



Food environment typology for the Pacific Region: kin and community is an overlooked source of food

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Background

- Food environment (FE) → the places and pathways through which people acquire and/or consume food, and characteristics of those environments that influence food choices.
- FEs are a key leverage point to influence diets but:
 - Existing FE frameworks don't capture where people source food in the Pacific region
 - Methods, tools and indicators are under-developed, particularly in LMICs.



Local hawker stand selling ring-cake near a school, North Malaita, Solomon Islands. Photo J Bogard



Busy Honiara central market, Solomon Islands. Photo J Bogard



Reef fish for sale at Gizo market, Solomon Islands. Photo by F Milovac.

Research questions and methods

Research Question

1. What and where are the different food environments in the Pacific food system?

Methodological approach

- Adapted existing frameworks to Pacific context
- Revisions based on key stakeholder input

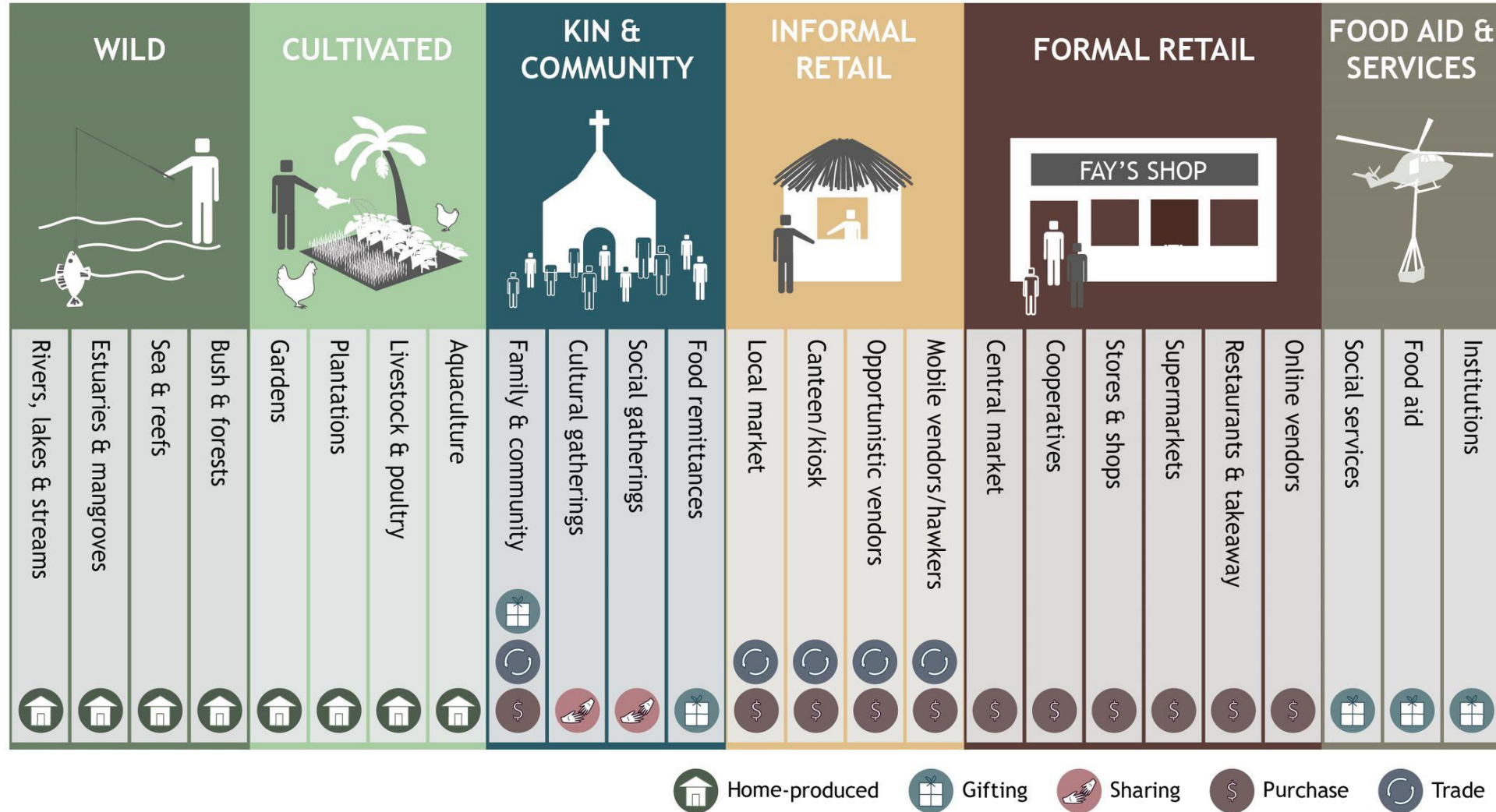


Local market in rural Solomon Islands (North Malaita). Photo by J Bogard



Local store in urban Solomon Islands (Gizo). Photo by F Milovac.

Results: Food environment typology for the Pacific

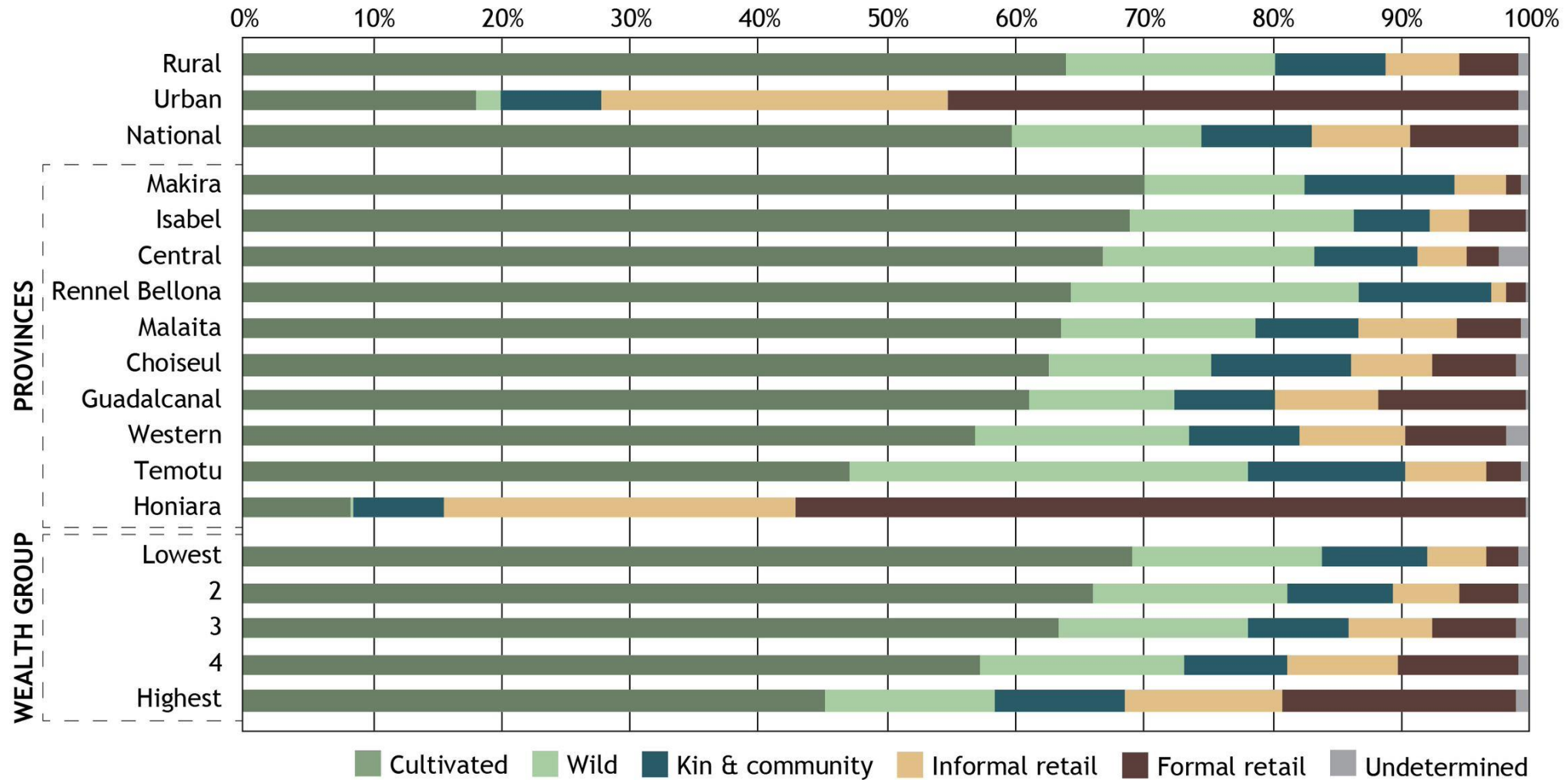


Research questions and methods

Research Question	Methodological approach
1. What and where are the different food environments in the Pacific food system?	<ul style="list-style-type: none">• Adapted existing frameworks to Pacific context• Revisions based on key stakeholder input
2. What is the relative importance of these FEs in diets for different population groups in the Solomon Islands?	<ul style="list-style-type: none">• Secondary analysis of Solomon Islands 2012/13 HIES• Coding of >300,000 individual food acquisitions based on free-text description of 'source' from household food diaries

Results: Sources of food acquisition

Proportion of total quantity of food acquired from different food environments in Solomon Islands 2011/12



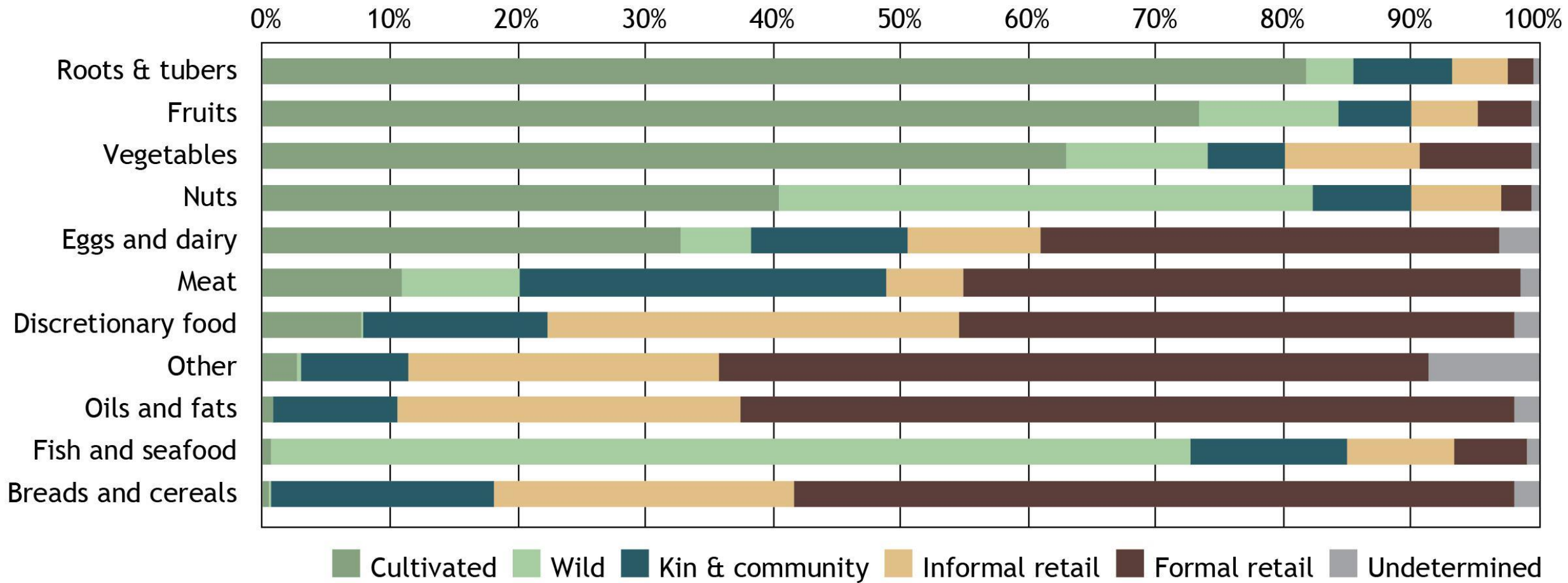
NB. Food sourced via Food Aid & Services not observed in this survey, but known to be important in the region, particularly during times of acute food shortages such as following natural disasters.

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1. What and where are the different food environments in the Pacific food system?	<ul style="list-style-type: none"> Adapted existing frameworks to Pacific context Revisions based on key stakeholder input
2. What is the relative importance of these FEs in diets for different population groups in the Solomon Islands?	<ul style="list-style-type: none"> Secondary analysis of Solomon Islands 2012/13 HIES Coding of >300,000 individual food acquisitions based on free-text description of 'source' from household food diaries
3. What is the relationship between reliance on different FEs and dietary quality in the Solomon Islands?	<ul style="list-style-type: none"> Descriptive analysis of food groups sourced from FEs Multivariate regression analyses <p>Outcome variables:</p> <ul style="list-style-type: none"> Two proxies for diet quality: fruit and vegetable acquisition (g/AME/day), ultra-processed food acquisition (g/AME/day) <p>Independent variables:</p> <ul style="list-style-type: none"> Reliance on each of the 5 FEs (did vs did not source any food from each FE, binary) <p>Control variables:</p> <ul style="list-style-type: none"> urban/rural location of households gender of head of household education level of household head wealth group (expenditure quintiles) age of household head household size

Results: Food groups and food acquisition

Proportion of total quantity of food groups acquired from different food environments in Solomon Islands 2011/12



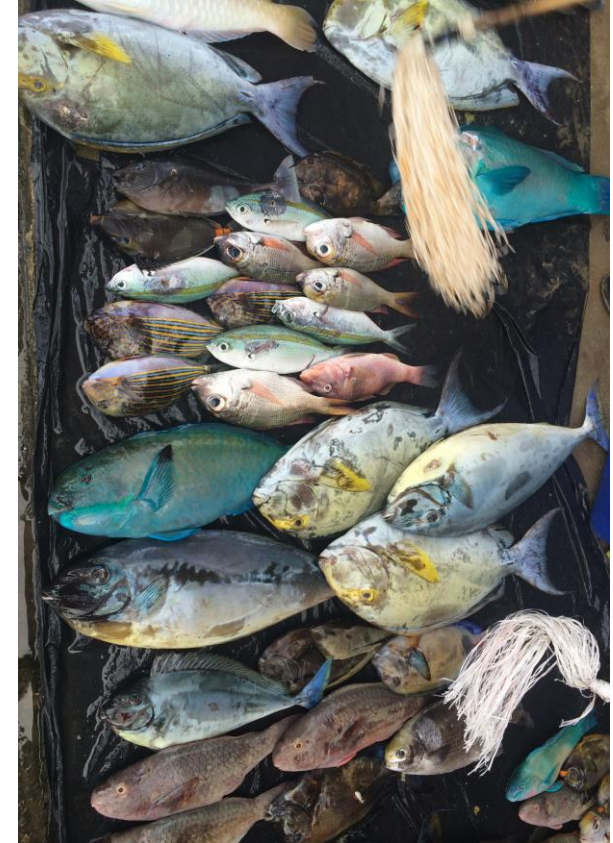
Results: Relationship between reliance on different FEs and diet quality

Outcome variable: fruit and vegetable acquisition (g/AME/day)					
Reliance on:		β coefficient	P value	CI lower bound	CI upper bound
Formal retail FE		-178.84	0.016	-278.14	-79.55
Informal retail FE	-	-37.65	0.270	-141.34	66.04
Cultivated FE		118.70	0.002	47.02	190.38
Wild FE		239.08	<0.001	159.36	318.81
Kin and community FE		192.01	<0.001	115.56	268.47
Outcome variable: UPFs acquisition (g/AME/day)					
Formal retail FE		8.04	<0.001	5.24	10.84
Informal retail FE		5.47	0.001	2.61	8.34
Cultivated FE	-	-2.68	0.355	-7.90	2.54
Wild FE		-3.59	0.008	-7.33	0.16
Kin and community FE	-	0.40	0.263	-3.74	4.55

Arrows show direction of relationship, = positive for diet quality = negative for diet quality

Conclusions and implications

- FEs in the Pacific are much broader than formal and informal retail, community and kinship networks in particular have been overlooked as a source of food
- Need for tools/methods to characterise full range of FEs in LMICs, and their relationship to nutrition and health outcomes
- Integration of a FE typology in surveys such as HIES offers a significant opportunity to understand the relative importance of FEs in dietary patterns across contexts and over time
- Our analysis reaffirms importance of natural resources management (particularly for fisheries and subsistence agriculture), and community and kinship networks for diet quality



Reef fish for sale, Auki market, Solomon Islands. Photo J Bogard.

Thank you

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A backyard garden in rural Solomon Islands growing coconut, banana, breadfruit, papaya, island cabbage, sugar cane and taro. Photo J Bogard