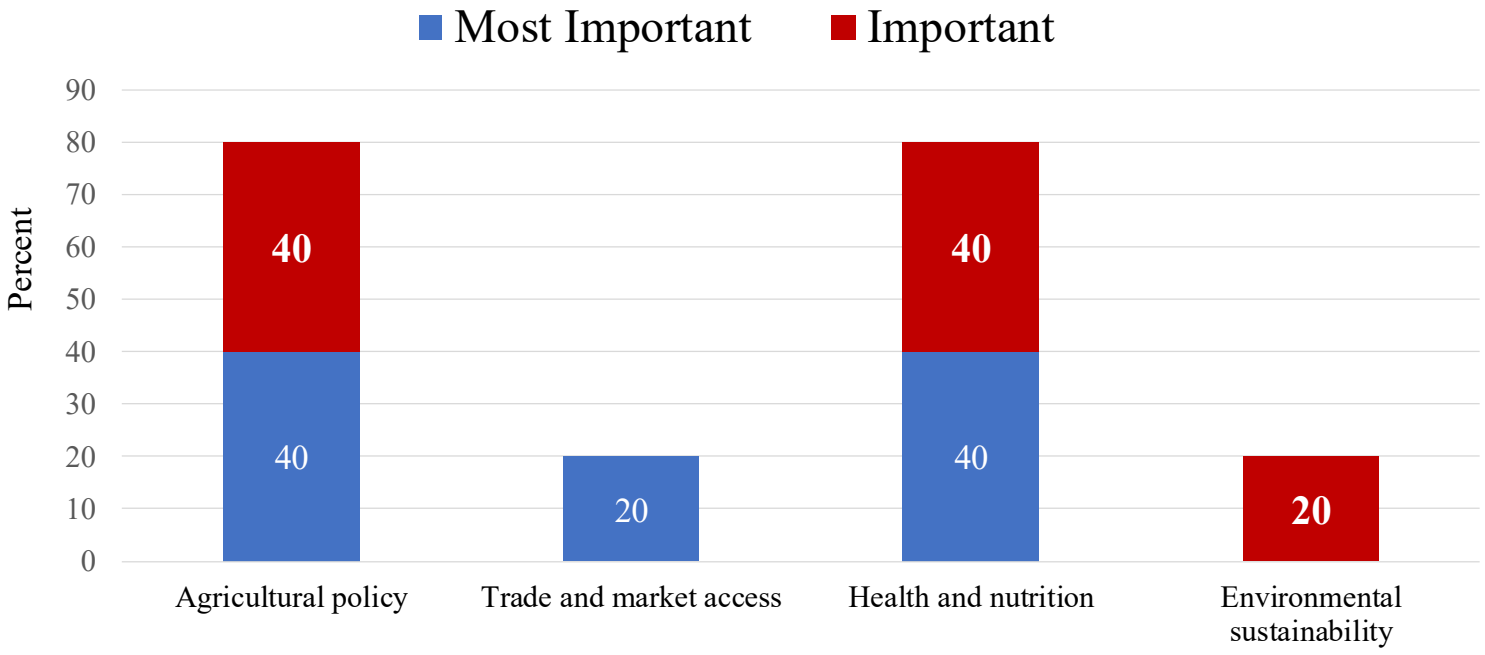

Kosrae Policymakers :What policies can promote the use of technology and innovation among local farmers ?



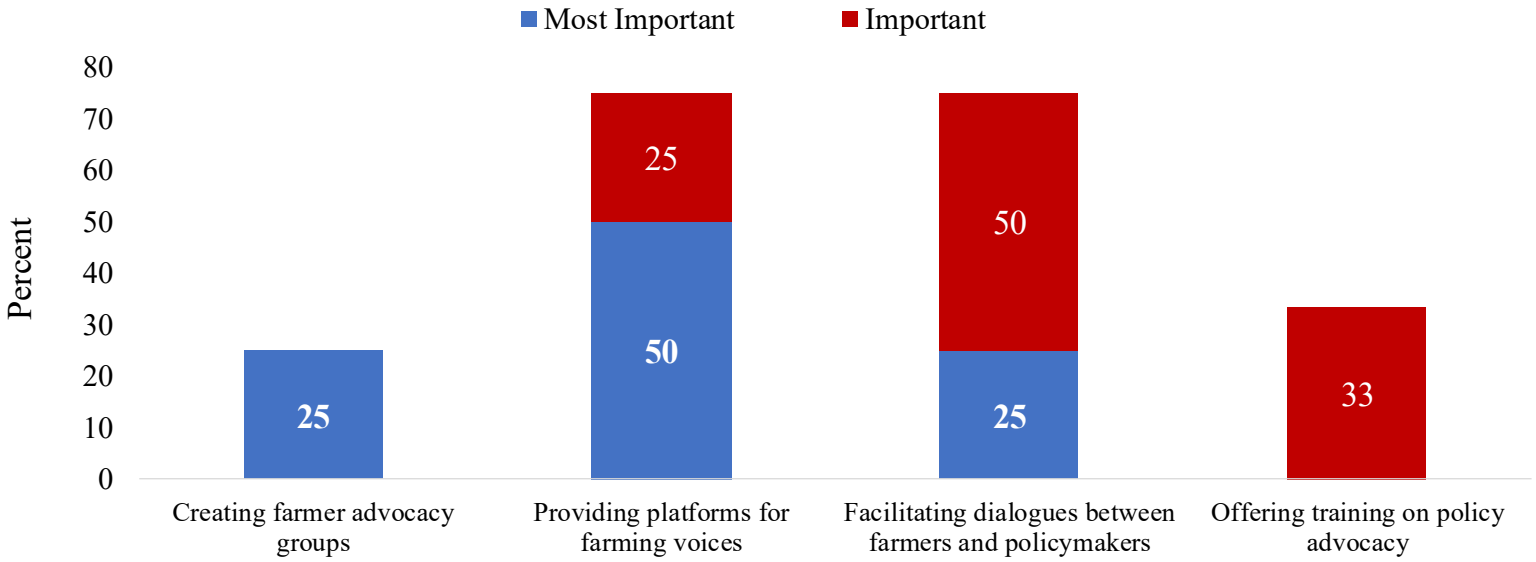
Kosrae Policymakers : How important is policy advocacy for successful and sustainable food system development?




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



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

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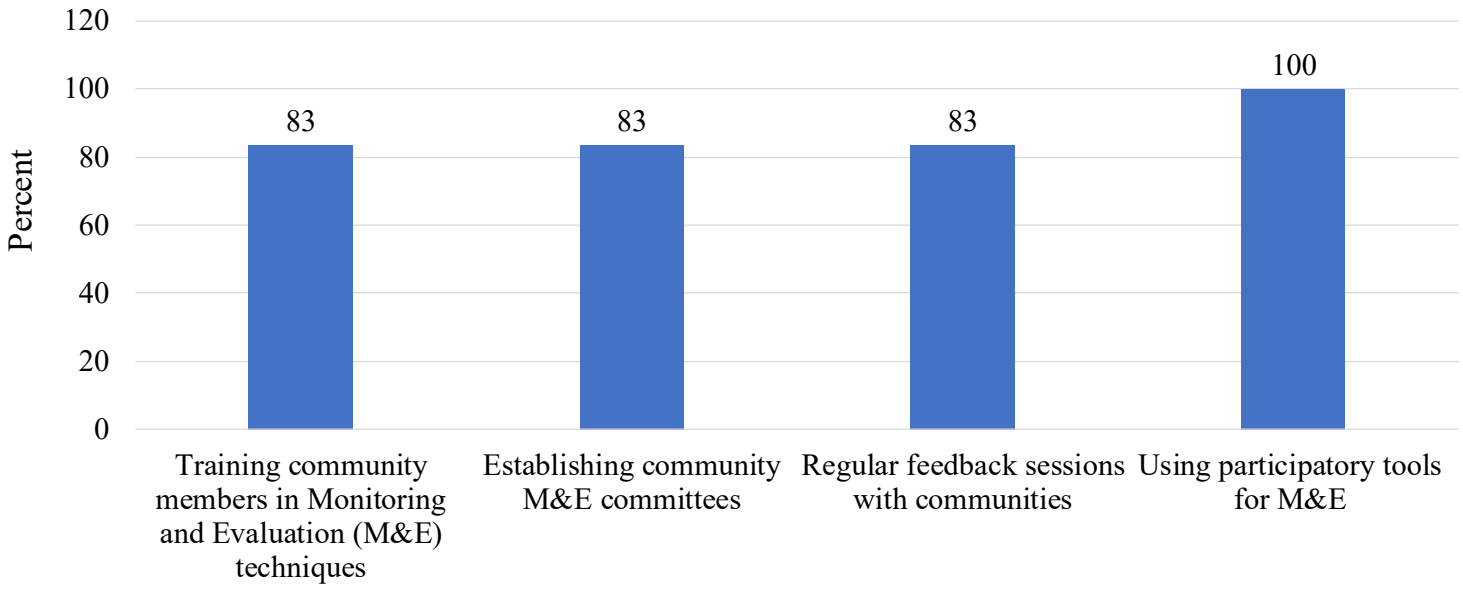
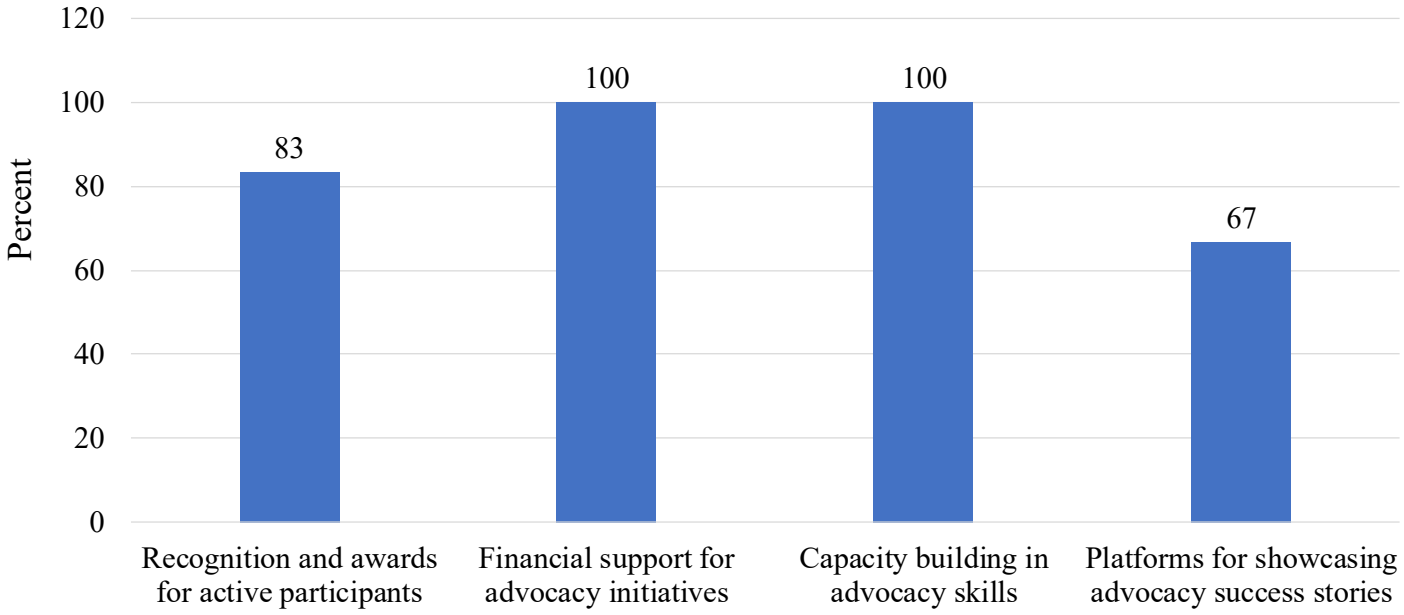
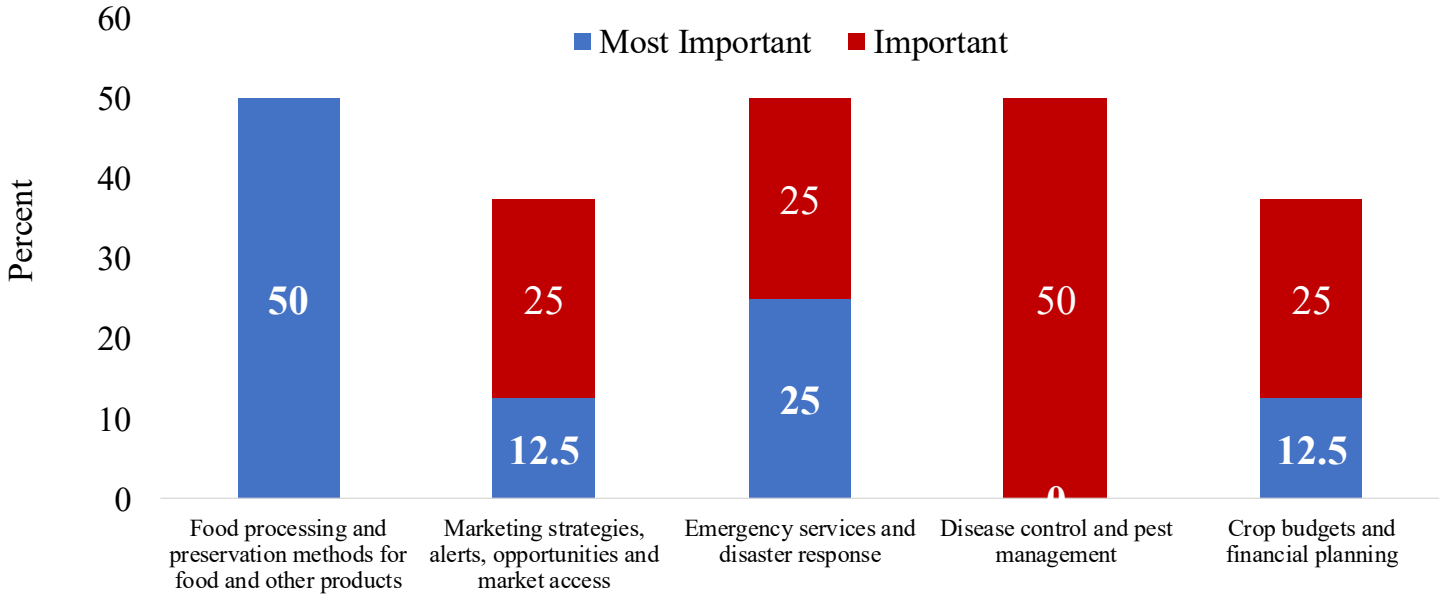


# Kosrae Policymakers : What incentives can encourage community participation in policy advocacy related to food systems ?

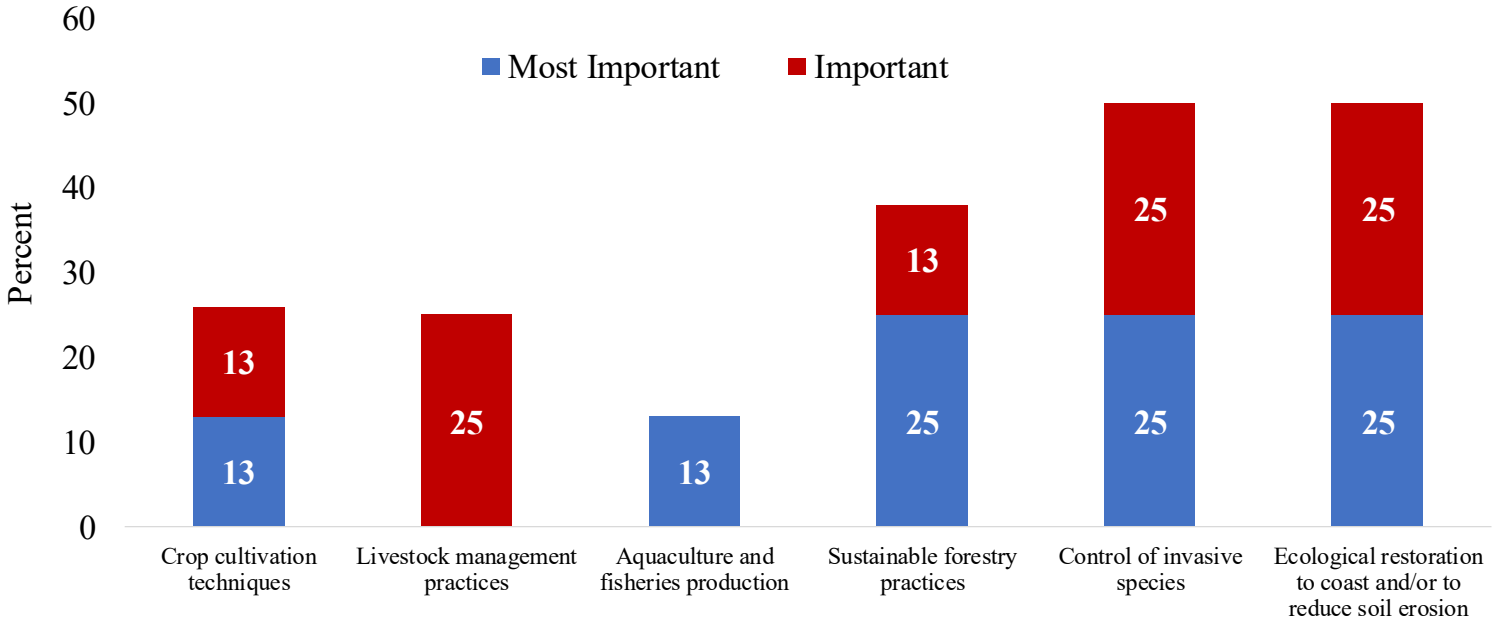


# Federated States of Micronesia
# Food Systems Solutions Project
# FSS Survey Data Tables and Charts
# Kosrae State
# Information Content Providers

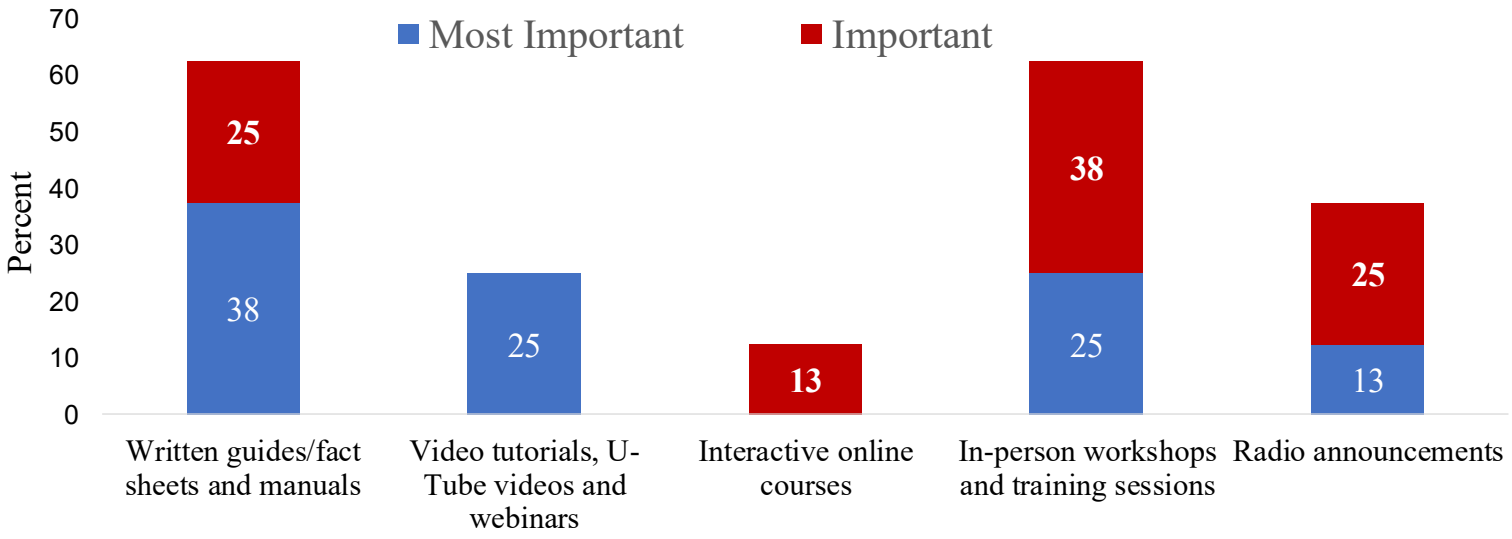
Kosrae Information Content Providers : What type of information do you believe is most critical to include in an electronic-based food systems information hub ?



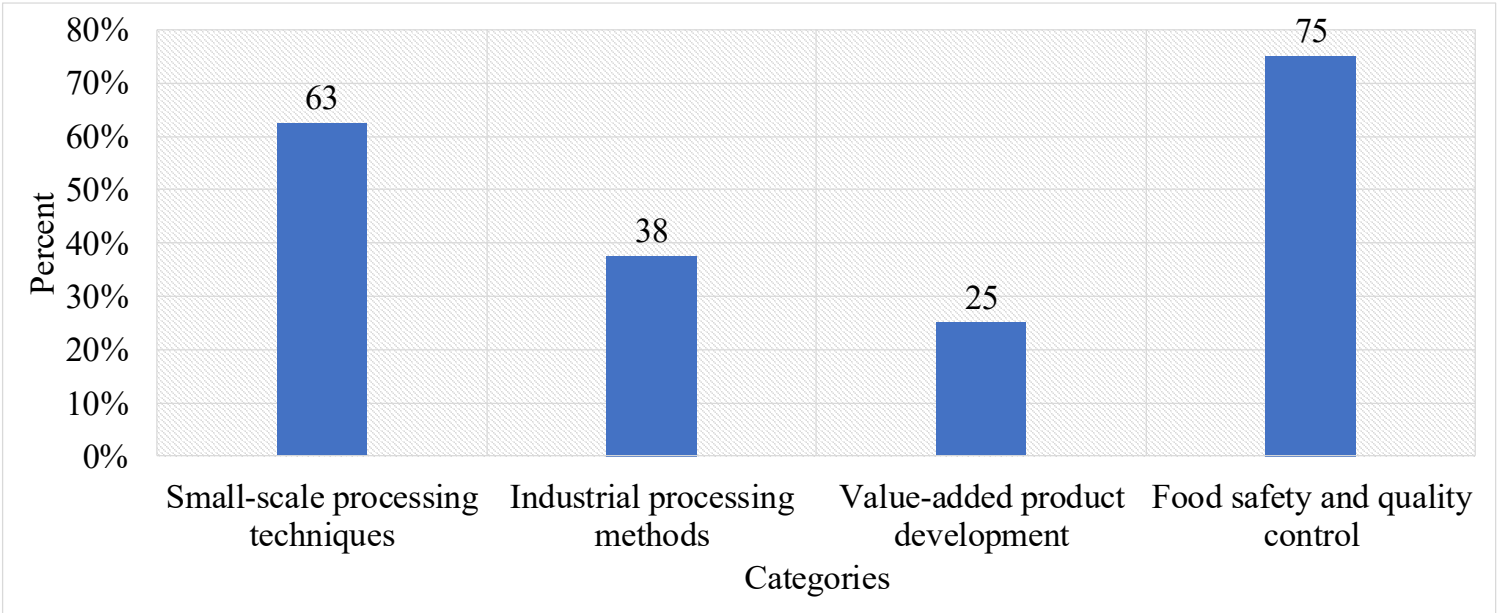

Kosrae Information Content Providers : What types of production information would be most valuable for farmers and producers ?



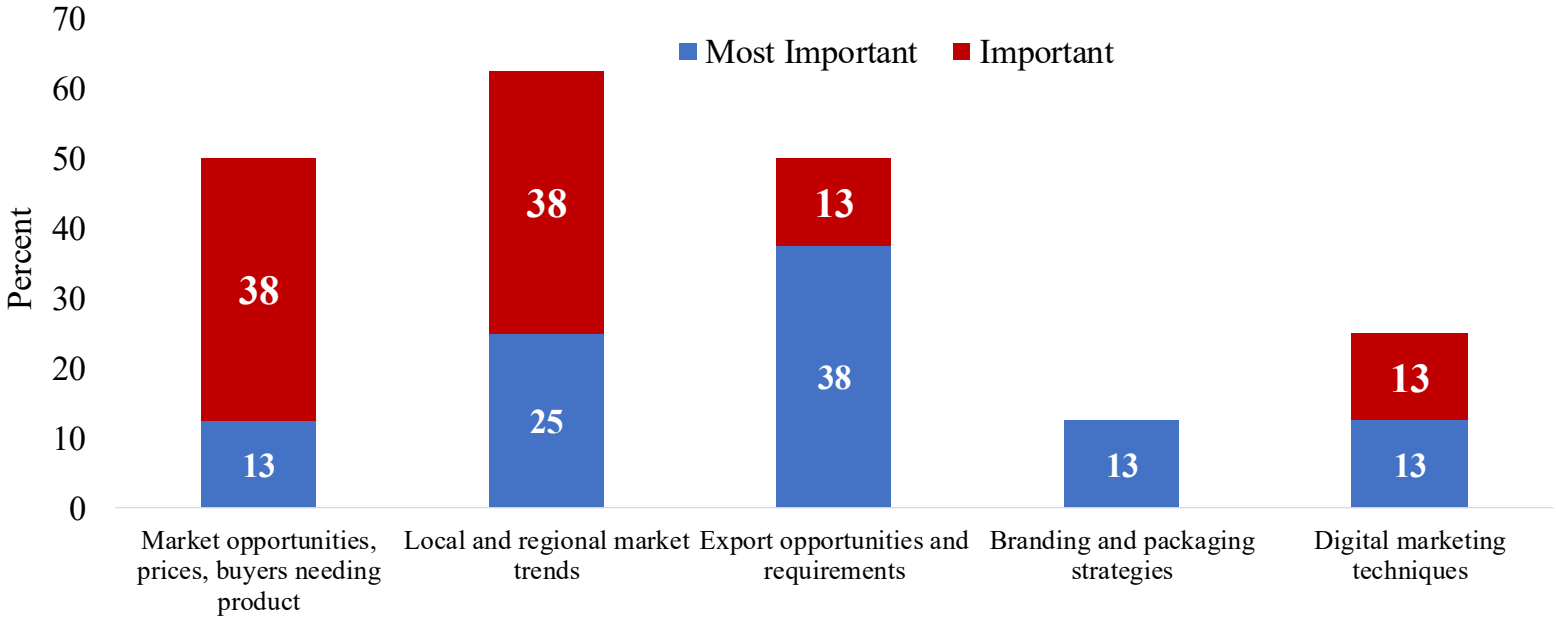
Kosrae Information Content Providers : Which formats would be most effective for presenting production information ?



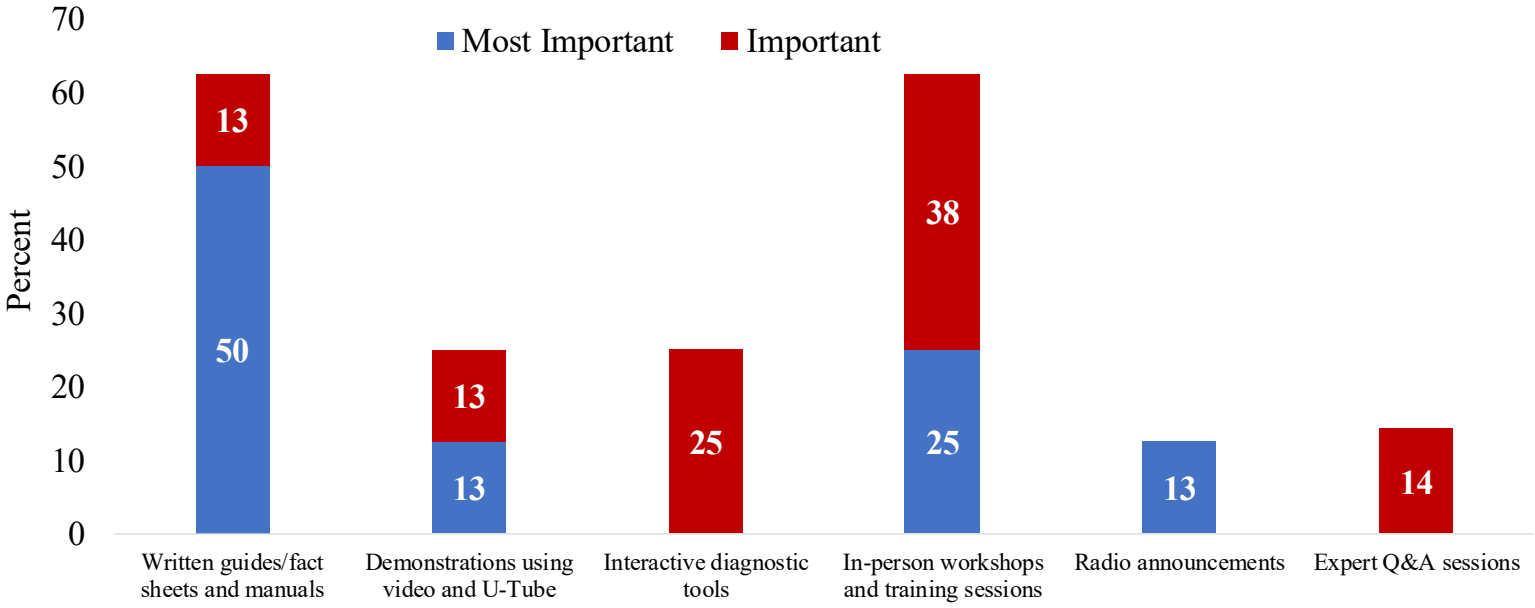

Kosrae Information Content Providers : What aspects of food processing should the information hub focus on?



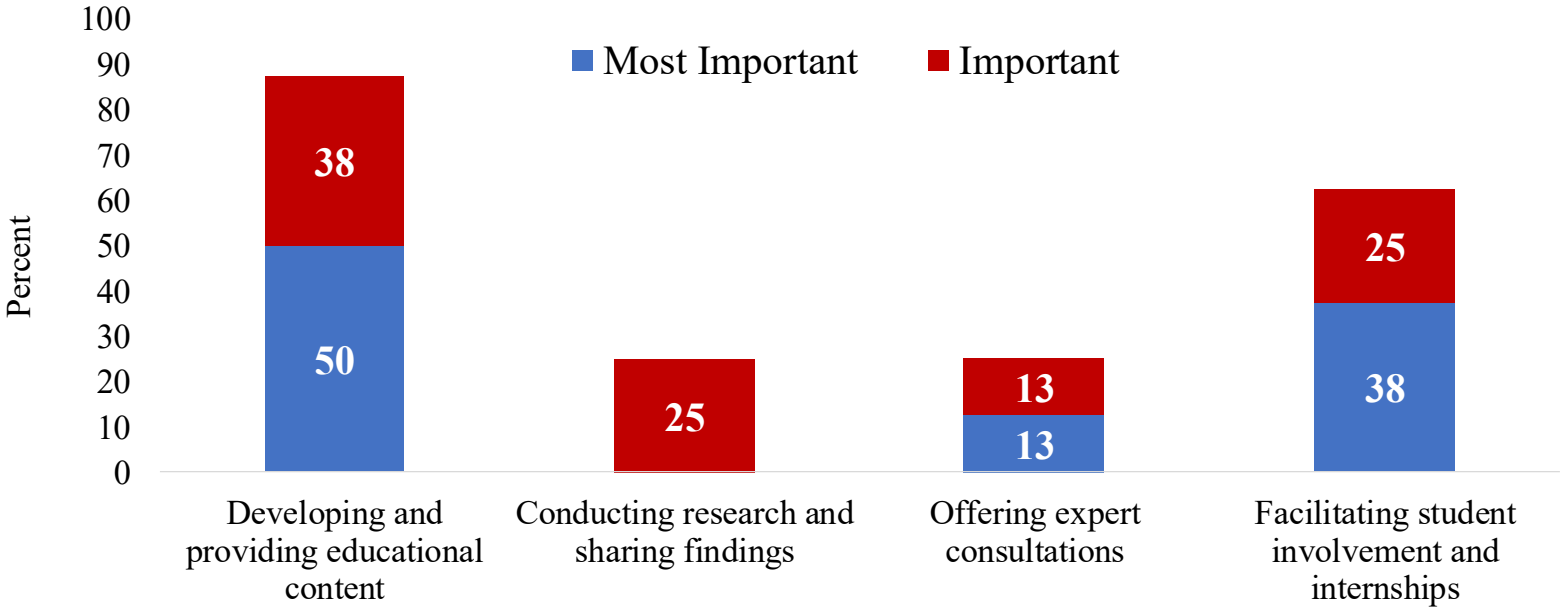
Kosrae Information Content Providers : What marketing information would be most helpful to local producers ?



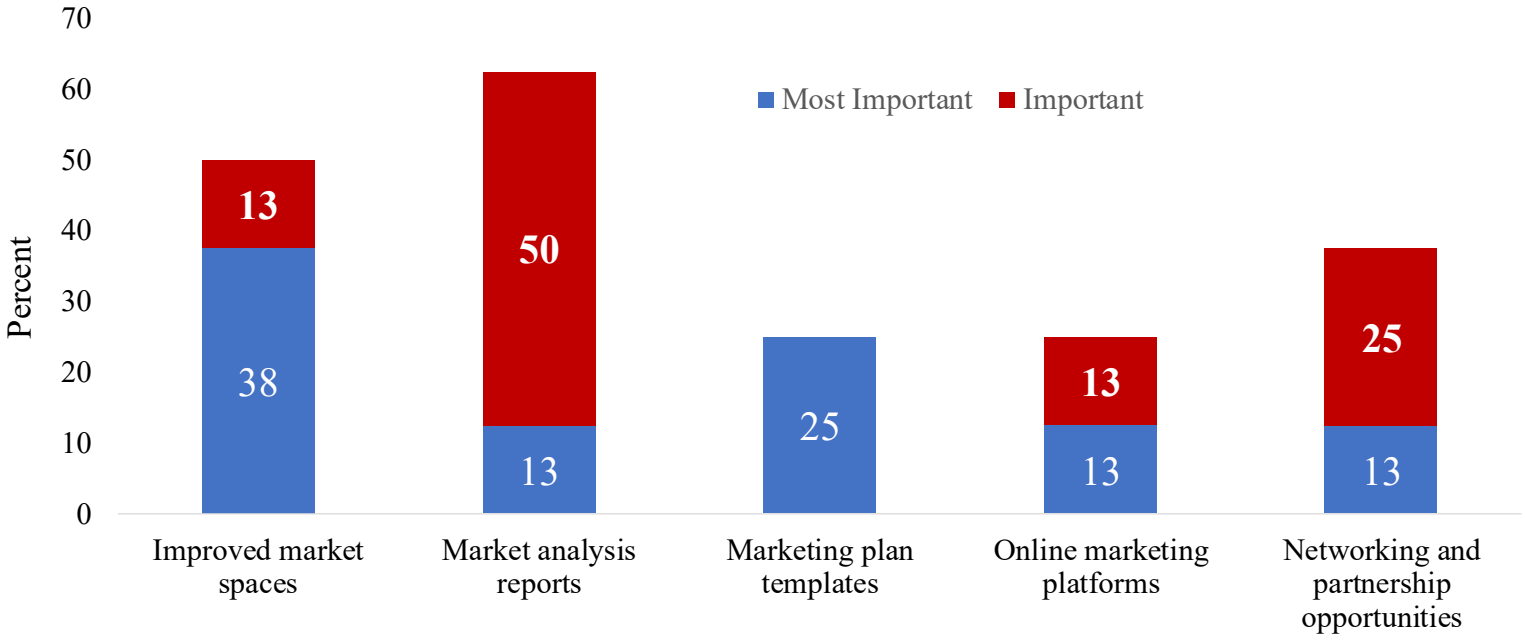

Kosrae Information Content Providers : What formats should be used to present disease control information ?



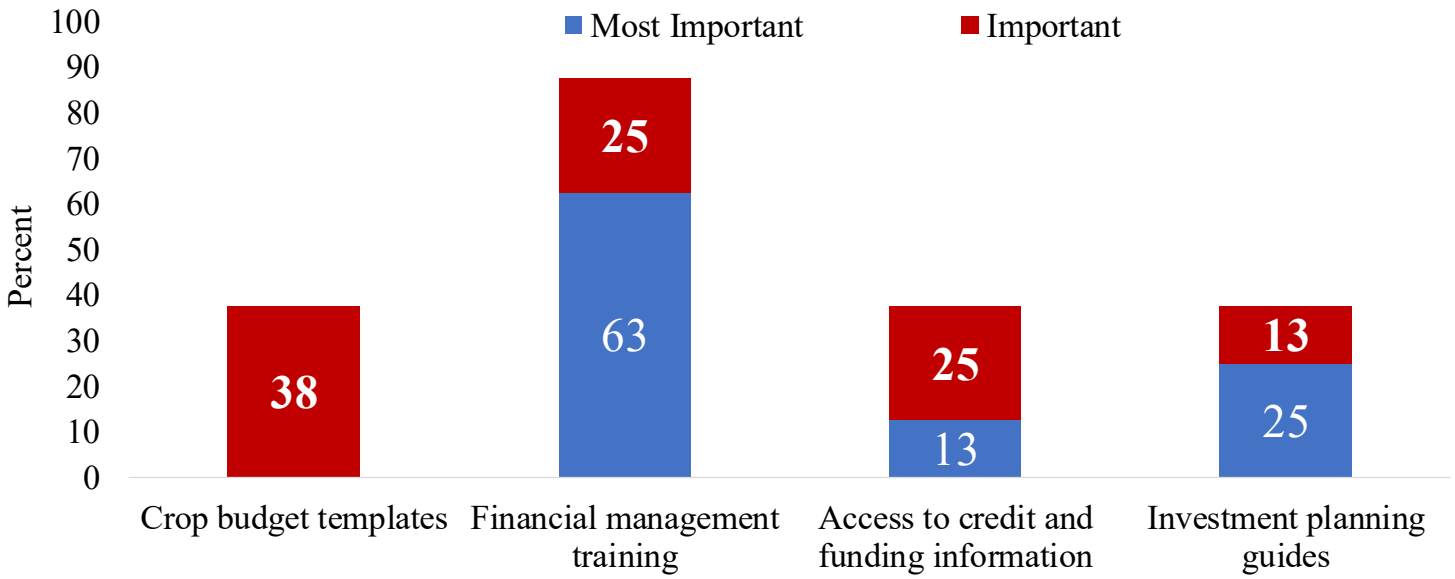
Kosrae Information Content Providers :How can educational institutions like the College of Micronesia contribute to the information hub?



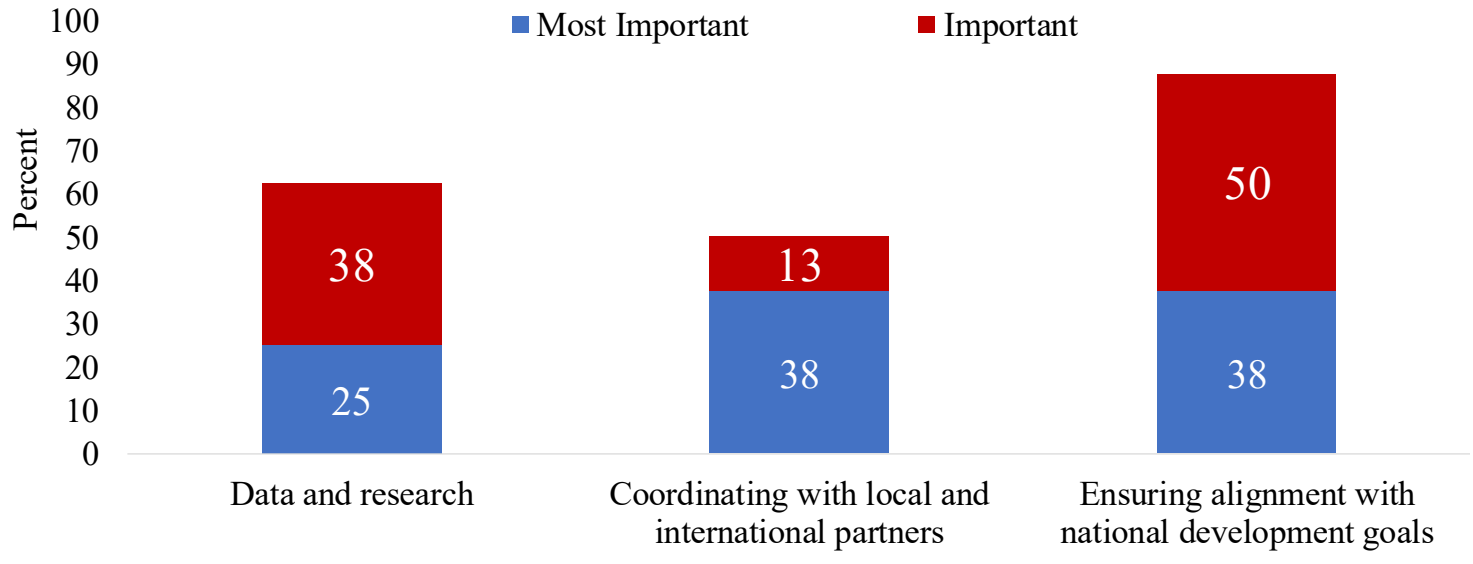

Kosrae Information Content Providers : What tools or resources would assist producers in improving their marketing and sales efforts ?



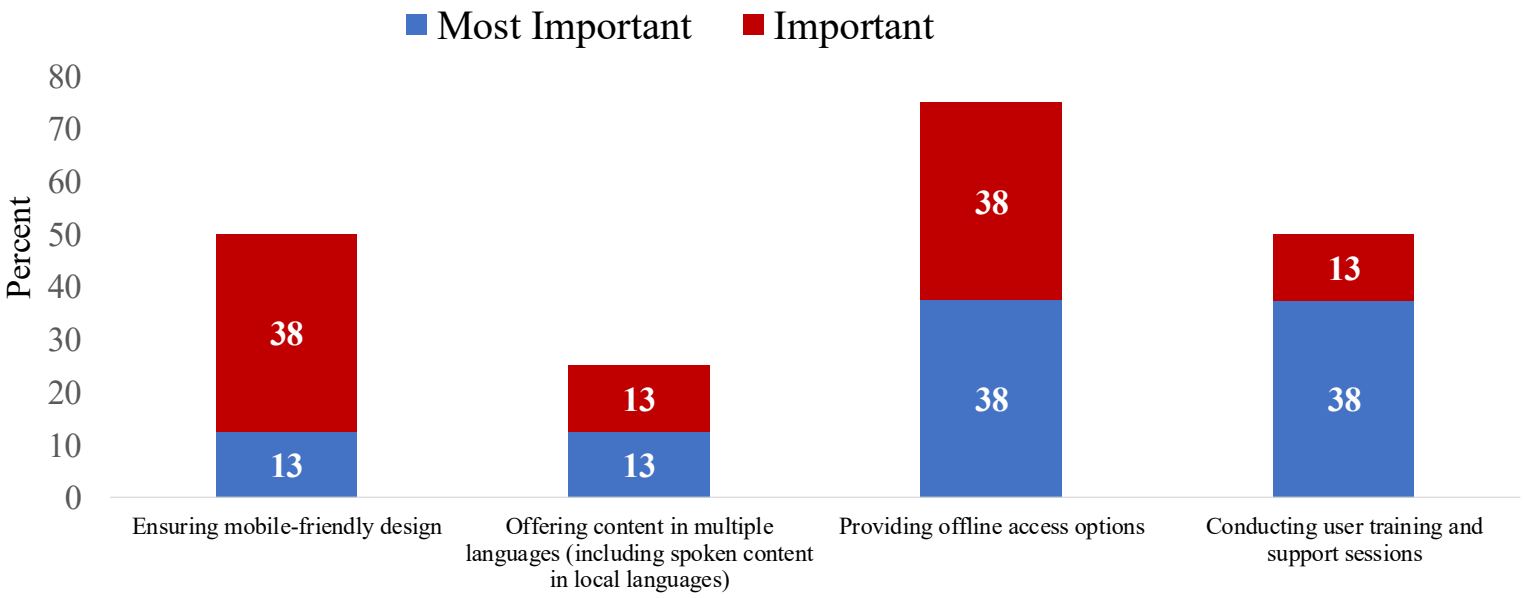
Kosrae Information Content Providers :What financial planning resources would be most useful for producers ?




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

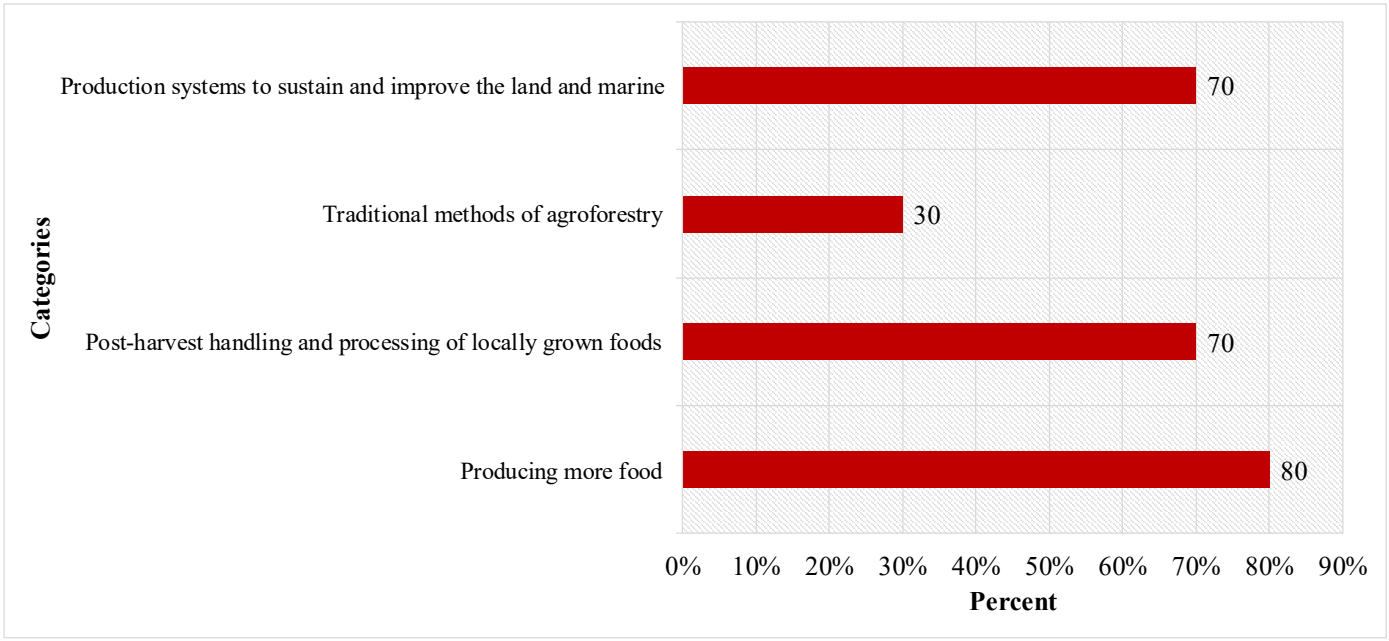


# Kosrae Information Content Providers : What measures should be taken to ensure the information hub is accessible and useful to all potential users ?

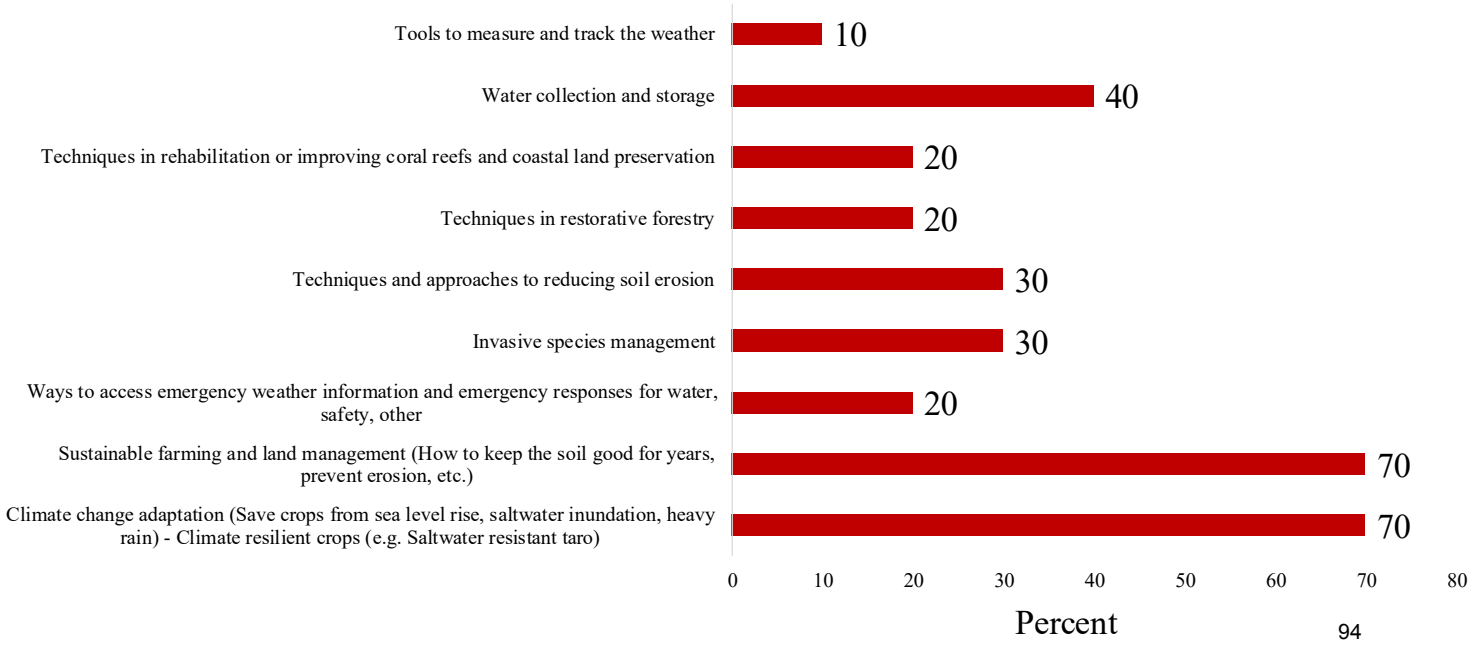


# Federated States of Micronesia
# Food Systems Solutions Project
# FSS Survey Data Tables and Charts
# Kosrae State
# Trainers

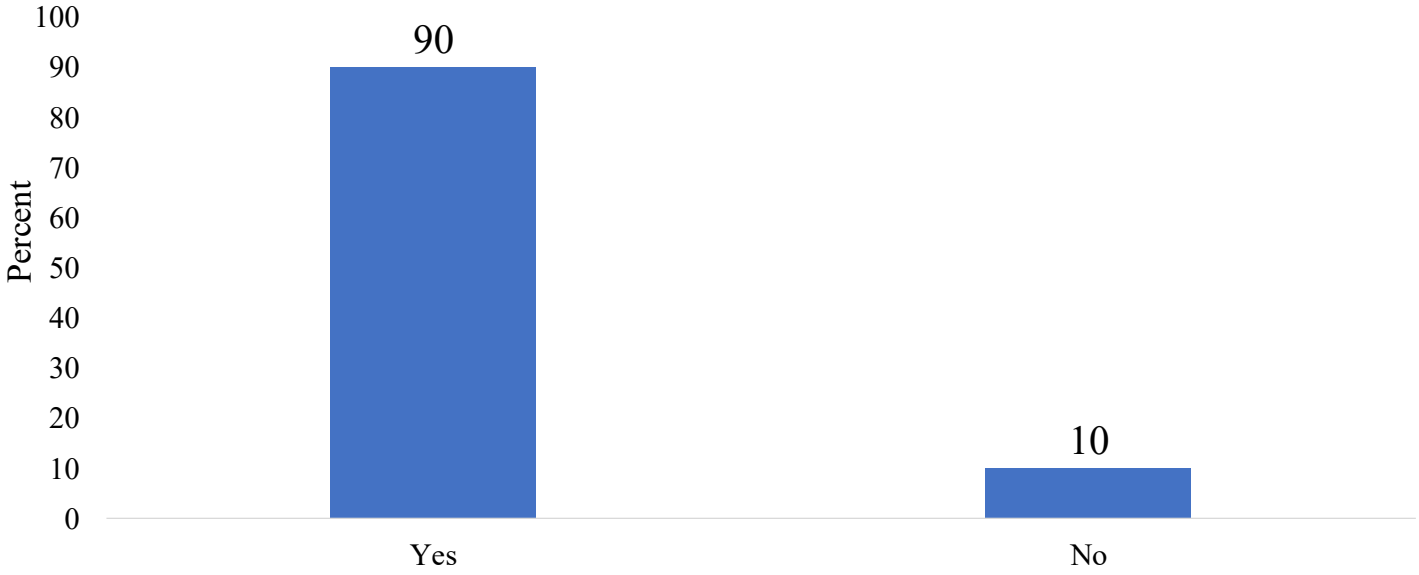
## Kosrae Trainers : Are you prepared and have the needed training to assist families and others on ?



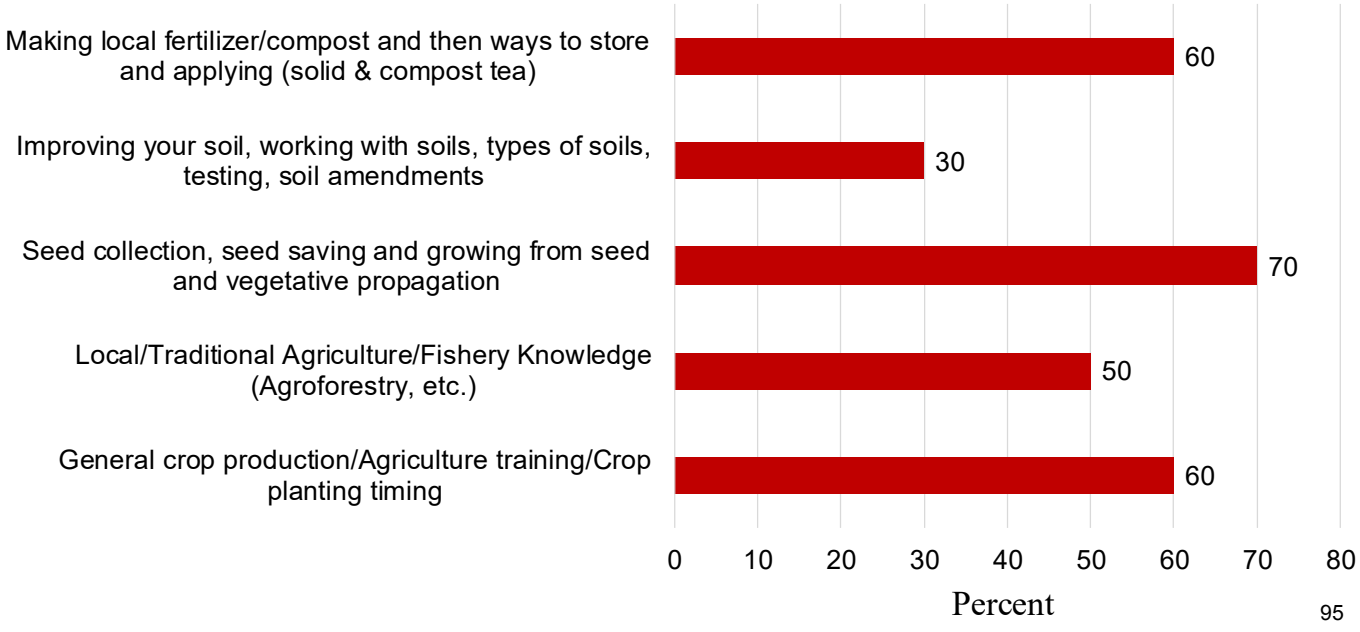

## Kosrae Trainers : Are you trained to teach and mentor others on CLIMATE CHANGE ?



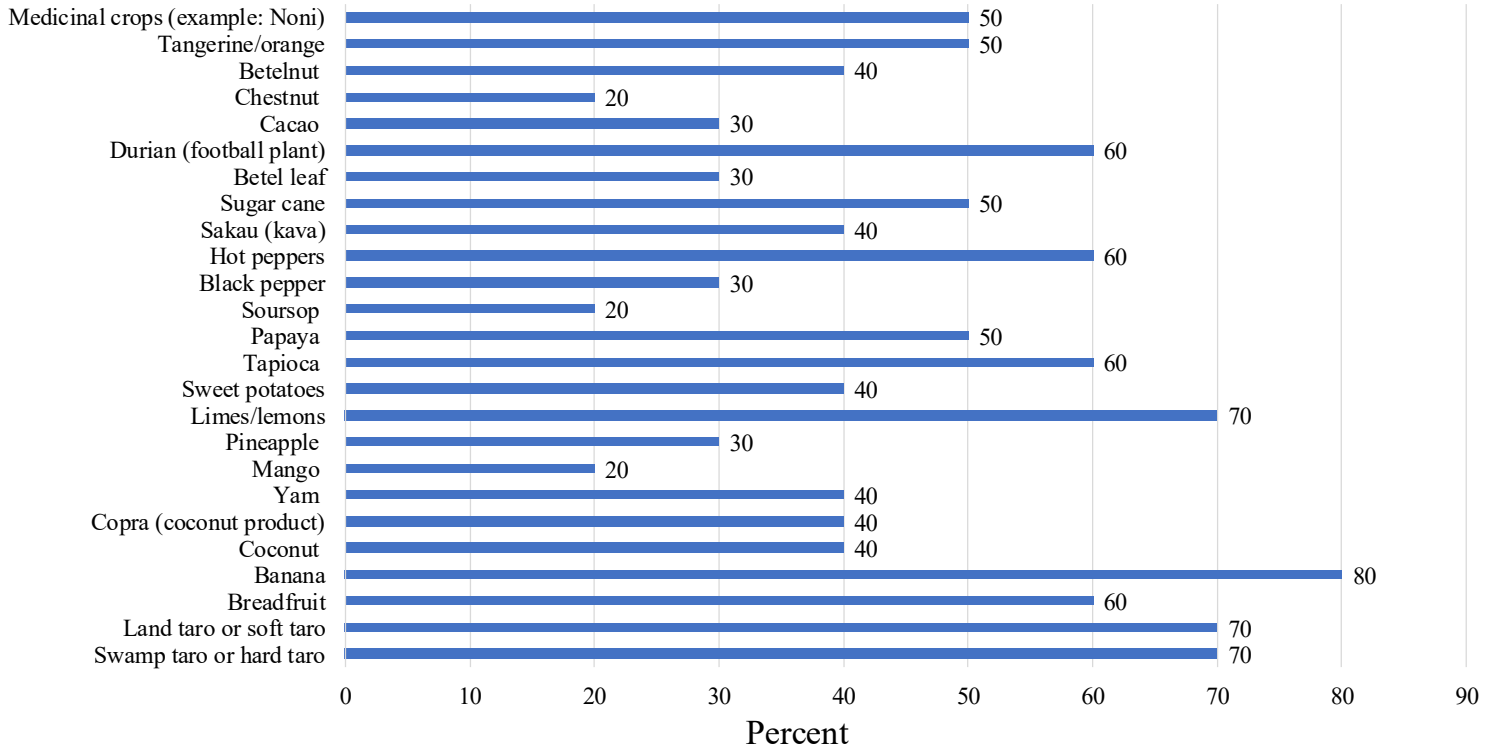
Kosrae Trainers : Would you be interested in taking workshops and trainings to get up to speed or better trained ?



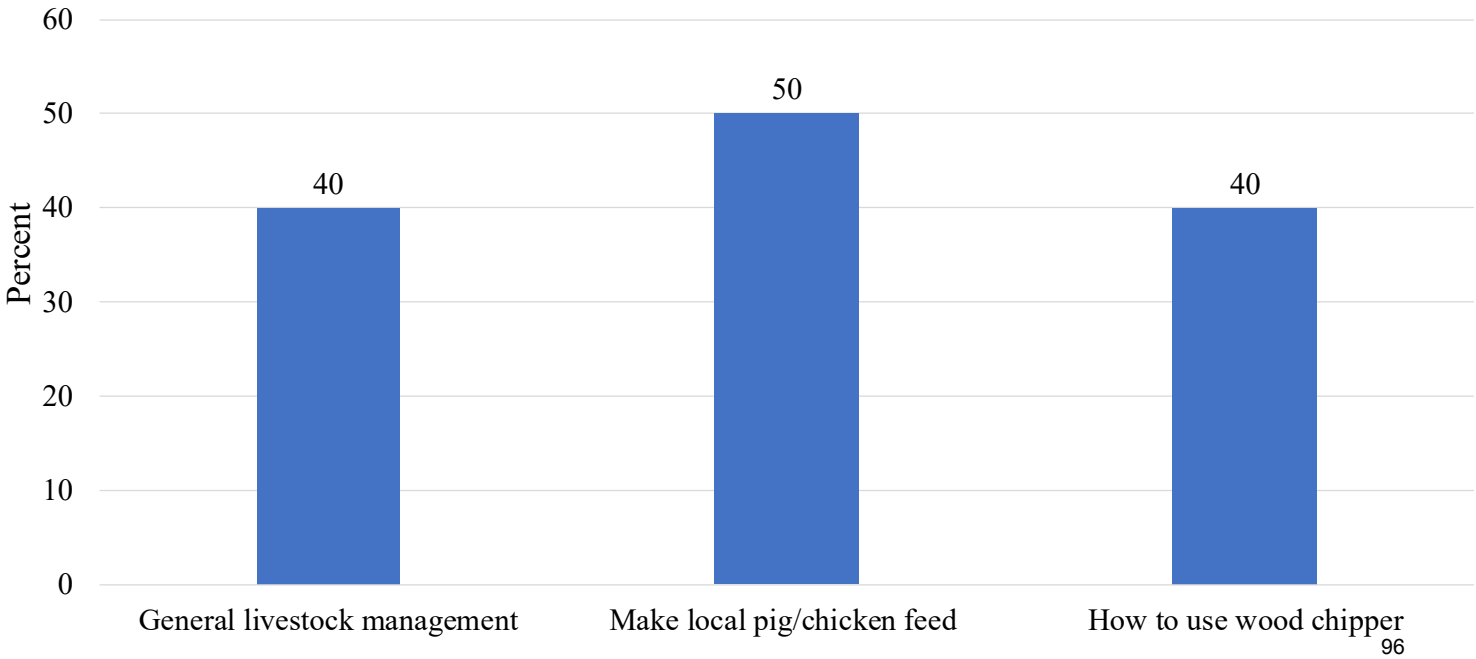

Kosrae Trainers : Are you trained to teach and mentor others in basic AGRICULTURE for home consumption and/or commercial farming and fisheries?



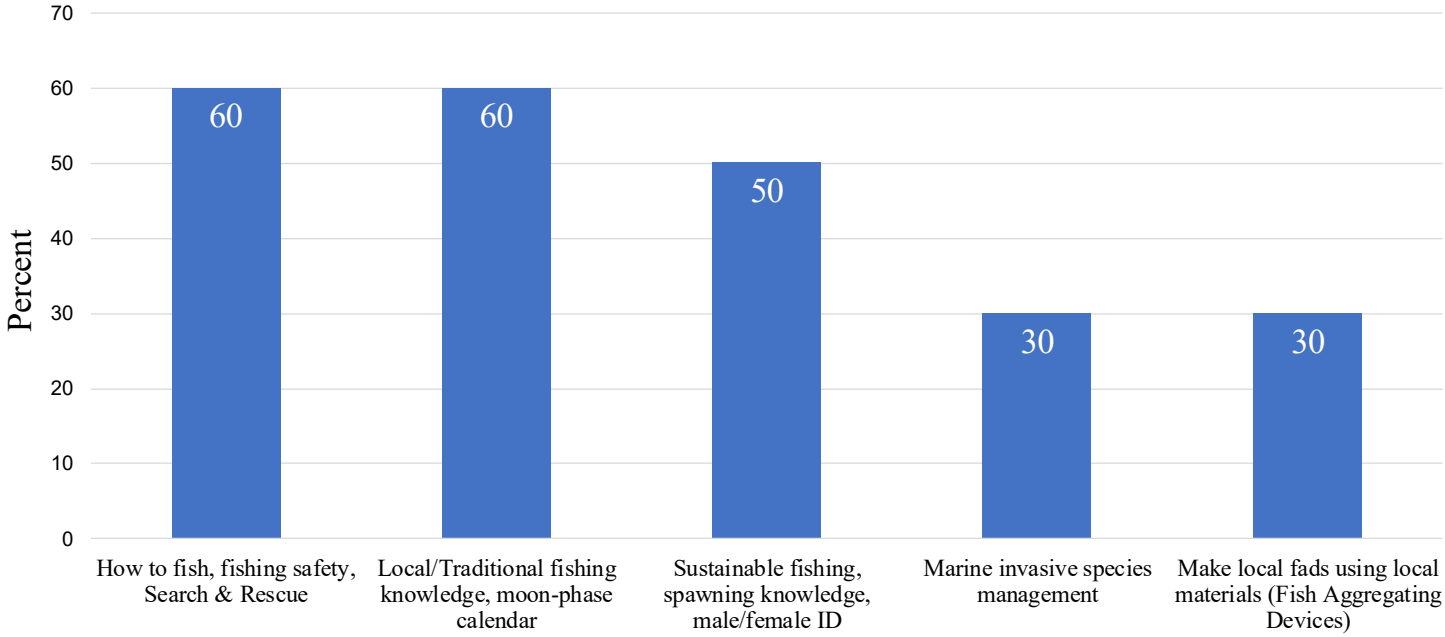
Kosrae Trainers : Do you have sufficient expertise and hands-on experience with each of the following crops do you want/need more training and information on growing, harvesting, processing of these specific crops (check or circle each that is of interest) ?



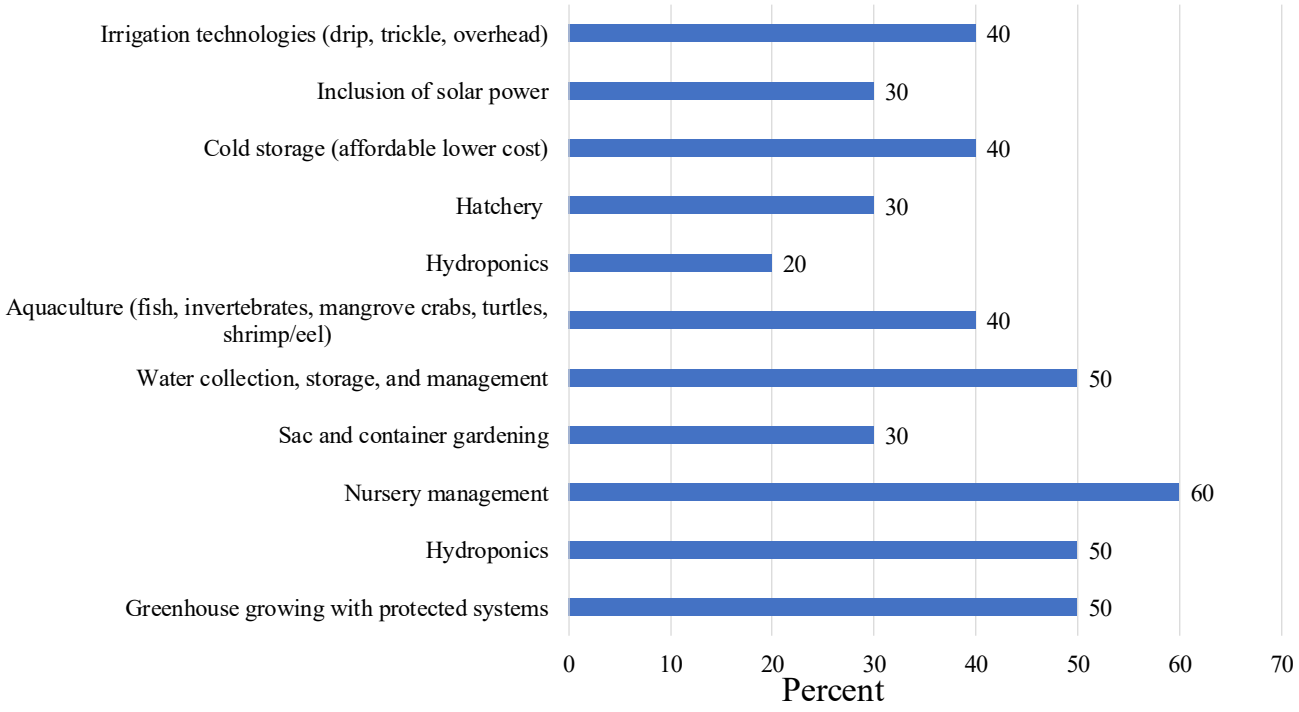

Kosrae Trainers : Do you have sufficient expertise and hands-on experience with each of the following Livestocks?



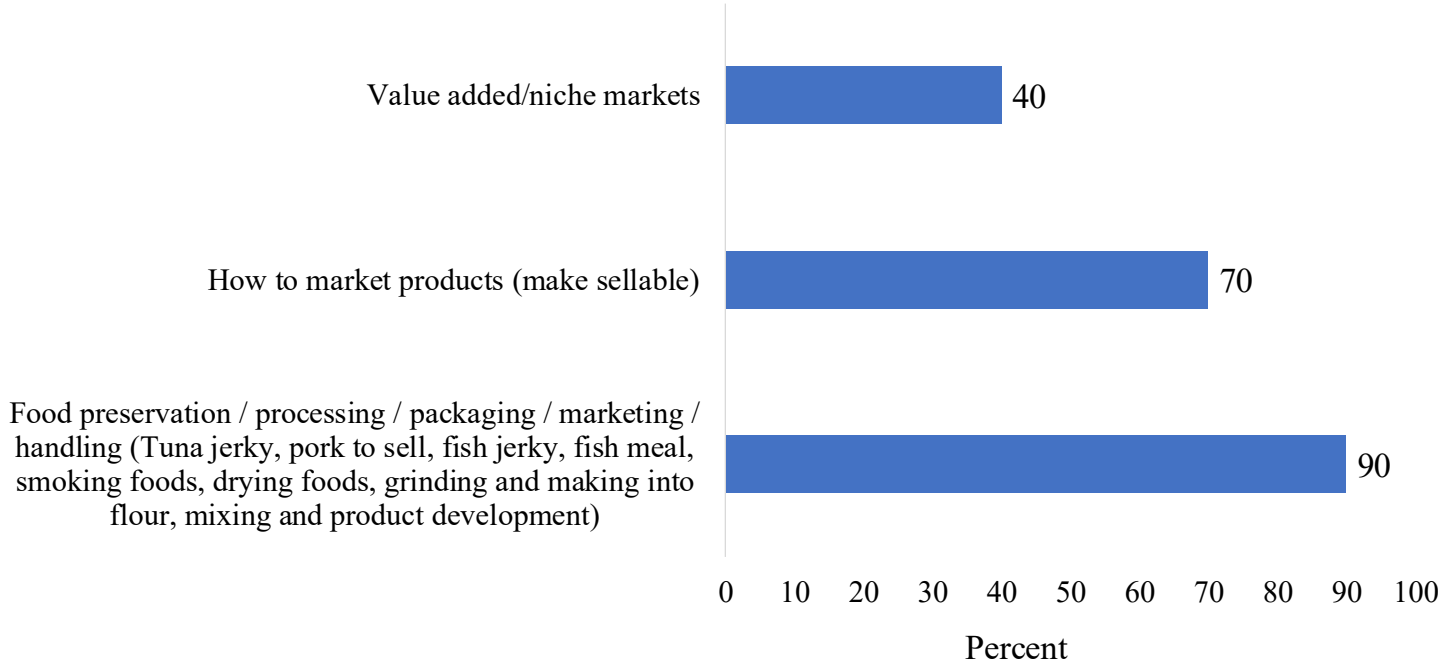
## Kosrae Trainers : Do you have sufficient expertise and hands-on experience with each of the following : MARINE / AQUACULTURE ?



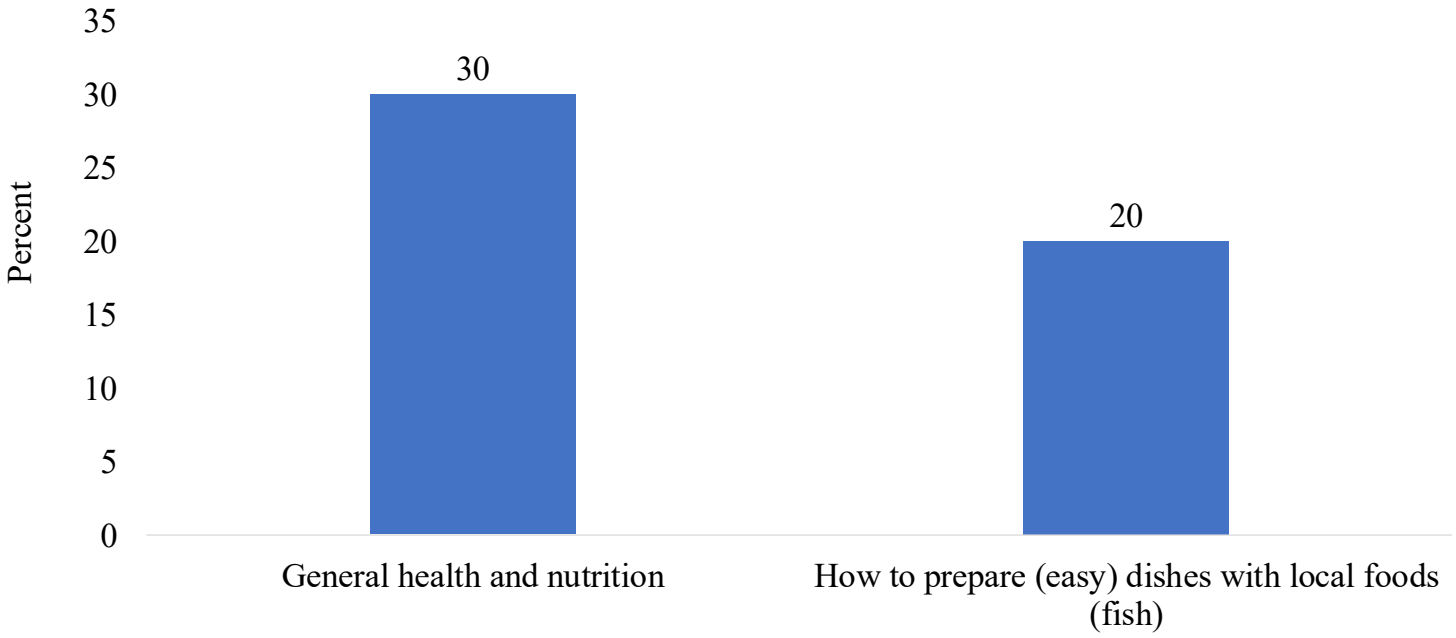

## Kosrae Trainers : Do you have sufficient expertise and hands-on experience with each of the following : TECHNOLOGIES?



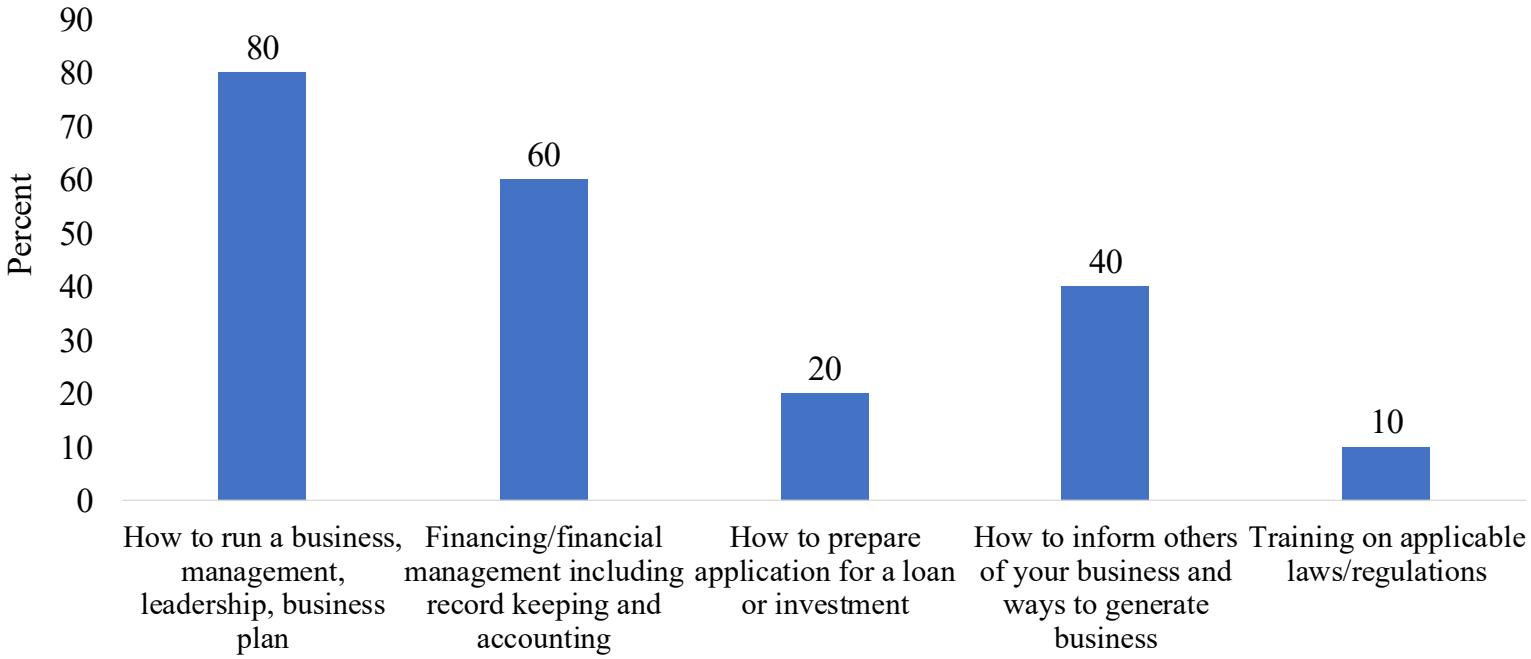
Kosrae Trainers :  Are you trained to teach and mentor others on marketing ?



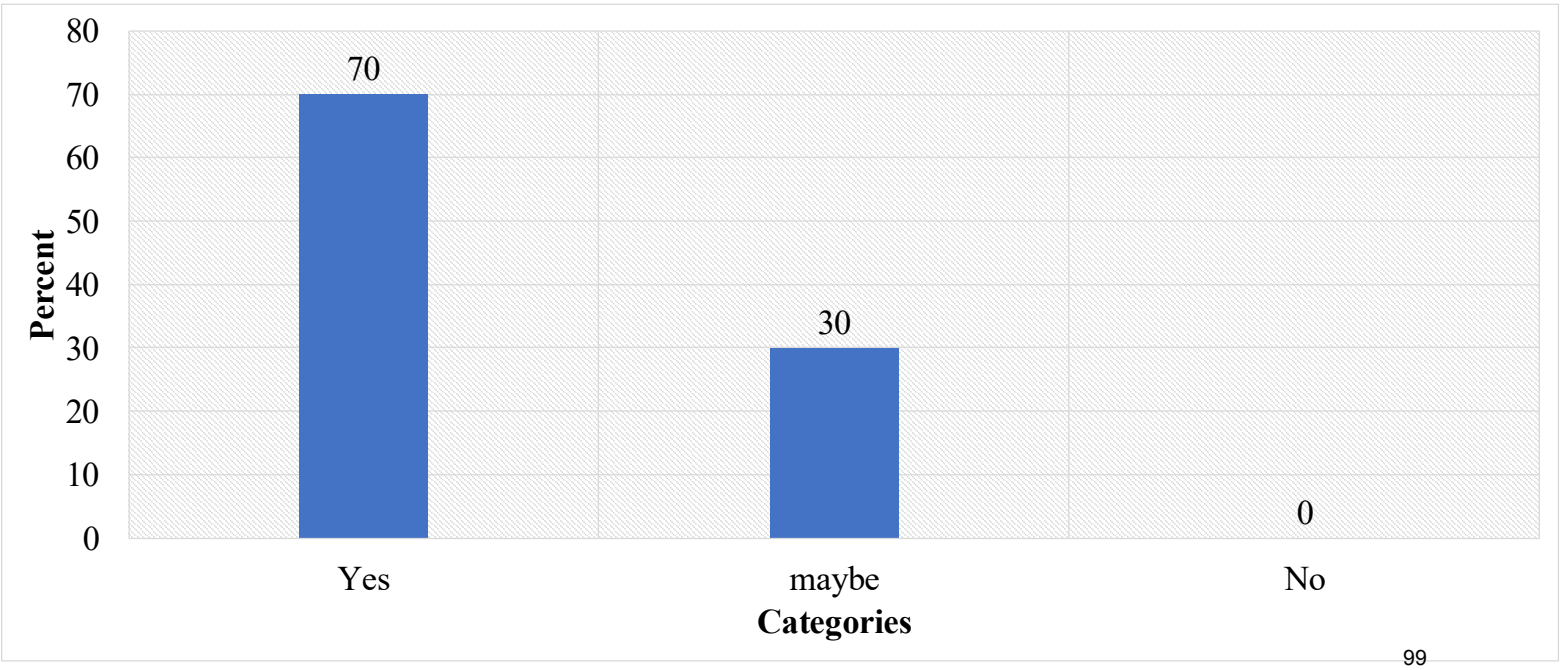

Kosrae Trainers : Are you trained to teach and mentor others on HEALTH AND NUTRITION relative to people and/or animals/poultry ?



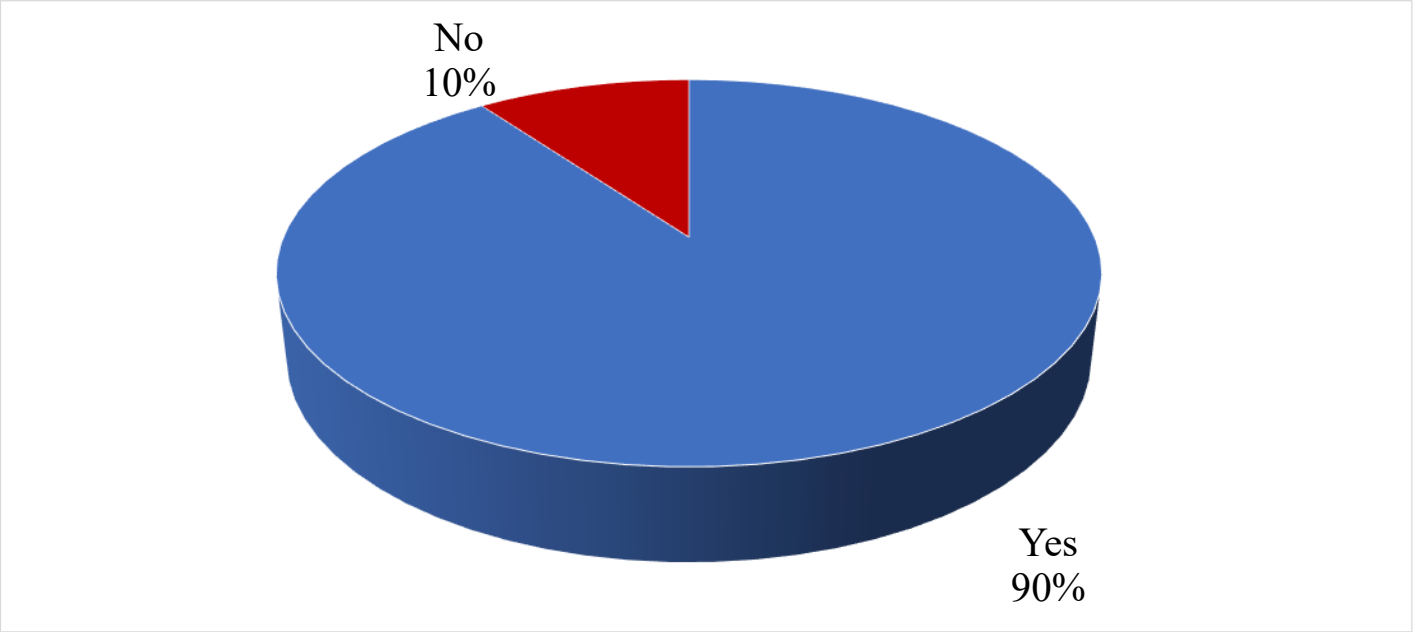
Kosrae Trainers : Are you trained to teach and mentor others on BUSINESS MANAGEMENT ?



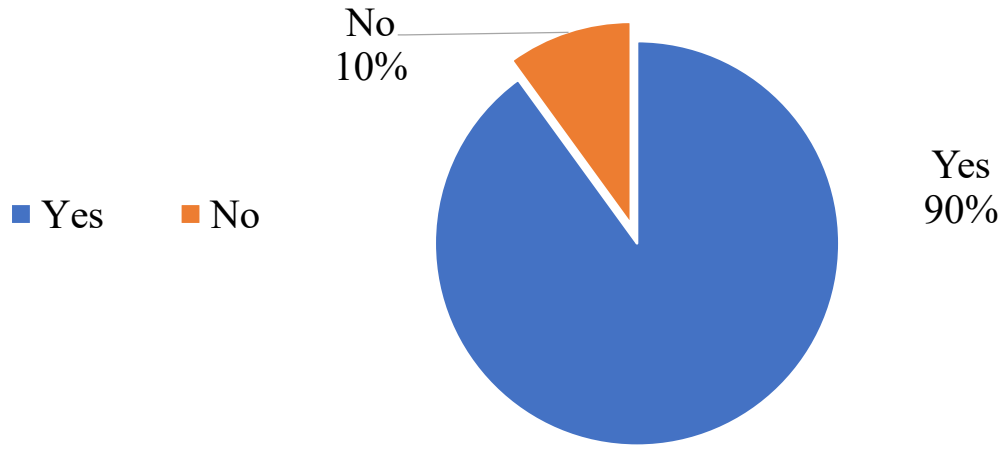

Kosrae Trainers : Would you be interested in further graduate studies, if you can still keep your job ?



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




Kosrae 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
# Kosrae State

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# Federated States of Micronesia
# Food Systems Solutions Project
# Kosrae Producer Survey Results

## 1. Food System Information

This section explores key aspects of food system information among food producers in Kosrae, including their access to and utilization of data on crop planning, weather conditions, pest and disease monitoring, market prices, and emergency notifications. The insights gathered reflect both the existing practices and the additional needs of producers in accessing and applying essential information for effective decision-making and operational planning.

### Demographics

A total of 66 producers contributed to the survey results for Kosrae, representing a diverse group involved in agroforestry, farming, fishing, aquaculture, and raising livestock or poultry for eggs or meat. Among the respondents, 61 percent were male, and 39 percent were female. This gender distribution demonstrates the active participation of both men and women in Kosrae's food production sector, with a slightly higher representation of male producers.

In terms of age, 32 percent of respondents were between 31 and 45 years, representing the largest age group. Producers aged 56 to 60 accounted for 30 percent of the total, highlighting the significant presence of experienced individuals in the sector. Producers aged 18 to 30 made up 21 percent, reflecting the involvement of younger individuals likely entering the field with modern perspectives and new skills. Finally, 17 percent of respondents were over 60 years old, representing seasoned producers with extensive practical knowledge. These demographic details provide a clear picture of the diversity within Kosrae's producer population, which is critical for designing tailored support systems.

### 1.1 Crop Planning and Production Data

Access to crop planning and production data is a valuable resource for producers, as it supports them in planning, forecasting yields, and managing resources efficiently. The survey reveals that only 30 percent of producers in Kosrae currently have access to crop planning and production data, while 70 percent do not have access to such resources. This significant gap highlights a pressing need for more accessible tools and platforms that can provide critical insights into planting schedules, input availability, and expected yield outcomes.

Among the producers who have access to crop planning data, the frequency of usage is distributed across several intervals. Twenty-four percent of respondents access crop planning information daily, reflecting their reliance on real-time updates for immediate decision-making. The majority, 38 percent, access this information weekly, suggesting that periodic updates align well with operational needs for many producers. Another 24 percent use this data on a monthly

basis, while 10 percent access it seasonally, indicating that long-term planning is a priority for some.

Producers' preferences for crop planning data access reveal a strong demand for more frequent updates. Twenty-three percent of respondents expressed a need for daily updates, while 19 percent preferred weekly access, and 47 percent found monthly updates sufficient. These findings underscore the importance of closing the gap between current access levels and producers' needs, as frequent, timely updates can enhance planning accuracy, mitigate risks, and improve resource allocation.

### 1.2 Weather Information

Weather information is essential for producers to plan for and mitigate risks associated with adverse weather conditions. The survey results indicate that 39 percent of producers in Kosrae currently have access to weather information, while a significant 61 percent do not. Limited access to weather data poses a considerable risk, as producers without timely updates may be unable to respond effectively to sudden weather changes, potentially resulting in crop or livestock losses.

Among producers with access to weather information, the majority, 65 percent, rely on weekly updates. This frequency aligns with the planning cycles of most producers, providing actionable insights for short-term adjustments. Smaller groups of producers access weather data daily, monthly, or seasonally, with 8 percent using it daily and 15 percent accessing it monthly. These patterns reflect the varying needs of producers based on their crops, production schedules, and risk exposure.

Producers expressed a clear preference for more frequent updates. Thirty-nine percent indicated that daily weather updates would be ideal, providing them with real-time data to respond promptly to changing conditions. Another 25 percent preferred weekly updates, while 23 percent found monthly updates sufficient. The demand for daily weather data highlights the critical role of real-time services in enabling producers to adapt quickly to weather-related risks, ensuring better protection of their crops and livestock.

### 1.3 Pest and Disease Monitoring

Pest and disease monitoring is a critical component of agricultural productivity, as access to timely information can significantly impact producers' ability to detect and respond to threats. The survey reveals that only 21 percent of producers in Kosrae have access to pest and disease information, leaving 79 percent without this vital resource. This limited access increases the vulnerability of producers to outbreaks, which can cause extensive damage to crops and livestock.

Among those who have access, usage patterns show a varied reliance on pest and disease information. Twenty-nine percent access this data daily, indicating a proactive approach to monitoring and managing threats. Another 29 percent use this information weekly, while 21 percent rely on monthly updates. Seasonal access is less common, with only 14 percent of respondents using pest and disease information at this frequency. These findings suggest that

while periodic updates are sufficient for some, others require more immediate access to protect their production effectively.

Producers' preferences for access frequency reveal a demand for regular updates. Twenty-five percent of respondents preferred daily access to pest and disease information, while 23 percent opted for weekly updates, and 38 percent indicated that monthly updates were adequate. These preferences underscore the need for consistent, accessible monitoring tools that enable producers to detect and address outbreaks promptly, reducing losses and ensuring healthier production systems.

### 1.4 Market Prices

Access to market price information is crucial for producers to make informed decisions about when and where to sell their products, thereby maximizing profitability. However, the survey findings indicate that only 21 percent of producers in Kosrae currently have access to market price information, leaving 79 percent without this critical resource. Limited access to market data can hinder producers' ability to adapt to market fluctuations, potentially resulting in missed opportunities and lower earnings.

For producers who do have access to market price information, the usage patterns vary. Thirty-six percent of respondents access this information daily, suggesting that real-time updates are essential for those operating in dynamic markets. Another 29 percent access market prices weekly, reflecting the periodic nature of their sales planning. Fourteen percent use this information monthly, while others rely on seasonal updates. These patterns indicate that while frequent updates are necessary for some, others require less regular information based on their market engagement and production cycles.

Producers expressed a strong demand for more frequent market price updates. Twenty-eight percent of respondents indicated a preference for daily updates, while 16 percent preferred weekly access, and 38 percent found monthly updates sufficient. These findings highlight the importance of providing timely and accessible market price data to help producers optimize their sales strategies, respond to price fluctuations, and increase their profitability.

### 1.5 Online Market Forecasting for Food Product Outputs

Producers in Kosrae benefit significantly from market forecasting tools that help them anticipate demand for food products and plan their production accordingly. However, the survey reveals that only 23 percent of producers currently have access to online market forecasting tools, leaving 77 percent without this resource. Limited access to forecasting data can restrict producers' ability to align their output with market needs, particularly during peak demand periods.

Among those who have access, weekly updates are the most common, with 47 percent of respondents accessing forecasting data at this frequency. Monthly updates are used by 27 percent of producers, while smaller proportions access the data daily or seasonally. These patterns reflect the varying needs of producers, with many finding weekly updates sufficient for aligning their production with market trends.

Producers expressed a strong preference for more frequent forecasting updates. Twenty-three percent of respondents preferred daily access, while 19 percent opted for weekly updates, and 38 percent found monthly updates adequate. These preferences highlight the value of accessible, forward-looking insights that enable producers to plan efficiently, respond to market opportunities, and optimize their production strategies.

### 1.6 Online Information on Food Production Inputs

Producers in Kosrae rely on online information about food production inputs, such as seeds, feed, and live plants, to manage their operations effectively. However, the survey reveals that only 32 percent of producers currently have access to this data, while 68 percent lack this resource. Limited access to input information can result in inefficiencies and missed opportunities, particularly during critical planting or production periods.

For those who have access, usage patterns vary. Thirty-three percent of producers access input information weekly, while 24 percent use it monthly, and 24 percent rely on seasonal updates. A smaller proportion accesses this data daily. These patterns reflect the periodic nature of input needs, with many producers requiring information aligned with specific production cycles.

Producers expressed a strong demand for more frequent updates. Twenty-seven percent preferred daily updates, while 19 percent opted for weekly updates, and 33 percent found monthly updates sufficient. These findings highlight the importance of improving access to timely input information to support efficient resource management and enhance production outcomes.

### 1.7 Online Policy Updates

Access to policy updates, including changes to state and national regulations, is essential for ensuring that producers remain compliant and can leverage new opportunities within the food production sector. The survey indicates that only 36 percent of producers in Kosrae currently have access to online policy updates, leaving the majority, 64 percent, without this vital resource. Limited access to timely policy information may hinder producers' ability to adapt to regulatory changes, affecting their compliance and potentially their eligibility for specific market opportunities.

Among those who do have access to policy updates, daily, weekly, and monthly updates are the most common, with 28 percent of respondents using each of these frequencies. This level of access may align well with the nature of regulatory changes, which sometimes do not require daily updates. However, smaller groups of producers access policy information yearly or seasonally, reflecting a focus on long-term compliance rather than immediate operational adjustments.

When asked about their preferred frequency for receiving policy updates, producers showed diverse needs. Twenty-six percent preferred monthly updates, aligning with typical regulatory cycles. Some producers valued even less frequent access, with a smaller group indicating a preference for yearly updates, while others saw value in seasonal notifications. These preferences reveal that, while immediate updates may not be necessary for most policy matters, consistent access to policy information is essential for long-term planning and compliance. Enhancing

accessibility to policy updates would allow producers to stay informed of regulatory developments, helping them navigate changes more effectively.

### 1.8 Emergency Notifications

Emergency notifications play a crucial role in keeping producers informed of disease outbreaks, safety issues, environmental hazards, and other adverse events. Such information is vital to ensure the preparedness and safety of producers, as well as to protect their crops and livestock from potential threats. The survey data shows that only 32 percent of Kosrae's producers currently receive emergency notifications, while the majority, 68 percent, lack access to this critical information. This lack of access to real-time alerts may leave many producers vulnerable to sudden risks and challenges.

For producers who do have access to emergency notifications, usage frequency varies, though daily updates are the most common, used by 33 percent of respondents. This reliance on daily updates may be for urgent or immediate threats, other respondents accessed the information less frequently for less urgent events. Smaller groups of producers receive emergency information weekly or monthly, with 29 percent using weekly updates and 10 percent relying on monthly notifications.

When asked about their preferred frequency for receiving emergency notifications, producers indicated a strong demand for real-time or near-real-time updates. Thirty-seven percent expressed a preference for daily notifications, while 17 percent preferred weekly alerts. Monthly updates were sufficient for 32 percent of respondents, but the demand for immediate access underscores the importance of timely information. Reliable, real-time emergency alerts would allow producers to respond quickly to risks, safeguarding their resources and ensuring the stability of their operations in the face of unexpected challenges.

### 1.9 Online Risk Management Training

Producers in Kosrae have shown a strong interest in risk management training, which covers topics such as business strategies, financial planning, and risk mitigation techniques. Such training is vital in building the resilience and skill set of producers, helping them to manage uncertainties in the food production sector effectively. According to the survey, only 30 percent of producers currently have access to risk management training resources, leaving 70 percent without this essential support. This gap suggests an opportunity to enhance producers' capacity by providing training that equips them with practical tools for managing operational risks.

Among those with access to risk management training, the usage frequency is varied. Twenty-five percent of producers use these resources daily, reflecting the immediate applicability of training content in their daily activities. Another 30 percent rely on training resources on a weekly basis, while an equal proportion use them monthly. These patterns suggest that regular access to training resources is beneficial for most producers, allowing them to integrate new skills into their routines over time.

Producers expressed diverse preferences regarding the ideal frequency for risk management training access. Thirty-two percent of respondents preferred daily access to training resources,

recognizing the benefits of continuous learning in managing daily challenges. Sixteen percent favored weekly updates, while 30 percent found monthly access sufficient. These insights highlight a demand for comprehensive, accessible training programs that provide regular opportunities for skill development, enabling producers to strengthen their operational resilience and improve efficiency.

### 1.10 Notifications for Training Opportunities

Producers in Kosrae have indicated a strong interest in receiving notifications about available training opportunities, such as cooking classes, seedling training, and other skill-building sessions that can enhance their knowledge and capabilities. The survey data shows that only 35 percent of producers currently receive notifications for training opportunities, while 65 percent do not. This gap in access to information on available training may prevent some producers from taking advantage of resources that could improve their skill set and productivity.

For producers who do have access to training notifications, the majority receive them on a monthly basis, with 32 percent relying on this frequency. Smaller groups receive notifications daily or weekly, with 23 percent receiving daily alerts and 18 percent accessing weekly updates. This distribution suggests that while monthly updates are common, some producers would benefit from more frequent notifications to align with their schedules and immediate learning needs.

When asked about their preferred frequency for receiving notifications on training opportunities, producers expressed a clear demand for regular updates. Twenty-three percent of respondents preferred daily alerts, while 13 percent favored weekly notifications, and 44 percent found monthly updates sufficient. These findings reflect the importance that producers place on consistent updates, which allow them to plan their participation in training sessions that align with their schedules and specific development needs. Improving access to regular training notifications could enable producers to make the most of skill-building opportunities, contributing to long-term growth and productivity in Kosrae’s food production sector.

### 1.11 Cell Phone and Internet Access

The survey also gathered data on producers’ access to cell phones and the internet, both of which are essential for connecting producers with critical information, services, and support systems. A majority, 67 percent, of producers in Kosrae reported owning a cell phone, while 33 percent do not. Among those without cell phones, producers cited reasons such as affordability issues or lack of perceived necessity. The high cell phone ownership rate reflects producers' ability to access certain mobile-based services and data, though the lack of access for some highlights the need for alternative outreach methods.

Internet access is similarly high among Kosrae’s producers, with 83 percent reporting that they have internet connectivity. For producers with internet access, 31 percent spend between 20 and 40 dollars monthly on Wi-Fi, while 26 percent spend over 50 dollars per month. This investment in internet connectivity demonstrates producers’ recognition of the internet’s importance for accessing information and staying connected with markets, training, and support networks.

However, 17 percent of producers lack internet access, with some citing financial constraints or connectivity issues as barriers.

These findings emphasize the need for increased connectivity and affordable access to digital resources in Kosrae. Improved connectivity could enhance producers' ability to access essential data on crop planning, market prices, and training resources. Additionally, community centers with Wi-Fi or computer access could provide producers who lack personal internet access with opportunities to connect, learn, and enhance their productivity through digital tools and information.

## 2. Food Innovation Center

The Food Innovation Center in Kosrae is integral to supporting local producers in developing and processing a variety of food products. This section provides a detailed analysis of producers' interests in locally processed foods, their preferences regarding production methods, pricing expectations, packaging needs, and other critical factors. The insights gained offer valuable guidance for structuring support services at the Center to align with the specific needs and goals of Kosrae's agricultural community.

### 2.1 Interest in Locally Processed Foods

The survey highlights a strong interest among producers in Kosrae to develop a range of locally processed foods, showcasing the diversity of products that hold value in the local market. The largest interest is in banana chips, with 77 percent of producers indicating a desire to produce them. This high percentage reflects the popularity of banana-based products in Kosrae, where bananas are widely available and form a significant part of the local diet. Breadfruit chips are another popular option, with 67 percent of producers expressing interest in this product. Breadfruit is a staple in Kosrae, and turning it into chips aligns well with both local tastes and the demand for convenient, shelf-stable snack foods.

The survey further reveals interest in processing breadfruit into flour, with 42 percent of respondents indicating plans to produce breadfruit flour. This product could meet the demand for gluten-free and alternative flours, adding diversity to Kosrae's local food offerings. Coconut-based products also show high levels of interest, particularly coconut cooking oil, with 45 percent of producers planning to produce it. Additionally, 41 percent of respondents expressed interest in producing coconut milk, while 26 percent are interested in creating coconut flour. The widespread interest in coconut products highlights the importance of coconuts in Kosrae's traditional diet and reflects a desire among producers to develop value-added products from this versatile crop.

Interest in fish and seafood processing is equally notable, with a significant portion of producers aiming to produce preserved fish products. Specifically, 47 percent are interested in producing dried fish, 45 percent are interested in salted fish, and 42 percent in smoked fish. These figures underscore the prominence of seafood in Kosrae's food culture, and preserved fish products could potentially be marketed to consumers both locally and in neighboring regions. Moreover, 52 percent of producers have shown interest in creating animal feed specifically for chickens and

pigs, suggesting a demand for locally produced feed options that could help reduce reliance on imported feed. Additionally, 58 percent of respondents are interested in developing hot sauce, reflecting the appeal of creating specialty products that could cater to both local tastes and potential niche markets.

These varied interests demonstrate Kosrae producers' ambitions to explore diverse food products, from traditional staples like breadfruit and coconut products to innovative options such as hot sauces and specialized animal feed.

### 2.2 Preferred Processing Methods

When considering processing methods, Kosrae's producers display a strong preference for small-scale, traditional approaches. A significant 71 percent of respondents indicated a preference for using manual processing with traditional tools. This preference likely stems from the accessibility and familiarity of traditional methods, as well as the alignment with cultural practices in Kosrae. Small-scale processing allows producers to work independently or within smaller groups, enabling them to retain control over production quality and manage costs effectively.

Despite this strong inclination toward traditional methods, a substantial 42 percent of producers expressed a desire to use their own processing equipment on personal land. This desire indicates a growing interest in self-sufficiency, as producers seek greater control over their production processes and the flexibility to process products at their convenience. This approach to processing can help producers optimize their operations by tailoring them to their individual needs and schedules.

Additionally, 48 percent of respondents are open to cooperative processing models, where they could contribute fresh products to a shared processing facility. This collaborative model could provide a cost-effective alternative for producers who may not have the resources to invest in individual equipment. It would enable them to access high-quality processing tools and facilities that might otherwise be financially out of reach. Meanwhile, 23 percent of producers are willing to use centralized or local processing facilities, reflecting an openness to community-based solutions where resources can be shared and costs minimized. Lastly, 29 percent of producers expressed a preference for selling fresh produce to larger industrial-scale processors who could handle the processing, packaging, and distribution. This option would allow producers to focus on cultivation and primary production, while relying on established processors to bring their products to market.

These diverse preferences highlight a mix of traditional and modern aspirations among Kosrae's producers, as they balance the desire for autonomy with the practical benefits of shared resources and centralized processing.

### 2.3 Consumer Price Expectations

Pricing expectations for locally processed foods indicate that Kosrae producers are keen to offer products that are both accessible to local consumers and financially viable. According to the survey, 50 percent of respondents believe that the most appropriate price range for locally

processed foods falls between $1 and $5 per unit. This price range suggests an emphasis on affordability, ensuring that these products remain accessible to the majority of local consumers, especially for essential items and staple foods.

A notable 38 percent of producers expect that consumers would be willing to pay between $6 and $10 per unit. This price range likely applies to premium products, such as specialty foods, coconut-based products, or preserved seafood, which may require more intensive processing or higher input costs. By setting prices within this range, producers could cover production expenses while still reaching consumers who are willing to pay a slightly higher price for higher-value items.

Only a small group of producers, 5 percent, believe that certain products could be priced above $20 per unit. This higher price point would likely reflect luxury items or unique, labor-intensive products that hold added value due to processing complexity or the rarity of ingredients. These pricing expectations underscore the need for targeted market research to determine the most appropriate price points, helping producers balance affordability with profitability.

### 2.4 Packaging Preferences

The choice of packaging is a crucial consideration for Kosrae producers, not only to preserve product quality but also to meet consumer expectations for sustainability. According to the survey, 61 percent of producers prefer vacuum-sealed pouches, which are practical for extending shelf life and maintaining the freshness of processed foods, particularly dried or smoked items. Vacuum-sealed packaging can also prevent spoilage and reduce food waste, making it a suitable option for products with a longer storage requirement.

Plastic containers, including bottles, are also a popular choice, with 59 percent of producers favoring them. Plastic containers offer durability and are widely adaptable, suiting various types of processed foods, especially those that require secure and tamper-resistant packaging. Glass jars also receive significant support, with 50 percent of producers indicating a preference for this type of packaging. Glass is often seen as an eco-friendly and premium option, particularly suited for products such as jams, sauces, and pickled goods, where both visibility and product preservation are important.

Plastic bags are preferred by 47 percent of producers, indicating that they remain a practical and economical choice for certain products. These bags are likely intended for items with shorter shelf lives or for quick consumption. Additionally, 44 percent of producers favor biodegradable packaging options, such as banana leaves, reflecting an increasing awareness of environmental sustainability. This interest in biodegradable materials aligns with global trends towards reducing plastic usage and meeting consumer demand for eco-friendly options.

The varied packaging preferences among Kosrae producers highlight their desire to balance sustainability with practicality, as they seek to present their products in ways that meet both market and environmental standards.

### 2.5 Use of Local Ingredients

The survey results reveal a strong commitment among Kosrae producers to sourcing local ingredients, with 82 percent expressing a preference for using locally sourced inputs in their processed foods. This preference emphasizes the producers' desire to support the local economy and reduce dependence on imported goods. Local ingredients also help ensure that products resonate with consumers by aligning with traditional flavors and familiar tastes, creating a connection between processed foods and Kosrae's cultural heritage.

A smaller portion of respondents, 17 percent, are undecided about their preference for local ingredients. This hesitation may stem from concerns over the consistent availability and quality of local ingredients, as well as potential challenges in scaling production with limited resources. These responses underscore the importance of improving local supply chains and ensuring a reliable supply of high-quality ingredients to support producers' goals of local sourcing.

By prioritizing local ingredients, Kosrae's producers can create a sustainable and resilient food processing sector, benefiting from reduced transportation costs and a minimized environmental footprint associated with importing supplies.

### 2.6 Perceived Market Potential

The survey data shows that producers in Kosrae are largely optimistic about the market potential for locally processed foods. Approximately 55 percent of producers believe there is high demand and substantial growth potential for these products, both within the local market and possibly beyond. This confidence suggests that many producers see an opportunity to develop processed foods that appeal to consumers, especially those that emphasize cultural and traditional ingredients.

An additional 37 percent of respondents perceive moderate demand and steady growth, reflecting a realistic view of the market potential. These producers may recognize the niche appeal of certain products that cater to specific consumer preferences, as opposed to a widespread demand. This moderate outlook may also reflect an understanding of market limitations and the need for gradual growth.

A smaller percentage, 8 percent, see limited demand and growth potential for locally processed foods. This more cautious view could stem from perceived barriers such as competition from imported goods, price sensitivity among local consumers, or logistical challenges in distribution. These diverse perceptions highlight the varying levels of confidence among producers, suggesting a need for market research to assess demand accurately and guide producers toward viable market opportunities.

### 2.7 Infrastructure and Equipment Needs

The survey reveals that Kosrae producers face significant infrastructure and equipment needs that are crucial for efficient food processing. Producers commonly identify dehydrators, mixers, and ovens as essential tools, which are necessary for creating a variety of processed foods, from dried fruits to baked goods. Cold storage facilities are also highlighted as critical, particularly for seafood and other perishable items, to ensure that products maintain quality and safety until they reach the consumer.

Other mentioned needs include vacuum sealers and labeling machines, both of which are essential for streamlined packaging operations. Producers also note the importance of shared community spaces equipped with processing tools, which would allow them to access resources that might otherwise be cost-prohibitive on an individual basis. Community-based processing facilities could play a transformative role in supporting small-scale and start-up processors, helping them to scale operations and access necessary equipment.

These needs emphasize the role that the Food Innovation Center could play in providing shared resources and infrastructure support to Kosrae's producers, fostering a more efficient and collaborative food processing environment.

### 2.8 Challenges in Production and Processing

The survey reveals several challenges that producers in Kosrae face in expanding their operations and improving production efficiency. The primary barrier identified is limited infrastructure, as many producers lack access to the equipment and facilities needed to scale their processing efforts. The absence of dedicated processing facilities poses significant logistical and operational difficulties, especially for producers attempting to expand their product lines or introduce new processing methods.

Producers also report high costs as a major constraint, particularly in acquiring equipment and managing operational expenses. For small-scale producers with limited budgets, the costs associated with food processing—such as purchasing packaging materials, maintaining storage, and covering labor expenses—are substantial and can limit their ability to increase production or diversify their product offerings.

Another challenge is the seasonal availability of certain ingredients, which directly impacts production continuity. Due to natural growing cycles and weather patterns, some ingredients may only be available at specific times of the year. This seasonality makes it difficult for producers to ensure a steady supply and consistent product output, especially if they aim to meet year-round market demand.

Labor constraints also emerge as a key challenge. Many producers report difficulties in finding skilled labor to assist with processing activities or managing the demands of production independently. Without adequate labor support, producers face challenges in meeting production goals, maintaining quality standards, and handling larger workloads. These challenges underscore the need for accessible infrastructure and shared resources that can reduce the burden on individual producers, making it easier for them to scale production and manage costs effectively.

### 2.9 Training and Technical Assistance

The survey data indicates a strong interest among Kosrae producers in training programs that can enhance their processing skills, improve product quality, and expand their market reach. A significant 78 percent of producers express a desire for training in food processing techniques, quality control, and business management. This high level of interest highlights the producers'

awareness of the benefits that advanced training can provide, equipping them with practical skills to handle more complex processing tasks and improve product consistency.

Additionally, producers have expressed specific interest in learning about food safety, packaging, and product development. Training in food safety is critical, as it ensures that producers meet necessary standards to protect consumer health and maintain the quality of their products. Packaging training is also in demand, as effective packaging plays a key role in preserving product freshness, enhancing market appeal, and extending shelf life. Product development training, particularly in creating innovative and culturally relevant items, is seen as essential for establishing a unique and marketable product line that resonates with local and regional consumers.

Technical assistance in business planning and marketing also garners significant interest, as producers recognize the importance of reaching broader markets and positioning their products competitively. Many producers lack formal training in business management, and technical support in this area could help them develop effective sales strategies, manage finances, and identify new market opportunities. Furthermore, training in regulatory compliance is crucial for producers unfamiliar with the legal standards required for food safety, labeling, and distribution. Providing producers with comprehensive training resources would empower them to navigate the complexities of food processing and marketing, fostering a more robust and competitive local food industry in Kosrae.

### 2.10 Distribution and Marketing Channels

The survey identifies the primary distribution channels that Kosrae producers consider viable for their locally processed foods. A substantial 88 percent of producers view local markets as the most viable outlet for their products. This high level of interest reflects the community-oriented nature of Kosrae's producers, who often prioritize accessibility for local consumers. By focusing on local markets, producers can build direct relationships with consumers, gain immediate feedback, and maintain a visible presence in the community.

Supermarkets and grocery stores are also seen as potential distribution channels, with 47 percent of respondents showing interest in these outlets. Selling through supermarkets allows producers to reach a broader audience and increase the visibility of their products within Kosrae and potentially in neighboring regions. However, only a small percentage of producers, 14 percent, view specialty food stores as a feasible distribution option. This low level of interest may reflect limited awareness of niche markets or concerns about the logistics and costs associated with specialty stores.

Online platforms attract only 14 percent of interest, indicating that digital sales are not yet widely considered by most Kosrae producers. This limited interest may be due to challenges related to internet access, technical know-how, or familiarity with e-commerce. Lastly, direct sales through farm stands remain a significant option, with 48 percent of producers supporting this approach. This preference highlights the value producers place on maintaining personal interactions with customers, which can be beneficial for building brand loyalty and establishing a reputation within the local community.

### 2.11 Export Potential

Interest in exporting locally processed foods from Kosrae is moderate. According to the survey, 42 percent of producers see export as a viable option, indicating a cautious but positive outlook on the potential for expanding into regional or international markets. These producers may recognize the appeal of Kosrae's traditional foods and the potential demand for unique or culturally significant products outside the local market.

Another 21 percent of respondents are open to exploring export opportunities but have not yet fully committed, likely due to the logistical and regulatory challenges involved in exporting food products. These challenges include obtaining necessary certifications, managing transportation, and understanding international market requirements. For these producers, support from the Food Innovation Center could be instrumental in providing guidance on export logistics, compliance with food safety standards, and identifying potential buyers in regional markets.

Conversely, some producers prefer to focus on the local market due to familiarity with local demand and the practical constraints associated with export. This cautious approach to exporting reflects the producers' focus on establishing a solid local presence before considering expansion. The Food Innovation Center could play a crucial role in preparing producers for potential export by offering training on international regulations, helping them build capacity for larger-scale production, and facilitating connections with buyers in other markets.

The Food Innovation Center in Kosrae serves as an essential support system for local producers, helping them capitalize on opportunities in food processing, packaging, and market development. The data highlights the diversity of products that producers are interested in developing, with preferences for traditional processing methods and a strong commitment to local ingredients. There is also significant interest in eco-friendly packaging and a high level of awareness regarding the potential for market expansion, though challenges such as infrastructure needs, labor constraints, and regulatory compliance persist. By providing targeted support in infrastructure, training, and market access, the Food Innovation Center can play a transformative role in building a sustainable and profitable food processing industry in Kosrae. This section underscores the Center’s potential impact on fostering innovation, preserving traditional food practices, and expanding market opportunities for local producers.

## 3. Training and Infrastructure Development

The *Training and Infrastructure Development* section for Kosrae addresses the training needs and infrastructure requirements essential for enhancing the productivity and sustainability of local food producers. With a focus on skills like commercial food processing, food safety, agricultural practices, and infrastructure support, the insights in this section illustrate the specific facilities and resources needed to ensure long-term growth for producers in Kosrae.

### 3.1 Interest in Commercial Food Processing Training

The survey shows a high level of interest among Kosrae producers in training for commercial food processing, with 91 percent of respondents indicating they want to acquire these skills. This widespread interest reflects a strong awareness among producers of the value that processing

adds to local food products. Training in commercial food processing would provide producers with practical skills in handling, packaging, and preserving foods to market standards, enhancing the appeal and longevity of their products.

To facilitate this type of training, access to well-equipped processing facilities is crucial. These facilities should include commercial-grade ovens, refrigerators, and safe packaging systems that meet food safety standards. Such an environment would allow producers to gain hands-on experience in a professional setting, ensuring that their new skills can be directly applied. Additionally, a dedicated training space would support group workshops, where producers can collaborate, share insights, and establish a network for knowledge exchange, ultimately empowering the local food processing sector to expand both at individual and community levels.

### 3.2 Essential Skills for Food Safety

Interest in food safety training is a priority for Kosrae producers, with 73 percent expressing a desire to gain these essential skills. Producers recognize that food safety is a fundamental component of food production that ensures consumer health and product quality, as well as the reputation of producers. With food safety training, producers would be better equipped to prevent contamination, follow proper storage practices, and adhere to regulatory standards that are critical for achieving market readiness.

Supporting this need for food safety training requires infrastructure that includes hygienic processing facilities equipped with stainless steel surfaces, ample washing stations, and temperature-controlled storage rooms. Such an environment enables producers to implement food safety measures practically, through hands-on experience rather than relying on theoretical instruction alone. Additionally, consistent access to essential food safety tools, such as sanitizers and thermometers, helps producers maintain these standards independently. Training facilities that emphasize hygiene and safety serve as models that producers can replicate in their own workspaces, fostering a culture of food safety that enhances product trust and consumer confidence.

### 3.3 Quality Control and Food Sorting

The survey reveals that 61 percent of Kosrae producers are interested in developing skills related to quality control and food sorting. Quality control training is vital for ensuring that products meet consistent standards, which is essential for customer satisfaction and brand reliability. Training in quality control would cover aspects such as product grading, sorting techniques, and identifying defects to ensure only the highest-quality products reach the market.

For quality control training to be effective, the infrastructure should include inspection tables, sorting belts, and grading tools that allow producers to practice sorting and quality assessment in a controlled environment. Furthermore, refrigeration units or cold storage facilities are crucial for maintaining the freshness of products waiting to be sorted or processed, especially for perishable items like fruits and vegetables. A processing center equipped with quality control facilities can serve as a model for producers, who can then implement similar standards in their operations, helping to maintain product quality and consistency throughout Kosrae.

### 3.4 Food Preparation and Preservation

Interest in food preparation and preservation training is significant among Kosrae producers, with 66 percent expressing a desire to learn food preparation techniques and 73 percent interested in preservation methods. These skills are fundamental for creating processed foods that are safe, flavorful, and have an extended shelf life. Preservation techniques such as drying, pickling, and canning enable producers to reduce waste, diversify their product offerings, and cater to consumer demand for longer-lasting foods.

To support training in food preparation and preservation, infrastructure should include drying equipment, food dehydrators, and storage containers suitable for different preservation methods. Vacuum sealers and other packaging equipment are essential to ensure that preserved foods maintain quality over time. Providing producers with access to these tools within a training facility would allow them to experiment with different preservation techniques, gaining confidence in their ability to process foods safely and effectively. Infrastructure that supports food preparation and preservation enables producers to scale their operations, offer a wider variety of products to the market, and minimize the spoilage of perishable items, contributing to greater food security and profitability.

### 3.5 Cooking and Packaging Skills

Cooking and packaging skills are areas of high interest for Kosrae producers, with 50 percent interested in cooking techniques and 74 percent interested in packaging. Training in cooking would allow producers to diversify their offerings with ready-to-eat or pre-prepared foods that appeal to convenience-focused consumers. Meanwhile, packaging training would empower producers to create visually appealing and functional packaging that preserves product quality and meets consumer expectations, which is vital for standing out in competitive markets.

Infrastructure for cooking and packaging training should include industrial-grade cooking appliances, such as ovens, steamers, and grills, as well as a variety of packaging machines, including vacuum sealers and labeling equipment. Access to these resources within a training center enables producers to learn and practice cooking techniques in a professional setting that simulates real production environments. Packaging equipment would allow producers to experiment with different materials and designs, helping them understand how packaging impacts product presentation, shelf life, and consumer appeal. Investing in infrastructure that supports cooking and packaging training creates opportunities for producers to diversify their offerings and elevate their products in the market.

### 3.6 Additional Training in Agriculture and Sustainable Practices

Agricultural training remains a high priority for Kosrae producers, with 65 percent indicating a need for training that can enhance food production. Specific areas of interest include sustainable farming practices, climate adaptation, and soil management techniques. For instance, 68 percent of respondents are interested in climate-resilient crop training, which is essential in addressing challenges like sea-level rise, saltwater intrusion, and other climate impacts that affect local agriculture. Sustainable practices such as crop rotation and soil conservation are also valued,

with 47 percent of producers indicating an interest in these methods to support soil health and long-term yields.

Infrastructure that supports agricultural training should include demonstration plots, greenhouses, and soil testing labs. Demonstration plots allow producers to observe sustainable practices in real-time, including climate-resilient techniques and innovative planting methods. Greenhouses provide a controlled environment for practicing crop production methods that may not be feasible outdoors, while soil testing labs enable producers to assess soil quality and make informed decisions to optimize crop growth. Infrastructure that supports agricultural training ensures that producers acquire practical skills in managing land sustainably, which helps maintain soil health, enhances productivity, and ensures the resilience of local food systems.

### 3.7 Local and Traditional Agricultural Knowledge

Interest in preserving traditional agricultural knowledge is substantial among Kosrae producers, with 41 percent expressing interest in learning about local agroforestry and fishery practices. Traditional knowledge offers insights into sustainable and community-centered approaches to food production, supporting biodiversity and resilience in local food systems. By learning these methods, producers can incorporate techniques that are well-adapted to the local environment and align with cultural practices.

Infrastructure for training in traditional agricultural knowledge could include forested areas for agroforestry demonstrations and aquaculture facilities for practicing sustainable fishery techniques. Providing access to traditional tools and materials within the training environment allows producers to apply these methods practically. Spaces dedicated to traditional practices also foster knowledge transfer between generations, empowering producers to adopt holistic approaches that contribute to food security and ecological stewardship in Kosrae.

### 3.8 Livestock Management and Feed Production

Training in livestock management is a notable interest among Kosrae producers, with 50 percent expressing a desire to learn general livestock care and 55 percent interested in local feed production for poultry and pigs. Skills in livestock management are crucial for improving animal health, productivity, and welfare, while training in feed production allows producers to create locally sourced, balanced diets for livestock, reducing dependency on external inputs.

Effective infrastructure for livestock management and feed production includes dedicated livestock facilities and feed production equipment, such as feed grinders and mixers. These facilities provide hands-on learning opportunities, enabling producers to practice feeding, breeding, and health management techniques. Access to feed production equipment supports self-sufficiency by allowing producers to produce their own feed using local resources, thereby reducing costs. Infrastructure that supports livestock management fosters sustainable animal husbandry, ensuring that producers can maintain healthy livestock while managing resources effectively.

### 3.9 Marine and Aquaculture Skills

Marine and aquaculture training is another key area of interest, particularly for Kosrae producers involved in fisheries. Training in marine skills would cover sustainable fishing practices, stock management, and aquaculture techniques to help producers optimize yields while maintaining the health of aquatic resources. These skills are essential for managing marine resources responsibly, which benefits both the environment and the fishing community.

Infrastructure to support marine and aquaculture training could include access to coastal training sites, fish ponds, and hatcheries. Coastal facilities provide hands-on experience in sustainable fishing practices and managing marine resources. By gaining access to these facilities, producers can develop practical skills that are directly applicable to their operations, supporting the sustainable growth of aquaculture practices within Kosrae.

### 3.10 The Role of Infrastructure in Supporting Training Initiatives

The infrastructure required to support these diverse training needs goes beyond conventional classrooms and requires environments that allow producers to engage in hands-on learning. By investing in multifunctional facilities that provide practical training opportunities, Kosrae's training initiatives can deliver long-lasting benefits to producers, ensuring that the skills acquired are applicable in real-world settings.

Such infrastructure allows producers to experiment with new techniques, develop practical skills, and receive expert guidance in a supportive environment. Community-based training centers equipped with necessary processing and agricultural tools foster collaboration among producers, enabling them to share insights and strengthen the food system collectively. Through this combination of targeted training and well-developed infrastructure, the Food Innovation Center in Kosrae can play a transformative role, empowering local producers to increase productivity, diversify their offerings, and improve their livelihoods. This section underscores the importance of comprehensive, infrastructure-supported training programs that address both immediate needs and long-term growth, equipping producers to meet both local and broader market demands.

## 4. Community Management and Policy Advocacy

This section emphasizes the importance of community engagement, sustainable practices, government support, and shared resources in advancing food production in Kosrae. By examining how producers interact with their communities, their commitment to sustainable practices, and their needs for governmental support and collaborative opportunities, this section outlines the foundational elements that strengthen Kosrae's food processing sector.

### 4.1 Community Involvement in Food Production

Community involvement is regarded as vital by Kosrae's producers, as indicated by survey results showing that 68 percent of respondents consider community support to be "very important" in their food production processes. This high level of interest reflects a strong collective mindset among producers, who recognize that pooling resources and knowledge can enhance resilience, create efficiencies, and strengthen local food security. Community support

may take various forms, from knowledge sharing to collaborative efforts in resource management, all of which are essential for small-scale producers who may not have access to resources individually.

Additionally, 18 percent of producers find community involvement important, though not a top priority, suggesting they value collective efforts but may also be focused on individual business objectives. This group may engage selectively with community initiatives, perhaps due to specific goals or resource constraints. A smaller percentage, 6 percent, view community involvement as unimportant, showing a preference for self-sufficiency in their operations. This minority may prioritize efficiency and autonomy over collaboration, possibly due to limited time or resources for active community engagement. Lastly, 8 percent are unsure of the significance of community support, highlighting a potential need for outreach initiatives to demonstrate the benefits of cooperative production and processing. Overall, the data underscores that while the majority of producers see value in community engagement, there is room to build awareness about the benefits of community-centered approaches in Kosrae's food production sector.

### 4.2 Sustainable Practices and Environmental Responsibility

Sustainable practices are highly valued by Kosrae producers, with 77 percent reporting that sustainability is essential to their food production processes. This commitment to eco-friendly practices indicates a forward-looking approach among producers, who recognize that environmentally responsible methods contribute to the long-term viability of their operations. By adopting practices like waste reduction, resource conservation, and local ecosystem support, producers aim to minimize their environmental impact, which can also improve marketability as consumers increasingly prioritize environmentally friendly products.

An additional 12 percent of producers consider sustainability important but secondary, likely adopting sustainable practices when feasible but prioritizing other aspects of production, possibly due to resource or financial limitations. A small group, 5 percent, do not prioritize sustainability, suggesting that they may either lack the resources to implement eco-friendly practices or do not view them as essential. Another 6 percent are unsure about the importance of sustainable practices, indicating that they may need guidance on the benefits of sustainability, both for the environment and for business growth. Infrastructure that promotes sustainable practices—such as composting systems, rainwater collection, and solar-powered processing equipment—could assist these producers in adopting more eco-friendly methods, making sustainable practices accessible and feasible for all.

### 4.3 Government Support and Policy Advocacy

Survey data reveals that Kosrae producers have specific needs for government support, with financial assistance being the most requested, as expressed by 68 percent of respondents. This need for financial resources reflects the high costs associated with expanding operations, acquiring necessary equipment, and meeting compliance standards. Government-provided grants, loans, or subsidies could significantly ease these financial burdens, enabling producers to scale up production and improve operational efficiency. The demand for financial support

underscores the producers' reliance on government intervention to facilitate growth within Kosrae’s food production sector.

In addition to financial aid, 24 percent of producers identify technical support and training as essential for their growth. This support could include training programs on food safety, processing techniques, packaging, and compliance with market standards. By enhancing producers' technical skills, government-led training programs would empower them to maintain quality, meet regulatory requirements, and increase their competitive edge. Another 8 percent prioritize improved market access, indicating a need for assistance in reaching new consumer bases, both locally and regionally. Producers in this category may benefit from initiatives that create direct links with buyers, retailers, and distributors, helping them expand their market reach and achieve consistent sales. Together, these responses highlight the need for a multifaceted government support system in Kosrae, focusing on financial resources, technical capacity-building, and market facilitation to promote growth in the food processing sector.

### 4.4 Feedback Mechanisms and Market Insights

Kosrae producers employ a variety of methods to gather feedback from consumers, which helps them improve product quality and respond effectively to market demands. The majority, or 74 percent, rely on direct consumer feedback, including surveys, focus groups, and face-to-face interactions, to understand customer preferences, satisfaction levels, and potential areas for improvement. This direct feedback fosters trust between producers and consumers and provides essential insights that help producers fine-tune their offerings.

Social media also plays a role in gathering consumer feedback, though it is less common, with 6 percent of producers using platforms like Facebook or Instagram to monitor opinions and engage with customers. Social media allows producers to reach a broad audience, especially younger consumers, and provides an efficient way to promote products and gather feedback in real-time. Another 9 percent of producers analyze sales data to assess consumer demand, using metrics like purchase frequency, seasonal trends, and product popularity to make informed production decisions. This analytical approach helps producers optimize inventory, adjust prices, and plan for peak demand periods. Additionally, 11 percent participate in fairs, markets, and cooking competitions to showcase their products and receive feedback. These events offer producers an opportunity to engage with consumers directly, gauge interest in new products, and refine their offerings based on real-time responses. By utilizing these diverse feedback mechanisms, Kosrae producers remain attuned to market trends and consumer needs, allowing them to adapt and strengthen their market position.

### 4.5 Shared Resources: Storage Facilities and Equipment

Access to shared resources, such as storage facilities, is a critical factor in supporting community-based food production in Kosrae. According to the survey, 74 percent of producers expressed interest in using a communal food storage facility if one were available in their area. The availability of shared storage would enable producers to preserve their products for extended periods, reduce food waste, and effectively manage inventory. Among these producers, 58

percent show a preference for cold storage, which is particularly important for fresh produce, dairy, and other perishable items that require refrigeration to maintain quality and safety.

In addition to cold storage, 31 percent of producers favor frozen storage, which is ideal for seafood, meat, and other products that benefit from longer shelf life through freezing. Dry storage is also essential, with 22 percent of respondents indicating interest in a facility that would protect grains, dried fruits, and other shelf-stable products. A community storage facility equipped with these options not only meets the diverse storage needs of producers but also fosters cooperation. By sharing resources, producers can lower individual costs, enhance product quality, and stabilize supply, ultimately strengthening the resilience of Kosrae's local food system. Such facilities would allow producers to store products safely until they are ready for market, thus ensuring consistent quality and reducing post-harvest losses.

### 4.6 Interest in Collaborations and Joint Processing Initiatives

Collaboration among producers is viewed as highly beneficial in Kosrae, with 73 percent of respondents expressing a desire to work together on joint processing or marketing initiatives. This strong interest in cooperation indicates that many producers recognize the advantages of shared resources, knowledge, and skills. By collaborating, producers can reduce operational costs, streamline production processes, and expand their market reach, enabling smaller producers to compete more effectively in local and regional markets. Joint processing efforts also allow producers to pool labor and resources, resulting in improved efficiency and product quality.

However, a smaller segment, representing 18 percent, remains open to collaboration but expresses reservations. These producers may have concerns about managing shared responsibilities, maintaining control over their products, or dividing profits equitably. Structured partnerships, with clear roles and responsibilities, could help address these concerns and make collaborative initiatives more attractive. To support successful collaborations, community infrastructure such as shared processing facilities, marketing resources, and distribution networks are essential. These facilities not only facilitate cooperative processing and marketing but also provide producers with access to equipment and expertise that might otherwise be cost-prohibitive, ultimately contributing to a more robust and cooperative food production environment in Kosrae.

### 4.7 Challenges in Sourcing Local Ingredients

Kosrae producers face several challenges in sourcing local ingredients, which impact their ability to maintain consistent production and meet market demand. A significant 70 percent of producers report limited availability of certain ingredients, which can result from seasonal fluctuations, geographic constraints, or inconsistent supply chains. Such limitations make it challenging for producers to plan and manage their operations effectively, as they may need to rely on alternative ingredients or adjust production schedules to accommodate shortages.

Seasonal fluctuations further complicate ingredient sourcing, as indicated by 42 percent of producers who experience difficulties during certain times of the year. These seasonal cycles

may limit the availability of specific crops or ingredients, forcing producers to adjust their product offerings based on what is available. Additionally, 61 percent of producers struggle with limited or inadequate storage options, which prevent them from stockpiling surplus ingredients and preserving products for future use. Without adequate storage, producers face increased spoilage and waste, leading to revenue loss and reduced operational efficiency.

Transportation is another issue, with 52 percent of producers facing difficulties in moving ingredients from farms to processing facilities or markets. This challenge can delay production and limit access to necessary ingredients, particularly for producers in remote areas. Consistency in ingredient quality also poses a challenge, affecting 26 percent of producers. Maintaining high-quality raw materials is essential for product consistency and customer satisfaction, making it a critical concern for many. Financial constraints are an additional barrier, with 65 percent of respondents indicating they lack the cash flow needed to purchase and store products. Addressing these challenges requires coordinated efforts to improve infrastructure, streamline supply chains, and provide financial support, ensuring that Kosrae producers have reliable access to quality ingredients year-round.

### 4.8 Openness to Innovation and Consumer Preferences

Kosrae producers exhibit a strong openness to innovation, with 71 percent consistently willing to explore new techniques, recipes, and production methods. This openness reflects a proactive approach to adapting products and processes to align with changing consumer preferences. Innovation could involve experimenting with alternative ingredients, creating new flavors, or improving processing methods to meet health-conscious or environmentally aware consumers' expectations. This willingness to innovate suggests that many producers recognize the value of staying responsive to market trends and enhancing product diversity.

An additional 18 percent of producers are open to innovation depending on feasibility and market demand. This group is cautious but flexible, weighing the practicality and potential profitability of new methods before making changes. By considering both cost and consumer interest, these producers demonstrate a balanced approach to growth and adaptation. A small group, representing 11 percent, prefers traditional methods, potentially valuing established practices or cultural authenticity over change. For these producers, maintaining consistency in production may be a priority, either due to familiarity with existing processes or a preference for traditional approaches.

Supporting these producers’ openness to innovation requires a policy environment that encourages experimentation and offers resources for product development. Infrastructure such as test kitchens, research labs, and pilot processing facilities could enable producers to safely experiment with new techniques. Grants or subsidies for product development may further encourage innovation, allowing producers to explore ways to differentiate their products and appeal to diverse consumer segments. By fostering a supportive ecosystem for innovation, Kosrae can ensure that its food production sector remains dynamic, competitive, and responsive to consumer demands.

# Federated States of Micronesia
# Food Systems Solutions Project
# Kosrae Consumer Survey Results

## Consumer Preferences and Willingness to Pay for Locally Processed Products

### Introduction

The proposed Food Innovation Center in Kosrae seeks to foster a robust local food economy by prioritizing products that align with consumer preferences and values. This report examines data from a comprehensive survey of 65 respondents, addressing demographic insights, product and packaging preferences, pricing considerations, and purchasing behaviors. The findings provide valuable direction for developing sustainable and culturally relevant food processing initiatives in Kosrae. By catering to consumer demands for freshness, affordability, and accessibility, the Center has the potential to make a meaningful economic and social impact.

### 1. Demographic Profile of Respondents

The demographic breakdown of the 65 survey respondents reveals a consumer base that is predominantly male, with 41 respondents (63 percent) identifying as men and 24 (37 percent) as women. This gender distribution provides insight into potential target audiences for product marketing. The largest age group consisted of respondents aged 18 to 30 years, accounting for 32 individuals (49 percent), followed by 24 respondents (37 percent) aged 31 to 45 years. These groups represent consumers in their prime working and family-rearing years, likely to have both purchasing power and a vested interest in health-conscious and traditional food products.

Older age groups were less represented, with 8 respondents (12 percent) aged 56 to 60 years and only 1 respondent (2 percent) over 60. These findings suggest that locally processed products should primarily target younger and middle-aged consumers, focusing on convenience, affordability, and alignment with traditional dietary preferences. Additionally, targeted outreach to older demographics may open smaller but significant opportunities to expand market reach.

### 2. Consumer Interest in Locally Processed Food Products

Interest in locally processed food products varied significantly. Among the 36 product categories listed, banana chips emerged as the most popular, with 60 respondents (92 percent) expressing interest in purchasing them. Similarly, breadfruit chips were favored by 43 respondents (66 percent), reflecting the appeal of traditional, convenient snack options. Bread and baked goods, such as donuts and muffins, garnered interest from 40 respondents (62 percent), suggesting a robust market for ready-to-eat baked items.

Products like coconut milk, chicken products, and bottled seafood also showed significant potential, appealing to 38 respondents (58 percent), 41 respondents (63 percent), and 41

respondents (63 percent), respectively. Meanwhile, moderately popular items included salted fish (34 respondents, 52 percent) and dried fish (32 respondents, 49 percent), which may appeal to niche audiences seeking traditional preserved food options.

Items like coconut flour, flavored oils, and fish syrups received limited interest, with fewer than 15 respondents (under 25 percent) expressing enthusiasm for these products. While these items cater to smaller markets, innovations in taste, packaging, and application could help expand their appeal. Traditional items like rope and fiber products, favored by 32 respondents (49 percent), suggest that integrating non-food products may also contribute to broader consumer engagement with locally produced goods.

**3. Packaging Preferences and Important Packaging Features**

Packaging plays a crucial role in consumer purchasing decisions, with bottled options preferred by 49 respondents (75 percent). Bottles provide a durable, visually appealing, and easy-to-store solution for various products. Jarred packaging was similarly popular, attracting 47 respondents (72 percent), while vacuum-sealed pouches appealed to 43 respondents (66 percent). These preferences highlight the importance of freshness and functionality in packaging.

Bagged options, while moderately popular (40 respondents, 62 percent), may require additional promotion to compete with more durable alternatives like jars and bottles. Sachets were the least preferred packaging type, with only 14 respondents (22 percent) indicating interest. This preference distribution suggests a strong focus on durability, resealability, and visual appeal.

Respondents emphasized environmentally friendly packaging as the most important feature, with 47 respondents (72 percent) rating it as their top priority. This preference aligns with global trends toward sustainability and presents an opportunity to position Kosrae's locally processed products as eco-conscious. Convenience, such as resealable or easy-to-open designs, was also significant, with 30 respondents (46 percent) identifying it as an important feature. However, attractive packaging and labeling were less critical, with only 3 respondents (5 percent) prioritizing these aspects.

**4. Pricing Expectations and Factors Affecting Purchase Decisions**

Pricing expectations among respondents were dominated by affordability. Twenty-seven respondents (42 percent) considered $5 or less per unit to be a reasonable price, while 26 respondents (40 percent) were comfortable with prices between $5 and $10. Products priced between $10 and $20 were acceptable to only 11 respondents (17 percent), and just 1 respondent (2 percent) expressed willingness to pay over $20.

Price emerged as the most influential factor in purchasing decisions, with 42 respondents (65 percent) rating it as the most important consideration. Product quality followed, with 16 respondents (25 percent) identifying it as their top priority. Nutritional value and brand reputation were less critical, with only 2 respondents (3 percent) each prioritizing these factors. This data underscores the importance of balancing affordability with quality to maximize consumer appeal.

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

Freshness and local sourcing were highly valued by respondents, with 58 individuals (89 percent) rating these attributes as very important and 7 respondents (11 percent) considering them important. This unanimous preference reflects a strong alignment with Kosrae's cultural emphasis on authenticity and sustainability.

Health benefits were also significant, with 55 respondents (85 percent) identifying nutritious, healthy foods as very important. Another 7 respondents (11 percent) rated health benefits as important. Together, these findings underscore the necessity of promoting locally processed foods as both wholesome and culturally significant.

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

Convenience and accessibility emerged as pivotal factors in consumer purchasing decisions. Fifty-six respondents (86 percent) stated they were very likely to purchase locally processed foods if they were easy to access, while 6 respondents (9 percent) indicated they were likely to do so. Only 1 respondent (2 percent) expressed an unlikely purchasing attitude, demonstrating strong market potential.

Flavor preferences skewed heavily toward traditional options, with 54 respondents (83 percent) favoring local flavors. Sweet and spicy flavors also resonated with respondents, attracting 35 individuals (54 percent) and 42 individuals (65 percent), respectively. Exotic or imported flavors were less popular, appealing to only 19 respondents (29 percent), suggesting a focus on traditional tastes may be more effective in Kosrae.

### 7. Frequency and Location of Purchase

Respondents exhibited promising purchasing behaviors, with 42 individuals (65 percent) indicating they would buy locally processed foods weekly. Daily purchases were cited by 10 respondents (15 percent), while monthly and occasional purchases were reported by 9 respondents (14 percent) and 4 respondents (6 percent), respectively.

Local markets dominated as the preferred purchasing location, chosen by 54 respondents (83 percent). Supermarkets accounted for 8 respondents (12 percent), while roadside stands attracted only 3 respondents (5 percent). These findings emphasize the importance of prioritizing local market distribution channels to maximize accessibility and sales.

### 8. Willingness to Support Social Causes and Pay Extra

A significant proportion of respondents—58 individuals (89 percent)—expressed a willingness to support products contributing to community development or social causes. Seven respondents (11 percent) were undecided, while none outright opposed the concept.

Regarding price sensitivity, 50 respondents (77 percent) were willing to pay up to 10 percent more for socially beneficial products. Another 11 respondents (17 percent) expressed willingness to pay over 10 percent more, while only 4 respondents (6 percent) were unwilling to pay extra.

These numbers highlight an opportunity to connect socially responsible messaging with product branding.

**9. Payment Preferences and Importance of Product Shelf Life**

Cash was the overwhelmingly preferred payment method, cited by 64 respondents (98 percent). Other payment options, such as credit or debit cards, garnered minimal interest, with only 1 respondent (2 percent) mentioning them.

Shelf life was highly valued, with 47 respondents (72 percent) considering it very important and 15 respondents (23 percent) rating it as important. Only 3 respondents (5 percent) rated it as somewhat important, indicating that durable, long-lasting products align with consumer needs and storage practices.

**10. Awareness and Preference for Local Over Imported Products**

Awareness of locally processed products was moderate, with 29 respondents (45 percent) stating they were very aware of such products and 23 respondents (35 percent) reporting they were somewhat aware. Thirteen respondents (20 percent) were not very aware, highlighting opportunities for increased outreach and consumer education.

Forty respondents (62 percent) expressed a preference for local products over imports, with 26 respondents (40 percent) always prioritizing local items and 22 respondents (34 percent) often doing so. If price and quality were comparable, 51 respondents (78 percent) indicated they would choose local products over imported alternatives.

Kosrae's consumers demonstrate a strong preference for affordable, fresh, locally sourced food products that align with traditional tastes and cultural values. Packaging must meet sustainability and convenience expectations, while health benefits and social responsibility messaging should be central to marketing strategies. By addressing these preferences, the Food Innovation Center can build a sustainable model that supports the local economy and enhances community well-being.

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# Federated States of Micronesia
# Food Systems Solutions Project
# Kosrae Community Management and Development Survey Results

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

### Introduction

This report examines the state of community management and development in Kosrae, focusing on the needs, challenges, and opportunities identified by local leaders and organizations that support farming families and food producers. By analyzing survey data, we uncover insights into governance, inclusivity, resource gaps, and environmental resilience. The findings are integral to building sustainable, community-driven solutions that promote food security, economic growth, and climate resilience in Kosrae.

### 1. Demographic Profile and Organizational Representation

The survey included 10 respondents, with 9 men (90 percent) and only 1 woman (10 percent). This gender disparity suggests a significant underrepresentation of women in community leadership roles in Kosrae. The age distribution showed that 4 respondents (40 percent) were over 60 years, 3 respondents (30 percent) were aged 56 to 60, and another 3 respondents (30 percent) fell within the 31 to 45 age range. No respondents were aged 18 to 30, indicating an older leadership base with considerable experience but potentially limited input from younger perspectives.

Organizational representation was led by municipal officials, who comprised 7 respondents (70 percent). Faith-based leaders, underrepresented groups (including women and youth organizations), and others such as Hamlet heads contributed 1 respondent each (10 percent). Notably, no respondents were affiliated with agricultural or aquaculture producer organizations, traditional leadership, or small-scale fishing organizations, indicating a potential gap in sectoral representation critical to community management.

### 2. Frequency and Regularity of Meetings

Community organizations in Kosrae demonstrated a structured yet varied approach to meetings. Monthly meetings were the most common, reported by 5 respondents (50 percent). Weekly meetings were held by 3 respondents (30 percent), reflecting more frequent engagement by a subset of organizations. Quarterly meetings were less common, cited by 2 respondents (20 percent), while no organizations reported meeting yearly. This engagement frequency highlights the commitment of many organizations to regular interaction, although logistical challenges might prevent more frequent gatherings.

### 3. Identified Needs for Effective Community Management

Respondents identified several areas for support to improve the management of farming families and food producers. Leadership training was a priority for 7 respondents (70 percent), emphasizing the need for strengthened governance skills. All 10 respondents (100 percent) indicated the necessity for technical food production assistance, underscoring the demand for expertise in sustainable farming and fishing techniques.

Value chain development, including transportation, packaging, and storage, was highlighted by 6 respondents (60 percent), reflecting the logistical challenges faced by food producers. Environmental conservation practices and economic, marketing, and business management were both noted as critical by 7 respondents (70 percent). Additionally, 1 respondent (10 percent) emphasized the need for initiatives to create value-added agricultural products, pointing to opportunities for diversification and market expansion.

**4. Food Production Challenges and Community Needs**

Kosrae's organizations face numerous challenges supporting food producers. Access to production inputs such as seeds, tools, and livestock was a key issue, highlighted by 8 respondents (80 percent). Similarly, 8 respondents (80 percent) emphasized the need for food production training to build capacity among producers.

Affordable transportation was a challenge for 7 respondents (70 percent), while 6 respondents (60 percent) highlighted the need for clean water and access to climate-resilient crops. Infrastructure issues were prominent, with 7 respondents (70 percent) citing road maintenance as critical. Communication gaps and post-harvest storage solutions were identified by 5 respondents each (50 percent), further reflecting the systemic barriers to efficient food production and distribution in Kosrae.

**5. Perceptions of Good Governance**

The survey provided diverse definitions of good governance, reflecting the priorities and values of Kosrae's leaders. Each of the 10 respondents contributed a unique perspective. Some emphasized transparency, inclusivity, and accountability, with one respondent describing it as "governing for the people, by the people, and of the people." Others focused on effective leadership, clear guidelines, and equal representation, while some highlighted the importance of strong community-government collaboration. These responses underscore a collective desire for governance practices that are both participatory and service-oriented.

**6. Supporting Local Food Producers and Addressing Community Challenges**

Kosrae's organizations face multifaceted challenges in supporting food producers. Issues such as inconsistent production, lack of equipment, and limited financial support were each cited by 1 respondent (10 percent). Environmental impacts from farming, transportation difficulties, and government support limitations were similarly highlighted, each by 1 respondent (10 percent).

These challenges indicate the need for targeted interventions, such as access to modern farming technologies, financial resources, and infrastructure improvements. Additionally, 1 respondent

(10 percent) noted the over-reliance on imported foods, reflecting the broader implications of limited local food production capacity.

### 7. Community Interest in Producing for a Food Processing Plant

Interest in producing food for a local processing plant was notable, with 4 respondents (40 percent) expressing direct interest and 6 respondents (60 percent) indicating they would participate if training were provided. No respondents reported that farming was solely for home consumption or that it was an undesirable vocation. These findings suggest a strong willingness among Kosrae's farmers to engage in commercial food production, provided adequate resources and education are available.

### 8. Anticipated Benefits of a Local Food Processing Plant

The benefits of establishing a local food processing plant were widely recognized. All 10 respondents (100 percent) agreed that such a facility would enhance food security and improve health and nutrition in the community. Job creation was identified as a benefit by 8 respondents (80 percent), while 9 respondents (90 percent) noted its potential to reduce reliance on imported foods and strengthen the local economy. Only 4 respondents (40 percent) believed it would significantly increase traditional practices. No respondents considered the plant detrimental, reflecting unanimous support for this initiative.

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

Market access challenges were prevalent, with limited transportation infrastructure affecting 8 respondents (80 percent). Insufficient supply to meet market demand was a concern for 9 respondents (90 percent), and lack of connections to broader markets was highlighted by 7 respondents (70 percent). Half of the respondents (50 percent) also noted quality standards compliance issues.

Community participation in decision-making varied, with 4 respondents (40 percent) rating it as high, 3 respondents (30 percent) as moderate, and the remaining 3 respondents (30 percent) as low or very low. These findings highlight the need for improved pathways to market engagement and greater inclusivity in decision-making processes.

### 10. Inclusivity, Educational Programs, and Climate Resilience Efforts

Inclusivity in leadership roles was reported by 7 respondents (70 percent), while decision-making inclusivity for differently-abled and senior citizens was considered very inclusive by 5 respondents (50 percent) and somewhat inclusive by 3 respondents (30 percent). Youth engagement was noted by 8 respondents (80 percent), equally split between "very inclusive" and "somewhat inclusive."

Educational programs on sustainable food production were occasionally offered, as reported by 6 respondents (60 percent), but 4 respondents (40 percent) noted the absence of regular programs. Disaster preparedness plans were cited by 4 respondents (40 percent), while crop diversification and the use of marine protected areas (MPAs) were each mentioned by 2 respondents (20

percent). Despite these efforts, 6 respondents (60 percent) reported being unprepared for climate-related disasters, emphasizing the need for enhanced support and training.

Kosrae's survey results highlight significant opportunities and challenges in community management and development. Key needs include leadership training, technical assistance, and infrastructure investment to address barriers to food production and market access. Establishing a local food processing plant offers a viable solution to enhance food security, reduce reliance on imports, and create jobs. By fostering inclusivity, improving educational programs, and strengthening climate resilience efforts, Kosrae can build a sustainable foundation for future development. Addressing these needs will empower communities to thrive amid economic and environmental challenges.

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# Federated States of Micronesia
# Food Systems Solutions Project
# Kosrae Information Infrastructure Providers & IT Specialists Survey Results

## 1. Introduction and Demographics of Information Providers

The development and maintenance of information infrastructure in Kosrae are crucial to addressing the unique connectivity challenges posed by its remote island geography. The survey engaged three respondents, all male (100 percent), highlighting a gender imbalance in Kosrae's IT and infrastructure sector. This lack of diversity may point to broader structural issues, such as limited access to IT training for women, which could be addressed through targeted educational programs.

Regarding age, two respondents (67 percent) were between 31 and 45 years old, suggesting a mid-career demographic capable of balancing experience with innovation. The remaining respondent (33 percent) was aged 56 to 60, representing seasoned professionals whose insights are grounded in extensive experience. The absence of respondents under 30 underscores a potential gap in younger professionals entering the field, possibly due to limited local educational opportunities or emigration for career advancement. Similarly, no respondents were over 60, suggesting a lack of elder representation in decision-making roles.

This demographic data reveals a workforce that is relatively experienced but narrow in scope, both in gender and generational diversity, highlighting opportunities to build a broader pipeline of IT professionals.

## 2. Expected Impact of Underwater Cable on Connectivity and Affordability

The underwater cable is poised to transform Kosrae's connectivity. Each of the three respondents provided unique insights into its potential impact. One respondent (33 percent) emphasized that the benefits would depend on the state-specific application of the cable, suggesting that strategic planning will be essential to maximizing its impact. Another respondent (33 percent) anticipated significant improvements to existing communication infrastructure, highlighting the cable's potential to reduce reliance on expensive and unreliable satellite networks. The final respondent (33 percent) noted that the cable would make communication more productive, potentially enabling faster information flow and operational efficiency.

These perspectives collectively underline the promise of the underwater cable to reduce the digital divide in Kosrae. However, the lack of direct mentions about affordability improvements suggests lingering concerns about equitable access, even as the infrastructure becomes more robust.

## 3. Connectivity Gaps Affecting Outer Island Communities

Connectivity gaps remain a persistent challenge for many communities in Kosrae, particularly in its outer islands. One respondent (33 percent) reported that radio and other connectivity solutions are insufficient to reach all communities, leaving remote areas without reliable communication channels. Another respondent (33 percent) attributed these gaps to slow internet speeds and limited access to resources such as phones, radios, and the internet itself. The third respondent (33 percent) identified funding constraints as a major barrier to deploying Starlink equipment, despite the satellite network's availability.

These gaps have far-reaching implications, particularly for education, healthcare, and economic development in Kosrae's remote areas. For example, limited connectivity means that students cannot access online learning resources, and healthcare providers face challenges in utilizing telemedicine. These gaps reinforce existing inequalities, making the need for comprehensive solutions more urgent.

**4. Planned Solutions for Improving Connectivity in Remote Areas**

Efforts to address these gaps include government initiatives and private sector collaborations. One respondent (33 percent) mentioned the national government's plan to provide free Wi-Fi in both densely populated and remote areas, aiming to bridge the accessibility divide. Another respondent (33 percent) highlighted plans to increase the number of internet service providers in Kosrae, which could foster competition and improve service quality. The third respondent (33 percent) described ongoing collaborations with donors to fund community-based projects in the outer islands.

These planned solutions demonstrate a multi-pronged approach to improving connectivity. However, their success depends on overcoming logistical and funding challenges, such as securing resources for installing infrastructure in hard-to-reach areas and ensuring the affordability of new services for all residents.

**5. Assessment of Current Internet Infrastructure and Quality**

Kosrae's internet infrastructure is at a nascent stage of development, with significant room for improvement. One respondent (33 percent) estimated that only 10 to 20 percent of inhabited areas currently have internet access. However, this coverage is expected to increase to 50 percent with the expansion of Starlink and other networks, highlighting the potential for rapid progress. Another respondent (33 percent) noted the significant strides made since the days of dial-up, with multiple providers, including FSMTC, Kacific, and Starlink, now available. The final respondent (33 percent), however, described the current infrastructure as poor, resulting in slow connection speeds that hinder productivity.

This assessment underscores the dual nature of Kosrae's internet landscape: while progress has been made, substantial gaps remain. Expanding coverage and improving the reliability of existing infrastructure are critical next steps.

**6. Internet Service Barriers and Strategies for Bandwidth Optimization**

Internet service providers in Kosrae face several barriers to delivering reliable connectivity. One respondent (33 percent) highlighted the benefits of increased competition following the industry's demonopolization, with providers like Kacific and Starlink entering the market. Another respondent (33 percent) stressed the need for detailed studies to understand the causes of slow internet in specific areas, pointing to a lack of data-driven planning. The third respondent (33 percent) emphasized the importance of acquiring better equipment and training professional technicians to optimize bandwidth allocation.

Addressing these barriers will require investments in both infrastructure and human capital. Improved training programs for IT professionals, alongside the deployment of advanced technologies such as load balancing and network optimization, can help maximize existing bandwidth and deliver faster, more reliable internet services.

**7. Challenges in Specific Locations and Planned Connectivity Improvements**

Certain areas in Kosrae, such as Mutun Funack in Malem and parts of Lelu, face persistent connectivity issues. One respondent (33 percent) identified the absence of an undersea cable as the primary barrier to high-speed internet. Another respondent (33 percent) noted that these locations experience slow or no connectivity due to their distance from existing towers. The final respondent (33 percent) highlighted the logistical challenges of resolving these issues, such as obtaining landowner permissions for new towers and meeting state regulatory requirements.

These challenges highlight the complexity of improving connectivity in geographically dispersed regions like Kosrae. Addressing them will require not only infrastructure investments but also collaboration with local stakeholders to overcome logistical and regulatory barriers.

**8. Hardware, Software, and Data Management Needs**

Kosrae's IT infrastructure has significant gaps in hardware, software, and data management. One respondent (33 percent) called for comprehensive assessments to identify and address these needs, emphasizing the importance of expert consultation. Another respondent (33 percent) expressed uncertainty about the current capabilities of the state's IT systems, while the final respondent (33 percent) highlighted the need for better collaboration between state and national governments.

These findings point to a fragmented approach to IT infrastructure development, with a pressing need for coordinated strategies to improve data collection, storage, analysis, and dissemination capabilities.

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

Cloud-based solutions are gradually being adopted in Kosrae, with two respondents (67 percent) reporting their use for scalability and accessibility. However, one respondent (33 percent) indicated that such solutions are not yet in use. Regarding traffic management, two respondents (67 percent) supported implementing Quality of Service (QoS) techniques to prioritize critical data, such as agricultural and healthcare information. These initiatives could ensure that limited

bandwidth is used efficiently, particularly in sectors vital to Kosrae's economy and public welfare.

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

Kosrae has not yet implemented content delivery networks (CDNs) or local caching servers, with all three respondents (100 percent) confirming their absence. One respondent (33 percent) suggested that CDNs could significantly improve data accessibility, while two respondents (67 percent) were uncertain about their implementation. Other challenges included the need for waterproof cables, additional towers, and greater funding.

These infrastructure gaps hinder Kosrae's ability to deliver reliable digital services. Addressing them will require both financial investments and technical expertise, along with collaborative efforts between the government and private sector.

Kosrae's information infrastructure is evolving, but critical gaps in coverage, resources, and expertise remain. Planned initiatives such as the underwater cable, the introduction of new service providers, and government-led connectivity projects offer promising solutions. However, sustained investments in hardware, software, training, and modern data management practices are essential to ensure equitable access and high-quality service. By prioritizing traffic management, cloud-based systems, and CDN technologies, Kosrae can build a resilient digital ecosystem that supports economic growth and social development.

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

## 1. Introduction to Kosrae’s Food Retail Industry

Kosrae's food retail industry is a cornerstone of the local economy, deeply intertwined with the community's cultural heritage and economic aspirations. Restaurants, as pivotal actors within this sector, not only meet consumer demand but also create avenues for promoting locally made processed food products. These establishments serve as an essential link in reducing the island's reliance on imported goods, which are often costlier and less fresh than locally sourced alternatives. The Food System Solutions (FSS) survey provides detailed insights into the opportunities and challenges faced by restaurant operators in Kosrae.

Despite their potential, restaurants in Kosrae face significant systemic hurdles that hinder their ability to fully support the local food economy. Inadequate infrastructure continues to pose logistical challenges, limiting the scale and efficiency of local food production. High production costs further exacerbate the situation, making it difficult for local businesses to compete with imported products. Limited technical expertise in areas such as food processing, packaging, and marketing restricts the ability of restaurants to diversify their offerings and innovate.

To address these issues, strategic investments in food innovation centers and capacity-building programs are essential. A well-developed supply chain system, supported by enhanced infrastructure and workforce training, can bridge these gaps, ensuring that Kosrae’s food retail sector thrives. By focusing on these critical areas, the industry can align more closely with the community's cultural and economic needs, fostering a sustainable and resilient food ecosystem.

## 2. Demographic Insights of Survey Respondents

The gender distribution among respondents in the Kosrae survey reveals an equal representation, with 50 percent being male and 50 percent female. This parity underscores the inclusive nature of the food retail sector in Kosrae, where both genders play equally significant roles in driving the industry forward. Such balance is a positive indicator of shared responsibility and opportunities within the sector, reflecting a collaborative dynamic that benefits the local economy and community.

Age distribution offers further insights into the composition of the industry. Half of the respondents fall within the 31–45 age group, representing mid-career professionals who bring valuable experience and operational expertise. These individuals are likely to act as the backbone of the industry, possessing the skills and insights needed to navigate market challenges. The remaining 50 percent of respondents are in the 56–60 age range, suggesting that senior

professionals with decades of accumulated knowledge also play a crucial role. This demographic provides stability and depth to the sector, leveraging long-term industry insights.

However, the absence of younger individuals (18–30) and those over 60 in the survey responses highlights a potential vulnerability. Younger participants often bring innovative approaches and technological adaptability, while older participants can contribute mentorship and institutional knowledge. Addressing this gap through targeted initiatives, such as youth engagement programs and intergenerational mentoring, could ensure the long-term sustainability and dynamism of Kosrae's food retail industry.

### 3. Types of Locally Processed Food Products Sold

The survey highlights a narrow range of locally processed food products available in Kosrae's restaurants, with some notable variations in availability. Breadfruit chips emerge as the most widely sold product, offered by 75 percent of establishments. This popularity reflects the cultural importance and consumer preference for breadfruit-based items, which are both familiar and appealing to local tastes.

In contrast, banana chips, breads, baked goods such as donuts and muffins, chicken products, and pork products are sold in only 25 percent of restaurants. This limited presence points to underutilized opportunities for diversification within the local food market. Expanding the availability of these items could cater to varied consumer preferences and enhance the overall appeal of local food offerings.

Coconut-based products display mixed results in terms of their presence on restaurant menus. Coconut milk and other general coconut products are offered by half of the restaurants, showcasing their culinary significance and consumer demand. However, coconut cooking oil and coconut flour are entirely absent, highlighting gaps in the supply chain and production capabilities for these items.

The unavailability of fish and seafood products—whether dried, salted, or smoked—further underscores the challenges in sourcing and processing local resources. These items, often considered staples in coastal and island communities, represent untapped potential for Kosrae's food sector. Addressing these deficiencies through investments in local fisheries and processing infrastructure could significantly enhance the diversity of local food offerings.

### 4. Importance of Locally Made Processed Food Products

The survey responses demonstrate a strong consensus on the importance of locally made processed foods in Kosrae's food industry. Seventy-five percent of respondents view these products as "very important," while the remaining 25 percent consider them "important." This unanimous agreement underscores the essential role these foods play in preserving cultural identity, fostering economic growth, and enhancing food security.

Locally made processed foods reduce dependency on imported goods, which are often more expensive and less aligned with local tastes and dietary preferences. By supporting local producers and utilizing indigenous ingredients, these products contribute to a more sustainable

and self-reliant food system. They also play a vital role in maintaining the community's culinary heritage, ensuring that traditional methods and flavors are preserved and passed down through generations.

The importance of these foods extends beyond cultural and economic dimensions to include their impact on health and sustainability. Locally processed products often feature fresher ingredients with fewer preservatives, aligning with global trends toward healthier and more natural food choices. Addressing barriers such as high production costs, limited technical expertise, and supply chain inefficiencies will enable restaurants to expand their offerings of locally made processed foods. This expansion is crucial for fully integrating these products into the local economy, meeting consumer demand, and fostering a vibrant and sustainable food industry in Kosrae.

**5. Support for a Food Innovation Center**

Support for establishing a food innovation center in Kosrae is notably strong, with 75 percent of respondents expressing strong support and the remaining 25 percent adopting a neutral stance. This indicates a broad recognition of the potential benefits such a center could bring to the local food sector. A food innovation center is viewed as a vital resource that could tackle systemic challenges by offering enhanced capabilities for product development, processing, and marketing.

Half of the respondents emphasized the importance of providing access to commercial-scale processing facilities. These facilities would enable local businesses to produce larger quantities of food products efficiently and at a lower cost. This aligns with the need for improved infrastructure that supports scalability and reduces production barriers for small and medium-sized enterprises.

The survey also highlights the need for technical assistance, with 75 percent of respondents identifying this as a crucial benefit of a food innovation center. Such assistance could include expertise in recipe development, packaging, and branding, which are essential for creating competitive products that appeal to both local and external markets. This focus on technical support underscores the importance of equipping local producers with the skills and resources needed to innovate and meet consumer expectations.

Additionally, 75 percent of respondents recognize the value of fostering collaboration with local farmers and producers. Strengthening these relationships is critical for ensuring a reliable supply chain and integrating locally sourced ingredients into processed foods. By serving as a hub for cooperation and resource-sharing, a food innovation center could enhance community engagement while promoting the economic sustainability of the local food sector.

**6. Challenges in Sourcing and Producing Local Food Products**

The survey identifies several critical challenges faced by Kosrae's restaurant operators in sourcing and producing locally processed food products. Limited access to quality raw materials is a significant issue, as indicated by 75 percent of respondents. This challenge highlights the

need for better agricultural practices and improved supply chain coordination to ensure the consistent availability of essential ingredients such as breadfruit, coconut, and seafood.

High production costs are another major obstacle, also noted by 75 percent of respondents. These costs, which include labor, utilities, packaging, and transportation, make it difficult for local businesses to compete with imported goods. Addressing these financial barriers through subsidies, shared facilities, or government-backed programs could help reduce expenses and encourage greater local production.

A lack of technical expertise is a concern for 50 percent of respondents. This includes gaps in knowledge about product development, blending, and packaging, which hinder the ability to innovate and improve product quality. Similarly, half of the respondents cited a shortage of trained workers, indicating a need for targeted workforce development programs to build capacity within the local food industry.

Inadequate infrastructure for processing and packaging affects 25 percent of respondents, highlighting the limitations of current facilities in meeting industry needs. This gap in infrastructure underscores the importance of investments in modern equipment and processing centers to support the efficient production of high-quality food products. Distribution challenges and funding limitations, though affecting smaller portions of respondents, further emphasize the need for a coordinated approach to overcoming systemic barriers in Kosrae's food sector.

**7. Perceived Benefits of a Food Innovation Center**

The potential benefits of a food innovation center in Kosrae are widely acknowledged, with respondents identifying various ways such a facility could transform the local food industry. Technical assistance in product development is highlighted by 75 percent of respondents as a critical benefit. This support would include expertise in creating recipes, improving packaging designs, and developing effective branding strategies, enabling local producers to create market-ready products that appeal to both local consumers and external markets.

Seventy-five percent of respondents also emphasize the importance of facilitating collaboration with local farmers and producers. This collaboration would strengthen supply chains and ensure a steady flow of high-quality raw materials for processing. By fostering partnerships between producers and processors, a food innovation center could promote a more integrated and efficient food ecosystem in Kosrae.

Marketing and branding support is considered essential by 50 percent of respondents. These services would help businesses enhance the visibility and appeal of their products, making them more competitive against imported alternatives. By creating cohesive marketing strategies that highlight the cultural and nutritional value of locally processed foods, a food innovation center could drive consumer demand and boost sales for local businesses.

Access to commercial-scale processing facilities is another key benefit, as noted by half of the respondents. Such facilities would enable businesses to scale their operations and reduce production costs, thereby increasing profitability and sustainability. Overall, these perceived

benefits demonstrate the transformative potential of a food innovation center in addressing the systemic challenges faced by Kosrae's food sector and fostering long-term growth.

### 8. Factors Influencing Collaboration with a Food Innovation Center

Several factors influence the willingness of Kosrae's restaurant operators to collaborate with a food innovation center, reflecting the conditions necessary to ensure its success. Financial incentives are a significant motivator, with 50 percent of respondents highlighting the potential for increased profitability as a key driver. This finding emphasizes the importance of demonstrating clear economic benefits to participants, such as cost savings and revenue growth, to secure their engagement.

Access to funding and grants is identified as a critical factor by 75 percent of respondents. Financial support would enable local businesses to invest in equipment, expand operations, and explore innovative product ideas. This underscores the need for the center to provide affordable financing options and connect businesses with external funding opportunities to encourage participation.

The opportunity for market expansion is another strong motivator, also valued by 75 percent of respondents. Expanding access to new customer bases and improving visibility for local products are essential for sustaining long-term collaboration. These opportunities align with the broader goals of creating a more competitive and resilient food sector in Kosrae.

The assurance of intellectual property protection for new product ideas is a concern for 25 percent of respondents. This highlights the importance of establishing clear guidelines and safeguards to protect the proprietary knowledge and innovations of participating businesses. Additionally, all respondents (100 percent) recognize the importance of enhancing community food security through collaboration with the center. This reflects a shared commitment to creating a sustainable food system that benefits both producers and consumers.

Finally, 25 percent of respondents emphasize the need for the center to support long-term, sustainable operations. By ensuring the center's longevity and reliability, stakeholders can build confidence in its ability to deliver consistent value and foster ongoing collaboration. Together, these factors illustrate the conditions under which a food innovation center can successfully engage with the local community and drive meaningful progress in Kosrae's food sector.

### 9. Consumer Demand and Price Sensitivity for Locally Processed Foods

The survey highlights the critical influence of price sensitivity on consumer behavior in Kosrae, with 50 percent of respondents identifying affordability as a primary determinant of purchasing decisions. This underscores the importance of competitive pricing in encouraging the adoption of locally processed food products, particularly in a market where economic constraints may play a significant role in shaping consumer preferences. For many consumers, locally processed foods need to strike a balance between affordability and value to remain accessible and appealing.

At the same time, 25 percent of respondents pointed to quality and uniqueness as significant factors influencing consumer choices. This indicates the presence of a niche market that values

premium products over cost considerations. Consumers in this segment may be drawn to foods that emphasize traditional ingredients, artisanal preparation methods, or unique flavor profiles that distinguish them from standard offerings. Catering to this group requires a focus on superior product quality, innovative packaging, and branding strategies that highlight the cultural and nutritional value of local products.

The survey also provides insights into purchasing patterns, revealing that only 33 percent of customers buy locally processed foods on a weekly basis. Another 33 percent purchase these products occasionally, while an equal percentage rarely make such purchases. This distribution highlights the need for more consistent consumer engagement. To address these challenges, targeted marketing strategies such as promotional campaigns, in-store demonstrations, and educational initiatives can help increase awareness and demand for locally processed foods. By emphasizing both affordability for the price-sensitive majority and quality for the niche market, businesses can expand their customer base and foster greater loyalty.

**10. Future Demand, Market Potential, and Recommendations**

The outlook for the future of Kosrae's food industry is optimistic, with 50 percent of respondents predicting significant growth in consumer demand for locally processed foods over the next two to three years. This anticipated expansion reflects growing recognition of the benefits of supporting local products, both from an economic and cultural perspective. At the same time, the other 50 percent of respondents expect demand to remain relatively stable, signaling the need for sustained efforts to catalyze growth and capitalize on emerging opportunities.

Products with cultural significance were unanimously identified by 100 percent of respondents as having the highest market potential. This includes items that highlight traditional flavors, ingredients, and preparation methods that resonate deeply with local consumers. These products are not only culturally relevant but also have the potential to appeal to tourists seeking authentic culinary experiences. Similarly, 75 percent of respondents identified healthy and nutritious snack options and convenient ready-to-eat meals as key areas of market potential. This aligns with broader consumer trends favoring health-conscious and time-saving food choices.

Half of the respondents emphasized the opportunity for unique or specialty products that are not currently available in the market. These items could differentiate local producers from imported goods, carving out a competitive niche. Additionally, 100 percent of respondents recognized the potential of products grown locally and associated with Kosrae's identity. This further underscores the importance of leveraging local resources and cultural heritage to strengthen the food industry.

To drive demand and market growth, respondents recommended strategies such as in-store sampling, supported by 75 percent, and collaborations with local chefs, supported by all respondents. In-store sampling events can provide consumers with firsthand exposure to the flavors and quality of locally processed foods, fostering trust and encouraging trial purchases. Partnerships with local chefs can amplify visibility and credibility, particularly for premium or culturally significant products. These collaborations also provide an opportunity to showcase innovative uses of local ingredients, enhancing their appeal to both local and tourist markets.

By focusing on these strategies, Kosrae's food industry can position itself for long-term growth and sustainability. Investments in product development, marketing, and supply chain efficiency will be essential in meeting rising consumer expectations and ensuring the success of locally processed foods. These efforts will not only boost economic resilience but also preserve and promote the cultural heritage of Kosrae.

**Conclusion**

The findings of the Kosrae Food Retailer Survey highlight the essential role of locally processed foods in safeguarding cultural identity and fostering economic resilience. These foods are not merely products of consumption but also vessels of cultural heritage, reflecting traditional practices, local flavors, and community values. Their integration into the local food system offers an opportunity to reduce reliance on imported goods, which are often more expensive and less tailored to the dietary and cultural preferences of Kosrae's residents.

Addressing the systemic challenges identified in the survey is critical for unlocking the full potential of Kosrae's food sector. Challenges such as limited access to quality raw materials, inadequate infrastructure, high production costs, and gaps in technical expertise must be met with targeted and coordinated solutions. Investments in modern processing and packaging facilities will enable local businesses to scale their operations and improve efficiency. Similarly, enhancing access to training and workforce development programs will equip local producers and restaurant operators with the skills and knowledge required to innovate and meet evolving consumer demands.

Community support, as evidenced by the survey's findings, provides a strong foundation for these initiatives. The overwhelming interest in establishing a food innovation center reflects a shared recognition of the need for collaboration and resource-sharing. Such a center could become a hub for technical assistance, product development, and marketing support, enabling small and medium-sized enterprises to compete effectively in the market. It could also foster stronger partnerships between farmers, producers, and retailers, ensuring a more integrated and sustainable food ecosystem.

Marketing and promotional efforts will also play a pivotal role in raising consumer awareness and driving demand for locally processed foods. Strategies such as in-store sampling, collaborations with local chefs, and culturally resonant branding can bridge the gap between producers and consumers, showcasing the unique value of Kosrae's food products. These initiatives can appeal to both local residents and tourists, expanding the market potential and ensuring that locally processed foods gain a stronger foothold.

Ultimately, the path to a thriving and sustainable food industry in Kosrae lies in a comprehensive approach that addresses infrastructure gaps, empowers the workforce, and amplifies consumer engagement. By leveraging its rich cultural heritage and community-driven spirit, Kosrae can build a resilient food sector that benefits producers, retailers, and consumers alike. This transformation will not only contribute to economic growth but also preserve and celebrate the island's unique cultural identity for generations to come.

# Federated States of Micronesia

# Food Systems Solutions Project

# Kosrae Food Retailer Survey - Stores Results

## 1. Introduction to Kosrae’s Food Retail Industry

Kosrae's food retail sector is a cornerstone of the island’s economy, deeply intertwined with its cultural heritage and food security. The Food System Solutions (FSS) survey underscores the role of local food retailers, particularly stores, as critical intermediaries in the promotion and distribution of locally processed food products. These establishments bridge the gap between agricultural producers and consumers, helping to reduce dependency on imported goods and fostering local agricultural development. By offering culturally relevant products, Kosrae’s stores support community identity and meet dietary preferences, aligning with local tastes and traditions.

However, the survey reveals that the sector faces notable systemic challenges. Many stores struggle with inadequate access to quality raw materials, which limits their ability to stock a diverse range of locally processed foods. The shortage of technical expertise among operators further compounds this issue, restricting their capacity to process and market local products effectively. Infrastructure deficits, including a lack of modern facilities for processing and packaging, hinder productivity and scalability within the sector. Together, these barriers limit the availability of locally processed foods and prevent the sector from meeting its full potential in addressing local demand.

Addressing these challenges will require strategic investments in infrastructure development, workforce training, and supply chain enhancements. Capacity-building initiatives, such as technical workshops and access to shared processing facilities, can empower local businesses to innovate and scale operations. Additionally, integrating local agricultural production with the retail sector can create a more cohesive food system, fostering a resilient and self-reliant economy in Kosrae.

## 2. Demographic Insights of Survey Respondents

The demographic landscape of Kosrae’s store operators reflects a blend of experience and traditional roles within the sector. According to the survey, 64 percent of respondents are male, while 36 percent are female. This disparity suggests that men play a dominant role in the operational and managerial aspects of food retail, potentially tied to traditional economic structures in Kosrae. Nevertheless, the substantial participation of women highlights their critical contributions to the sector, particularly in roles that preserve traditional practices and ensure smooth day-to-day operations. The gender distribution underscores the importance of inclusive policies that empower both men and women, ensuring balanced representation and maximizing sector-wide potential.

Age distribution among respondents provides further insights into the workforce composition. A majority—55 percent—of respondents fall within the 31–45 age group, signifying a strong presence of mid-career professionals. These individuals likely bring valuable expertise, operational knowledge, and market insights, serving as a stabilizing force in the industry. Another 36 percent of respondents are aged 56–60, representing seasoned professionals whose extensive experience contributes to the sector's long-term continuity. Only 9 percent of respondents are over 60, suggesting a gradual phasing out of the older generation without an immediate influx of younger talent. Alarmingly, there are no respondents under the age of 30, highlighting a gap in youth participation.

This demographic trend signals the need for targeted initiatives to attract younger participants into the food retail industry. Programs that emphasize skill development, mentorship, and entrepreneurial opportunities can bridge generational gaps and ensure the transfer of knowledge and expertise. Engaging the youth can also introduce modern perspectives and technological innovation, which are critical for sustaining the growth of Kosrae's food retail sector.

### 3. Types of Locally Processed Food Products Sold

The survey reveals a mixed landscape of locally processed food products available in Kosrae's stores, showcasing both opportunities for growth and existing challenges. Bread and baked goods, including donuts and muffins, dominate the local offerings, being sold in 64 percent of stores. These items are staples in Kosrae's diet, reflecting their affordability and daily utility. However, traditional snacks such as banana chips and breadfruit chips are significantly less prevalent, sold in only 36 percent and 18 percent of stores, respectively. This limited availability points to a missed opportunity to capitalize on culturally significant products that could appeal to both local residents and tourists.

Coconut-based products demonstrate varied levels of market penetration. General coconut items are available in 55 percent of stores, indicating moderate consumer interest and supply. However, coconut cooking oil and coconut milk are found in just 27 percent and 9 percent of stores, respectively. These figures highlight barriers in the processing and distribution of essential coconut products, which are staples in Kosrae's traditional cooking. Overcoming these challenges will require enhanced supply chain coordination and investments in processing capabilities.

Fish and seafood products are another underrepresented category. Salted fish is sold in 27 percent of stores, while dried and smoked seafood varieties are available in only 10 percent and 9 percent, respectively. These numbers are surprising given Kosrae's reliance on fish as a dietary staple, suggesting significant untapped potential in this segment. Similarly, other products such as pork items, taro chips, and vegetables sauces and salsas each appear in only 9 percent of stores, emphasizing the need for diversification in local food offerings.

Expanding the range of locally processed foods in Kosrae's stores requires a focus on overcoming production and distribution challenges. By leveraging the island's agricultural and marine resources, the local food sector can enhance its product diversity, meet consumer preferences, and create new economic opportunities.

## 4. Importance of Locally Made Processed Food Products

The survey highlights a strong consensus on the importance of locally made processed foods in Kosrae's food retail industry. Seventy-three percent of respondents consider these products "very important," while the remaining 27 percent view them as "important." This unanimous recognition underscores the multifaceted role that locally processed foods play in promoting cultural preservation, economic growth, and food security on the island.

Locally made foods reflect traditional culinary practices, embodying Kosrae's cultural heritage and community identity. By incorporating indigenous ingredients and preparation methods, these products serve as a tangible link to the island's history and traditions. They also provide a sense of pride and ownership among residents, reinforcing the importance of preserving local foodways for future generations.

From an economic perspective, locally processed foods support small-scale producers and stimulate demand for locally sourced ingredients. This creates a circular economy where agricultural producers, processors, and retailers collaborate to meet consumer needs. Additionally, these products reduce reliance on imported goods, which are often more expensive and less fresh. This contributes to greater food security and affordability for residents, aligning with the island's broader sustainability goals.

Realizing the full potential of locally made processed foods will require strategic investments in production capabilities, infrastructure, and marketing. Enhancing the visibility and accessibility of these products through targeted promotional campaigns can increase consumer awareness and demand. Furthermore, building partnerships with local producers and providing technical support for innovation can help diversify the product range and improve quality, ensuring that Kosrae's locally processed foods remain a vital part of the community and economy.

## 5. Support for a Food Innovation Center

Support for establishing a food innovation center in Kosrae is overwhelmingly positive, with 64 percent of respondents expressing strong support and an additional 27 percent indicating general support. This broad endorsement, with only 9 percent remaining neutral, reflects a shared recognition of the center's potential to address systemic challenges within the local food industry. Such a facility is perceived as a key resource for improving product quality, fostering innovation, and enhancing the variety of locally processed food offerings.

The potential benefits of the food innovation center are particularly noteworthy. Access to commercial processing facilities is seen as essential by 73 percent of respondents, highlighting the need for scalable infrastructure that allows businesses to increase production efficiency and reduce costs. Similarly, 91 percent of respondents emphasize the importance of technical assistance in product development, which includes recipe creation, blending techniques, and advanced packaging solutions. These services would enable businesses to develop competitive products that meet consumer expectations and stand out in the marketplace.

Marketing and branding support is identified as another significant benefit, valued by 82 percent of respondents. Effective branding strategies are critical for improving consumer recognition and

trust in locally made products, particularly in competing with imported goods. By addressing gaps in marketing expertise, the innovation center could help local producers better connect with their target audience and expand their market reach.

The strong overall support for a food innovation center underscores its potential as a transformative initiative for Kosrae's food sector. By addressing critical needs such as infrastructure, technical expertise, and marketing, the center could significantly enhance the competitiveness and sustainability of local businesses.

## 6. Challenges in Sourcing and Producing Local Food Products

Kosrae's food retailers face a range of barriers that impede the sourcing and production of locally processed foods. Among these challenges, the lack of trained workers is the most significant, as indicated by 91 percent of respondents. This shortage underscores the urgent need for workforce development initiatives that can equip individuals with the technical skills required for food processing, packaging, and quality control. Building a skilled workforce is vital for enhancing productivity and ensuring the consistent availability of high-quality products.

High production costs are another critical issue, affecting 73 percent of respondents. These costs encompass labor, utilities, raw materials, and transportation, collectively making it difficult for businesses to achieve profitability. Addressing these financial constraints through subsidies, shared facilities, or bulk purchasing agreements could help reduce expenses and encourage local production.

Inadequate infrastructure for processing and packaging is a major concern, identified by 82 percent of respondents. This includes the lack of modern equipment and facilities that are essential for efficient production. Without these resources, businesses are unable to scale their operations or improve product consistency. Limited access to quality raw materials, noted by 45 percent of respondents, further exacerbates the problem, as businesses struggle to source the ingredients needed to create culturally significant and marketable products.

Challenges in distribution capabilities, also affecting 45 percent of respondents, highlight inefficiencies in getting products to market. Improving logistical networks and creating centralized hubs for storage and transportation could help streamline distribution processes. Together, these barriers emphasize the need for comprehensive interventions that address both production and supply chain issues to foster a thriving local food industry.

## 7. Perceived Benefits of a Food Innovation Center

The establishment of a food innovation center in Kosrae is widely recognized as a transformative opportunity for the local food industry. Among respondents, 91 percent highlight the importance of technical assistance, which includes support in product development, recipe standardization, and advanced packaging solutions. These services are critical for enabling local producers to create innovative and high-quality products that meet consumer preferences.

Collaboration with local farmers and producers is viewed as essential by 73 percent of respondents. This collaboration would strengthen supply chains and ensure a steady flow of raw

materials for processing, aligning production efforts with local agricultural outputs. By fostering partnerships between producers and retailers, the innovation center could promote a more cohesive and integrated food ecosystem.

Access to research and development facilities is considered valuable by 64 percent of respondents. Such facilities would provide a platform for experimenting with new products, improving existing ones, and exploring innovative methods of production. The ability to conduct research within a dedicated space would allow businesses to stay competitive and adapt to changing consumer trends.

Commercial-scale processing facilities, supported by 73 percent of respondents, are seen as essential for expanding production capabilities. These facilities would enable businesses to operate more efficiently and cost-effectively, addressing scalability issues that currently limit their growth. By addressing these needs, the innovation center has the potential to significantly enhance the competitiveness, sustainability, and market presence of Kosrae's food industry.

**8. Factors Influencing Collaboration with a Food Innovation Center**

Several factors influence the willingness of Kosrae's food retailers to collaborate with a food innovation center. Profitability is a primary motivator, cited by 82 percent of respondents. This underscores the importance of ensuring that the center delivers tangible economic benefits, such as reducing production costs, increasing revenue, and improving operational efficiency. Businesses need to see clear financial returns on their investment in collaboration to ensure sustained participation.

Access to funding and grants is another critical factor, identified by 73 percent of respondents. Financial support would enable businesses to invest in new equipment, explore innovative product ideas, and expand their operations. For small-scale producers with limited resources, this access to capital is essential for taking risks and pursuing growth opportunities.

Opportunities to produce shelf-stable foods and enhance community food security are equally important, valued by 73 and 82 percent of respondents, respectively. Shelf-stable foods reduce spoilage and increase the availability of locally processed products, while food security initiatives ensure that nutritious and culturally relevant options are accessible to the community. These dual benefits align with both economic and social goals, further emphasizing the center's importance.

The findings reveal that for the food innovation center to succeed, it must address both economic and community-oriented priorities. By providing financial incentives, fostering innovation, and supporting food security, the center can attract widespread collaboration and create a lasting impact on Kosrae's food retail sector.

**9. Consumer Demand and Price Sensitivity for Locally Processed Foods**

Consumer demand for locally processed foods in Kosrae is significantly influenced by price sensitivity, as 45 percent of respondents indicate that affordability is the most critical factor shaping purchasing decisions. This highlights the economic constraints faced by many residents

and underscores the need for pricing strategies that align with the community's financial realities. Ensuring that locally processed foods are competitively priced will be essential to expanding their accessibility and increasing market penetration.

For another 27 percent of respondents, price remains an important but not exclusive consideration, suggesting that while cost is a key factor, it may be balanced against other product attributes. This group represents consumers who are price-conscious yet open to exploring higher-value options if they perceive additional benefits, such as better taste, quality, or convenience.

Interestingly, 9 percent of respondents prioritize quality and uniqueness over affordability. This reflects the existence of a niche market segment willing to pay a premium for high-quality, distinctive products. Such consumers are likely to be attracted to items that emphasize cultural authenticity, artisanal production, or innovative flavors. Catering to this group offers an opportunity to diversify the market and create specialized product lines that command higher prices.

The purchasing frequency of locally processed foods further illustrates opportunities for growth. With 45 percent of respondents reporting daily purchases and 36 percent buying these products weekly, there is a clear base of consistent consumer demand. However, the remaining percentages suggest room for improvement in engagement with less frequent purchasers. Strategies such as promotional offers, educational campaigns on the benefits of local products, and enhanced product visibility could help convert occasional buyers into regular consumers. Tailoring marketing efforts to emphasize both affordability and the unique value of local foods will be key to maximizing demand across all consumer segments.

**10. Future Demand, Market Potential, and Recommendations**

The outlook for the future demand for locally processed foods in Kosrae is optimistic, with 45 percent of respondents expecting moderate growth in the coming two to three years. This projection indicates a steady expansion of consumer interest, driven by growing awareness of the benefits of supporting local products. Another 27 percent anticipate significant growth, reflecting confidence in the potential for the sector to capture a larger market share by meeting evolving consumer needs. Together, these figures paint a promising picture of a food sector poised for development.

The types of products with the highest market potential align with cultural and health trends. Products with cultural significance are identified as key growth drivers by 64 percent of respondents. These items, such as traditional snacks and coconut-based foods, resonate deeply with consumers due to their heritage value and alignment with local tastes. Their unique appeal also positions them as attractive options for tourists seeking authentic Kosraean culinary experiences.

Health-focused snacks are seen as equally promising, with 73 percent of respondents highlighting their potential. The emphasis on health reflects global trends toward nutritious, functional foods and suggests an opportunity for producers to innovate within this category.

These products could include dried fruits, nut-based snacks, and fortified items that cater to health-conscious consumers.

In addition, 64 percent of respondents see collaborations with local influencers and chefs as a valuable strategy for driving consumer awareness. By showcasing the versatility and cultural relevance of locally processed foods, these collaborations can enhance the perceived value of the products and encourage trial purchases. Similarly, in-store sampling, supported by 82 percent of respondents, is recognized as an effective way to introduce new products to consumers and build trust through direct experiences.

To capitalize on these opportunities, it will be critical to implement targeted strategies that address both consumer awareness and accessibility. Investments in marketing, product development, and supply chain efficiency will enable the sector to meet the anticipated growth in demand. By focusing on culturally significant and health-oriented products, Kosrae's food industry can position itself as both a community staple and a distinctive offering in the broader market. These efforts will ensure that locally processed foods continue to thrive, contributing to the economic and cultural sustainability of the region.

**Conclusion**

Kosrae's food retail industry is a vital pillar of the island's cultural identity, economic resilience, and food security. As a sector that bridges traditional practices with modern consumer needs, it has the potential to create a self-sustaining ecosystem that benefits local communities economically, socially, and culturally. Locally processed foods are more than just products; they are carriers of heritage, reflecting the rich agricultural and culinary traditions of Kosrae while addressing contemporary challenges such as import dependency and food system vulnerabilities.

Despite its promise, the sector faces systemic barriers that limit its ability to achieve its full potential. Challenges such as inadequate infrastructure, high production costs, limited technical expertise, and constrained access to quality raw materials present significant obstacles. Overcoming these barriers requires a comprehensive approach that combines strategic investments with community-driven initiatives. Addressing these issues will enable the sector to meet the rising demand for locally processed foods while ensuring their affordability, quality, and cultural relevance.

Workforce development is a cornerstone of this transformation. The lack of trained workers, as highlighted in the survey, underscores the need for targeted education and skill-building programs that equip individuals with expertise in food processing, product development, and business operations. Investing in human capital will not only improve the quality and consistency of locally processed foods but also create employment opportunities that empower Kosraeans and strengthen the local economy.

Infrastructure improvements are equally critical. The establishment of facilities such as commercial-scale processing centers and shared kitchens will provide the resources necessary for businesses to scale their operations, reduce production costs, and enhance product consistency.

Additionally, upgrading distribution networks and storage facilities will ensure that locally processed foods reach consumers efficiently and with minimal waste.

Innovative marketing and branding strategies will play a pivotal role in raising consumer awareness and boosting demand for local products. By emphasizing the cultural significance, health benefits, and unique qualities of Kosrae's locally processed foods, businesses can foster stronger connections with both local consumers and tourists. Campaigns that leverage in-store sampling, collaborations with local chefs, and endorsements from community influencers will help build trust and encourage wider adoption of these products.

Kosrae's food retail sector is well-positioned to leverage the strong community support evident in the survey. Initiatives such as a food innovation center could serve as a catalyst for collaboration, providing technical assistance, facilitating partnerships between producers and retailers, and fostering innovation across the value chain. These efforts will not only address existing challenges but also unlock new opportunities for market expansion and economic growth.

In conclusion, by addressing systemic barriers and capitalizing on its inherent strengths, Kosrae's food retail industry can evolve into a vibrant and sustainable ecosystem. Investments in workforce development, infrastructure, and marketing will be essential to achieving this vision. As the sector grows, it will not only contribute to Kosrae's economic resilience but also preserve its cultural heritage and enhance food security for future generations. With coordinated efforts and community-driven solutions, the food retail industry has the potential to become a cornerstone of sustainable development in Kosrae.

# Federated States of Micronesia
# Food Systems Solutions Project
# Kosrae Policymaker Survey Results

## 1. Demographics of Policymakers

The demographic composition of policymakers in Kosrae highlights critical gender and age dynamics that shape the region's decision-making processes. A significant 86 percent of respondents identify as male, illustrating a pronounced gender imbalance in policymaking roles. This overwhelming male representation suggests limited participation by women in these influential positions. The remaining 14 percent, who are female, reflect a significant gap that needs addressing to ensure that policymaking benefits from diverse perspectives. Promoting gender equity through targeted initiatives, such as leadership programs for women, could enrich the decision-making process, fostering more inclusive and balanced governance.

Age distribution among policymakers presents an additional dimension of insight. The data show that 43 percent of respondents fall within the 56–60 age range, with an equal percentage over 60. These findings point to a policymaking body heavily reliant on experienced individuals who bring stability and long-term institutional knowledge. This senior representation is essential for addressing complex issues requiring historical context and measured decision-making. However, only 14 percent of respondents are aged 31–45, and there is a complete absence of policymakers under 30. This lack of younger voices underscores the urgent need for mentorship initiatives and youth engagement programs to bridge generational gaps, encourage fresh ideas, and ensure sustainable leadership for the future.

## 2. Perceived Benefits of a Food Innovation Center

Kosrae policymakers overwhelmingly agree on the transformative potential of a Food Innovation Center, with strong support for its capacity to address food security, stimulate economic growth, and improve community health. Among respondents, 60 percent prioritize food security as the most important benefit, underscoring the critical role the center could play in reducing reliance on imported goods and addressing vulnerabilities in global supply chains. Policymakers see this initiative as essential for ensuring consistent access to affordable, nutritious, and locally sourced food products, which strengthens the island's resilience to external disruptions.

Job creation and economic growth are ranked as the most important by 40 percent of respondents, with an additional 20 percent considering them important. This emphasis reflects a shared understanding of the center's potential to create employment opportunities across the food production, processing, and distribution sectors. By expanding job opportunities, the center could contribute significantly to economic stability and community development.

Health improvement, supported as the most important by 25 percent of respondents, highlights the center's role in fostering better nutrition and addressing dietary-related health issues. By enabling the production of healthier food options, the center aligns with broader public health goals, including combating malnutrition and non-communicable diseases.

Entrepreneurial opportunities, recognized by 25 percent of respondents, represent an additional avenue for growth. Policymakers see the center as a platform for empowering small-scale producers, fostering innovation, and facilitating access to broader markets. This approach could catalyze economic diversification and self-sufficiency, creating a sustainable ecosystem for local food production.

### 3. Priorities for Locally Processed Foods

The survey highlights Kosrae policymakers' prioritization of locally processed foods that align with cultural significance and dietary staples. Taro and breadfruit, considered essential staples, are identified as the most important by 67 percent of respondents. This focus reflects their central role in enhancing food security, reducing dependency on imported staples, and preserving traditional food systems. These crops are deeply ingrained in Kosrae's cultural identity, making their prioritization a strategic and culturally aligned choice.

Fish and seafood, essential components of the local diet, are viewed as the most important by 33 percent of respondents and important by 67 percent. This dual acknowledgment underscores the value of these resources not only for sustenance but also for economic potential. Policymakers see opportunities for sustainable fisheries and value-added processing to boost marketability and align with environmental preservation goals.

Fruits and vegetables, while not ranked as the top priority, are still considered important by 33 percent of respondents. Their inclusion indicates an awareness of the role they play in promoting balanced diets and supporting local agriculture. Conversely, high-value specialty products, such as coffee and spices, are viewed as less important by 33 percent of respondents. This reflects a practical focus on staples and essential foods over luxury items, ensuring that efforts to develop the local food system align with immediate cultural, nutritional, and economic needs.

### 4. Key Features of a Food Innovation Center

Policymakers emphasize the importance of specific features for the success of a Food Innovation Center, aligning these features with Kosrae's needs for improved food production and market access. Processing and packaging equipment emerges as the most critical feature, with 60 percent of respondents prioritizing it. Modern equipment would allow local producers to meet stringent safety standards, improve product quality, and extend shelf life, making locally processed foods more competitive and appealing to consumers.

Research and development facilities, identified as important by 50 percent of respondents, are another crucial feature. These facilities would support innovation, enabling producers to experiment with new recipes, develop culturally aligned products, and refine existing ones. By fostering creativity, these facilities could diversify the range of available local food products, enhancing their appeal to both local and international markets.

Shared kitchens and commercial spaces are also valued, with 40 percent of respondents considering them important. These resources provide small-scale producers with affordable access to essential facilities, removing barriers to entry and encouraging collaboration. Such spaces are especially valuable for start-ups and individual entrepreneurs, enabling them to scale their operations without incurring prohibitive costs.

Additionally, market access and distribution networks, rated as important by 40 percent of respondents, highlight the need to connect producers with consumers effectively. Improving these networks would ensure that locally processed foods reach wider markets, amplifying their economic impact and fostering a self-sufficient local food system. Together, these features create a comprehensive framework for the Food Innovation Center to address systemic challenges and unlock Kosrae's food production potential.

**5. Importance of Involving Local Farmers and Producers**

Policymakers in Kosrae overwhelmingly acknowledge the importance of involving local farmers and producers in the planning and operation of the Food Innovation Center. A significant 86 percent of respondents rate this involvement as very important, while the remaining 14 percent consider it important. This near-universal agreement underscores a shared belief that the success of the center depends on its alignment with the practical needs and challenges faced by the agricultural community.

The involvement of farmers ensures that the center's programs and facilities are tailored to local realities. Farmers bring critical insights into crop selection, sustainable farming practices, and traditional food preparation methods. Their input helps design relevant training modules, select appropriate equipment, and prioritize crops that align with cultural and economic priorities. This collaborative approach fosters a sense of ownership among farmers, increasing their commitment to the center's success and strengthening trust between stakeholders.

In addition to practical benefits, engaging farmers promotes the development of a mutually beneficial relationship. Farmers gain access to resources such as training, equipment, and stable markets, while the center benefits from high-quality raw materials and active community participation. This dynamic not only strengthens the local food system but also ensures the long-term sustainability of both the center and Kosrae's agricultural sector.

**6. Types of Government Support for the Food Innovation Center**

Policymakers highlight several forms of government support that are crucial for the Food Innovation Center's success, with financial subsidies emerging as the most critical. Sixty-seven percent of respondents identify subsidies as the most important type of support, reflecting their role in offsetting the operational costs of the center. Subsidies would allow the center to provide affordable access to facilities, training, and resources, ensuring that small-scale producers can fully utilize its offerings without financial constraints.

Technical assistance is another essential form of support, emphasized by 33 percent of respondents. This includes providing access to modern processing tools, packaging equipment, and expertise necessary for producing high-quality, market-ready food products. By bridging the

gap in technical resources, the government can empower local producers to meet food safety and quality standards while enhancing the competitiveness of their products.

Training programs are similarly prioritized, addressing the need to equip producers with the skills required to maximize the center's potential. These programs focus on areas such as advanced processing techniques, sustainable farming practices, and business management, enabling producers to expand their operations and tap into broader markets. Marketing support, identified as important by 33 percent of respondents, complements these efforts by increasing the visibility and appeal of locally processed foods. Through promotional campaigns and branding initiatives, the government can help producers connect with consumers and drive demand for local products.

Together, these forms of support create a comprehensive framework for the center's success, enabling it to address systemic challenges and foster a resilient local food system.

### 7. Policies Supporting Farmers in Supplying Raw Materials

Kosrae policymakers strongly advocate for policies that enable farmers to supply raw materials to the Food Innovation Center effectively. Subsidies for farming inputs, such as seeds, fertilizers, and equipment, are unanimously supported, highlighting their importance in reducing the financial burden on farmers. These subsidies encourage increased agricultural production, ensuring a consistent supply of high-quality raw materials for processing.

Guaranteed purchase agreements are endorsed by 86 percent of respondents, reflecting a commitment to creating stable and predictable markets for farmers. These agreements provide financial security by guaranteeing a steady demand for crops, reducing risks associated with price fluctuations and market uncertainties. Such stability incentivizes farmers to invest in expanding their production capacity, aligning with the center's objectives.

Tax incentives for local producers, supported by all respondents, further underscore the need for policies that promote agricultural investment. These incentives lower the cost of operations for farmers, enabling them to allocate resources toward improving productivity and adopting innovative practices.

Additionally, 71 percent of respondents emphasize the importance of training programs for farmers. These programs focus on sustainable farming techniques, crop diversification, and pest management, equipping farmers with the knowledge and skills needed to enhance both the quality and quantity of their produce. By addressing the full spectrum of challenges faced by farmers, these policies ensure a steady supply of raw materials while fostering the long-term sustainability of Kosrae'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, with 50 percent of respondents identifying regular stakeholder meetings as an important strategy. These meetings provide a platform for farmers to voice their concerns, share insights, and offer feedback on the center's operations. By fostering open communication, these

gatherings help build trust and ensure that the center's initiatives align with the needs of the farming community.

The creation of farmers' cooperatives, supported unanimously by 100 percent of respondents, is another critical strategy. Cooperatives enhance collective bargaining power, streamline logistics, and reduce individual costs by pooling resources. They also improve the coordination of raw material supply, ensuring that the center receives consistent and timely deliveries. By organizing farmers into cooperatives, the center can foster a spirit of collaboration and mutual support within the agricultural community.

Logistical support, such as transportation for crops and supplies, is highlighted as important or moderately important by 40 percent of respondents. Policymakers recognize that inadequate transportation infrastructure can be a significant barrier for farmers, particularly those in remote areas. Providing logistical assistance would address this challenge, enabling more producers to access the center's resources and participate in its programs.

In addition to these strategies, ongoing communication platforms are considered valuable for maintaining real-time dialogue between farmers and the center. These platforms facilitate the exchange of information on market trends, training opportunities, and operational updates, ensuring that farmers remain informed and engaged. Together, these strategies create a robust framework for collaboration, strengthening the relationship between the Food Innovation Center and Kosrae's farming community.

**9. Indicators of Success for the Food Innovation Center**

Policymakers in Kosrae identify clear and measurable indicators to evaluate the success of the Food Innovation Center. A majority 86 percent of respondents agree that increased local employment is a critical metric. This highlights the center's potential to act as a driver of job creation across various stages of the food supply chain, including farming, processing, packaging, and distribution. The creation of these jobs would not only provide livelihoods for many residents but also contribute significantly to the overall economic stability of the island.

Improved farmer incomes are another essential indicator, emphasized by 86 percent of respondents. This metric reflects the center's ability to transform agricultural activities into viable and profitable enterprises. By providing farmers with access to better resources, training, and stable markets, the center can ensure that their efforts yield tangible financial benefits. These improved incomes would enhance the standard of living for farming families and encourage further investment in agricultural activities, creating a positive feedback loop for the local economy.

Food security is prioritized by 100 percent of respondents as a key measure of success. Policymakers recognize the importance of reducing Kosrae's reliance on imported goods, which are often expensive and vulnerable to global supply chain disruptions. By increasing the availability of locally produced, affordable food items, the center can strengthen Kosrae's resilience and ensure consistent access to essential nutritional resources for its residents.

One hundred percent of respondents highlight increased access to fresh and nutritious foods as a success indicator, underscoring the center's role in improving dietary health across the community. The production and promotion of high-quality, locally sourced foods can address nutritional deficiencies and reduce the prevalence of diet-related health issues, aligning with broader public health goals.

Finally, 57 percent of respondents view the creation of new businesses as an important success metric. This reflects the center's potential to foster entrepreneurial activity by supporting small-scale producers and encouraging innovation in food processing and product development. The establishment of these businesses would not only diversify Kosrae's economy but also provide additional avenues for community members to participate in and benefit from the local food system.

Together, these indicators represent a comprehensive vision of the center's success, encompassing economic growth, food security, and community well-being.

**10. Infrastructure and Capacity Building for the Local Food System**

Policymakers in Kosrae emphasize the importance of robust infrastructure and capacity-building initiatives as essential foundations for a resilient local food system. Among the priorities, cold storage facilities are highlighted as most important or of high importance by 60 percent of respondents. These facilities address the challenges of preserving perishable goods, such as fruits, vegetables, and seafood, which are integral to Kosrae's agricultural economy. By reducing post-harvest losses and extending the shelf life of these products, cold storage infrastructure ensures that fresh produce remains available for both local consumption and external markets, enhancing both profitability and food security.

Transportation infrastructure is identified as a priority by 17 percent of respondents. Improved roads, shipping networks, and logistical systems are seen as vital for enabling the efficient movement of raw materials to the Food Innovation Center and distributing processed products to markets. These improvements would not only integrate rural producers into the larger food system but also ensure that consumers across Kosrae have equitable access to locally processed foods.

Capacity building is another critical focus, with 40 percent of respondents supporting training programs for food production. These programs aim to equip local producers with modern techniques in cultivation, harvesting, processing, and quality control. By enhancing technical skills, these initiatives empower producers to increase productivity, meet market standards, and adapt to evolving consumer demands. Training programs also foster innovation, enabling producers to diversify their offerings and explore value-added processing opportunities.

Investments in infrastructure and capacity building reflect a comprehensive strategy to strengthen Kosrae's food system. By addressing the logistical and technical barriers that currently limit agricultural efficiency and market access, these initiatives ensure that the local food sector is resilient, sustainable, and capable of meeting the needs of producers and

consumers alike. Together, they lay the groundwork for a thriving, self-sufficient food economy in Kosrae.

**Conclusion**

The Kosrae Policymaker Survey highlights the transformative potential of establishing a Food Innovation Center as a cornerstone for addressing systemic challenges, enhancing food security, and fostering economic growth. Policymakers recognize the critical need to develop a resilient and sustainable local food system that aligns with Kosrae's cultural, economic, and environmental priorities. Through strategic planning and community engagement, the center can serve as a catalyst for sustainable development, creating opportunities that benefit farmers, producers, and the broader community.

Central to the vision for the Food Innovation Center is its role in addressing Kosrae's dependence on imported food products. By promoting the processing and distribution of locally sourced crops and seafood, the center has the potential to strengthen food security. Policymakers emphasize the importance of focusing on culturally significant staples such as taro, breadfruit, and seafood, which are integral to Kosrae's diet and heritage. The center's ability to preserve and enhance traditional food practices while improving accessibility to fresh, nutritious, and affordable local foods is pivotal in ensuring long-term food system sustainability.

Equally important is the emphasis on supporting farmers, who are at the heart of Kosrae's food system. The survey highlights the importance of involving farmers and producers in the planning and operation of the center to ensure its alignment with their needs and realities. By incorporating their expertise into the center's design and programs, the center can provide tailored resources, such as subsidies, training programs, and guaranteed purchase agreements, which enable farmers to increase productivity and income. These targeted policies not only secure a consistent supply of high-quality raw materials but also empower farmers to invest in sustainable agricultural practices.

Government support emerges as another critical pillar for the center's success. Policymakers recognize the importance of financial subsidies to offset operational costs, technical assistance to provide access to modern equipment, and marketing programs to connect local products with broader markets. These forms of support ensure that the center remains accessible to small-scale producers, enabling them to overcome barriers and compete effectively in the marketplace.

Infrastructure and capacity building are also highlighted as foundational components for the center's success. Investments in cold storage facilities, transportation networks, and training programs are necessary to improve efficiency and reduce losses across the food supply chain. By enhancing producers' technical skills and logistical capacity, the center can foster innovation, expand product diversity, and improve marketability, ensuring that Kosrae's food system remains competitive and resilient.

Moreover, the Food Innovation Center is envisioned as a hub for economic diversification and entrepreneurial activity. By supporting small-scale producers and fostering the creation of new businesses, the center can drive job creation and stimulate economic growth. The emphasis on

increasing local employment and improving farmer incomes underscores the center's potential to uplift livelihoods and contribute to community well-being.

In conclusion, the Kosrae Policymaker Survey underscores the profound impact a Food Innovation Center can have in transforming the island's food system. By focusing on culturally significant crops, empowering farmers, leveraging government support, and investing in key infrastructure, the center has the potential to address systemic challenges and unlock new economic opportunities. Through strategic planning, inclusive policies, and active community engagement, the Food Innovation Center can serve as a beacon of sustainable development, fostering self-sufficiency and resilience in Kosrae's food sector while preserving its cultural heritage for future generations.

# Federated States of Micronesia

# Food Systems Solutions Project

# Kosrae Information Content Provider Survey Results

## 1. Demographics of Information Content Providers

The demographic composition of information content providers in Kosrae reveals significant gender dynamics and generational representation. Sixty-three percent of the respondents identify as male, indicating a strong male majority in roles associated with food systems information dissemination. However, women account for 38 percent of the respondents, showcasing their growing and significant contribution to this field. This gender distribution reflects both traditional male dominance in technical or public-facing roles and the increasingly valuable involvement of women. Their perspectives enrich the diversity of approaches in addressing the challenges and opportunities of Kosrae's food systems.

Age distribution further highlights the prominence of mid-career professionals. Seventy-five percent of the respondents are aged between 31 and 45, a group that combines operational experience with adaptability to modern challenges. The remaining 25 percent are from the younger demographic of 18–30, representing fresh perspectives and strong familiarity with digital tools and platforms. Notably, there is an absence of participants aged 56–60 or above 60, which suggests a gap in the inclusion of older individuals who could contribute traditional knowledge and historical insight. This generational profile underscores the need for initiatives to bridge this gap, creating a balance between youthful innovation and the wisdom of experience. Incorporating both younger individuals and older generations would enable a holistic approach to content creation and information dissemination, leveraging a mix of tradition and modernity to address Kosrae's unique food system challenges.

## 2. Priority Information for an Electronic Food Systems Hub

Information content providers in Kosrae emphasize the critical role of an electronic food systems hub in supporting local food production, resilience, and market integration. Food processing and preservation methods emerge as the most vital area, with 50 percent of respondents rating it as "most important" and another 50 percent viewing it as "moderately important." This consensus underscores the widespread recognition of the need to minimize post-harvest losses, extend the shelf life of locally produced foods, and enhance food security through improved storage and processing techniques.

Marketing strategies, alerts, and opportunities are viewed as "important" by 25 percent of respondents, with an equal percentage rating them as "moderately important." Thirteen percent of respondents identify these strategies as "most important," pointing to the need for timely and actionable insights into market dynamics. Effective marketing tools can enable local producers to optimize profitability and establish stronger connections with buyers, both locally and in external markets.

Emergency services and disaster response also receive significant attention, with 25 percent rating them as "most important." This reflects the vulnerability of Kosrae's food systems to natural disasters such as typhoons and floods. The focus on resilience-building information highlights the importance of equipping producers with the tools and knowledge to prepare for and recover from such disruptions.

Disease control and pest management are considered "important" by 50 percent of respondents, demonstrating their relevance in safeguarding agricultural productivity. The prioritization of these areas signals the necessity for an electronic hub that addresses both immediate challenges, such as pest outbreaks, and long-term goals, such as improved disaster preparedness and market access.

**3. Preferred Update Frequency for Information Hub**

Preferences for the update frequency of an electronic food systems hub among Kosrae's content providers reveal diverse user needs, reflecting varying levels of dependency on dynamic and static information. Thirty-eight percent of respondents prefer monthly updates, favoring comprehensive and periodic information such as seasonal agricultural reports, detailed market analyses, and updates on research findings. These respondents likely value a steady flow of well-rounded insights that enable strategic planning and informed decision-making.

Twenty-five percent of respondents prefer weekly updates, underscoring the demand for more regular and timely information. Weekly updates would cater to topics such as market trends, pest and disease alerts, and emerging opportunities, which require consistent monitoring but do not change on a daily basis.

Daily updates are preferred by 12 percent of respondents, indicating the importance of immediate access to fast-changing information. Real-time data, such as weather forecasts, emergency alerts, or fluctuating market prices, is essential for producers and stakeholders who must make time-sensitive decisions.

An additional 25 percent favor updates "only as needed," reflecting a desire for practicality and relevance in the information provided. These respondents likely focus on receiving updates for critical or urgent issues rather than routine communications. This distribution of preferences highlights the importance of designing a hub with a flexible update system. Such a system would balance the need for immediacy with the value of periodic, in-depth resources, ensuring that the hub serves a broad spectrum of users effectively.

**4. Essential Production Information for Farmers and Producers**

Kosrae's information content providers identify several critical areas of production information to be included in the proposed hub, each addressing distinct needs within the local food systems. Crop cultivation techniques are highlighted as "most important" by 13 percent of respondents, reflecting the foundational role of crop farming in Kosrae's agricultural practices. Guidance on improving yields, optimizing planting schedules, and managing soil health is essential to enhance overall productivity and sustainability.

Aquaculture and fisheries production, while not rated as the highest priority, receive considerable attention, with 38 percent of respondents identifying them as "moderately important." This demonstrates recognition of the economic and dietary significance of sustainable fishery and aquaculture practices. Enhancing these practices could strengthen local food security and expand economic opportunities through value-added seafood products.

Sustainable forestry practices, including the management of invasive species, are deemed "most important" by 25 percent of respondents. This prioritization underscores Kosrae's commitment to preserving its ecological balance and promoting environmental stewardship. Practices such as forest management and the control of invasive species are critical for maintaining the health of ecosystems that support agricultural and aquacultural activities.

The responses emphasize the importance of an electronic hub that provides a balanced range of production information. Such a hub would cater to both immediate agricultural needs and long-term environmental goals, supporting the productivity and sustainability of Kosrae's farmers and producers. By addressing these diverse priorities, the hub can serve as a pivotal resource for fostering resilience and innovation in Kosrae's food systems.

**5. Preferred Formats for Presenting Production Information**

The preferences for production information formats among Kosrae's content providers reflect diverse needs and accessibilities. Written guides and fact sheets emerge as the most valued format, with 38 percent of respondents rating them as "most important." These materials offer portable and easily accessible resources, allowing producers to reference critical information independently at their own pace. This preference highlights the need for concise, clear, and reliable documentation tailored to the specific challenges and opportunities within Kosrae's agricultural landscape.

In-person workshops and training sessions are regarded as "important" by 38 percent of respondents, emphasizing the value of interactive, hands-on learning experiences. These workshops provide opportunities for direct engagement with experts, fostering practical skill-building and real-time problem-solving. This format is particularly beneficial for producers who prefer collaborative and experiential learning environments.

Digital tools, including video tutorials, are preferred by 25 percent of respondents, aligning with the needs of younger and tech-savvy producers who are comfortable navigating online platforms. Videos offer a dynamic and engaging way to present complex concepts, making them more accessible and easier to comprehend for visual learners.

Radio announcements, while less emphasized, are identified as "important" by 13 percent of respondents. This format remains relevant for rural communities with limited access to internet or digital technologies, offering a reliable channel for disseminating critical updates and information. Together, these preferences highlight the necessity of a multimodal approach to content delivery, ensuring that information is accessible and useful to a diverse audience across Kosrae.

**6. Food Processing and Safety Information Needs for the Hub**

The need for robust food processing and safety resources within the proposed hub is widely recognized among Kosrae's information content providers. Food safety and quality control are prioritized by 75 percent of respondents, underlining their universal significance in maintaining public health and meeting market standards. Producers are keenly aware that adhering to safety protocols builds consumer trust and supports the sustainability of their operations.

Small-scale processing techniques are supported by 63 percent of respondents, emphasizing their importance for Kosrae's predominantly small-scale producers. These practical, cost-effective methods are crucial for enabling local producers to enhance their operations without requiring significant capital investments, making them accessible to a broader range of stakeholders.

Industrial processing techniques, though rated lower, are still identified as important by 38 percent of respondents. This reflects their relevance for larger-scale producers or those seeking to expand operations. These techniques could enable producers to meet higher-volume demands or access new markets, complementing the small-scale approaches.

Value-added product development is emphasized by 25 percent of respondents, indicating its potential to transform basic commodities into high-value products that appeal to niche markets. By focusing on diversification and innovation, producers can create unique, marketable items that increase profitability and promote economic growth. These findings demonstrate the need for the hub to balance small-scale accessibility with opportunities for scalability, addressing the varied needs of Kosrae's producers.

**7. Marketing and Sales Information for Local Producers**

Kosrae's content providers highlight the importance of equipping local producers with actionable marketing and sales information to optimize profitability and market access. Market opportunities and pricing information are deemed "important" by 38 percent of respondents, reflecting a strong demand for insights that enable producers to align their products with market demands and secure fair pricing. Real-time updates on pricing trends and market conditions are particularly valuable for producers operating in competitive or fluctuating markets.

Local and regional market trends are also rated as "important" by 38 percent, indicating a focus on understanding consumer preferences and regional dynamics. This knowledge allows producers to adapt their offerings to meet demand, ensuring sustained sales and growth. Export opportunities and requirements, rated as "most important" by 38 percent, underscore the aspiration of many producers to expand beyond local markets. For those with exportable products, understanding regulatory requirements, logistical considerations, and market preferences is essential.

Branding and packaging strategies, while identified as "somewhat important" by 50 percent of respondents, remain relevant for producers aiming to enhance their product appeal and establish a recognizable presence in the marketplace. These strategies can differentiate products in crowded markets and attract specific consumer segments. Collectively, these findings stress the need for the hub to provide comprehensive, practical, and market-oriented guidance that supports producers in both local and export contexts.

### 8. Tools and Resources to Support Marketing and Sales Efforts

Kosrae's information content providers emphasize the significance of both tangible resources and strategic tools to bolster marketing and sales efforts. Improved market spaces are rated as "most important" by 38 percent of respondents, highlighting their role in connecting producers directly with consumers. Accessible and well-equipped market spaces facilitate stronger relationships with buyers, fostering trust and enabling producers to showcase their products effectively.

Networking opportunities are regarded as "important" by 25 percent of respondents, reflecting the value of collaboration in expanding market access and sharing resources. Building connections with other producers, distributors, and retailers can open new sales channels, create joint ventures, and enhance overall market integration.

Market analysis reports are rated as "important" by 50 percent of respondents, underscoring the demand for data-driven insights that inform strategic decision-making. These reports provide critical information on market trends, consumer behavior, and pricing dynamics, empowering producers to align their strategies with evolving conditions. Marketing plan templates, also rated as "important" by 25 percent, offer structured frameworks for producers to develop and execute effective promotional campaigns.

These findings illustrate the need for a comprehensive suite of tools and resources that address both immediate and long-term marketing challenges. By providing access to practical tools, data, and collaboration opportunities, the hub can empower Kosrae's producers to strengthen their market presence and achieve sustainable business growth.

### 9. Emergency Services and Disease Management Information

Kosrae's information content providers place significant emphasis on emergency services and disease management, reflecting the island's vulnerability to natural disasters and climate-related challenges. Natural disaster preparedness is a top priority, with 88 percent of respondents highlighting its importance. This prioritization underscores the critical need for resources that equip producers to respond to typhoons, flooding, and other extreme weather events that frequently disrupt agricultural operations and food systems.

Food safety is equally emphasized, with 88 percent of respondents marking it as critical. Ensuring safe handling, storage, and processing practices is not only essential for protecting public health but also for maintaining trust in locally produced food products. These measures are particularly vital during emergencies when the risk of food contamination or spoilage increases due to infrastructure damage or supply chain disruptions.

Climate adaptation strategies are also regarded as critical by 88 percent of respondents, showcasing a growing awareness of the long-term impacts of climate variability on Kosrae's food systems. These strategies include measures to protect crops, livestock, and fisheries from the adverse effects of rising sea levels, shifting weather patterns, and increased pest and disease prevalence. Together, these findings illustrate the urgent need for a hub that integrates emergency preparedness, food safety protocols, and climate adaptation tools. By providing comprehensive

and actionable resources, the hub can enhance resilience across Kosrae's agricultural and food sectors, ensuring producers are better equipped to navigate both immediate and long-term challenges.

### 10. Financial Planning and Support Resources for Producers

Financial planning and support are critical for the sustainability of Kosrae's food producers, with content providers highlighting several key areas of focus. Financial management training is prioritized by 63 percent of respondents, reflecting the fundamental need for producers to develop skills in budgeting, expense tracking, and cost optimization. These competencies are essential for maintaining profitability, especially in a market characterized by fluctuating input costs and limited access to capital.

Access to credit and funding information is identified as "most important" by 13 percent of respondents, indicating a recognition of the barriers small-scale producers face in securing financial resources. Access to credit can enable investments in modern equipment, expanded production capabilities, and new market opportunities, which are essential for growth and competitiveness.

Personalized financial advice is emphasized by 88 percent of respondents, highlighting the importance of tailored guidance that addresses the unique challenges and opportunities faced by individual producers. Personalized support can help producers navigate loan applications, develop investment plans, and adopt best practices for managing debt and savings. These findings underscore the need for the hub to offer a multifaceted approach to financial support, combining training, access to resources, and customized advice. By addressing these priorities, the hub can empower producers to achieve financial stability, invest in their operations, and contribute to a resilient and thriving local food economy in Kosrae.

### Conclusion

The Kosrae Information Content Provider Survey results underscore the critical role of a well-designed electronic food systems hub in addressing the unique challenges of the region's agricultural and food systems. The survey highlights the diverse demographics of Kosrae's information providers, emphasizing the need for greater inclusivity in gender and generational representation. With a strong presence of mid-career professionals and emerging younger contributors, the hub has the potential to integrate traditional knowledge with modern, innovative approaches to information dissemination.

The survey findings clearly identify priority areas for the hub, including food processing, pest management, marketing strategies, and disaster preparedness. The emphasis on food safety and value-added processing reflects the shared commitment to improving the quality, marketability, and profitability of local products. These priorities align with the broader goals of food security, economic resilience, and sustainable development.

The preferred update frequencies and content formats illustrate the diverse needs of Kosrae's producers. The demand for both real-time and periodic updates highlights the necessity of a

flexible and adaptive system. The mix of in-person workshops, written guides, and digital tools underscores the importance of a multimodal approach to ensure equitable access to information.

Kosrae's producers also face pressing challenges in marketing and financial planning. The survey results reveal the need for targeted tools, such as market analysis reports, improved market spaces, and financial management training, to empower local producers and enhance their competitiveness in broader markets. Emergency preparedness and climate adaptation are also recognized as critical areas for resilience-building.

By addressing these priorities, the proposed food systems hub can serve as a transformative resource for Kosrae. Its ability to provide timely, actionable, and diverse information will empower producers, enhance market access, and promote sustainable agricultural practices. With a strategic focus on the needs identified in this survey, the hub has the potential to foster long-term economic growth, food security, and community well-being in Kosrae.

# Federated States of Micronesia

# Food System Solutions Project

# Kosrae Technical Contacts and IT Personnel Survey Results

## Introduction

This report provides an in-depth examination of the technical infrastructure, communication practices, and skillsets of technical contacts and IT personnel in Kosrae. It emphasizes key areas such as demographic characteristics, communication systems, network monitoring, and server performance, shedding light on both strengths and gaps within the state's IT framework. By analyzing these elements, the report identifies critical opportunities to bolster Kosrae's communication networks and ensure equitable access to information across its population.

## 1. Demographic Profile of Technical Contacts and IT Personnel

The technical workforce in Kosrae is entirely male, with 100 percent of respondents identifying as men. This gender homogeneity underscores the dominance of men in the IT sector in Kosrae. While this uniformity might foster a consistent approach to system management and technical operations, it highlights the lack of gender diversity, which is often essential for fostering innovative solutions and addressing varied challenges. The absence of female representation may limit the integration of diverse perspectives, particularly in creating inclusive and community-driven strategies. Encouraging the participation of women in the IT field could enrich the sector by bringing new approaches to problem-solving and enhancing collaborative dynamics.

In terms of age, 67 percent of respondents are aged 31–45, marking a strong presence of mid-career professionals who are well-positioned to balance experience with adaptability to new technologies. These individuals often play a pivotal role in managing evolving IT demands while maintaining operational stability. Meanwhile, 33 percent of respondents are aged 56–60, bringing significant institutional knowledge and extensive technical expertise to the workforce. However, the absence of individuals under 30 or over 60 creates notable gaps in generational representation. Younger professionals could introduce fresh ideas and familiarity with cutting-edge technologies, while older individuals could contribute a wealth of historical context and mentorship to foster intergenerational knowledge transfer. Addressing this imbalance is essential for building a resilient and sustainable technical workforce in Kosrae.

## 2. Communication Systems in Use and Monitoring Practices

Communication systems in Kosrae exhibit a range of development and application, reflecting both strengths and areas for improvement. One-third of respondents report using localized, self-contained systems designed to meet basic communication needs, such as managing internal

networks and facilitating essential operational tasks. This demonstrates a reliance on straightforward infrastructure that is efficient for small-scale, localized operations but may lack scalability to meet broader demands.

Another 33 percent of respondents highlight the challenges posed by limited human resources, noting that communication systems have been managed by a single employee since 2004. This heavy reliance on one individual emphasizes the need for additional technical support and personnel to ensure effective and sustainable system operations. The remaining 33 percent rely on broader but less clearly defined systems, suggesting a dependency on external providers or underdeveloped local infrastructure that may hinder consistent and reliable communication.

Monitoring practices are robust across the board, with all respondents actively tracking the performance of their communication systems. Key performance indicators include latency, download speeds, and user feedback, which provide critical insights into system efficiency. Tools such as VMware are utilized for system management, demonstrating a commitment to leveraging advanced technologies. Furthermore, one-third of respondents report significant improvements following the adoption of modern internet services like Starlink, illustrating the positive impact of upgrading connectivity solutions. These findings highlight the importance of continuous monitoring and technological advancements to optimize communication systems and meet Kosrae's growing needs.

**3. Continuous Network Monitoring and Security Recommendations**

Continuous network monitoring is universally recognized as vital by technical contacts and IT personnel in Kosrae. Respondents propose various approaches to achieve this, reflecting the diverse needs and capabilities of the sector. One-third recommend hiring qualified IT personnel to oversee network operations, ensuring proactive management and rapid identification of potential issues. Another 33 percent advocate for engaging consultants or assistants to provide supplementary expertise, particularly for specialized tasks that require advanced knowledge or technical skills. The remaining 33 percent emphasize the importance of having dedicated IT staff who are fully equipped to manage and monitor systems, highlighting the value of in-house expertise for maintaining robust network functionality.

Security enhancements are a key focus for all respondents, with unanimous support for regular hardware and software updates. These updates play a critical role in mitigating vulnerabilities, enhancing system performance, and safeguarding communication networks against potential cyber threats. By prioritizing structured monitoring systems and implementing comprehensive security protocols, Kosrae can strengthen its communication infrastructure, making it resilient against both technical challenges and external risks. These recommendations underscore the need for a coordinated and proactive approach to network management to ensure uninterrupted and secure communication services.

**4. Server Performance Assessment and Suggestions for Improvement**

Server performance assessments are conducted by only 33 percent of respondents in Kosrae, with the remaining majority delegating this responsibility to supervisors or colleagues. This

limited engagement in direct performance monitoring highlights a potential gap in technical involvement, which could hinder the identification and resolution of system inefficiencies. Expanding the participation of IT personnel in server assessments is crucial for fostering a comprehensive understanding of system functionality and ensuring timely interventions.

All respondents emphasize the importance of hardware and software upgrades to improve server performance. These upgrades are seen as essential for addressing existing inefficiencies, enhancing data processing capabilities, and ensuring the reliability of communication services. Regular maintenance protocols, including system updates and hardware optimization, are also recommended to prevent disruptions and maintain operational stability. By investing in these improvements, Kosrae can achieve a more efficient and dependable IT infrastructure, supporting seamless access to resources and services for its residents.

**5. Offline Data Synchronization and Distribution of Content**

Offline data synchronization is a universally adopted practice among Kosrae's IT personnel, with 100 percent of respondents confirming its use to mitigate the effects of connectivity interruptions. This approach ensures continuous access to essential information by pre-downloading content and utilizing local storage solutions. These methods allow users to retrieve critical data even when internet access is unavailable, addressing one of the primary challenges faced by residents in regions with inconsistent connectivity.

The distribution of information is evenly split across three primary methods: physical media such as USB drives, centralized state-wide websites, and alternative approaches. One-third of respondents use physical media to distribute information, reflecting its practicality in areas with limited digital infrastructure. This method ensures that essential resources can reach even the most remote communities without relying on internet availability. Another third of respondents highlight centralized state-wide websites as a key distribution method, demonstrating a focus on leveraging digital platforms to consolidate and disseminate information efficiently. The final third employ alternative methods, showcasing the adaptability of Kosrae's IT personnel in addressing the diverse needs of the population. These distribution strategies collectively illustrate a flexible and user-focused approach to overcoming connectivity challenges in Kosrae.

**6. User Feedback Collection and Communication Challenges**

User feedback collection is practiced by 67 percent of respondents, who actively gather insights on key aspects such as latency, download speeds, and overall system reliability. This feedback serves as a critical tool for identifying service gaps and implementing targeted improvements to enhance communication system performance. However, with 33 percent of respondents not engaging in feedback collection, there is an opportunity to broaden these efforts and ensure that all user concerns are systematically addressed. Expanding feedback mechanisms would enable IT personnel to gain a comprehensive understanding of user experiences and prioritize areas for improvement effectively.

Communication challenges in Kosrae are multifaceted, reflecting the unique geographical and infrastructural constraints of the region. Limited infrastructure is a significant hurdle, with

existing systems struggling to meet the demands of a dispersed population. Many residents rely on mobile phones rather than computers for communication, highlighting a gap in device accessibility and functionality. Additionally, frequent power outages further exacerbate connectivity issues, disrupting both communication and daily activities. Addressing these challenges requires targeted investments in infrastructure expansion, device accessibility, and power stabilization to create a more equitable and resilient communication network across Kosrae.

### 7. Government Support and Training Needs for IT Personnel

Government support for IT initiatives in Kosrae presents a mixed landscape, with responses divided into three distinct categories. One-third of respondents report receiving no state assistance, indicating a gap in governmental engagement with IT development. Conversely, another third highlight contributions from national advisory bodies and plans for fiber-optic connectivity, signaling ongoing efforts to enhance digital infrastructure. The final third of respondents cite IT training programs provided by the state, showcasing a focus on building technical capacity through formal education initiatives. These findings underscore the need for a more coordinated and transparent approach to government support, ensuring that resources and initiatives are evenly distributed and effectively communicated.

Training needs among IT personnel in Kosrae are extensive, reflecting the diverse responsibilities and challenges they face. All respondents emphasize the importance of developing skills in troubleshooting connectivity issues, operating communication systems, and educating users. These foundational skills are critical for maintaining and improving existing systems. Additionally, two-thirds of respondents stress the need for expertise in managing local data centers and utilizing offline content, highlighting the growing importance of advanced technical capabilities. Meeting these training demands is essential for equipping Kosrae's IT personnel with the knowledge and tools to address both current and future challenges effectively.

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

Kosrae's IT personnel currently do not employ SMS systems or voice-based hotlines for information dissemination, representing a notable gap in communication channels. These tools offer significant potential for reaching remote or low-bandwidth areas, where traditional internet-based systems may be unreliable or inaccessible. Their absence highlights untapped opportunities to expand the scope and inclusivity of communication efforts in Kosrae.

Despite the lack of SMS and voice-based hotlines, data optimization practices are adopted by 67 percent of respondents. These practices involve compressing message sizes to improve transmission efficiency, ensuring that essential information can be delivered promptly even in low-bandwidth environments. This proactive approach to data management reflects a commitment to optimizing existing resources while navigating infrastructural limitations. Incorporating SMS systems and voice-based hotlines into Kosrae's communication framework could significantly enhance information accessibility, particularly for underserved populations, and complement ongoing data optimization efforts to create a more inclusive and effective network.

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

Data compression techniques are actively employed by 67 percent of respondents in Kosrae, focusing on minimizing file sizes to enhance download speeds and reduce the strain on limited bandwidth. This strategy is essential for optimizing the delivery of content in areas with slower internet connections, ensuring that users can access critical resources with minimal delays. However, despite the effectiveness of data compression, there is no reported use of Content Delivery Networks (CDNs) for content distribution among respondents. This absence highlights a significant gap in leveraging advanced technologies to improve content accessibility.

Only 33 percent of respondents use CDN caching capabilities to enable quicker access to static resources such as documents and tutorials. While this represents some engagement with CDN functionalities, the limited adoption underscores a missed opportunity to capitalize on these systems' full potential. CDNs could significantly enhance content delivery across Kosrae by reducing latency and improving the accessibility of critical resources, particularly for geographically dispersed communities where connectivity challenges are most pronounced.

Expanding the adoption of CDNs, coupled with continued optimization of bandwidth management and data compression practices, would create a more efficient and reliable content delivery framework. These improvements would not only enhance user experiences but also support equitable access to information, regardless of location or technological constraints.

### 10. Information Dissemination Channels and Future Opportunities

Information dissemination in Kosrae is anchored in centralized web platforms, which are utilized by 100 percent of respondents. These platforms serve as a unified source for delivering essential data and informational content, ensuring consistent access for users with internet connectivity. Mobile applications, radio broadcasts, and tailored communication strategies are used by 33 percent of respondents, reflecting a diversified approach to reaching different segments of the population. However, the limited reliance on these channels suggests untapped potential for further expanding their use to enhance reach and impact.

Traditional media, such as newspapers and television, are currently not used by respondents as dissemination channels. While these methods may seem outdated compared to digital solutions, they could still serve as effective tools for reaching populations with limited internet access or technological familiarity. Incorporating a balanced mix of digital and traditional channels would allow Kosrae's IT personnel to meet the diverse needs of its residents more effectively.

Future opportunities for improving information dissemination include mapping additional distribution points for offline content, which would ensure accessibility for residents in areas with inconsistent or no internet connectivity. Expanding the use of digital tools such as mobile applications, alongside reintegrating traditional media like radio and print, could help reach underserved populations. Moreover, strengthening tailored communication strategies, particularly for specific groups such as farmers or students, would further align information

delivery with stakeholder needs, fostering a more inclusive and effective communication system across Kosrae.

**Conclusion**

The Kosrae Technical Contacts and IT Personnel Survey provides a comprehensive overview of the state's IT infrastructure, highlighting both progress and persistent challenges. Monitoring practices and the adoption of data compression techniques reflect the adaptability and commitment of IT personnel to optimize resources within the constraints of existing infrastructure. However, significant gaps in key areas such as advanced training, government support, and the deployment of cutting-edge tools like SMS systems and Content Delivery Networks (CDNs) emphasize the need for targeted interventions.

The survey underscores the pressing need for infrastructure upgrades to bridge existing connectivity gaps, particularly in underserved and remote regions. Investments in modern server technologies, enhanced bandwidth management, and the expansion of data compression strategies are essential for ensuring seamless access to communication systems. Additionally, incorporating advanced tools like CDNs would enable faster, more reliable content delivery, addressing the unique geographical challenges of Kosrae's dispersed communities.

Comprehensive training programs must also be a priority. IT personnel require skill development in areas such as offline data management, server performance assessment, and advanced troubleshooting techniques. Specialized training in the use of SMS systems and voice-based hotlines could significantly enhance information dissemination, particularly for reaching populations in low-bandwidth areas. These programs would equip Kosrae's IT workforce with the capabilities needed to manage and evolve the state's communication networks effectively.

The survey also highlights the need for more consistent and coordinated government support. While some respondents reported access to IT training programs and advisory services, others indicated a lack of state assistance. Addressing this disparity is critical. By fostering a more collaborative approach between government agencies and IT personnel, Kosrae can align resources and efforts toward building a unified, state-wide communication framework.

Finally, the integration of diverse communication channels is vital for fostering inclusivity. Expanding the use of digital tools like mobile applications and tailored strategies, alongside traditional media such as radio and print, would ensure that information reaches all residents, regardless of their technological access. Mapping distribution points for offline content and adopting flexible dissemination strategies are additional steps that can bolster accessibility.

By addressing these key areas—modernizing infrastructure, enhancing technical capacity, fostering government collaboration, and diversifying communication channels—Kosrae can establish a robust and resilient IT framework. Such advancements would not only support equitable access to information but also empower communities across the state to thrive in an increasingly digital world. Through strategic planning and sustained investment, Kosrae has the opportunity to transform its IT landscape into an inclusive, adaptive system that meets the needs of all its residents.

# Federated States of Micronesia
# Food Systems Solutions Project
# Kosrae Trainer Survey Results

## Introduction

This report examines the survey results of trainers in Kosrae, providing a detailed analysis of demographics, preparedness in food production, climate change adaptation, agricultural expertise, and technical resource needs. It also explores gaps in training, equipment, and professional development. These insights highlight the capacity and challenges of Kosrae's trainers in supporting sustainable food systems and community development.

## 1. Demographics of Trainers

The demographic profile of trainers in Kosrae demonstrates an equal representation of genders, with 50 percent of trainers identifying as male and 50 percent as female. This balance highlights a collaborative dynamic where both men and women actively contribute to the development of educational and agricultural initiatives. Gender parity ensures diverse perspectives in the training process, fostering inclusivity and innovative problem-solving approaches.

Age distribution among trainers shows a broad and even spread, with 30 percent aged 18–30, 31–45, and 56–60, respectively, while 10 percent are over 60 years old. The youngest cohort, aged 18–30, brings energy, fresh ideas, and a likely proficiency with digital tools and modern methodologies. Trainers aged 31–45 combine adaptability with experience, positioning them as key drivers in managing evolving training challenges. The 56–60 age group contributes extensive institutional knowledge and seasoned expertise, critical for addressing complex agricultural and environmental issues. However, the minimal representation of trainers over 60 suggests that traditional knowledge, which often holds cultural and contextual significance, may be underutilized. This highlights the importance of initiatives aimed at documenting and integrating older trainers' insights into training frameworks to ensure a comprehensive knowledge base.

## 2. Trainer Preparedness in Food Production and Handling

Trainer preparedness in food production and handling in Kosrae reveals a strong foundation in key areas, with 80 percent of trainers confident in assisting families to increase food production. This preparedness underscores their capacity to address fundamental challenges such as enhancing yields and improving food security. However, 20 percent of trainers expressed a need for additional training, signaling gaps in uniform competence that require targeted efforts to achieve comprehensive skill development.

In the area of post-harvest handling and processing, 70 percent of trainers feel well-equipped to support communities in reducing food waste, extending shelf life, and improving food quality.

The remaining 30 percent lack confidence in these practices, emphasizing the need for specialized training in post-harvest technologies and methods.

Traditional agroforestry methods present a significant challenge, with only 30 percent of trainers reporting preparedness. Similarly, while 70 percent are confident in addressing production systems integrating land and marine resources, 30 percent require additional training in these integrated practices. These findings indicate that while most trainers excel in foundational agricultural practices, there are critical knowledge gaps in specialized and traditional techniques that need to be addressed to enhance their effectiveness and support sustainable resource management.

### 3. Training in Climate Change Adaptation and Environmental Management

Trainer preparedness in climate change adaptation and environmental management in Kosrae showcases a combination of strengths and gaps. A majority, 70 percent, feel confident in teaching climate-resilient crop strategies, such as cultivating saltwater-resistant crops. This indicates a strong foundation in addressing agricultural challenges posed by climate change. However, the remaining 30 percent of trainers require further training in these strategies to achieve uniform readiness across the trainer cohort.

Preparedness in sustainable farming and land management practices mirrors this trend, with 70 percent expressing confidence in teaching these techniques and 30 percent indicating gaps in their expertise. However, more specialized areas present significant challenges. Only 20 percent of trainers feel equipped to address coral reef rehabilitation and coastal land preservation, despite the critical importance of these areas to Kosrae's ecosystems and livelihoods. Similarly, invasive species management and soil erosion prevention are areas where only 30 percent of trainers feel prepared, highlighting substantial gaps in knowledge and training.

A particularly striking finding is the limited capacity for using weather tracking tools, with only 10 percent of trainers expressing confidence in this area. This points to an urgent need for technology-focused training programs that equip trainers with the skills to use advanced tools for weather forecasting and emergency preparedness. Addressing these gaps will empower trainers to build resilience within Kosrae's communities and enhance their ability to adapt to environmental challenges.

### 4. Equipment and Resources for Effective Training

The survey responses from trainers in Kosrae highlight a diverse array of equipment needs essential for enhancing training effectiveness. Items such as agricultural tools, solar dryers, and water catchment tanks were each identified by 10 percent of trainers as critical resources. These tools play a vital role in supporting practical, hands-on training sessions that address pressing agricultural and environmental challenges.

Similarly, 10 percent of trainers emphasized the importance of educational videos and farming tools as key resources for facilitating interactive and informative training sessions. The need for heavy equipment, including tractors and excavators, was also prioritized by 10 percent, reflecting

the growing emphasis on mechanization and modern farming practices to boost productivity and efficiency.

Specialized tools such as chipper machines and grinders were also highlighted as critical resources by 10 percent of trainers. These tools are essential for processing organic materials and preparing resources for sustainable agricultural practices. The inclusion of such specialized equipment underscores the importance of modernizing training resources to align with Kosrae's evolving agricultural needs. Addressing these equipment gaps will enable trainers to provide comprehensive, practical instruction and ensure that training programs meet the diverse needs of Kosrae's agricultural and environmental systems.

**5. Expertise in Agriculture and Crop Management**

Trainers in Kosrae exhibit varying levels of confidence in agricultural practices, with 60 percent reporting proficiency in general crop production training. This majority reflects a solid understanding of basic farming techniques and the ability to guide communities in improving agricultural productivity. However, the 40 percent who lack confidence in this area highlight a significant knowledge gap, suggesting a need for enhanced training to ensure consistent capabilities across all trainers.

Seed saving and propagation, critical for maintaining crop diversity and sustainability, are areas where 70 percent of trainers feel confident. This level of expertise suggests that the majority are well-prepared to teach practices that promote long-term agricultural resilience. However, the remaining 30 percent of trainers require further skill development in these foundational techniques.

Soil management presents a notable challenge, with only 30 percent of trainers feeling adequately prepared to address soil health issues. This low percentage indicates a gap in understanding critical practices such as soil nutrient management, erosion control, and crop rotation. Similarly, local fertilizer production remains a concern, as 40 percent of trainers lack expertise in this area. Addressing these deficiencies is crucial for fostering sustainable farming systems that optimize resources while maintaining ecological balance.

Overall, these findings highlight the need to strengthen training programs in soil health and resource-efficient agricultural methods. Bridging these gaps will ensure that all trainers are equipped to promote sustainable farming practices, improve productivity, and support food security in Kosrae.

**6. Knowledge and Training Needs in Crop-Specific Practices**

Trainers demonstrate a high degree of confidence in cultivating staple crops like taro and breadfruit, with 60-70 percent expressing preparedness to teach best practices for these culturally and nutritionally significant crops. This expertise is critical for addressing food security and preserving traditional agricultural knowledge. However, confidence drops significantly when it comes to other crops such as mango, pineapple, and soursop, where only 20–30 percent of trainers feel prepared to provide guidance. This disparity underscores the need for specialized training to support the diversification of Kosrae's agricultural output.

Medicinal plants and niche crops like kava and cacao also reveal training gaps, with only 30–40 percent of trainers confident in their ability to teach cultivation techniques for these valuable crops. These crops hold potential for economic diversification and export markets, making it imperative to build trainer capacity in these areas. By equipping trainers with the knowledge and skills to address a wider range of crops, Kosrae can enhance agricultural resilience, support emerging market demands, and reduce reliance on imported foods.

These findings emphasize the importance of diversifying agricultural training programs to encompass both staple crops and high-value, underutilized crops. Such efforts will empower trainers to meet the evolving needs of farmers and promote sustainable agricultural development in the region.

### 7. Competence in Livestock and Marine Resource Management

Trainer competence in livestock management is limited, with only 40 percent feeling confident in their abilities. This suggests that a majority of trainers lack the skills necessary to guide communities in managing livestock effectively, which is a key component of food security and economic stability. Specific practices such as feed-making and the use of wood chippers reflect similar gaps, with 40–50 percent of trainers indicating a need for additional training in these areas. Addressing these deficiencies will enable trainers to enhance livestock productivity and sustainability, ultimately benefiting local communities.

Marine resource management also highlights disparities in trainer preparedness. While 60 percent of trainers are confident in general fishing knowledge, only 30 percent feel equipped to teach invasive species management or sustainable fishing practices. Given Kosrae's reliance on marine resources, these gaps are significant. They underscore the need for integrated training programs that address both terrestrial and marine ecosystems, promoting sustainable resource use and biodiversity conservation.

These findings point to the necessity of expanding training efforts in both livestock and marine resource management. By providing trainers with the tools and knowledge to address these critical areas, Kosrae can strengthen its food systems and enhance resilience to environmental and economic challenges.

### 8. Technology Use and Training in Innovative Farming Methods

Confidence in using and teaching innovative farming methods varies significantly among trainers. While 60 percent report proficiency in nursery management, suggesting a solid understanding of early-stage crop production techniques, only 40–50 percent feel equipped to teach advanced practices such as greenhouse farming, hydroponics, and aquaculture. These technologies are essential for addressing land and water constraints while maximizing agricultural output, making the low preparedness rates a concern for the modernization of Kosrae's farming systems.

Similarly, only 30 percent of trainers feel prepared to integrate solar power and irrigation technologies into training programs. These technologies are increasingly vital for resource-efficient agriculture, particularly in regions like Kosrae where sustainable water and energy use

are critical. The low confidence levels highlight a need for comprehensive training in modern agricultural technologies that align with global best practices.

These findings underscore the importance of updating training curricula to include advanced farming methods and innovative technologies. By empowering trainers with the skills to teach these practices, Kosrae can enhance agricultural productivity, reduce environmental impacts, and ensure a sustainable future for its food systems.

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

The survey results reveal a strong foundation in food preservation and processing among Kosrae trainers, with 90 percent expressing confidence in their ability to teach these essential skills. This level of preparedness highlights the trainers' capability to support local producers in extending product shelf life, maintaining quality, and meeting food safety standards. Such expertise is critical for reducing food waste and improving marketability, which are key components of sustainable food systems and economic resilience.

However, significant gaps emerge in the areas of niche marketing and business management, where only 40 percent of trainers feel prepared. This limited confidence indicates a lack of expertise in identifying target markets, developing branding strategies, and creating value-added products to appeal to specific consumer segments. These skills are vital for helping producers differentiate their offerings and compete effectively in local and regional markets.

Additionally, gaps in financial management and loan application training further highlight challenges in equipping trainers to guide producers in economic decision-making. Without these competencies, producers may struggle to scale their operations, secure funding for expansions, or navigate regulatory requirements. These deficiencies suggest a pressing need for comprehensive business-focused training programs tailored to the specific needs of Kosrae’s agricultural and food systems sector.

By addressing these gaps, Kosrae can enhance the capacity of its trainers to support producers not only in technical food processing but also in developing robust marketing strategies and business plans. This holistic approach will empower producers to achieve economic sustainability, increase profitability, and contribute to the overall growth of the local food economy.

**10. Professional Development Opportunities and Identified Knowledge Gaps**

Professional development opportunities are accessible to 80 percent of trainers in Kosrae, indicating a generally supportive environment for capacity building. These opportunities include workshops, certifications, and training programs that keep trainers informed of emerging trends and best practices in agriculture, environmental management, and food systems. The high participation rate reflects a strong foundation for continuous learning and skill enhancement.

However, 20 percent of trainers report a lack of access to such opportunities, highlighting disparities in capacity-building initiatives. This gap underscores the need for equitable

professional development programs to ensure that all trainers, regardless of location or resources, can access the tools and knowledge needed to support their communities effectively.

The survey also identifies critical knowledge gaps that require attention. Ninety percent of trainers express interest in further training, particularly in areas such as fundraising, invasive species management, and advanced research techniques. Fundraising skills are essential for securing resources to implement large-scale projects, while expertise in invasive species management is crucial for preserving Kosrae's unique ecosystems and protecting agricultural productivity. Advanced research techniques, including data collection and analysis, are necessary for developing evidence-based solutions to address emerging challenges in the local food and environmental sectors.

Addressing these gaps through targeted professional development programs will significantly strengthen the capacity of Kosrae's trainers. Investments in infrastructure, such as access to research facilities and modern training tools, will further enhance their ability to deliver high-quality, impactful training. By equipping trainers with the skills and resources to meet evolving community needs, Kosrae can build a resilient and adaptable training workforce that supports sustainable development and economic growth across the state.

**Conclusions**

The Trainer Survey results highlight a dynamic training workforce in Kosrae, characterized by gender parity and a diverse age distribution. This balance positions trainers to bring varied perspectives and innovative solutions to the challenges facing the agricultural and environmental sectors. The equal representation of men and women fosters inclusivity, while the mix of younger trainers, mid-career professionals, and seasoned experts ensures a blend of fresh ideas, operational adaptability, and institutional knowledge. This diversity equips trainers to address both contemporary and long-standing challenges, creating opportunities for effective and impactful community engagement.

Despite these strengths, the survey reveals significant gaps in preparedness across specialized areas. While many trainers demonstrate strong capabilities in core agricultural practices and food processing, there is a clear need for additional expertise in advanced farming technologies such as hydroponics, aquaculture, and greenhouse management. These innovations are critical for addressing resource scarcity and adapting to climate change. Similarly, gaps in climate resilience training, including coral reef rehabilitation, coastal land preservation, and invasive species management, underscore the need for comprehensive environmental education programs. Addressing these shortcomings will be essential for enabling trainers to guide communities in building resilience to environmental changes and fostering sustainable resource use.

Crop diversification presents another area for growth, as many trainers lack confidence in teaching techniques for less common but potentially lucrative crops like kava, cacao, and medicinal plants. Expanding training programs to cover these areas can help producers tap into emerging markets, enhance food security, and drive economic diversification. Additionally, deficiencies in livestock management and sustainable marine resource practices indicate the need for integrated training approaches that encompass both terrestrial and aquatic systems.

Professional development opportunities, while accessible to a majority of trainers, remain uneven, leaving 20 percent without access to critical capacity-building initiatives. Investments in equitable and targeted training programs will ensure that all trainers are equipped with the knowledge and skills necessary to meet the diverse needs of Kosrae's communities. The survey also highlights the importance of modernizing resources and infrastructure, such as providing access to advanced tools, educational materials, and reliable transportation, to support effective training delivery.

Business management and marketing skills represent another critical area for improvement. Although trainers excel in food preservation and processing, many lack confidence in financial management, niche marketing, and loan application guidance. Addressing these gaps will enable trainers to provide holistic support to producers, helping them transition from subsistence practices to sustainable and profitable enterprises.

In conclusion, the Trainer Survey results emphasize the need for strategic investments in professional development, resource modernization, and specialized training. By addressing these gaps, Kosrae can build a robust and resilient training sector that supports sustainable food systems, fosters economic growth, and empowers communities across the state. A well-equipped and knowledgeable training workforce will be instrumental in driving innovation, enhancing food security, and ensuring long-term environmental and economic sustainability for Kosrae's residents.

# Federated States of Micronesia
# Food Systems Solutions
# Project Survey Tools
# Kosrae 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:

**Principal Investigator:**
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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)**<br>1 = Chuuk City_____<br>2 = Kosrae City_____<br>3 = Pohnpei City_____<br>4 = Yap City_____<br>5 = Other (Please specify)<br>_____ |

## 2. DEMOGRAPHIC INFORMATION

| Q2 | Question | Response (Enumerator may fill this in without asking) |
|---|---|---|
| **2.1** | Gender of informant | **CIRCLE ONE**<br>1 = Male<br>2 = Female |
| **2.2** | Age of informant (years) | **CIRCLE ONE**<br>1 = 18-30<br>2 = 31-45<br>3 = 46-60<br>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**<br>**1 = Daily**<br>**2 = Weekly**<br>**3 = Monthly**<br>**4 = Seasonal**<br>**5 = Yearly**<br>**6 = Other_____** | **Needed Frequency**<br>**1 = Daily**<br>**2 = Weekly**<br>**3 = Monthly**<br>**4 = Seasonal**<br>**5 = Yearly**<br>**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**<br>1 = Yes<br>2 = No |
| **3.2.1** | Do you have a credit card? | **CIRCLE ONE**<br>1 = Yes<br>**2 =** No |
| **3.2.2** | If no, does a lack of credit card limit your access to tools and information you need? | **CIRCLE ONE**<br>1 = Yes<br>2 = No<br>**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**<br>1= Family member<br>2= Community members<br>3= Traditional leader<br>4= Religious organization<br>5= Local groups/organization (please specify)<br>_____<br>6= Extension agent or others from COM/CRE<br>7= Government Agency (please specify)<br>_____<br>8= Other Agency/website (please specify)<br>_____<br>9= Social Media (specify)<br>_____<br>10= Other (please specify)<br>_____<br>11= Don't know |

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

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

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

| | | |
|---|---|---|
| **7.2** | (If YES to Q7)<br>How do you access the internet? | **CIRCLE ALL THAT APPLY**<br>1 = Personal Cell phone<br>2 = Community/family cell phone<br>3 = Personal computer<br>4 = Work computer<br>5 = Library/School computer<br>6 = Community/family computer<br>7 = Computer center<br>8 = Other (please specify)<br>_____ |
| **7.3** | (If YES to Q7)<br>How often do you get food system related information from the internet?<br>(Skip Q7.4) | **CIRCLE ONE**<br>1 = At least 1/day<br>2 = Few times a week<br>3 = Few times/month<br>4 = Few times/year<br>5 = Never |
| **7.4** | (If NO to Q7)<br>Why not? | **CIRCLE ONE**<br>1 = Don't have access<br>2 = Can't afford<br>3 = Don't know how to use<br>4 = No need<br>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**<br>1 = Yes<br>2 = No |

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

## SECTION: FOOD INNOVATION CENTER

| | | |
|---|---|---|
| **9** | Which locally processed foods would you be interested in producing for processing? | **CIRCLE ALL THAT APPLY**<br>1= Banana chips<br>2= Breads and baked goods (donuts/muffins)<br>3= Breadfruit chips<br>4= Breadfruit flour<br>5= Chicken meat and products<br>6= Coconut cooking oil<br>7= Coconut flour<br>8= Coconut milk<br>9= Coconut products<br>10= Fish and Seafood - Dried<br>11= Fish and Seafood – Salted<br>12= Fish and Seafood – Smoked<br>13= Fish Jerky<br>14= Fish Sauce<br>15= Fish Spreads<br>16= Feed for chicken/pigs<br>17= Flavored (infused) oils<br>18= Fruits – Dried<br>19= Fruits – Jellies and Jams<br>20= Fruits - Juices<br>21= Fruit – syrups<br>22= Hot sauce<br>23= Pork meat and products<br>24= Seafood – bottled<br>25= Sea salt<br>26= Spices – Dried<br>27= Spice blends<br>28= Spice pastes<br>29= Taro chips<br>30= Taro flour<br>31= Vegetables – Dried<br>32= Vegetables – Pickled<br>33= Vegetable sauces/salsa<br>34= Vinegar<br>35= Rope, matts and other fiber products<br>36= Other (please specify) |
| **10** | How would you prefer to process these locally processed foods? | **CIRCLE ALL THAT APPLY**<br>1 = Using small-scale methods with traditional tools and by hand<br>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<br>4 = Providing and selling my fresh products to another larger industrial-scale processor for them to process and sell<br>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<br>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**<br>1 = less than $1<br>2 = $1 - $5<br>3 = $6 - $10<br>4 = $11 - $20<br>5 = Above $20 |
| **12** | What type of packaging do you think would best suit the locally processed foods? | **CIRCLE ALL THAT APPLY**<br>1 = Plastic bags<br>2 = Plastic containers including bottles<br>3 = Glass jars<br>4 = Vacuum-sealed pouches<br>5 = Eco-friendly packaging (e.g., biodegradable materials such as banana leaves)<br>6 = Other (please specify) _____ |
| **13** | Would you prioritize using local ingredients for the production of locally processed foods? | **CIRCLE ONE**<br>1 = Yes<br>2 = No<br>3 = Maybe |
| **14** | How do you perceive the market potential for locally processed foods in the FSM and potentially beyond? | **CIRCLE ONE**<br>1 = High demand and growth potential<br>2 = Moderate demand with steady growth<br>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**<br>1 = Yes<br>2 = No<br>3 = Maybe |
| **18** | Are you aware of the regulatory requirements and standards for processing and selling local food products in the FSM?<br>[NOTE: there are differences in regulatory compliance issues for fish, meat, poultry, juices, foods] | **CIRCLE ONE**<br>1 = Yes<br>2 = No |
| **19** | Do you require assistance with the regulatory requirements and standards? | **CIRCLE ONE**<br>1 = Yes<br>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**<br>1 = Yes<br>2 = No<br>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**<br>1= Limited availability of certain ingredients<br>2= Seasonal fluctuations in ingredient availability<br>3= Limited/no storage<br>4= Transportation issues<br>5= Quality consistency of raw materials<br>6= Lack of cash to purchase and then store products<br>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**<br>1= Yes, always open to innovation<br>2= No, prefer to stick to traditional methods<br>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**<br>1 = Yes, extensive research conducted<br>2 = Yes, some research conducted<br>3 = No, not conducted yet<br>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**<br>1 = Yes, already have branding plans<br>2 = Yes, planning to develop branding<br>3 = No, branding is not a priority<br>4 = Not sure about branding importance |
| **25** | What distribution channels do you envision for selling locally processed foods? | **CIRCLE ALL THAT APPLY**<br>1 = Local markets<br>2 = Supermarkets/grocery stores<br>3 = Specialty food stores<br>4 = Online platforms<br>5 = Direct sales (e.g., farm stands)<br>5 = Other (please specify):<br>_____ |
| **26** | Do you see potential for exporting locally processed foods into other states in the FSM or beyond the FSM? | **CIRCLE ONE**<br>1= Yes, potential for export<br>2= Maybe, need to explore further<br>3= No, prefer to focus on local market<br>4= Not sure about export potential<br><br>(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**<br>1 = Yes, definitely interested<br>2 = No, not interested<br>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**<br>1 = Facility<br>2 = Labor costs |

| | | |
|---|---|---|
| | processed foods? (e.g., labor, utilities, packaging) | 3 = Utilities (electricity, water)<br>4 = Packaging materials<br>5 = Marketing and promotion<br>6 = Other (please specify): _____ |
| **29** | How important is community involvement and support in your vision for producing locally processed foods? | **CIRCLE ONE**<br>1 = Very important, prioritize community involvement<br>2 = Important, but not a top priority<br>3 = Not important, focus solely on production<br>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**<br>1 = Yes, sustainability is a top priority<br>2 = Somewhat, but not a primary focus<br>3 = No, sustainability is not a priority<br>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**<br>1 = Expand production and market reach<br>2 = Preserve traditional food culture<br>3 = Contribute to local economic development<br>4 = Other (please specify):<br>_____ |
| **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**<br>1 = Financial assistance/grants/loans<br>2 = Technical support and training<br>3 = Market access facilitation<br>4 = Regulatory simplification<br>5 = Other (please specify):<br>_____ |
| **34** | How do you plan to gather feedback from possible buyers/consumers/users of your locally value-added products? | **CIRCLE ONE**<br>1 = Direct consumer feedback through in person or surveys or focus groups<br>2 = Social media monitoring and engagement<br>3 = Sales data analysis<br>4 = Fairs and Cooking Competition<br>6 = Other (please specify):<br>_____ |

| | | |
|---|---|---|
| **35** | How often do you anticipate using the shared kitchen? | **CIRCLE ONE**<br>1 = One time per week.<br>2 = Multiple times per week. (Specify how many) _____ Times/Week<br>3 = Twice a month.<br>4 = Once a month.<br>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**<br>1 = Yes (please answer Q36.1)<br>2 = No |
| **36.1** | If Yes, which kind? | **CIRCLE ALL THAT APPLY**<br>1 = Dry Storage<br>2 = Cold Storage<br>3 = Frozen Storage |
| **37** | Would you be interested in selling the food you produce to a local food processing plant? | **CIRCLE ONE**<br>1 = Yes (please answer Q 37.1)<br>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**<br>1 = Taro<br>2 = Coconut<br>3 = Bananas<br>4 = Breadfruit<br>5 = Tapioca/Cassava<br>6 = Fish (wild caught and/or farmed)<br>7 = Farm raised seafood<br>8 = Vegetables (such as: leafy greens, melons, squash)<br>9 = Fruits (such as Pineapple, Mango, Papaya, Lemons, Tangerines)<br>10 = Livestock: Chickens, pigs<br>11 = Eggs<br>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**<br>1 = Yes<br>2 = No |

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

| | **Question** | **Response**<br>**1 = Essential**<br>**2 = Convenient**<br>**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**<br>1 = Yes<br>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**<br>1 = Yes<br>2 = No |
| **40.4** | Do you have the necessary financing to pursue your business goals? | **CIRCLE ONE**<br>1 = Yes<br>2 = No |
| **40.5** | Please rate your level of interest in pursuing outside funding for your business | **CIRCLE ONE**<br>1 = Very interested<br>2 = Possibly interested<br>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)**<br>**1 =** Yes<br>**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**<br>a) __cost of fuel<br>b) __access to fuel<br>c) __lack of vehicle<br>d) __unable to transport due to weather conditions<br>e) __family obligation |

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

## SECTION: TRAINING

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

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

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

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

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

**FARMER-TO-FARMER EXTENSION**

| | **Question** | **Response** |
|---|---|---|
| **50** | Would you like to teach other food producers from your own experiences? | **CIRCLE ONE**<br>1 = Yes<br>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?**<br>1 = Daily<br>2 = Weekly<br>3 = Monthly<br>4 = Seasonal<br>5 = Yearly<br>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?**<br>**1 = Daily**<br>**2 = Weekly**<br>**3 = Monthly**<br>**4 = Seasonal**<br>**5 = Yearly**<br>**6 = Other (Fill in)** | **Do they have bylaws?**<br>**1 = Yes, I am familiar with the bylaws**<br>**2 = Yes, I don't know the bylaws**<br>**3 = Unsure**<br>**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**<br>1 = Yes<br>2 = No |
| **Q55** | If you need information about the State and National laws and | **CIRCLE ALL THAT APPLY**<br>1 = Family member<br>2 = Community members |

| | | |
|---|---|---|
| | policies, where would you go? | 3 = Traditional leader<br>4 = Religious organization<br>5 = Local groups/organization (please specify):<br>_____<br>6 = Extension agent<br>7 = Government Agency (please specify):<br>_____<br>8 = Other Agency or web site (please specify):<br>_____<br>9 = Mobile App (please specify):<br>_____<br>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**<br>1= Family member<br>2= Community members<br>3= Traditional leader<br>4= Religious organization<br>5= Local groups/organization (please specify):<br>_____<br>6= Extension agent<br>7= Government Agency (please specify):<br>_____<br>8= Other Agency or web site (please specify):<br>_____<br>9= Mobile App (please specify):<br>_____<br>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**<br>1 = Yes<br>2 = No |

| | | |
|---|---|---|
| **Q58** | Have you been trained in or have managerial experience? | **CIRCLE ONE**<br>1 = Yes<br>2 = No |
| **Q59** | Have you been trained in or have organizational experience? | **CIRCLE ONE**<br>1 = Yes<br>2 = No |
| **Q60** | Would you be interested/willing to participate in trainings and workshops that provide those skills? | **CIRCLE ONE**<br>1 = Yes, definitely<br>2 = Maybe, depending on the specifics<br>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.

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# 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
Extension Specialist, Rutgers Cooperative Extension
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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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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)**<br>1 = Chuuk City_____<br>2 = Kosrae City_____<br>3 = Pohnpei City_____<br>4 = Yap City_____<br>5 = Other (Please specify)<br>_____ |

## 2. DEMOGRAPHIC INFORMATION

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

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

| | | |
|---|---|---|
| | | |
| **4** | What type of packaging would you prefer? | **CIRCLE ALL THAT APPLY**<br>1 = Bottled<br>2 = Jarred<br>3 = Bagged<br>4 = Vacuum-sealed pouches<br>5 = Packets/sachets<br>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.:**<br>a:____ Environmentally friendly packaging (e.g., biodegradable materials)<br>b:____ Convenient packaging (e.g., easy-to-open, resealable)<br>c:____ Attractive packaging and labeling (e.g., aesthetically pleasing and culturally relevant labels)<br>d:____ Least expensive<br>e:____ Other (please specify): _____ |
| **6** | What price range would you consider reasonable for locally processed foods? (per unit) | **CIRCLE ONE**<br>1 = $5 or less<br>2 = $5 - $10<br>3 = $10 - $20<br>4 = Above $20 |
| **7** | How important is it for you that these locally processed foods are made from fresh, locally sourced ingredients? | **CIRCLE ONE**<br>1 = Very important<br>2 = Important<br>3 = Somewhat important<br>4 = Not important |
| **8** | How likely are you to purchase locally processed foods if they are convenient, accessible and available? | **CIRCLE ONE**<br>1 = Very likely<br>2 = Likely<br>3 = Neutral<br>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**<br>1 = Very likely<br>2 = Likely<br>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**<br>1 = Traditional/Local flavors<br>2 = Exotic/Imported flavors<br>3 = Sweet<br>4 = Spicy<br>5= Hot spicy (e.g. from hot peppers)<br>6 = Savory<br>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**<br>1= Very important<br>2= Important<br>3= Somewhat important<br>4= Not important |
| **12** | How often would you likely purchase locally processed foods? | **CIRCLE ONE**<br>1 = Daily<br>2 = Weekly<br>3 = Monthly<br>4 = Occasionally<br>5 = Rarely |
| **13** | Where do you prefer to purchase locally processed foods? | **CIRCLE ONE**<br>1 = Local markets<br>2 = Supermarkets/grocery stores<br>3 = Roadside stand<br>4 = Online platforms<br>5 = Other (please specify):<br>_____ |
| **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**<br>1 = Yes<br>2 = No<br>3 = Maybe<br>(If No, skip next question) |

| | | |
|---|---|---|
| **15** | Would you be willing to pay more for products that support community/social causes? | **CIRCLE ONE**<br>1 = Yes, up to 10% more<br>2 = Yes, more than 10% more<br>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**<br>1 = Yes<br>2 = No<br>3 = Maybe |
| **17** | What payment methods would you prefer when purchasing locally processed foods? | **CIRCLE ONE**<br>1= Cash<br>2= Credit/debit card<br>3= Mobile payment apps<br>4= Food exchange<br>5= Other (please specify)<br>_____ |
| **18** | How important is it for you that locally processed foods have a long shelf life (does not easily spoil)? | **CIRCLE ONE**<br>1 = Very important<br>2 = Important<br>3 = Somewhat important<br>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)?<br>(Example: How many calories, how much sugar, how much salt) | **CIRCLE ONE**<br>1 = Very important<br>2 = Important<br>3 = Somewhat important<br>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**<br>**_____ $** |
| **21** | Approximately, how much money do you spend each bi-weekly on local food? | **PLEASE FILL IN THE AMOUNT YOU SPEND EVERY 2 WEEKS**<br>**_____ $** |

| | | |
|---|---|---|
| | | |
| **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.:**<br><br>a:____ Price<br>b:____ Quality<br>c:____ Brand reputation<br>d:____ Nutritional value<br>e:____ Locally sourced products<br>f:____ Convenience<br>g:____ Store Preference<br>h:____ Other (please specify): |
| **23** | What factors would influence your willingness to pay more for local processed products? | **CIRCLE ALL THAT APPLY**<br><br>1 = Perception of quality<br>2 = Perceived health benefits<br>3 = Supporting local economy<br>4 = Environmental sustainability<br>5 = Community impact<br>6 = Great taste and flavor<br>7= Store Preference<br>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**<br><br>1 = None<br>2 = Less than 10% difference<br>3 = 11% - 20% difference<br>4 = 21% - 30% difference<br>5 = More than 30% difference |
| **25** | To what extent do you prioritize purchasing local products instead of imported products? | **CIRCLE ONE**<br><br>1 = Always prioritize local products<br>2 = Often prioritize local products<br>3 = Occasionally prioritize local products<br>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?<br><br>(example: pounded taro, bottled sea cucumber) | **CIRCLE ONE**<br><br>1 = Very aware<br>2 = Somewhat aware<br>3 = Not very aware<br>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**<br><br>1 = Very important<br>2 = Important<br>3 = Somewhat important<br>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.**

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# 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.

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.

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# 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
Extension Specialist, Rutgers Cooperative Extension
Rutgers-The State University of New Jersey
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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

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 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)**<br>1 = Chuuk City_____<br>2 = Kosrae City_____<br>3 = Pohnpei City_____<br>4 = Yap City_____<br>5 = Other (Please specify) _____ |

## 2. DEMOGRAPHIC INFORMATION

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

**SECTION: Community Management and Governance**

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

| | | |
|---|---|---|
| **6** | What food production challenges/needs are your organization/community members bringing to you seeking assistance? | **CIRCLE IS ALL THAT APPLY**<br>1. Need for increased communication<br>2. Access to affordable feed<br>3. Access to clean water<br>4. Access to food production inputs (seeds/eggs/chicks/tools/plants, ect)<br>5. Access to climate resilient plants/crops<br>6. Affordable transportation<br>7. Food production (agriculture/fishing) training<br>8. Road Maintenance<br>9. Post-Harvest Storage<br>10. We don't need food security assistance<br>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**<br>**1.** Yes<br>2. Yes, but need they training<br>3. No, they farm only for home consumption<br>4. No, farming is not a desirable vocation<br>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**<br>1. Increases food security<br>2. Increases health and nutrition<br>3. Job Creation<br>4. Increases traditional practices<br>5. Strengthens local economy<br>6. Reduces dependence on imported foods<br>7. I do not think a local Food Processing Plant would benefit my community<br>8. Other (specify): |
| **11** | What challenges does your organization/community face in accessing markets for your agricultural or aquatic products? | **CIRCLE ALL THAT APPLY**<br>1 = Limited transportation infrastructure<br>2 = Lack of market to sell my products<br>3 = Lack of my own supply to sell my products<br>4 = Lack of connections to market relative to demand<br>5 = Quality standards compliance issues<br>6 = Other (specify):<br><br>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**<br>1= Very low<br>2= Low<br>3= Moderate<br>4= High<br>5= Very high |
| **13** | Does your organization/community provide educational programs or training opportunities for members on sustainable food production practices? | **CIRCLE ONE**<br>1 = Yes, regularly<br>2 = Yes, occasionally<br>3 = No<br>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**<br>1 = Yes, actively (please answer Q 16.1)<br>2 = Yes, to some extent<br>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**<br>1 = Crop diversification<br>2 = Water conservation practices<br>3 = Disaster preparedness plans (including planting trees)<br>4 = Relocation of crop fields<br>5 = Using MPAs (Marine Protected Areas)<br>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**<br>1 = Very prepared<br>2 = Moderately prepared<br>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**<br>1 = Introduce climate resilient food crops, animals, fish, etc.<br>2 = Irrigation systems<br>3 = Protected cultivation (IE greenhouses)<br>4 = Training in pest and disease management<br>5 = Other (specify) |
| **21** | Do you need support to implement more environmentally conscious initiatives in your organization/community? | **CIRCLE ONE**<br>1 = Yes<br>2 = No<br>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**<br>1 = Highly knowledgeable<br>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**<br>1 = Regularly<br>2 = Occasionally<br>3 = Rarely<br>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**<br>1 = None<br>2 = 1-2<br>3 = 3-5<br>4 = More than 5<br>5 = Not Applicable |
| **26** | Does your organization/community face challenges accessing resources such as land, water, or fishing grounds? | **CIRCLE ONE**<br>1 = Yes, frequently (please answer Q 26.1)<br>2 = Occasionally (please answer Q 26.1)<br>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**<br>1 = Food production workshops and training<br>2 = Business/accounting workshops and training<br>3 = Access to production resources (tools and inputs)<br>4 = Access to funding<br>5 = Assistance/training in how to apply for funding (e.g. write a proposal)<br>6 = Networking opportunities with other organizations<br>7 = Guidance from experts<br>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**<br>1 = Yes (please answer Q 30.1)<br>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**<br>1 = Yes<br>2 = No<br>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**<br>1 = Yes, Very inclusive<br>2 = Somewhat inclusive<br>3 = Not inclusive<br>4 = Not applicable |
| **33** | Does your organization/community engage youth (ages 13-35) in training and participation? | **CIRCLE ONE**<br>1 = Very inclusive<br>2 = Somewhat inclusive<br>3 = Not inclusive<br>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**

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

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# 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.

**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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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

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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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**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)**<br>1 = Chuuk City_____<br>2 = Kosrae City_____<br>3 = Pohnpei City_____<br>4 = Yap City_____<br>5 = Other (Please specify) _____ |

## 2. DEMOGRAPHIC INFORMATION

| Q2 | Question | Response (Enumerator may fill this in without asking) |
|---|---|---|
| **2.1** | Gender of informant | **CIRCLE ONE**<br>1 = Male<br>2 = Female |
| **2.2** | Age of informant (years) | **CIRCLE ONE**<br>1 = 18-30<br>2 = 31-45<br>3 = 46-60<br>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**<br>1 = Yes<br>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**<br>1= Yes<br>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**<br>1 = Yes<br>2 = No<br>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**<br>1 = Yes<br>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**<br>1= Yes, we have capability<br>2= No, but we are interested<br>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**<br>1= Yes<br>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**<br>1= Yes<br>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**<br>1= Yes<br>2= No<br>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**<br>1= Yes<br>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**<br>1= Yes<br>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**

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

RUTGERS

# Food Systems Solutions Food Distributors and Retailers 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 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
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
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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 Systems Solutions Food Distributors and Retailers 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)**<br>1 = Chuuk City_____<br>2 = Kosrae City_____<br>3 = Pohnpei City_____<br>4 = Yap City_____<br>5 = Other (Please specify) _____ |

## 2. DEMOGRAPHIC INFORMATION

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

| | Question | Response |
|---|---|---|
| **3** | What type of locally made processed food products does your business currently sell? | **CIRCLE ALL THAT APPLY**<br>1= Banana chips<br>2= Breads and baked goods (donuts/muffins)<br>3= Breadfruit chips<br>4= Breadfruit flour<br>5= Chicken meat and products<br>6= Coconut cooking oil<br>7= Coconut flour<br>8= Coconut milk<br>9= Coconut products<br>10= Fish and Seafood - Dried<br>11= Fish and Seafood – Salted<br>12= Fish and Seafood – Smoked<br>13= Fish Sauce<br>14= Fish Jerky<br>15= Fish Sauce<br>16= Feed for chicken/pigs<br>17= Flavored (infused) oils<br>18= Fruits – Dried<br>19= Fruits – Jellies and Jams<br>20= Fruits - Juices<br>21= Fruit – syrups<br>22= Hot sauce<br>23= Pork meat and products<br>24= Seafood – bottled<br>25= Sea salt<br>26= Spices – Dried<br>27= Spice blends<br>28= Spice pastes<br>29= Taro chips<br>30= Taro flour<br>31= Vegetables – Dried<br>32= Vegetables – Pickled<br>33= Vegetable sauces/salsa<br>34= Vinegar<br>35= Rope, matts and other fiber products<br>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**<br>1= Very important<br>2= Important<br>3= Somewhat important<br>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**<br>1= Strongly Support<br>2= Support<br>3= Neutral<br>4= Oppose<br>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**<br>1= Limited access to quality raw materials<br>2= Inadequate infrastructure for processing and packaging (this includes needed tools, equipment)<br>3= High production costs<br>4= Lack of technical expertise in product development (recipes, blending, packaging)<br>5= Lack of distribution capabilities<br>6= Lack of available trained workers to assist<br>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**<br>1= Providing access to commercial style/sized kitchen and/or food processing facilities at reasonable cost for you to make your product(s)<br>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<br>3= Providing access to research and development facilities<br>4= Offering technical assistance and expertise in product development<br>5= Facilitating collaboration with local farmers and producers<br>6= Assisting with marketing and branding of new products<br>7= Other (please specify): |

| | | |
|---|---|---|
| **8** | Which factors would influence your willingness to collaborate with a food innovation center? | **CIRCLE ALL THAT APPLY**<br>1= Potential for making more money<br>2= Access to funding or grants for product development projects<br>3= Assurance of intellectual property protection for new product ideas<br>4= Opportunity for market expansion and growth<br>5= Opportunities to make food that can be stored for extended time periods<br>6= Increasing my community's food security and access to nutritious, healthy foods<br>7= Supporting my community's economic growth and job creation<br>8= Other (please specify): |
| **9** | How do you perceive the current demand for locally processed food products in your state and FSM? | **CIRCLE ONE**<br>1= High demand and growth potential<br>2= Moderate demand, with potential for expansion<br>3= Limited demand and growth potential<br>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**<br>1= Products with traditional or cultural significance<br>2= Healthy and nutritious snack options<br>3= Convenient and ready-to-eat meals or snacks<br>4= Unique or specialty products not currently available in the market<br>5= Products that are grown locally and for which our state and nation are known<br>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**<br>1= Very important<br>2= Important<br>3= Somewhat important<br>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**<br>1= Access to financing or grants for product development<br>2= Technical assistance and expertise in food processing and packaging<br>3= Market research and consumer insights<br>4= Training and capacity building for staff<br>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**<br>1= Less than 100 pounds<br>2= 100 - 500 pounds<br>3= 500 - 1,000 pounds<br>4= More than 1,000 pounds<br>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**<br>1= Highly price-sensitive, price significantly impacts purchasing decisions<br>2= Moderately price-sensitive, price is a consideration but not the sole factor<br>3= Somewhat price-sensitive, but quality and uniqueness are more important<br>4= Not very price-sensitive, willing to pay premium for quality or specialty items<br>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**<br>1= Daily<br>2= Weekly<br>3= Monthly<br>4= Occasionally<br>5= Rarely/never |
| **16** | What price range do you typically sell locally processed food products for in your state? (Per unit) | **CIRCLE ONE**<br>1= $1 - $5<br>2= $6 - $10<br>3= $11 - $20<br>4= Above $20<br>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**<br><br>1= Increase significantly<br>2= Increase moderately<br>3= Remain relatively stable<br>4= Decrease moderately<br>5= Decrease significantly<br>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**<br><br>1= Product quality and taste<br>2= Health benefits and nutritional value<br>3= Packaging and presentation<br>4= Price affordability<br>5= Availability of product samples or demonstrations<br>6= Cultural or traditional appeal<br>7= Word-of-mouth recommendations<br>8= Marketing and advertising efforts<br>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**<br><br>1= Very important<br>2= Important<br>3= Somewhat important<br>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**<br><br>1= Promotional discounts and offers<br>2= Sampling and tasting events in-store<br>3= Collaborating with local chefs or influencers for product endorsements<br>4= Educational campaigns highlighting product benefits and uses<br>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**<br>1= Very Likely<br>2= Likely<br>3= Neutral<br>4= Unlikely<br>5= Very Unlikely |
| **22** | What do you feel would strengthen your partnership with local food producers? | **CIRCLE ALL THAT APPLY**<br>1= Better Communication<br>2= Better Transportation<br>3= Better Coordination of Foods Delivered to Market<br>4= Better Post Harvest Storage<br>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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| | Question | Response |
|---|---|---|
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| | | |
|---|---|---|
| **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**<br>1= Strongly Support<br>2= Support<br>3= Neutral<br>4= Oppose<br>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**<br>1= Limited access to quality raw materials<br>2= Inadequate infrastructure for processing and packaging (this includes needed tools, equipment)<br>3= High production costs<br>4= Lack of technical expertise in product development (recipes, blending, packaging)<br>5= Lack of distribution capabilities<br>6= Lack of available trained workers to assist<br>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**<br>1= Providing access to commercial style/sized kitchen and/or food processing facilities at reasonable cost for you to make your product(s)<br>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<br>3= Providing access to research and development facilities<br>4= Offering technical assistance and expertise in product development<br>5= Facilitating collaboration with local farmers and producers<br>6= Assisting with marketing and branding of new products<br>7= Other (please specify): |

| | | |
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| **8** | Which factors would influence your willingness to collaborate with a food innovation center? | **CIRCLE ALL THAT APPLY**<br>1= Potential for making more money<br>2= Access to funding or grants for product development projects<br>3= Assurance of intellectual property protection for new product ideas<br>4= Opportunity for market expansion and growth<br>5= Opportunities to make food that can be stored for extended time periods<br>6= Increasing my community's food security and access to nutritious, healthy foods<br>7= Supporting my community's economic growth and job creation<br>8= Other (please specify): |
| **9** | How do you perceive the current demand for locally processed food products in your state and FSM? | **CIRCLE ONE**<br>1= High demand and growth potential<br>2= Moderate demand, with potential for expansion<br>3= Limited demand and growth potential<br>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**<br>1= Products with traditional or cultural significance<br>2= Healthy and nutritious snack options<br>3= Convenient and ready-to-eat meals or snacks<br>4= Unique or specialty products not currently available in the market<br>5= Products that are grown locally and for which our state and nation are known<br>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**<br>1= Very important<br>2= Important<br>3= Somewhat important<br>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**<br>1= Access to financing or grants for product development<br>2= Technical assistance and expertise in food processing and packaging<br>3= Market research and consumer insights<br>4= Training and capacity building for staff<br>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**<br>1= Less than 100 pounds<br>2= 100 - 500 pounds<br>3= 500 - 1,000 pounds<br>4= More than 1,000 pounds<br>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**<br>1= Highly price-sensitive, price significantly impacts purchasing decisions<br>2= Moderately price-sensitive, price is a consideration but not the sole factor<br>3= Somewhat price-sensitive, but quality and uniqueness are more important<br>4= Not very price-sensitive, willing to pay premium for quality or specialty items<br>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**<br>1= Daily<br>2= Weekly<br>3= Monthly<br>4= Occasionally<br>5= Rarely/never |
| **16** | What price range do you typically sell locally processed food products for in your state? (Per unit) | **CIRCLE ONE**<br>1= $1 - $5<br>2= $6 - $10<br>3= $11 - $20<br>4= Above $20<br>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**<br><br>1= Increase significantly<br>2= Increase moderately<br>3= Remain relatively stable<br>4= Decrease moderately<br>5= Decrease significantly<br>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**<br><br>1= Product quality and taste<br>2= Health benefits and nutritional value<br>3= Packaging and presentation<br>4= Price affordability<br>5= Availability of product samples or demonstrations<br>6= Cultural or traditional appeal<br>7= Word-of-mouth recommendations<br>8= Marketing and advertising efforts<br>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**<br><br>1= Very important<br>2= Important<br>3= Somewhat important<br>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**<br><br>1= Promotional discounts and offers<br>2= Sampling and tasting events in-store<br>3= Collaborating with local chefs or influencers for product endorsements<br>4= Educational campaigns highlighting product benefits and uses<br>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**<br>1= Very Likely<br>2= Likely<br>3= Neutral<br>4= Unlikely<br>5= Very Unlikely |
| **22** | What do you feel would strengthen your partnership with local food producers? | **CIRCLE ALL THAT APPLY**<br>1= Better Communication<br>2= Better Transportation<br>3= Better Coordination of Foods Delivered to Market<br>4= Better Post Harvest Storage<br>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**

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

RUTGERS

# 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.

**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

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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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OR:
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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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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 Survey for Policymakers*

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)**<br>1 = Chuuk City_____<br>2 = Kosrae City_____<br>3 = Pohnpei City_____<br>4 = Yap City_____<br>5 = Other (Please specify) _____ |

## 2. DEMOGRAPHIC INFORMATION

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

## 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:**<br><br>a:____ Job creation and economic growth<br>b:____ Entrepreneurial opportunities<br>c:____ Community development<br>d:____ Increasing food security<br>e:____ Improving nutrition and health<br>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:**<br><br>a:____ Fruits and vegetables<br>b:____ Fish and Seafood<br>c:____ Local staple crops (e.g., taro, breadfruit)<br>d:____ High value specialty (coffee, kava, teas, spices)<br>e:____ Crafts<br>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:**<br><br>a:____ Research and development facilities<br>b:____ Processing and packaging equipment<br>c:____ Shared kitchen and commercial workspace<br>d:____ Training and education spaces<br>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**<br><br>1 = Very important<br>2 = Important<br>3 = Moderately important<br>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:**<br><br>a:____ Financial subsidies<br>b:____ Technical assistance (such as equipment and tools)<br>c:____ Policy incentives<br>d:____ Training<br>e:____ Marketing and trade opportunities<br>f:____ Other (please specify) |

| | | |
|---|---|---|
| **8** | What specific policies can support farmers in supplying raw materials to a Food Innovation Center? | **CIRCLE ALL THAT APPLY**<br><br>1 = Subsidies for farming inputs<br>2 = Guaranteed purchase agreements<br>3 = Tax incentives for local producers<br>4 = Training programs for improved farming practices<br>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:**<br><br>a:____ Organizing regular meetings with community stakeholders<br>b:____ Creating a farmers/fishers cooperative<br>c:____ Providing communication platforms<br>d:____ Offering logistical support to bring input supplies (seeds, tools) to farmers/fishers<br>e:____ Offering logistical support to get farmers/fishers food crops to market<br>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:**<br><br>a:____ Prioritizing local hiring<br>b:____ Implementing community-based projects<br>c:____ Ensuring profit-sharing models<br>d:____ Ensuring fair prices for farmers/fishers' products<br>e:____ Facilitating transport of farmers/fishers' food crops to Food Innovation Center<br>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**<br><br>1 = Increase in local employment<br>2 = Improved farmer incomes<br>3 = Increased local food security<br>4 = Creation of new businesses (micro-enterprises)<br>5 = Increased access to fresh, nutritious and healthy foods<br>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:**<br><br>a:____ Food production training techniques and practices<br>b:____ Food processing and preservation<br>c:____ Marketing and business skills<br>d:____ Food safety and quality control<br>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:**<br><br>a:____ Agricultural<br>b:____ Fishing<br>c:____ Aquaculture<br>d:____ Livestock<br>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:**<br><br>a:____ Farmers/Fishers<br>b:____ Small-scale food processors<br>c:____ Community organizations<br>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:**<br><br>a:____ Nurseries<br>b:____ Aquaculture hatcheries<br>c:____ Protected cultivation (greenhouses)<br>d:____ Cold storage<br>e:____ Transportation<br>f:____ Processing facilities<br>g:____ Marketplaces and retail outlets<br>h:____ Improved energy access on/off grid<br>i:____ Other (please specify) |
| **16** | How do you rate the current level of infrastructure available to support food processing in FSM? | **CIRCLE ONE**<br><br>1 = Excellent<br>2 = Good<br>3 = Fair<br>4 = Poor<br>5 = No comment |

| | | |
|---|---|---|
| **17** | What kind of public-private partnerships do you think are necessary to enhance food system infrastructure? | **CIRCLE ALL THAT APPLY**<br>1 = Investment in shared processing facilities<br>2 = Joint ventures for market access<br>3 = Collaboration on research and development<br>4 = Other (please specify) |
| **18** | What role should local communities play in the maintenance and management of new infrastructure? | **CIRCLE ALL THAT APPLY**<br>1 = Forming local management/oversight committees<br>2 = Participating in training on maintenance<br>3 = Contributing to infrastructure investment<br>4 = Engaging in regular review meetings<br>5 = Other (please specify) |
| **19** | What policies can promote the use of technology and innovation among local farmers? | **CIRCLE ALL THAT APPLY**<br>1 = Grants for technology adoption<br>2 = Partnerships with tech providers<br>3 = Extension training services with technological focus<br>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**<br>1 = Very important<br>2 = Important<br>3 = Moderately important<br>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:**<br>a:____ Agricultural policy<br>b:____ Trade and market access<br>c:____ Health and nutrition<br>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:**<br>a:____ Creating farmer advocacy groups<br>b:____ Providing platforms for farmer voices<br>c:____ Facilitating dialogues between farmers and policymakers<br>d:____ Offering training on policy advocacy<br>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:**<br><br>a:____ Leadership development programs<br>b:____ Exchange programs with successful communities<br>c:____ Workshops on governance and management<br>d:____ Mentorship by experienced leaders<br>e:____ Other (please specify) |
| **24** | How can community-based monitoring and evaluation be integrated into the project? | **CIRCLE ALL THAT APPLY**<br><br>1 = Training community members in Monitoring and Evaluation (M&E) techniques<br>2 = Establishing community M&E committees<br>3 = Regular feedback sessions with communities<br>4 = Using participatory tools for M&E<br>5 = Other (please specify) |
| **25** | What incentives can encourage community participation in policy advocacy related to food systems? | **CIRCLE ALL THAT APPLY**<br><br>1 = Recognition and awards for active participants<br>2 = Financial support for advocacy initiatives<br>3 = Capacity building in advocacy skills<br>4 = Platforms for showcasing advocacy success stories<br>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**<br><br>1 = Conducting inclusive policy consultations<br>2 = Implementing gender-sensitive policies<br>3 = Prioritizing marginalized groups in policy design<br>4 = Monitoring and evaluating policy impacts on different community segments<br>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**<br><br>1 = Community radio programs<br>2 = Mobile SMS alerts<br>3 = Social media platforms<br>4 = Local newspaper bulletins<br>6 = Other (please specify) |

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RUTGERS

# Food Systems Solutions Information Content Provider Survey

## INFORMED CONSENT FORM

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Investigator/Person Obtaining Consent from Respondent: (Print)

Signature:_____Date:_____

## *Food System Solutions Information Content Provider Survey*

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## 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)**<br>1 = Chuuk City_____<br>2 = Kosrae City_____<br>3 = Pohnpei City_____<br>4 = Yap City_____<br>5 = Other (Please specify)<br>_____ |

## 2. DEMOGRAPHIC INFORMATION

| Q2 | Question | Response (Enumerator may fill this in without asking) |
|---|---|---|
| **2.1** | Gender of informant | **CIRCLE ONE**<br>1 = Male<br>2 = Female |
| **2.2** | Age of informant (years) | **CIRCLE ONE**<br>1 = 18-30<br>2 = 31-45<br>3 = 46-60<br>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.:**<br><br>Production techniques and best practices for raw/fresh products<br><br>a:____ Food processing and preservation methods for food and other products<br>b:____ Marketing strategies, alerts, opportunities and market access<br>c:____ Emergency services and disaster response<br>d:____ Disease control and pest management<br>e:____ Crop budgets and financial planning<br>f:____ Other (please specify): |
| **4** | How frequently should an electronic information hub be updated to remain relevant and useful? | **CIRCLE ONE**<br><br>1 = Daily<br>2 = Weekly<br>3 = Monthly<br>4 = Quarterly<br>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.:**<br><br>a:____ Crop cultivation techniques<br>b:____ Livestock management practices<br>c:____ Aquaculture and fisheries production<br>d:____ Sustainable forestry practices<br>e:____ Control of invasive species<br>f:____ Ecological restoration to coast and/or to reduce soil erosion<br>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.:**<br><br>a:____ Written guides/fact sheets and manuals |

| | | |
|---|---|---|
| | | b:____ Video tutorials, U-Tube videos and webinars<br>c:____ Interactive online courses<br>d:____ In-person workshops and training sessions<br>e:____ Radio announcements<br>f:____ Other (please specify): |
| **7** | What aspects of food processing should the information hub focus on? | **CIRCLE ALL THAT APPLY**<br>1 = Small-scale processing techniques<br>2 = Industrial processing methods<br>3 = Value-added product development<br>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.:**<br>a:____ Market opportunities, prices, buyers needing product<br>b:____ Local and regional market trends<br>c:____ Export opportunities and requirements<br>d:____ Branding and packaging strategies<br>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.:**<br>a:____ Improved market spaces<br>b:____ Market analysis reports<br>c:____ Marketing plan templates<br>d:____ Online marketing platforms<br>e:____ Networking and partnership opportunities |
| **10** | What types of emergency services information should be included in the hub? | **CIRCLE ALL THAT APPLY**<br>1 = Natural disaster preparedness and response<br>2 = Food supply chain disruptions<br>3 = Public health emergencies<br>4 = Climate change adaptation strategies<br>5 = Water issues<br>6 = Food safety<br>7 = Presence and notification of serious pests and diseases<br>8 = Other (please specify): |

| | | |
|---|---|---|
| **11** | What information on disease control and pest management is most needed? | **CIRCLE ALL THAT APPLY**<br>1 = Identification and diagnosis of common diseases<br>2 = Notification when a serious pest or disease is identified in any of the states<br>3 = Preventative measures and best practices<br>4 = Treatment options and resources<br>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.:**<br>a:____ Written guides/fact sheets and manuals<br>b:____ Demonstrations using video and U-Tube<br>c:____ Interactive diagnostic tools<br>d:____ In-person workshops and training sessions<br>e:____ Radio announcements<br>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.:**<br>a:____ Crop budget templates<br>b:____ Financial management training<br>c:____ Access to credit and funding information<br>d:____ Investment planning guides<br>e:____ Other (please specify):<br>f:____ Not needed |
| **14** | How can the information hub best support producers in financial planning? | **CIRCLE ALL THAT APPLY**<br>1 = Offering personalized financial advice<br>2 = Providing assistance in making a business plan<br>3 = Providing case studies and success stories<br>4 = Developing online budgeting tools<br>5 = Hosting financial planning workshops<br>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.:**<br><br>a:____ Developing and providing educational content<br>b:____ Conducting research and sharing findings<br>c:____ Offering expert consultations<br>d:____ Facilitating student involvement and internships<br>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.:**<br><br>**RANK IN ORDER OF IMPORTANCE WITH 1= Most Important; 2= 2nd in importance etc.:**<br><br>a:____ data and research<br>b:____ Coordinating with local and international partners<br>c:____ Ensuring alignment with national development goals<br>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.:**<br><br>a:____ Ensuring mobile-friendly design<br>b:____ Offering content in multiple languages (including spoken content in local languages)<br>c:____ Providing offline access options<br>d:____ Conducting user training and support sessions<br>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)**<br>1 = Chuuk City_____<br>2 = Kosrae City_____<br>3 = Pohnpei City_____<br>4 = Yap City_____<br>5 = Other (Please specify) _____ |

## 2. DEMOGRAPHIC INFORMATION

| Q2 | Question | Response (Enumerator may fill this in without asking) |
|---|---|---|
| **2.1** | Gender of informant | **CIRCLE ONE**<br>1 = Male<br>2 = Female |
| **2.2** | Age of informant (years) | **CIRCLE ONE**<br>1 = 18-30<br>2 = 31-45<br>3 = 46-60<br>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**<br>1 = Yes (please answer 4.1)<br>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**<br>1 = Yes (please answer 6.1)<br>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**<br>1 = Yes<br>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**<br>1 = Yes<br>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**<br>1 = Yes<br>2 = No |
| **11** | How do you distribute updated information? | **CIRCLE ONE**<br>1= Use physical media (e.g., USB drives, DVDs)<br>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.<br>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**<br>1= Yes<br>2= No |
| **14** | Do you now optimize message size and compress data to minimize the impact of slow internet connections? | **CIRCLE ONE**<br>1= Yes<br>2= No |
| **15** | Do you now use voice-based hotlines with interactive voice response (IVR) systems to provide agricultural information and guidance? | **CIRCLE ONE**<br>1= Yes<br>2= No |
| **16** | Can you modify the bandwidth codecs? | **CIRCLE ONE**<br>1 = Yes<br>2 = No |
| **17** | Can you utilize low-bandwidth codecs to test the transmission of voice data efficiently over slow internet connections? | **CIRCLE ONE**<br>1 = Yes<br>2 = No |
| **18** | Do you optimize data transmission by using compressed data formats such as ***gzip*** or ***deflate***? | **CIRCLE ONE**<br>1 = Yes<br>2 = No<br>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**<br>1 = Yes<br>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**<br>1 = Yes<br>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**<br>1 = Yes<br>2 = No |
| **22** | What type of dissemination methods do you now use to make information available to others? | **CIRCLE ALL THAT APPLY**<br>1= Use a centralized information platform that consolidates data and analytical products, accessible through web portals<br>2= Or through mobile applications<br>3= Do you now develop tailored communication strategies, including regular reports, bulletins, and alerts, to reach different stakeholder groups<br>4= Radio<br>5= TV<br>6= Newspapers, bulletins (hard print)<br>7= Other (please specify): |
| **23** | What kinds of trainings are needed for those involved in preparing information? | **CIRCLE ALL THAT APPLY**<br>1= Maintaining and operating communication systems<br>2= Skills to troubleshoot connectivity issues<br>3= Perform hardware maintenance<br>4= Manage local data centers<br>5= Ways growers and residents can effectively utilize the communication systems.<br>6= Accessing offline content, using mobile applications, and understanding SMS and voice-based services.<br>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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RUTGERS
School of Environmental and Biological Sciences

# Food Systems Solutions Trainer Survey

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**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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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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Email: jimsimon@rutgers.edu
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**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 Trainer 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)**<br>1 = Chuuk City_____<br>2 = Kosrae City_____<br>3 = Pohnpei City_____<br>4 = Yap City_____<br>5 = Other (Please specify) _____ |

## 2. DEMOGRAPHIC INFORMATION

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

| | Question | Response |
|---|---|---|
| **Q3** | Are you prepared and have the needed training to assist families and others on: | **CIRCLE ALL THAT APPLY**<br>1 = Producing more food<br>2 = Post-harvest handling and processing of locally grown foods<br>3 = Traditional methods of agroforestry<br>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**<br>1 = Climate change adaptation (Save crops from sea level rise, saltwater inundation, heavy rain) - Climate resilient crops (e.g. Saltwater resistant taro)<br>2 = Sustainable farming and land management (How to keep the soil good for years, prevent erosion, etc.)<br>3 = Ways to access emergency weather information and emergency responses for water, safety, other<br>4 = Invasive species management<br>5 = Techniques and approaches to reducing soil erosion<br>6 = Techniques in restorative forestry<br>7 = Techniques in rehabilitation or improving coral reefs and coastal land preservation<br>8 = Water collection and storage<br>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**<br>1 = Yes<br>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**<br><br>AGRICULTURE<br>1 = General crop production/Agriculture training/Crop planting timing<br>2 = Local/Traditional Agriculture/Fishery Knowledge (Agroforestry, etc.)<br>3 = Seed collection, seed saving and growing from seed and vegetative propagation<br>4 = Improving your soil, working with soils, types of soils, testing, soil amendments<br>5 = Making local fertilizer/compost and then ways to store and applying (solid & compost tea)<br>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):<br>6 - A - Swamp taro or hard taro<br>6 - B - Land taro or soft taro<br>6 - C - Breadfruit<br>6 - D - Banana<br>6 - E - Coconut<br>6 - F - Copra (coconut product)<br>6 - G - Yam/Sweet Potato<br>6 - H - Mango<br>6 - I - Pineapple<br>6 - J - Limes/lemons<br>6 - K - Watermelon and other Melons<br>6 - L - Tapioca<br>6 - M - Papaya<br>6 - N - Soursop<br>6 - O - Black Pepper<br>6 - P - Hot peppers<br>6 - Q - Sakau (Kava)<br>6 - R - Sugar cane<br>6 - S - Cucumber and Squash<br>6 - T - Vegetables (Cabbage, Green Beans, Spinach)<br>6 - U - Eggplant and Tomatoes<br>6 - V - Chestnut<br>6 - W - Betelnut/Betel Leaf<br>6 - X - Tangerine/Orange |

| | | |
|---|---|---|
| | | 6 - Y - Medicinal crops (example: Noni)<br>6 - Z - Other (please specify)<br>_____<br>LIVESTOCK<br>7 = General livestock management<br>8 = Make local pig/chicken feed<br>9 = How to use wood chipper<br>10 = Other (please specify)<br>_____<br>MARINE/ACQUACULTIURE<br>11 = How to fish, fishing safety, Search & Rescue<br>12 = Local/Traditional fishing knowledge, moon-phase calendar<br>13 = Sustainable fishing, spawning knowledge, male/female ID<br>14 = Marine invasive species management<br>15 = Make local FADs using local materials<br>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**<br>1 = Yes<br>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**<br>1= Greenhouse growing with protected systems<br>2= Hydroponics<br>3= Nursery management<br>4= Sac and container gardening<br>5= Water collection, storage, and management<br>6= Aquaculture (fish, invertebrates, mangrove crabs, turtles, shrimp/eel)<br>7= Hydroponics |

| | | |
|---|---|---|
| | | 8= Hatchery<br>9= Cold storage (affordable lower cost)<br>10= Inclusion of solar power<br>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**<br>1 = Yes<br>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**<br>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)<br>2 = How to market products (make sellable)<br>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**<br>1= Yes<br>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**<br>1 = General health and nutrition<br>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**<br>1 = Yes<br>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**<br>1 = How to run a business, management, leadership, business plan<br>2 = Financing/financial management including record keeping and accounting<br>3 = How to prepare application for a loan or investment<br>4 = How to inform others of your business and ways to generate business<br>5 = Training on applicable laws/regulations<br>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**<br>1 = Yes<br>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**<br>1 = Yes<br>2 = No |
| **Q10.1** | If YES to Q10<br>Please state what they are. | |
| **Q10.2** | If NO to Q10<br>Please indicate what opportunities would further your professional development. | |

| | | |
|---|---|---|
| **Q11** | Are you trained in internet searching of data bases? | **CIRCLE ONE**<br>1 = Yes<br>2 = No |
| **Q12** | Are you comfortable in using computers and software? | **CIRCLE ONE**<br>1 = Yes<br>2 = No |
| **Q13** | Are you comfortable preparing reports and documenting your work and outputs? | **CIRCLE ONE**<br>1 = Yes<br>2 = No |
| **Q14** | Do you have access to computers and the internet? | **CIRCLE ALL THAT APPLY**<br>1 = Yes, at work<br>2 = Yes, at home<br>3 = No |

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| **Q15** | Would you be interested in further graduate studies, if you can still keep your job? | **CIRCLE ONE**<br>1 = Yes, definitely<br>2 = Maybe<br>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**<br>1= Yes<br>2= No |
| **Q17** | Would you be willing to pursue on-line trainings and even graduate programs and certification programs on-line? | **CIRCLE ONE**<br>1 = Yes<br>2 = No |

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| **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**<br>1 = Yes<br>2 = No |
| **Q19.1** | If YES to Q19:<br>Please provide an example. | |
| **Q19.2** | If NO to Q19:<br>Are you interested in learning this? | **CIRCLE ONE**<br>1 = Yes<br>2 = No |

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| **Q20**) What do you see as the biggest gaps in expertise and knowledge in this sector? |
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**End of survey script. We thank you for taking the time to spend with us, answering the survey.**