FALAH Seminar and Workshops WP2 & 3
University of New-Caledonia - 28th - 30th March 2023

METHODOLOGICAL SYNCHRONISATION APPLIED TO FALAH RESEARCH FIELDS
(Complementarities and transversalities between WP2 and WP3)

Work package 2 (WP2): family farming - Work Package 3 (WP3): food, lifestyle and health

28 March - Amphi 80 (University of New-Caledonia)		
13H - 13H30	Welcome coffee	
13H30 - 14H	Welcoming and progress report	
Opening of the seminar (14h-14h15)		
14h-14h15	Opening of the seminar	Pr C. Ris, President of the University of New Caledonia
14h15-14H40	Presentation of the program	Pr JM. Fotsing-UNC, Dr O. Galy-UNC
Session 1 : Work Packages 2 & 3 related to WP4 (14h – 17h)		
14H40 - 15H15	Sustainable food in schools in New Caledonia, approach and model	Mr G. Levionnois, Pacific Food Lab
15H15 - 15H45	Break & Posters	
15H45 - 16H15	Engage with children, parents in school and communities	Pr. C. Caillaud-USYD, Dr. K. Amon-USYD, Dr. R. Forsyth-USYD, Dr O. Galy-UNC
16H15 - 16H45	Break & Posters	
16H45 - 17H15	Traditional knowledge, practice and resilience in Pacific islands	Mr I. Tuikalepa-UNC, M G. Waikata-UNC, Dr AL. Dotte-UNC, Dr C. Sabinot-IRD, Dr S Bouard-IAC, Dr JF. Loisel-UNC, Dr F. Thomas-USP, Ms F. Lawac-VARTC, Ms J. Kaoh-VARTC, Mr P. Metsan-MOET, Ms A. Mweleul, Mrs F Rogers-MOET, and Dr O Galy-UNC on behalf of SPAR-Pacific group
17H15-17H30	Discussions & conclusions of the day	Pr JM. Fotsing-UNC, Dr O. Galy-UNC

29 March - Amphi 80 and Amphi 400 (University of New-Caledonia)		
Session 2 : Work Package 2 (9h – 12h)		
9H - 10H	Fishing activities and small scales fisheries in Family farming: insights from NC, Vanuatu, Fiji. Part 1	Dr S.Bouard-IAC, C. Sabinot-IRD, Dr P-P. Dumas-IRD, Ms C. Faure, Dr F. Thomas-USP, Dr C. Sand-GNC
10H - 10H30	Break	
10H30 - 12H	Fishing activities and small scales fisheries in Family farming: insights from NC, Vanuatu, Fiji. Part 2	Dr S.Bouard-IAC, C. Sabinot-IRD, Dr P-P. Dumas-IRD, Ms C. Faure, Dr F. Thomas-USP, Dr C. Sand-GNC
12H - 13H30	Lunch	
Session 3 : Tools and Transversalities 1 (13h30 – 15h30)		
13H30 - 14H15	For a better use of digital tools in real life conditions	G. Wattelez-UNC, J. Brouillon-IAC
14H15- 14H45	Contributions of satellite images and spatialized data	Pr J-M. Fotsing-UNC, Dr M. Despinoy
14H45 – 15h15	Languages from the garden to the fork	Dr P. Welby-UNC, Dr F. Wacalie-UNC
15H15 - 15H30	Break	
Session 4 : Tools and Transversalities 2 (16h – 18h30)		
15H30 – 16H00	Complementarities of quantitative, qualitative and spatialized methods	Pr J-M. Fotsing-UNC, Dr G David-IRD and Dr C. Serra-Mallol-CNRS
16H00 – 17H00	Discussions: transversalities and methodological synchronisations	All participants and leaders of WP2 and WP3
17H00 - 17H30	Break	
17H30 – 18H	How to publish in an open access journal? Presentation by the editor of the Open Research Europe Journal	Open Research Journal: Mrs Ruth Fisher
Session 5 : Round table discussion (18h30 – 20h30 Amphi 400 UNC)		
18H30 – 20H30	Round table discussion: Gardening, eating and my health: issues for my family, my island and my planet (In french, Amphi 400 – UNC)	

30 March - University of New-Caledonia	
Part 1: Field trip and presentation of academic research work (9h-17h)	
9h15 – 9h30	Departure from Nouville (LLSH building) to Apogoti-Dumbéa
9h30 – 11h00	- Visit of cultivated plots and slopes (PEH and JPE FALAH) - Welcome and comments by Philippe Marconet (head of the association “partage en herbes” - PEH) & Isaake Tuikalepa comments (JPE FALAH) - Comments on the urbanisation of Greater Noumea and the surrounding area
11h– 11h15	Departure from Dumbéa to Païta
11h15 – 12h 30	Visits to cultivated areas and diffuse urbanisation in the commune
12h30 – 13h30	Lunch
13h30 – 14h30	Visit of an agricultural perimeter
14h30 – 15h	Departure Païta - Nouville
Part 2: Presentation of academic work (Masters Theses and PhD research projects- 15h15h30)	
15h – 15h 30	Presentation of academic work (Masters Theses and PhD research projects)
Closing Ceremony (18h-22h)	
18H – 22H	Closing ceremony of the fourth FALAH seminar in NC (CACAO SAMPAKA restaurant)

Attend via Teams
ID: 463 403 743 064
Secret Code : A6xpwc

Complementarities and transversalities between WP2 and WP3

4ième séminaire FALAH (28th - 30th march 2023)

METHODOLOGICAL SYNCHRONISATION APPLIED TO FALAH RESEARCH FIELDS

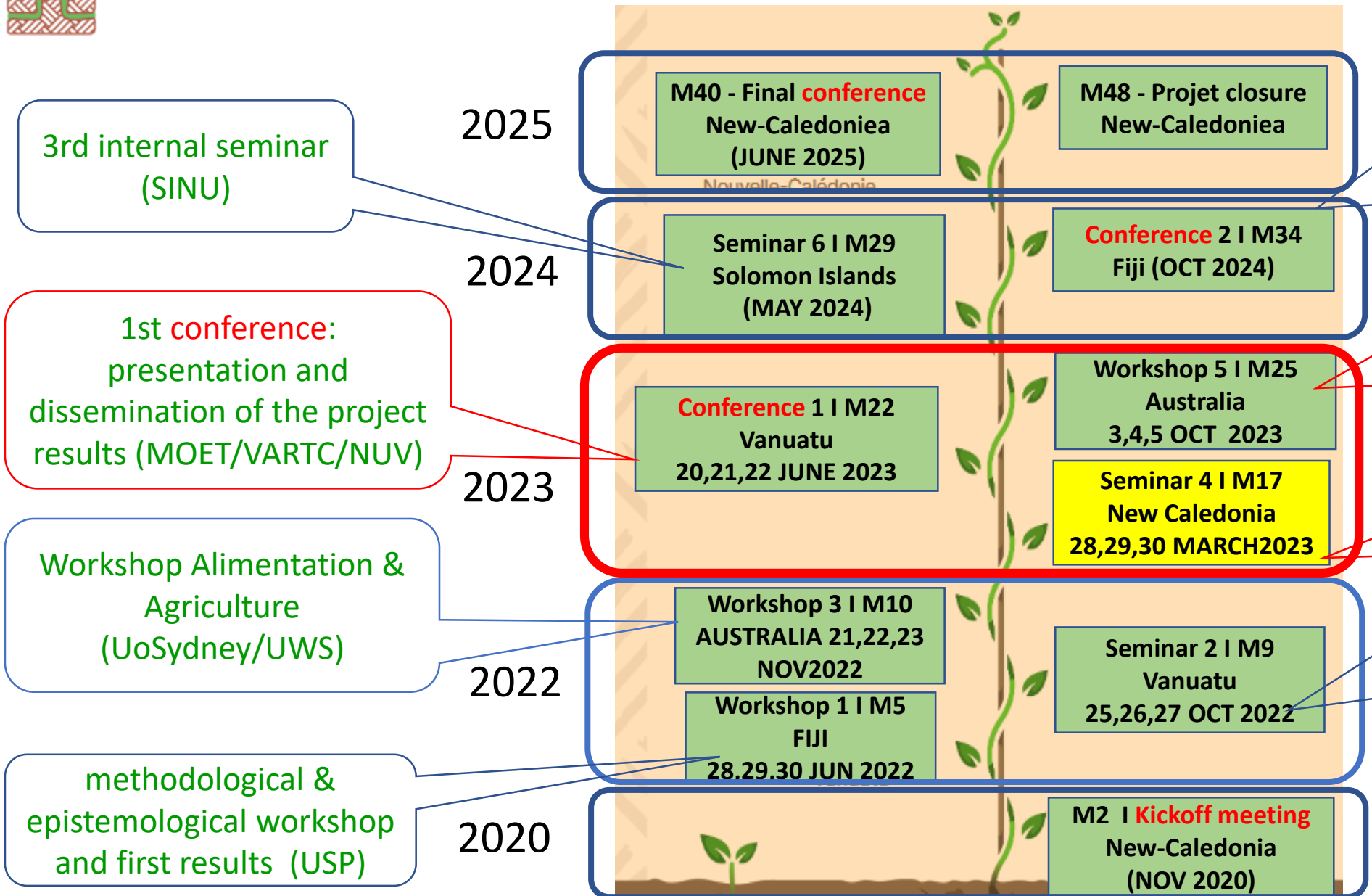
Université de la Nouvelle-Calédonie

Pr. J-M. FOTSING & Dr O. GALY

Scientific coordinators

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 873185

Project implementation: 2023-2025



3rd internal seminar (SINU)

1st conference: presentation and dissemination of the project results (MOET/VARTC/NUV)

Workshop Alimentation & Agriculture (UoSydney/UWS)

methodological & epistemological workshop and first results (USP)

2nd conference: presentation and dissemination of the project results (USP)

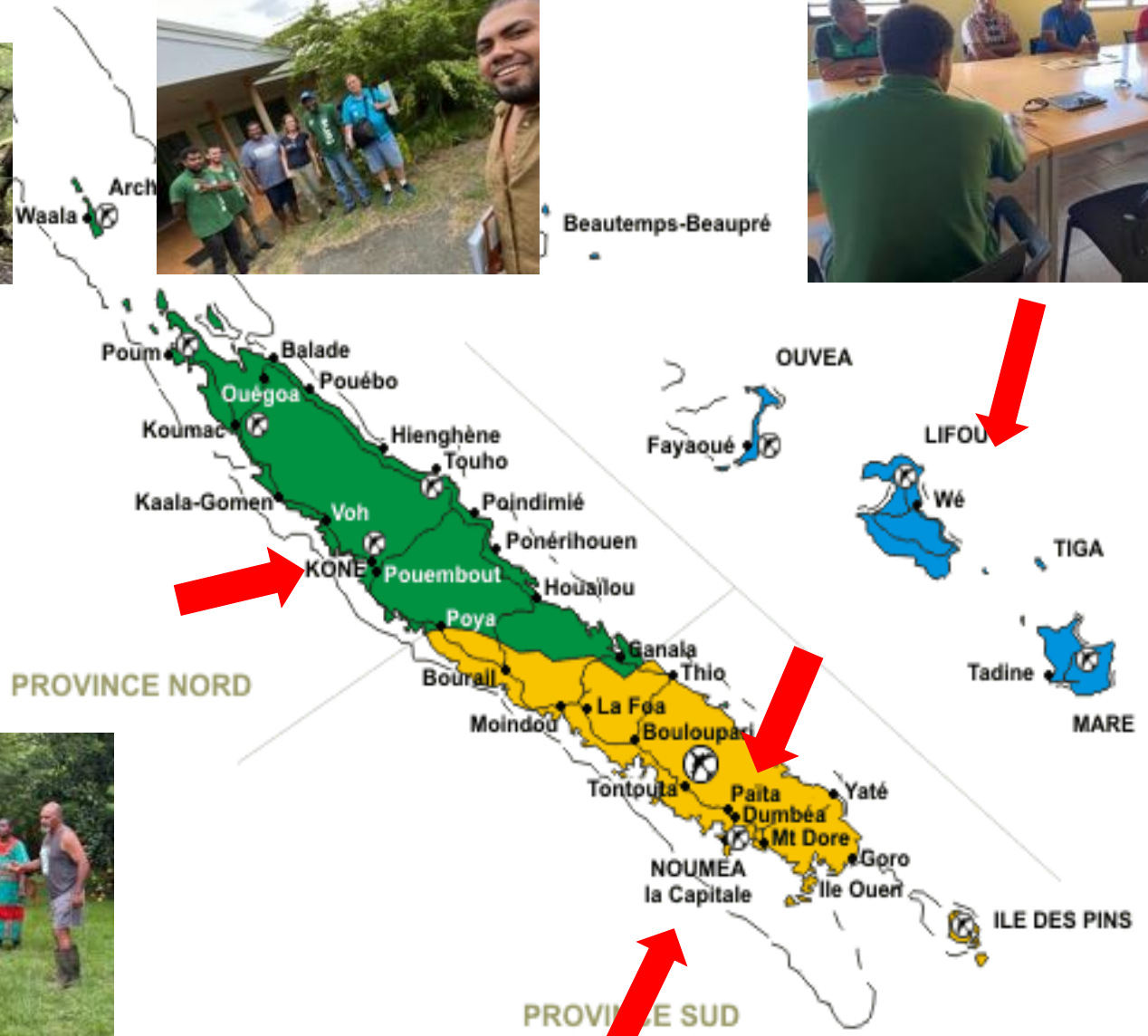
Workshop enrichment & methodological intersection (**UOW**/UNSW)

2nd seminar + 2 workshops on WP2&3

seminar with 2 WS on WP2 & 3 + methodological orientation test (MOET/VARTC/NUV)

FALAH Month in New Caledonia

A- Visits to the Provinces (PIL-PN-PS)



FALAH Month in New Caledonia

B- REDCAP and Mysurvey training: 13 to 17 March

(M. G. Wattelez-UNC & M. J. Brouillon-IAC)

FALAH Month in New Caledonia

C- Doctoral training: 20 to 24 March (Dr D. Simar-UNSW)

Presentation of the Workshop Program

28 March – Amphitheatre 80 (14h – 17h30)

Session 1 : Work packages 2 and 3 to work package 4

* **Sustainable food in schools in New Caledonia** (M G. Levionnois, Pacific Food Lab)

* **Engage with children, parents in school and communities** (Pr. C. Caillaud-USYD, Dr. K. Amon-USYD, Dr. R. Forsyth-USYD, Dr O. Galy-UNC)

* **Traditional knowledge, practice and resilience in Pacific islands** (M I. Tuikalepa-UNC, M G. Waikata-UNC, Dr AL. Dotte-UNC, Dr C. Sabinot-IRD, Dr S Bouard-IAC , Dr JF. Loisel-UNC, Dr F. Thomas-USP, Ms F. Lawac-VARTC, Ms J. Kaoh-VARTC, Mr P. Metsan-MOET, Ms A. Mweleul, Mrs F Rogers-MOET, and Dr O Galy-UNC on behalf of SPAR-Pacific group)

* **Discussions & conclusions of the day** (Pr JM. Fotsing-UNC, Dr O. Galy-UNC)

Presentation of the Workshop Program

29 March – Amphitheatre 80 (9h – 12h)

Session 2 : Work package 2

*** Fishing activities and small scales fisheries in Family farming: insights from NC, Vanuatu, Fiji. Part 1**
(Dr S.Bouard-IAC, C. Sabinot - IRD, Dr P-P. Dumas - IRD, Ms C. Faure, Dr F. Thomas - USP, Dr C. Sand - GNC)

***Fishing activities and small scales fisheries in Family farming: insights from NC, Vanuatu, Fiji. Part 2**
(Dr S. Bouard-IAC, Dr C. Sabinot - IRD, Dr P-P. Dumas - IRD, Ms C. Faure, Dr F. Thomas - USP, C. Sand - GNC)

Presentation of the Workshop Program

29 March – Amphitheatre 80 (13H30-18H00)

Session 3 : Tools and Transversalities 1

* **For a better use of digital tools in real life conditions** (G. Wattelez - UNC, J. Brouillon - IAC)

* **Contributions of satellite images and spatialized data** (Pr J-M. Fotsing – UNC, Dr M. Despinoy, Dr P. Dumas - UNC)

* **Languages from the garden to the fork** (Dr P. Welby - UNC, Dr F. Wacalie – UNC)

Session 4 : Tools and Transversalities 2

* **Complementarities of quantitative, qualitative and spatialized methods** (Pr J-M. Fotsing - UNC, Dr G David - IRD and Dr C. Serra-Mallol – CNRS)

* **Discussions: transversalities and methodological synchronisations** (All participants and leader WP2 and WP3)

* **How to publish in an open access journal? Presentation by the editor of the Open Research Europe Journal** (Open Research Journal: Mrs Ruth FISHER & Dr S. Blaise - UNC)

Session 5 : Round table discussion

* **Round table : Gardening, eating: issues on my health, my family, my island and my planet** (Amphi 400 – UNC)

Presentation of the Workshop Program

30 March – Field Trip and presentation of academic works (8h – 16h)

* Field trip around peri-urbain aereas
* Presentation of academic research work

Visited sites:

- Nouville (gardens and informal setlement)
- Dumbea (gardening in the city)
- Païta (gardens plots and urban dynamics)

Forthcoming events

1- Mid term meeting

(30 of May 2023 Montpellier – France)

1- Coordinator's Reports WP 1-2-3-4

**** Short presentation of the main research objectives of the network***

**** Presentation of the scientific progress based on the Annex I of the Grant agreement*** *(this part should be structured by WP, giving details on each tasks performed so far, the link with the secondments, as well as the status of the scientific deliverables and the milestones)*

**** Deviations from the initial work plan***

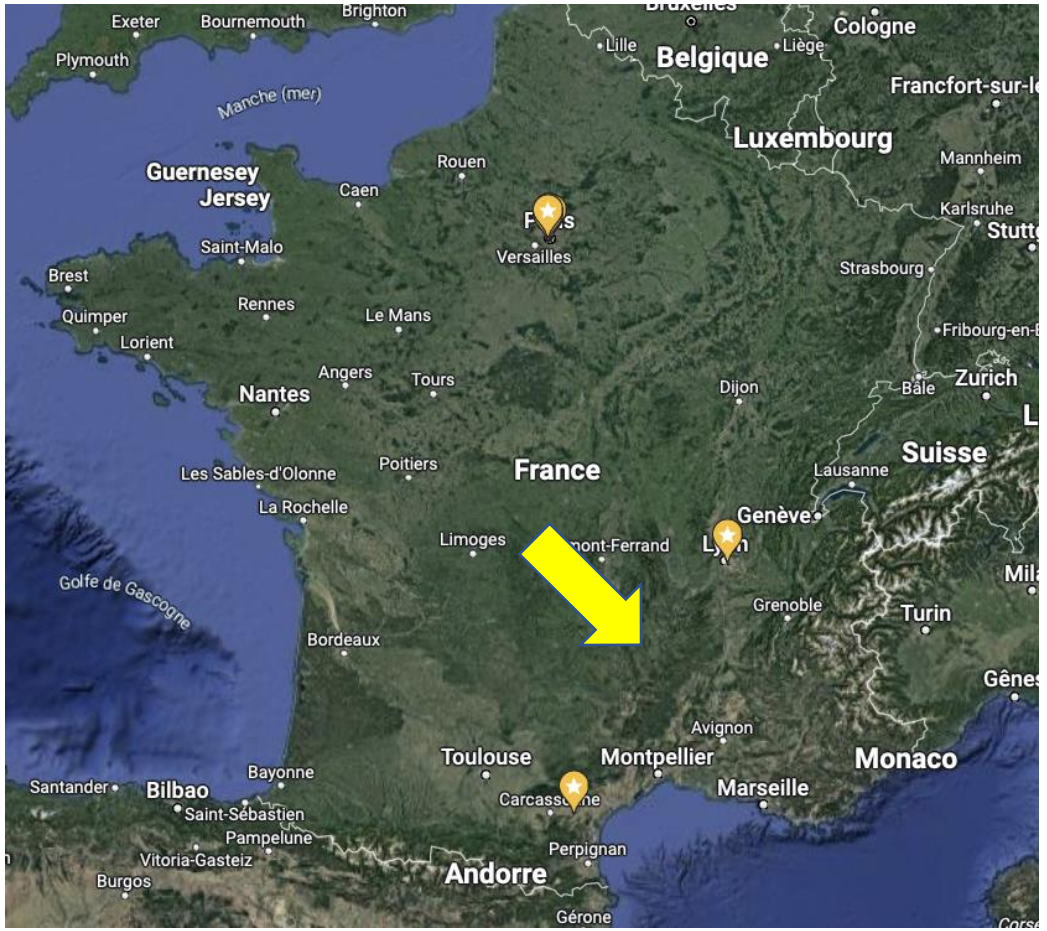
**** Scientific breakthrough and success achieved***

*** Covid impact**

2- Meeting between seconded staff members and the REA Representatives

Each focal point must join the meeting

3- Open discussion



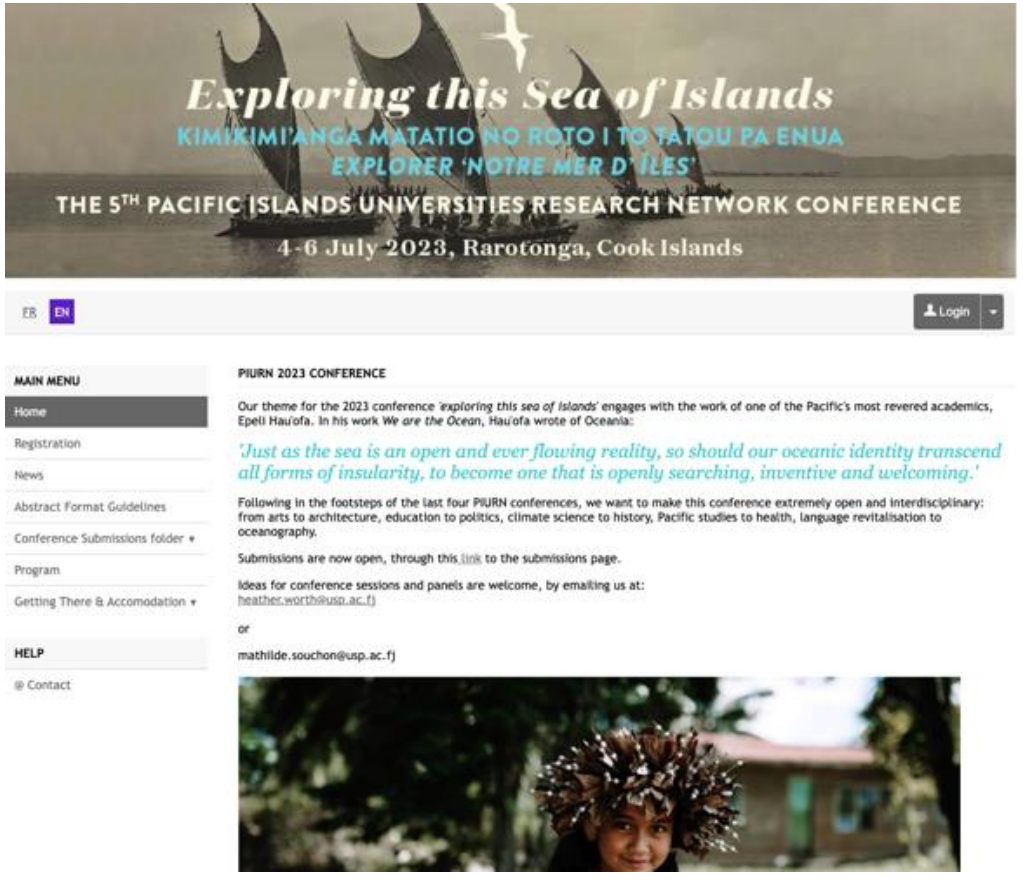
Forthcoming events

2- 1st FALAH Conference (20-22 June Vanuatu)

https://falah.sciencesconf.org/

3- 5th PIURN Conference (4-6 July-Cook Islands)

https://piurn2023.sciencesconf.org/



4- Workshop Australia UOW/UNSW

(3-5 Octobre-Sydney)

Fundings and opportunities

(for intra-Pacific travel and stay)

- AUF CFP NERE NAHAL 1(USP,SPC), 2(NUV, SINU), 3 (UNC-USP-MOET-VARTC-SINU) = 40 000 €

- Toulouse PhD student recruited

- Le Havre PhD student scholarship obtained

- **RERIPA CHANCES-Pacific PROJECT:** Climate c**H**ange and the future of co**A**stal Commu**N**ities: transformation of so**C**iality, liv**E**lihoods and life**S**tyle in the South **Pacific**

IAC, Unc, USP, SINU, UNV, USYDNEY, MOET (350 000 €, submitted)

-Strengths and Weaknesses of Family Farming, Food and Health in Pacific Island Countries . Application areas Papua New Guinea, Fiji, Solomon Islands, Vanuatu, New Caledonia.

INTERNSHIP OFFER

Place of training	Noumea, New-Caledonia, University of New-Caledonia Sydney university, Camperdown NSW 2006, Australia
Subject of the course	Strengths and Weaknesses of Family Farming, Food and Health in Pacific Island Countries Application areas Papua New Guinea, Fiji, Solomon Islands, Vanuatu, New Caledonia.
Issue and context of the internship	**General framework of the internship:** This internship is part of an H2020 research program entitled "Family farming lifestyle and health in the Pacific" (https://falah.unc.nc/). In the framework of Work Package 2 (family farming) and Work Package 3 (food and health), the consortium of 95 researchers has built a questionnaire that aims to understand the strengths and weaknesses of family farming, food and health in the Pacific Island countries: Papua New Guinea, Fiji, Solomon Islands, Vanuatu, New Caledonia. **Objectives:** My mission is attached to the scientific coordination of the project to pilot and coordinate this research. In the field, I will carry out the questionnaire in New Caledonia with 15 participants (families, elected officials, experts, customary peoples) and will ensure the remote accompaniment (weekly online meeting) of the national "focal points" in their teams. The studies in Papua New Guinea, Fiji, Solomon Islands, Vanuatu, New Caledonia. Then, it will be a question of analyzing and interpreting all the results obtained in order to report on the strengths and weaknesses of family farming, food and health in the islands of the insular Pacific and in particular in Melanesia. **Specific objectives of the internship:** - Finalize the questionnaire, test it and integrate it into the survey interface of the Redcap project - To carry out face-to-face surveys in New Caledonia - To accompany the researchers in charge of administering these questionnaires by proposing a video-conference accompaniment (the language of communication is English) for the other Pacific countries - Prepare the data (cleaning, formatting) and analyze the data - Writing of the dissertation - Contribution to a collective publication
Propose schedule and proceeding of the internship	- Bibliography on emerging issues on the links between family farming, food and lifestyle in the Pacific - Finalize and test the questionnaire, administer the questionnaire - Data processing - Writing the dissertation - Preparation of a collective publication
Duration (start and end dates)	Start: March/July 2023 End: July/November 2023 Duration: 4 months

Photos of SINU secondments in Europe

(Graz - November-December 2022)

FALAH

Agriculture familiale, mode de vie & santé

Merci pour votre attention

UNIVERSITÉ TOULOUSE Jean Jaurès

UMR 5175 CENTRE D'ÉCOLOGIE FONCTIONNELLE & EVOLUTIVE

UNIVERSITÉ de la NOUVELLE-CALÉDONIE

SINU SOLOMON ISLANDS NATIONAL UNIVERSITY

CTRAVARTC

USP THE UNIVERSITY OF THE SOUTH PACIFIC

Ministry of Education & Training Government of Vanuatu

KULA e.V.

IAC INSTITUT AGRONOMIQUE NÉO-CALÉDONIEN

UNSW SYDNEY

UNIVERSITY OF WOLLONGONG AUSTRALIA

THE UNIVERSITY OF SYDNEY

Institut de Recherche pour le Développement FRANCE

Pacific Community Communauté du Pacifique

WESTERN SYDNEY UNIVERSITY

METHODOLOGICAL SYNCHRONISATION APPLIED TO FALAH RESEARCH FIELDS
(Complementarities and transversalities between WP2 and WP3)

28th - 30th march 2023

Université de la Nouvelle Calédonie

Sustainable food in schools in New Caledonia, approach and model

Gabriel Levionnois (Pacific Food Lab)

Disclaimer: the views expressed in this presentation are purely those of the author and may not in any circumstances be regarded as stating an official position of the Research Executive Agency

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 873185


Pour vos allergies
Vigilance Rouge
Salade choux Rouge
tomate, menthe, Persil chinois
kiwis
Rôti de Porc
fenouil, Ananas, soyo
Spaghetti courgettes

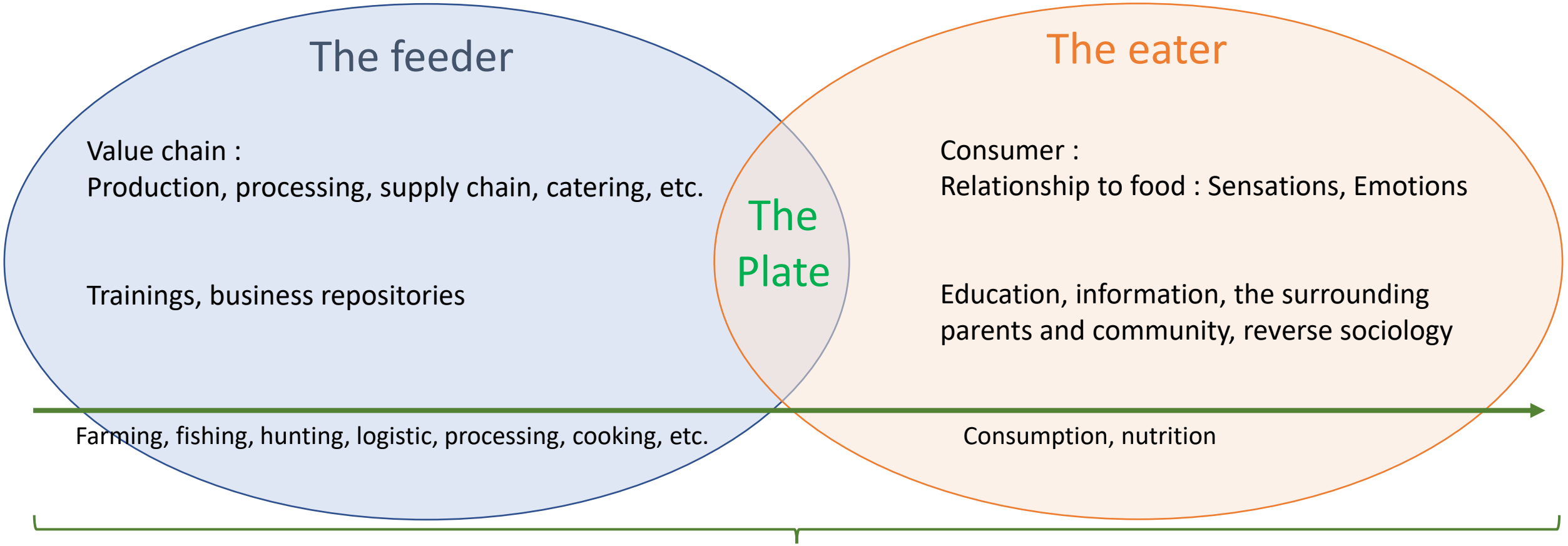
Like Laura 20% of the population will have eaten lunch in school canteens today and 180 days in the year. From the age of 4 till they are 18.

Less than 20% of local products will be used in their lunch
More than 20% will hand up in the garbage as a waste

95% of the kids from 4 to 18 will have lunch in school canteens today and during their schoolarship

Most school programs will enter the subject of food culture through nutrition only.

Food centric approch



Chefs are in a powerful position as gatekeepers of food culture and cuisine.

Food centric approch

The feeder

Bénéficial Recepies

The Chefs

The Plate

The Teachers

The eater

The food culture

We decided to start with the kids, not only they represent 100% of our futur but as well a hudge leverage as « demand group » through the school canteens.
And it’s less difficult to start with new habits.

Food centric approch :
The projects

The feeder

The eater

The Plate

Bénéficial Recepies

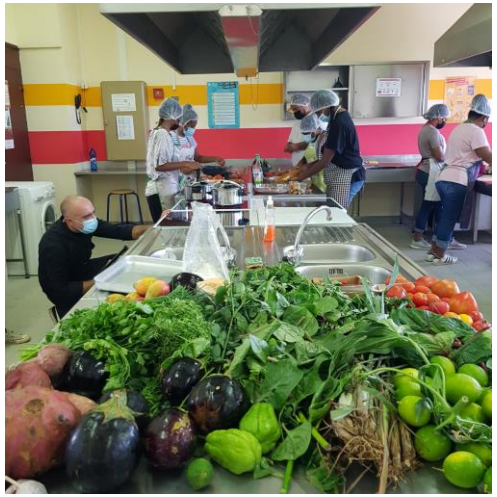
The food culture

Bien Manger pour Mieux Apprendre (eater)

Bien Manger pour Mieux Apprendre

Mange Bien, Jette Moins
Bouge ton Bassin

Lowering **from 25% to 10%** of food waste for college means **147 Million XPF/year** (1,2 M€ for 30 000 teenagers) to be reinjected into local products



Le Bonheur Dans Ma Cantine

Pacific Food Lab develops a cultural food approch in New-Calédonia and in the South Pacific

Charter's preamble :
« Avancer pas à pas sur le chemin des possibles vers le bien-être alimentaire de l'élève. Le nourrir en s'appuyant sur nos forces et nos limites, comme incitation à l'innovation, tout en portant un sac de produits locaux à la hauteur de nos épaules ; mettre en place un modèle d'organisation solidaire et bienveillant. »

Le Bonheur Dans Ma Cantine

Le bonheur DANS MA CANTINE

The canteens represent:

- 60 000 guests/day
- 20 millions €/year of purchase budget
- 22% of the population eat in a canteen

Le Bonheur Dans Ma Cantine

Kids represent 100% of tomorrow population

How can we reinforce their capacities to eat better ?

How can we reinforce their understanding of what it means to eat ?

How can we reinforce the capacities of the adults surrounding them in order to feed them better?

And basicly how can we co-create this great food culture that we need today before their grow older ?

METHODOLOGICAL SYNCHRONISATION APPLIED TO FALAH RESEARCH FIELDS

28th, 29th and 30th March 2023

University of New Caledonia

Addressing health and climate challenges in Australia and the Pacific region through partnerships with schools and co-design with young people

Corinne Caillaud, Rowena Forsyth, Krestina Amon

University of Sydney , Charles Perkins Centre

Olivier Galy

University of New Caledonia

Overview of the project

The global adolescent population is 1.8 billons – This is the largest adolescent population in human history.

While many adolescents are exposed to health or climate threats that may prevent them from reaching their full potential, the adolescent period of life is also identified as a unique window of opportunity for health and well-being particularly when they can voice their challenges and opportunities.

Aims

1) Determine adolescents' priorities for health and wellbeing, specifically diets and physical activity.
2) Establish how digital technologies could be leveraged to help adolescents achieve health and wellbeing outcomes

Approach

- Collaborative activities with adolescents through co-design workshop
- Activities explore young people's lived experiences, views, attitudes
- Partner with schools in Australia, New Caledonia and Vanuatu

Health

Determinants of health, NCDs, curriculum, conceptions of wellbeing, digital health information and role of digital tech.

Physical activity

Conceptions, curriculum, events/opportunities, awareness of physical activity/health, popular sports, role models

Food

Diet, nutrition knowledge, food perceptions, food access, food prep activity, consumption at school

Climate change

Awareness, conceptions, curriculum, resilient education, adaptation and risk preparedness/ management processes + young people.

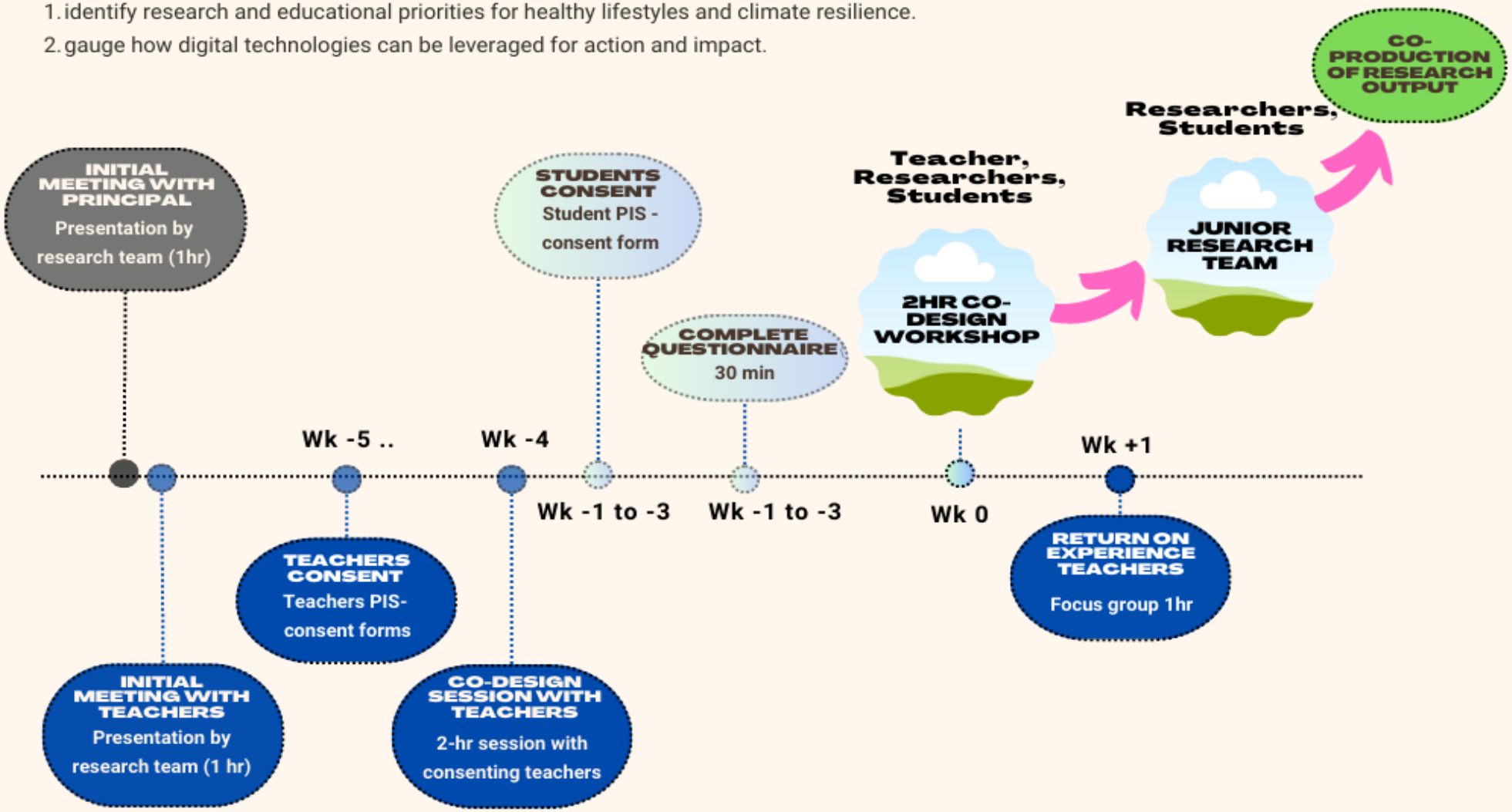
Role and impact of **gender**, **information flows**, intergenerational **equity**, role of youth as change **agents** and **social connectors**

Addressing health and climate challenges through co-design with young people

This study aims to identify research and education priorities for technology-supported health and wellbeing through partnership with young people.

In partnership with schools and through engagement and co-design research activities with adolescents attending year 10-12 (14+ years old), this project aims to:

1. identify research and educational priorities for healthy lifestyles and climate resilience.
2. gauge how digital technologies can be leveraged for action and impact.



Questionnaire

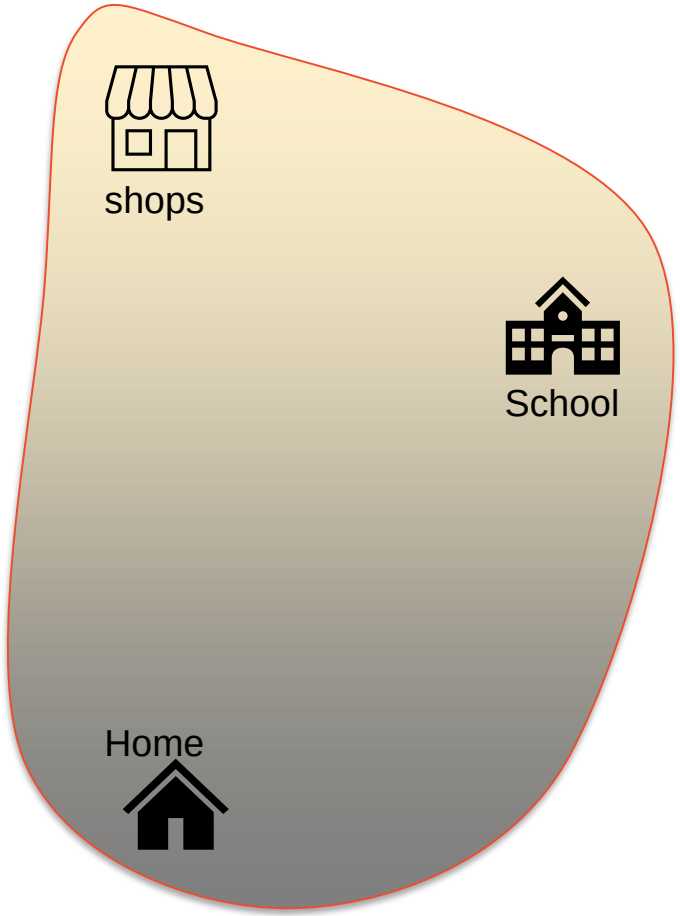
- Demographics (age, grade, gender, school, language, medical conditions)
- Physical activity (sport, habitual PA, sessions/week)
- Diet (simple questions about fruits, soft drinks, sugary foods consumption)

- **Digital health**
  - Access to technology
  - Technology Usage (frequency)
  - Which social media platforms?
  - What do they use digital technologies for?
  - Which features are important to them?

- **Climate change ?**
  - …

Co-design workshop resources

1 class (year 7 to 12), 1 teacher, 1 researcher



Map

Booklet guiding the activities

Pens

Audio recorder

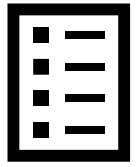
STORY TELLING CARDS

- To set the scene
- Provide health information and instructions
- Physical activity OR diet

STICKERS

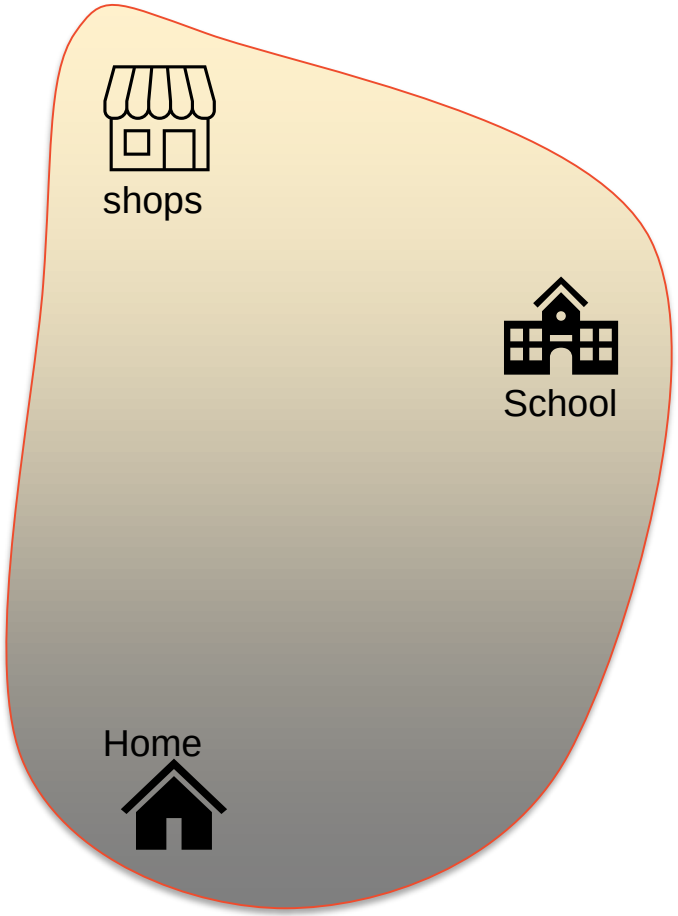
To get started with the activity

WORK SHEETS



Co-design workshop

Phase 1



Scenario - NOW

Melelani is a 14 years old girl who lives in Noumea in a house with her 2 older cousins Tamatoa and Noa (aged 18 and 21) and her younger sister Poe (aged 9).

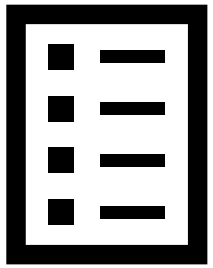
After school, on her way back home, she goes to buy her meals for the next 2 days. This morning, she heard about the food guidelines. She going shopping with 2 of her friends. They talk about food, and they discuss what she heard.

Put the map together based on this scenario and guided by these questions. You can use the stickers, pens to write or draw.

- Where do you think she's got that information from?
- Where do they go shopping ?
- What do they buy?
- What guides their choice?

Co-design workshop
Phase 2

Booklet guiding the activities



WORK SHEETS

Health information is disclosed in the booklet

Reflect on answers in phase 1

Question 1
What are the challenges for Melelani to access a healthy and enjoyable diet?

Question 2
Melelani uses digital technologies to adopt a heathy and enjoyable diet consistent with the dietary guidelines
Which digital tools support this and how does she use them?
List as many solutions as you can think of in your team

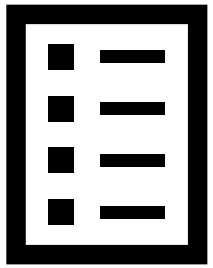
Question 3
Choose the most useful one and provide a visual design

Be creative !
You can invent new digital technologies
There is no resource constraint.

Challenges	Digital technologies solutions	Visual of proposed technology

Co-design workshop
Phase 3

Booklet guiding the activities



WORK SHEETS

Future context
Climate prompt is disclosed in the booklet

There has been unusual rain and the farms have been flooded.
The price of locally grown vegetables and meat has tripled.

5 years later

• Melelani's sister Poe is now 14 years old.

• She has also adopted her sister's enjoyable and healthy diet and using the digital technologies
•How can she maintain this diet in the new environment?
•How can digital technologies help her adjust and maintain her diet?

Be creative !
You can invent new digital technologies
There is no resource constraint.

Challenges	Digital technologies solutions	Visual of proposed technology

METHODOLOGICAL SYNCHRONISATION APPLIED TO FALAH RESEARCH FIELDS

28th, 29th and 30th March 2023

University of New Caledonia

Thank you!

Addressing health and climate challenges in Australia and the Pacific region through partnerships with schools and co-design with young people

Time comitment

Teachers comitment (7hrs)

Briefing: 1hr
Co-design: 2hr
Workshop: 2hr
Return on experience: 1hr

Students (2.5hrs)

Survey (30min)
Workshop 2hr (school hours)

Junior Research team (chercheur en herbe) (up to 12hrs)

Workshops: 3x2hr
Homework: up to 6 hr

Research team presents outcome to class

1 hr session

Indigenous Knowledge, Practices and Resilience in the Pacific (SPAR-Pacific)

Dr Olivier GALY (UNC), Dr Akila Nedjar Guerre (UNC), Dr Louis Lagarde (UNC), Dr Dotte Anne-Laure (UNC), Dr Fabrice Wacalie (UNC), Dr Eddie Wadrawane (UNC), Dr Stéphanie Rabault (UNC), Dr Jean François Loisel (UNC), Amelle Aoudia (UNC), Vaimoe Albanese (UNC), Dr Frank Thomas (USP), Yane Meltetineath (MOET-UNC), Dr Catherine Sabinot (IRD), Dr Sévenrine Bouard (IAC), Dr Arno Pascht (KULA), Dr Christophe Serra-Mallol (UTJ2), Pierre Metsan (MOET), Adeline Mweleul (MOET), Felicity Rogers (MOET), Floriane Lawac (VARTC), Juliane Kaoh (VARTC), Patrick Rory (UNV), Ben Boulekouran (UNV), Ariane Naliupis (UNV), Annette Theophile (UNV), Waixen Waikata (UNC), Isaake Tuikalepa (UNC), Hugo Bugoro (SINU), John Fasi (SINU)

Context and research questions

The Knowledge, Indigenous Practices and Resilience in the Pacific Islands (SPAR-Pacific) project focuses specifically on family perceptions and practices among New Caledonian and Vanuatu students and their families in 2022 in the Post COVID-19 Pandemic context.

Objective 1: Measure the existence and activation of traditional knowledge and practices among New Caledonian and Ni-Vanuatu students.

Objective 2: To appreciate the associated perceptions and intangible aspects of youth.

Objective 3: Understand the modes of development, expression, and transmission after the COVID-19 pandemic in relation to the socio-economic and natural environment of young people.

Context and research questions

Indigenous knowledge and practices constitute *"a set of knowledge shared by a human group, which is transmitted and transformed, in connection with the ecology of this group. This knowledge covers :*

languages, literatures, arts, crafts, rituals, games, gastronomy, medicine, management of natural resources (fauna, flora, soil, water), architecture, artifacts, orientation in space, etc.

They are both a way of seeing the world and a way of living it. »

United Nations Permanent Forum on Indigenous Issues

Context and research questions

Hunting
Fishing
Gathering
Cultivation of the field or garden
Raising animals for food
Food preparation
Food preservation
Management of illnesses
Interpretation of phenomena
The creation of clothing
Making traditional tools
The construction of shelters
The manufacture of instruments
The orientation and the displacement
The understanding of a language
The practice of an vernaculary language

Context and research questions

WP2	2.1 Gather and summarize knowledge on cropping practices, consumption, innovation and the dynamics of family farming 2.2 Improve understanding of how family farming functions through ecological, economic, sociological and spatial dimensions and how it adapts to the environment
WP3	3.1 Examine the effects of family farming on lifestyle and its impact on the health and well-being 3.2 Explore diet and physical activity in families practicing family farming 3.3 Analyze inter-generational benefit on family farming lifestyle
WP4	**4.1 Compare traditional family farming practices, its adaptation to the environment and identify best practices to disseminate** 4.2 Examine the role of school in promoting food education, physical activity, and changing dietary habits **4.3 Share new knowledge to develop sustainable intervention strategies that can help people from other regions** **4.4 Accumulate, cross and share traditional and scientific knowledge on small-scale farming and eating habits to establish production and consumption strategies adapted to the socio-cultural context.**

Protocol

Mixed methods

Quantitative approach : survey

- Transmission
- Frequency
- Perception

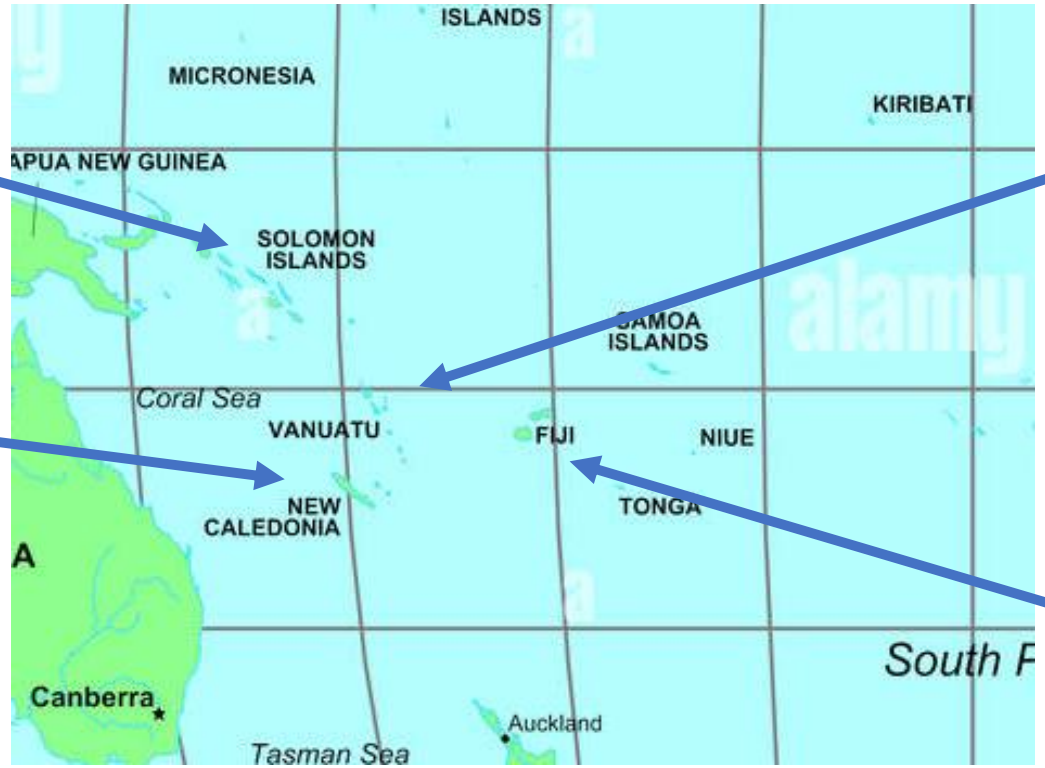
Qualitative approach : individual interviews

Explore ways that traditional knowledges and practices are generated, their perception, mobilised and ttansmitted,etc.

Honiara
n (Qt) = 600
n (Ql) = 30

Nouville
n (Qt) = 482
n (Ql) = 20

Baco
n (Qt) = 44
n (Ql) = 10



Port-Vila
n (Qt) = 600
n (Ql) = 30

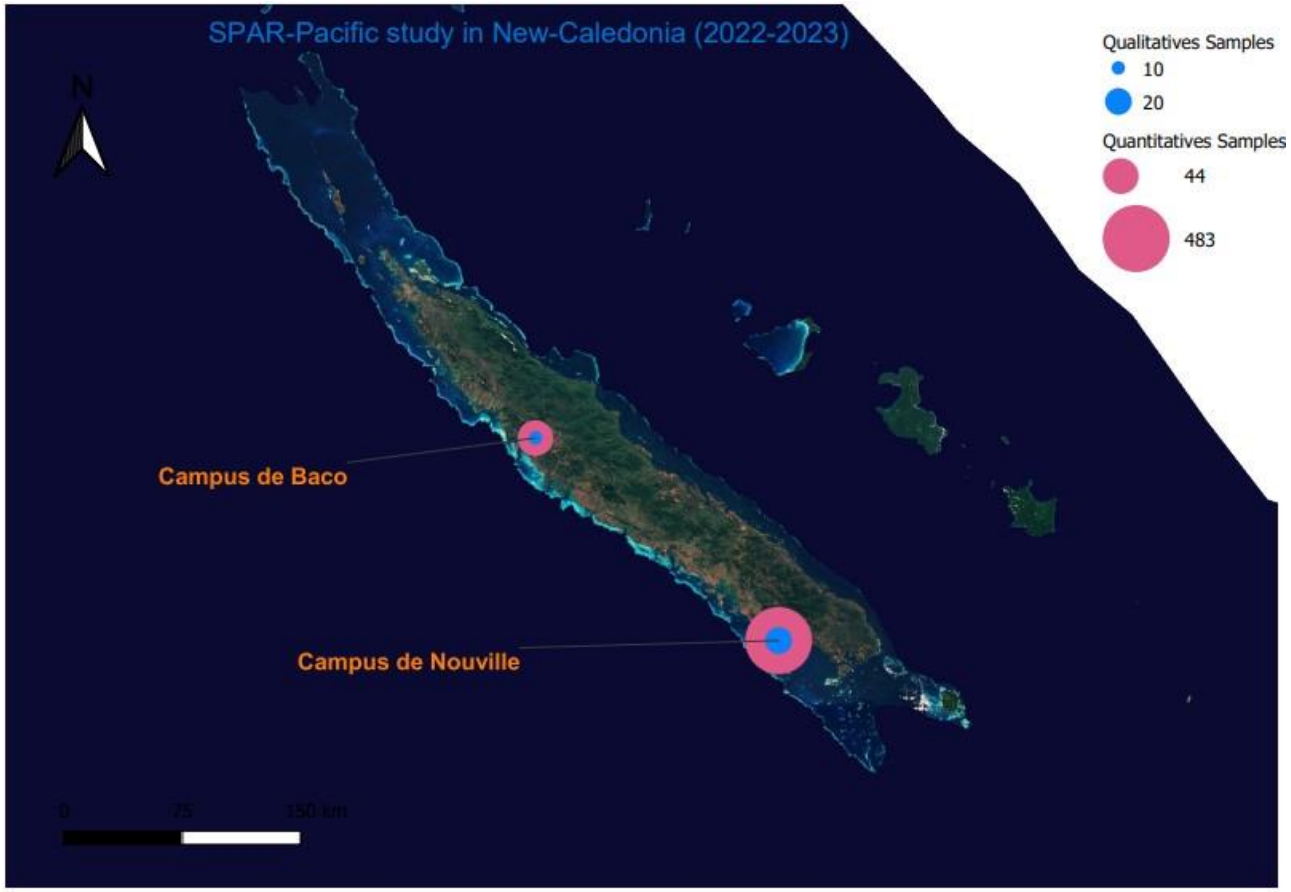
Laucala
n (Qt) = 600
n (Ql) = 30

Protocol

Mixed methods

Quantitative approach : survey

Qualitative approach : individual interviews



Protocol

Mixed methods

Quantitative approach : questionnaire

Qualitative approach : individual interviews

1. MY PRACTICES FROM FAMILY (INDIGENOUS) KNOWLEDGE
2. MY PERCEPTIONS ON FAMILY (INDIGENOUS) KNOWLEDGE and COVID-19
    1. SPATIAL DIMENSION
    2. SOCIAL DIMENSION
    3. TEMPORAL DIMENSION
    4. LIFESTYLE INFORMATION
    5. LANGUISTICS
3. LAW, KNOWLEDGE AND PRACTICES IN MY OPINION
4. KNOWLEDGE, INFORMATION AND TRANSMISSION IN MY OPINION

1. MAKING CONTACT
2. ACTIVITY PRACTICES *(What family activities are you currently engaged in (farming, horticulture, fishing, animal husbandry, hunting, gathering, giving and trading, handicrafts...), if you live with your family or in close proximity? And if you live alone?)*
3. MODALITIES AND CONDITIONS OF ACQUISITION OF PRACTICES *(Did you learn by observing (elders, peers...)? Who taught you these techniques (parents, grandparents, uncles, aunties, outside of family, school, other...)?) At what time?)*
4. TRANSMISSION AND SPREAD/DISSEMINATION OF KNOWLEDGE AND PRACTICES *(How do you pass on these practices? To whom? (relatives, tribe, peers of your generation, youth, children). Do you share your knowledge/practices with other people from different communities? In what way? orally, in writing or online? orally (discussion with family, relatives). In writing (books, journals, magazines, theses...). Online (social networks, website, blog, article), in which formats: video, comments on social networks (which networks)?*

SPAR - How to store and analyse qualitative data and why?

Interviews are long (1 hour… 6hours!!)

They are transcribed on dozens of pages

How to store and analyse qualitative data and why?

How can we take a step back from such a large amount of information?

How to build an analysis of these interviews?

Can we sort the interviews extract by extract when the principle of a semi-structured interview is to leave a lot of freedom to the interviewee to build a fine conversation close to the realities experienced by the interviewee?

SPAR - How to store and analyse qualitative data and why?

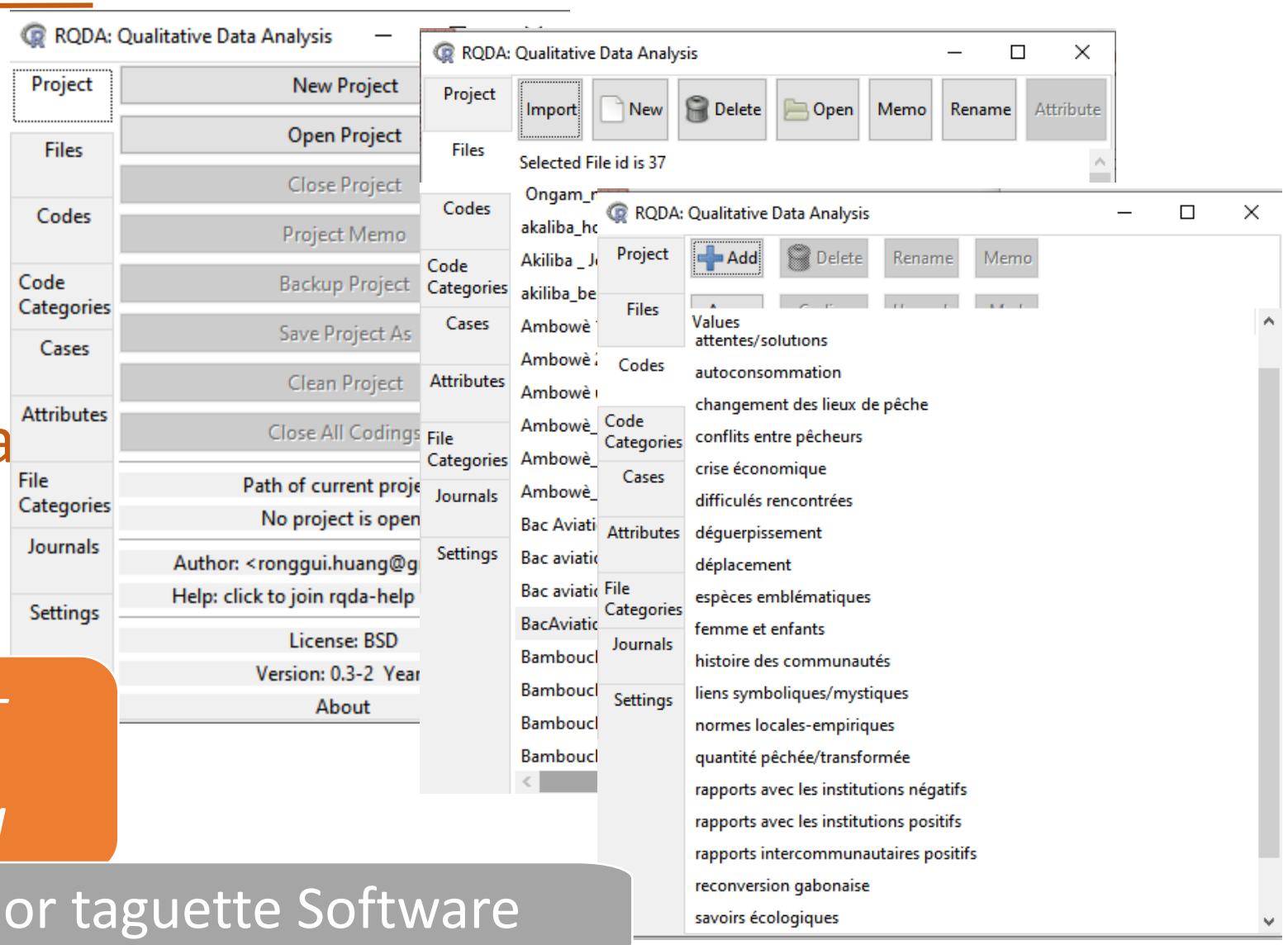
How to store and analyse qualitative data and why?

Use a free and open-source tool for qualitative research!

- Import our research materials
- Highlight and tag quotes
- Export the results

SPAR - How to store and analyse qualitative data and why?

How to store and analyse qualitative data and why?

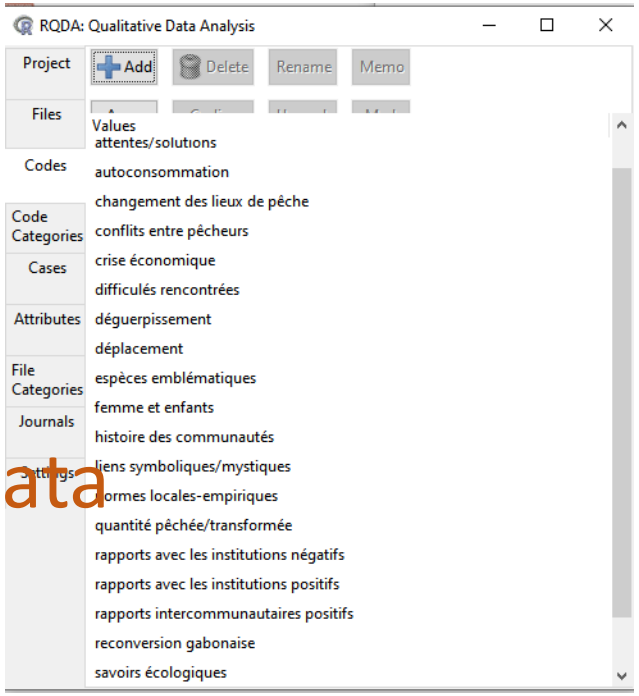


Use a free and open-source tool for qualitative research!

➢ R-QDA or taguette Software

SPAR - How to store and analyse qualitative data and why?

How to store and analyse qualitative data and why?



La deuxieme fois qu'ils ont casse c'est quand l'etat voulait faire la barriere de l'aeroport.
<histoire des communautés>Cyrielle : C'était vers quelle année comme ça ?
Akinmbami : Pour la barrière là c'était dans les années 2000 mais nous sommes toujours la derrière la barrière ?
Cyrielle : Depuis la dernière casse, est-ce que vous avez connue encore un autre évènement ici comme une catastrophe ou un incendie ou un autre changement de site ?
Akinmbami : Non on ne nous a plus changés de site mais nous voulons bien avoir le site, on a même demandé au ministère de nous arranger un peu le site pour qu'il soit amélioré.
Cyrielle : Depuis que vous êtes installés quels sont les gros problèmes que vous rencontrés dans l'exercice de votre activité ? Ou quand vous pratiqués la pêche chaque jour ?
<difficulés rencontrées >Akinmbami : Le gros problème qu'on a c'est d'abord le site parce que pour fumer nos poisson il n'y a pas de route pour amener le bois pour le fumage du poisson et aussi au niveau de se procurer le carburant le transport est pénible. On dépense beaucoup dans le transport du carburant.
Cyrielle : Sur votre site vous utilisez quels types de filet et quels engins de filet ?
Akinmbami : Nous utilisons le genre de filet que gouvernement nous a ordonné d'utiliser pour la sardine et le petit poisson.
Cyrielle : Donc vous faites deux types de pêche la sardine et le petit poisson ?
Akinmbami : Oui et parfois aussi le gros poisson
<évolution des techniques>Cyrielle : Depuis les années 1972 utilisez-vous les mêmes techniques de pêche ?

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SPAR - How to store and analyse qualitative data and why?

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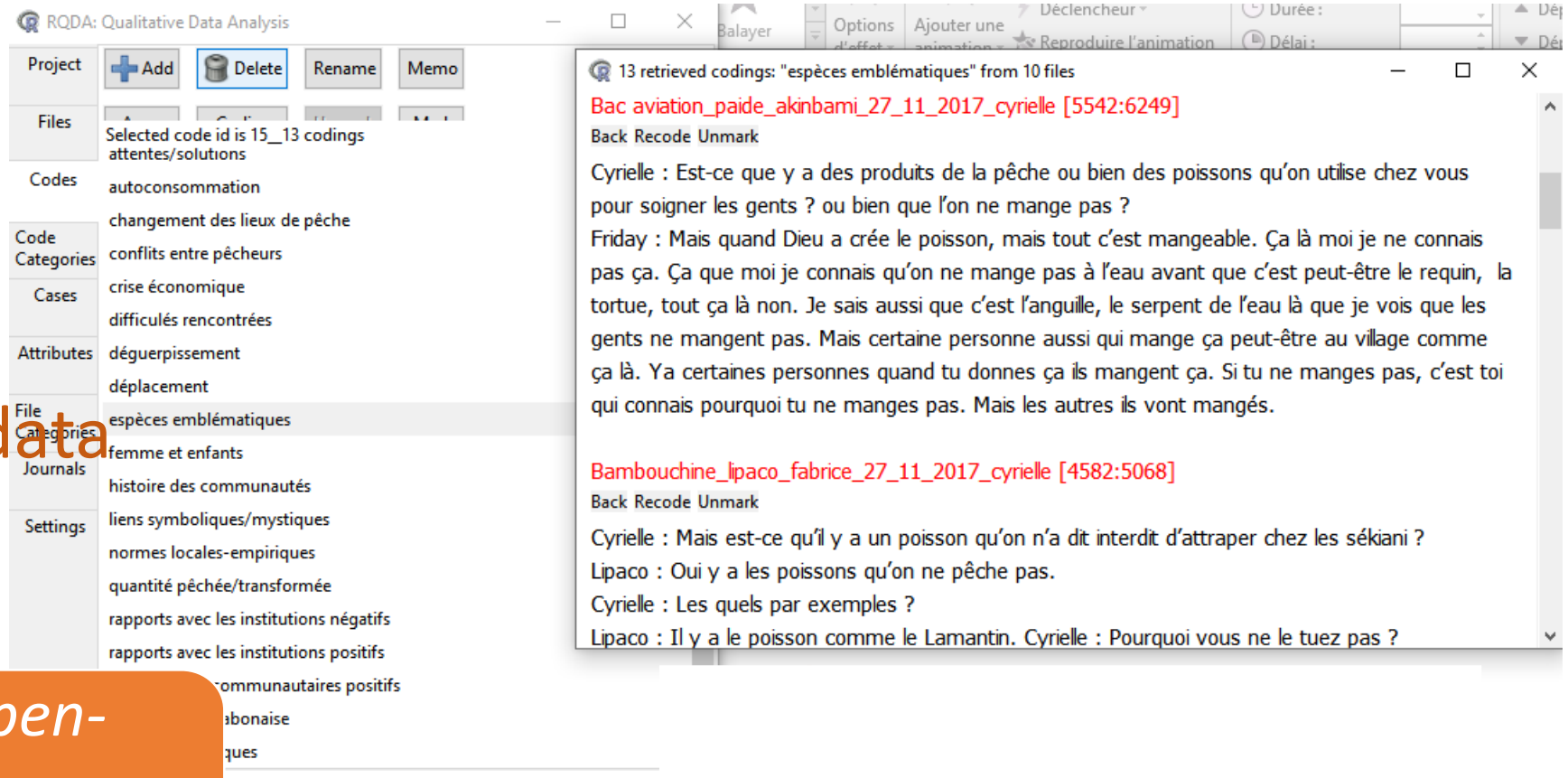

Use a free and open-source tool for qualitative research!

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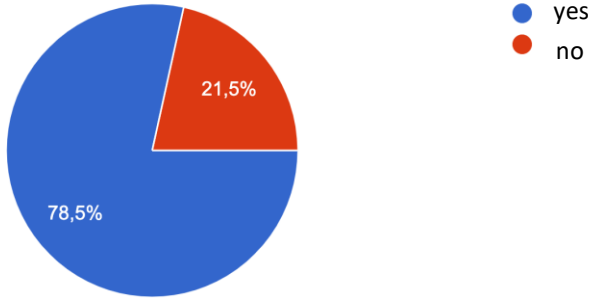
Preliminary results

Nouville

Do you feel that you are the custodian (guardian etc.) of family knowledge and practices (traditional practices)?

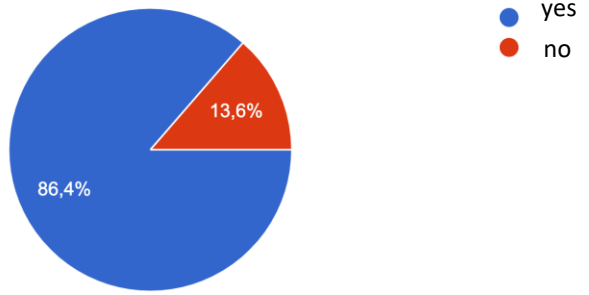


Regarding hunting (for example, pigs, bats, bush chickens, pigeons, other), would you say that you practice it?

N=482 participants

Baco

Do you feel that you are the custodian (guardian etc.) of family knowledge and practices (traditional practices)?

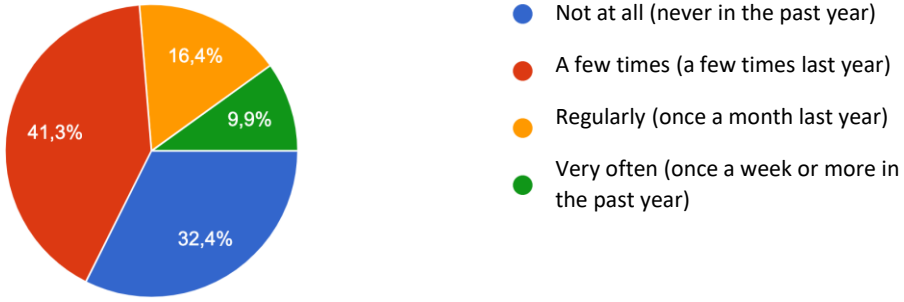


Regarding hunting (for example, pigs, bats, bush chickens, pigeons, other), would you say that you practice it?

N=44 participants

Preliminary results

Regarding fishing (e.g. net, gun, line, shellfish collection, crabs, etc.), would you say that you practice it:



Regarding the cultivation of the field or garden (only taro; yam; sweet potato; cassava; banana, sugar cane, island cabbage), would you say that you practice it?

N=482 participants

Regarding fishing (e.g. net, gun, line, shellfish collection, crabs, etc.), would you say that you practice it:

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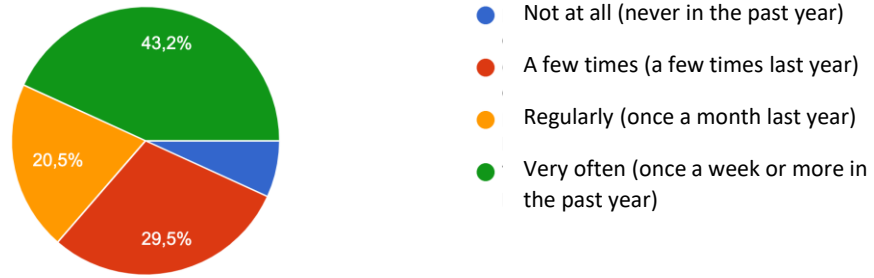
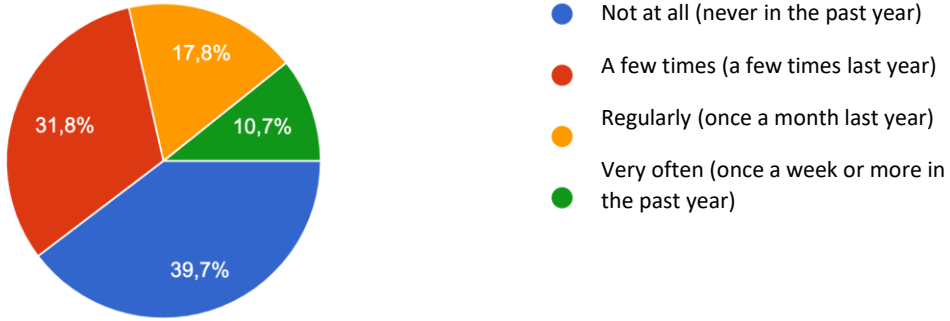


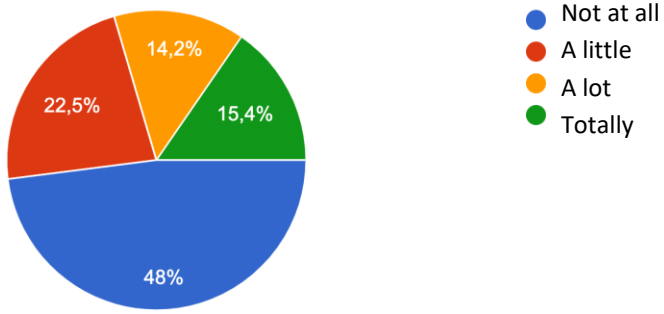
N=44 participants

Preliminary results

Regarding picking/gathering (harvesting fruit, mushrooms or wild yams, wood worm, others), would you say that you practice it ?



Regarding the breeding of animals for consumption, would you say that this is part of your family practices?



N=482 participants

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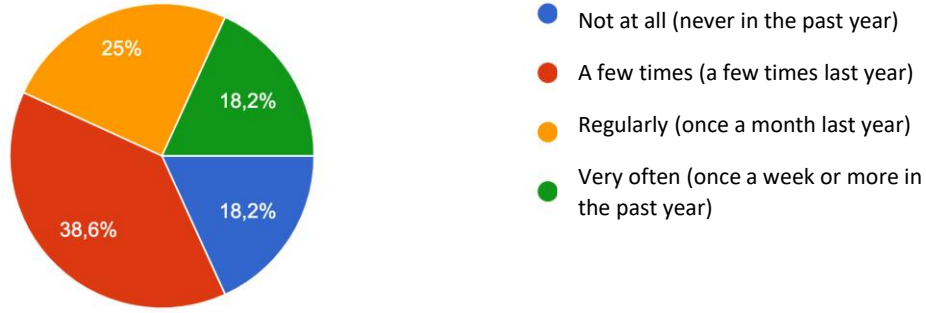
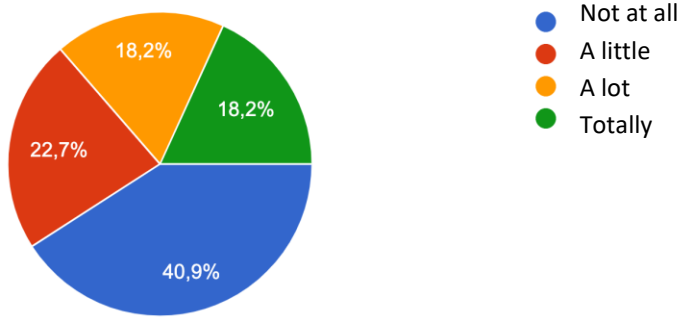


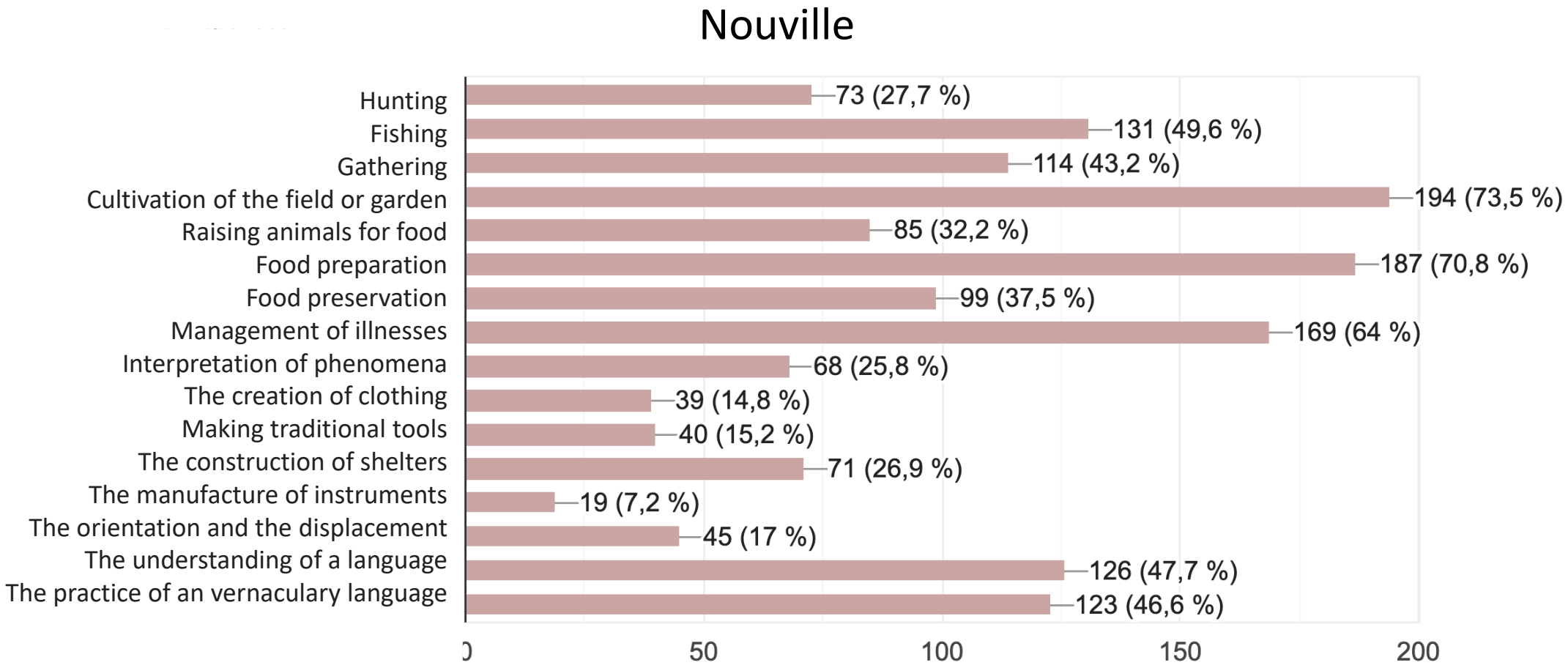
Concernant l'élevage d'animaux à but de consommation, diriez-vous que cela fait partie de vos pratiques familiales :



N=44 participants

Preliminary results

During the pandemic, do you think your traditional knowledge and practices have been useful to you in dealing with this pandemic ?



Preliminary results

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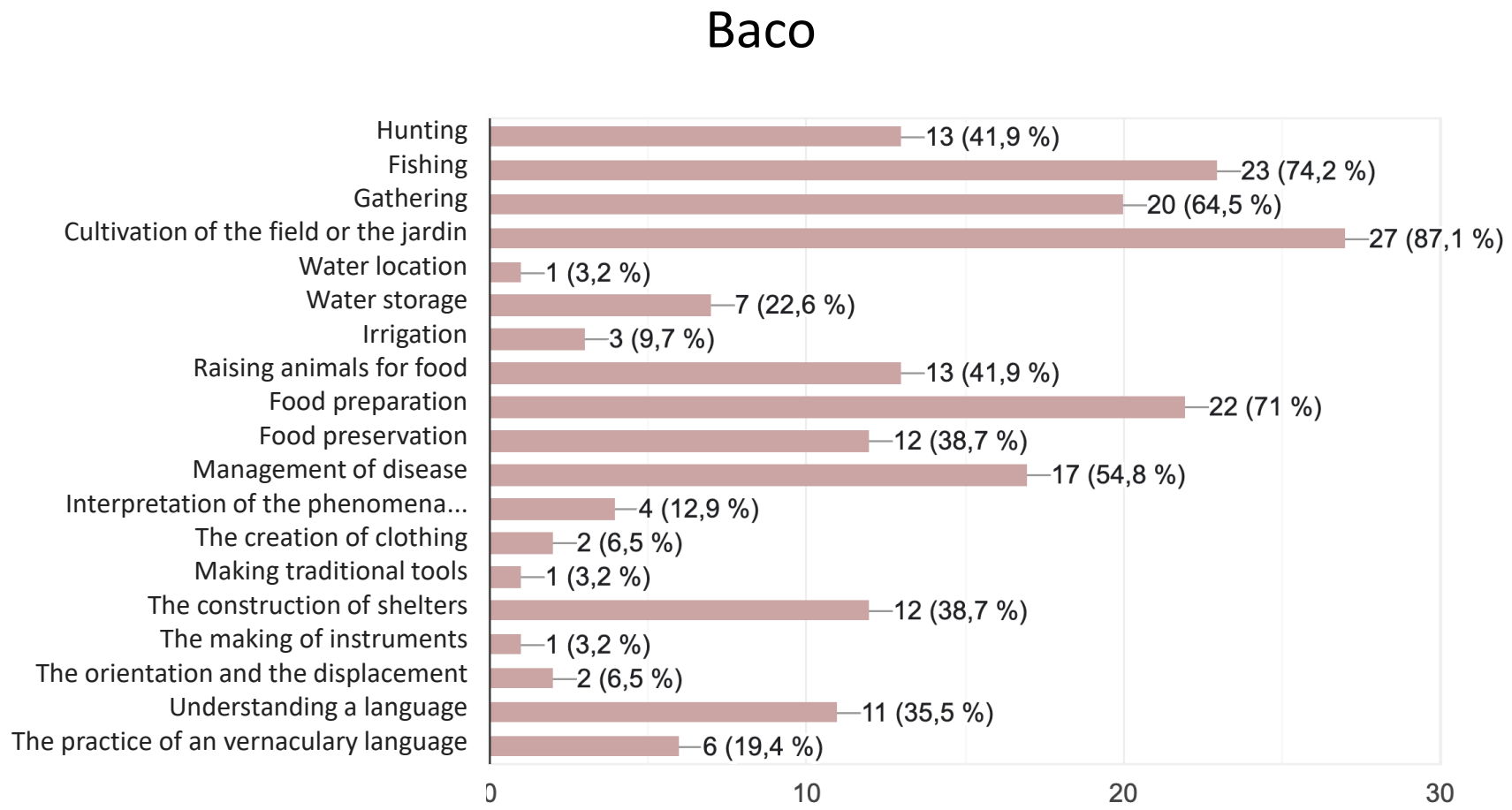
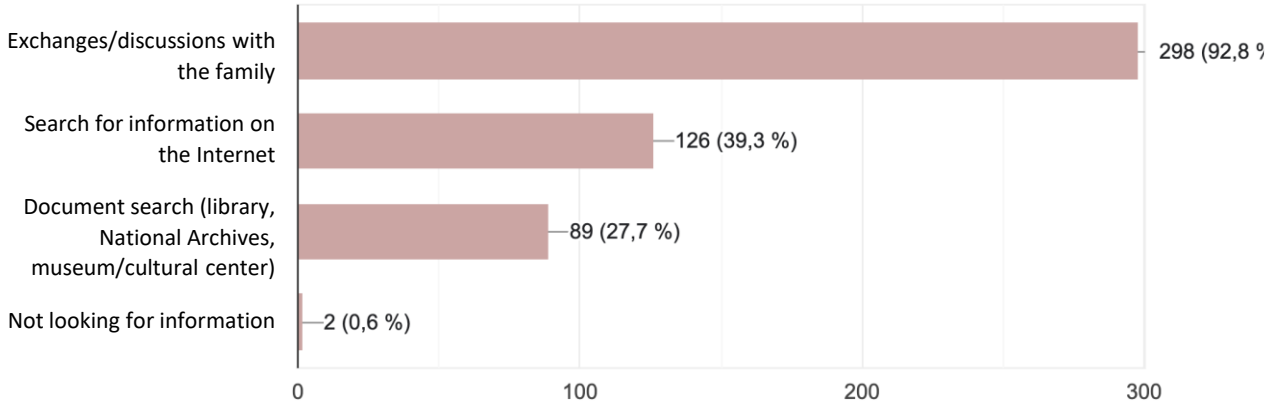


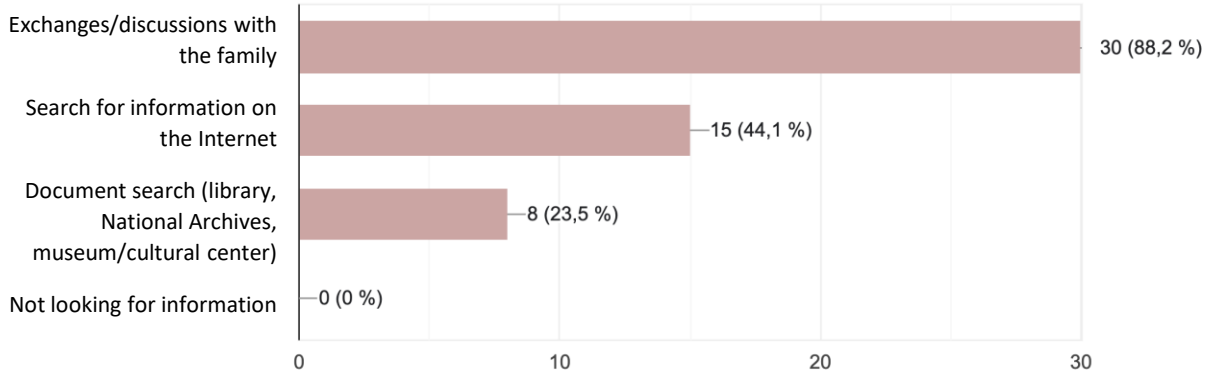
Preliminary results

Transmission of indigenous knowledge

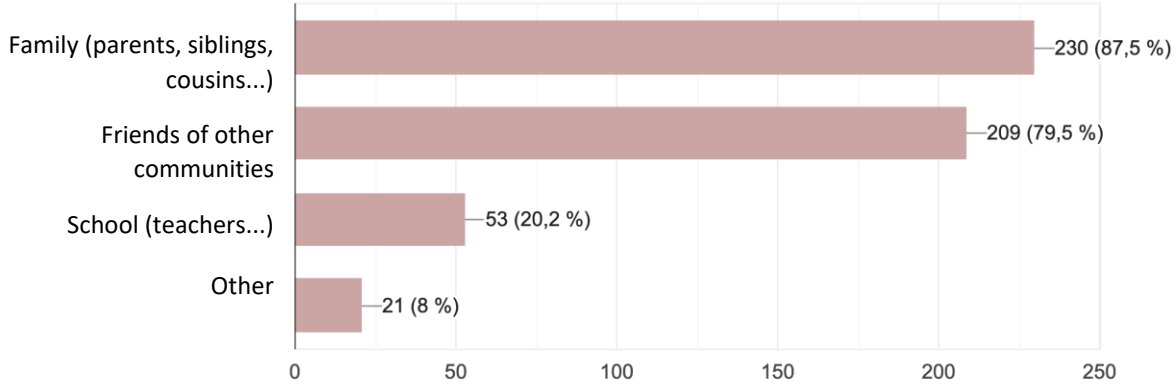
How do you learn about traditional/indigenous knowledge?



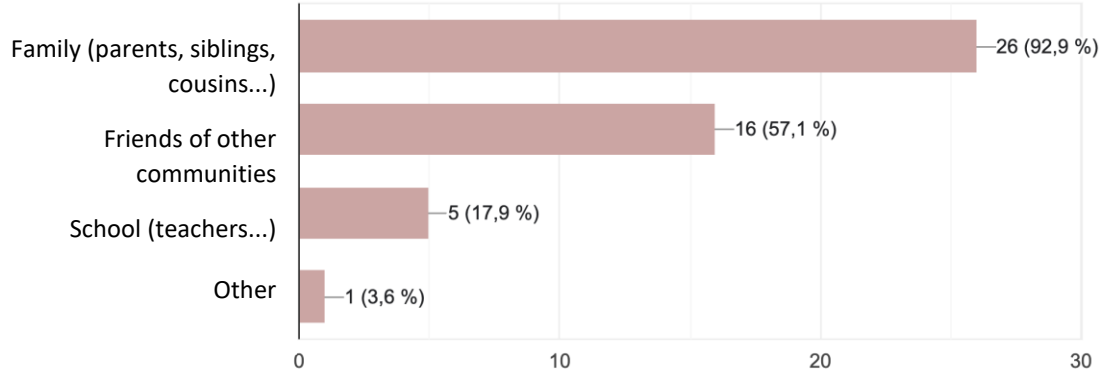
How do you learn about traditional/indigenous knowledge?



If YES, with whom do you share this traditional knowledge and practices?



If YES, with whom do you share this traditional knowledge and practices?



SPAR Survey in Vanuatu- April 2023

Teams

4 teams:

- University of New Caledonia,
- Ministry of Education and Training in Vanuatu ,
- National University of Vanuatu (NUV)
- Vanuatu Agriculture Research and Technical Center

Survey sites

- Campus of NUV

  - 400 students (est. february 2023)

- Campus of School of Education

  - 200 students (est.february 2023)

Goal to achieve:

Survey at least 400 students

Processes, modalities and tools for the realization of the survey:

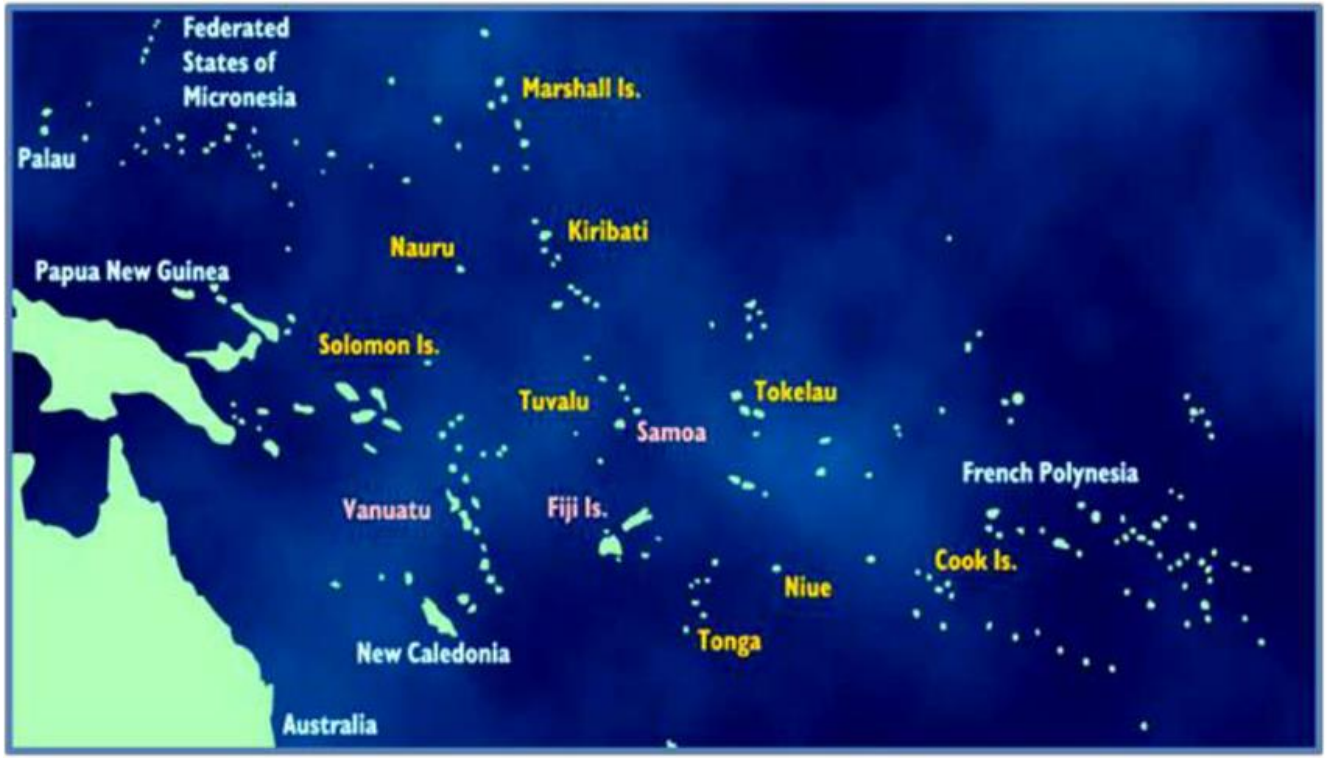
Download QR Code Image

Planning for the implementation of qualitative and quantitative surveys

Activities	Details and observations	Responsible	Means and observations	Deadline
Training on the implementation of the questionnaire and interview guide	Inform participants of the objectives of this training and its application to the SPAR project	Pierre	Email	22 March
	Reserve a room and organize training logistics	Pierre	Email	22 March
	Carry out the training on surveys	Jean-François Loisel	The training on data collection will be held at SOE	11 April
	Follow up on the logistics of the training in Vanuatu	Ben Boulekouran	Email	27 March to 5th April
	Presentation of the SPAR project to UNV students and ESPE	Adeline Ariane	Power Point Presentation (SOE students+ NUV students)	11 April
Implementation of the qualitative and quantitative survey	Inform the UNV President of the survey	Pierre	Email	22 March
Preliminary report on the survey	Central campus survey follow-up NUV	Adeline	Email et rencontres avec les collègues	11-14 April
	Campus survey follow-up at NUV ESPE	Ariane	Email and meet wicolleagues	11-14 April
	Follow-up of surveys on both campuses	Pascal Michon		07 to 13 April
	1st Preliminary report of the two surveys	Ariane et Adeline	power point presentation	20 April

Questionnaire and Qualitative Interviews at Laucala Campus (USP)

USP Member Countries



Questionnaire and Qualitative Interviews at Laucala Campus (USP)

- 14 campuses, 12 member countries.
- 20,000 + students this semester (52% studying at **Laucala)**.
- USP FALAH team members predominantly based at **Laucala**.

Questionnaire and Qualitative Interviews at Laucala Campus (USP)

Sampling

- Regional diversity should reflect a diversity of indigenous/local knowledge systems and practices for resilience.
- Initially introduce students to the project's aims using the same methodology devised for UNC.
- Questionnaire adapted to the Fiji/USP context already translated (sample : 600 min).
- Aim to translate the qualitative questionnaire (sample : 30 min)

RÉPUBLIQUE FRANÇAISE
Liberté
Égalité
Fraternité

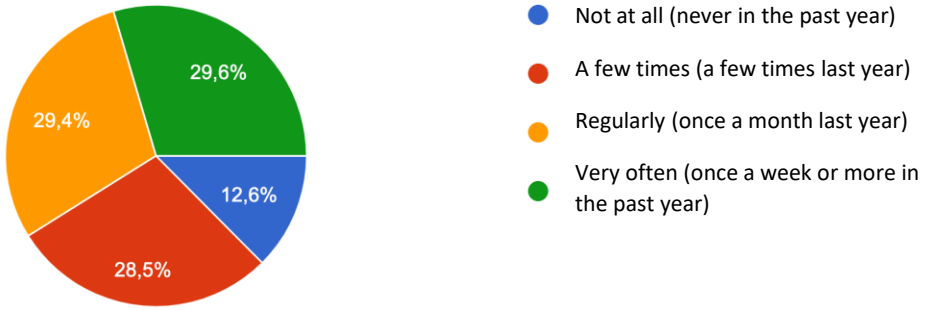
UNIVERSITÉ de la NOUVELLE-CALÉDONIE

FALAH
Family farming, lifestyle & health

Thank you for your attention

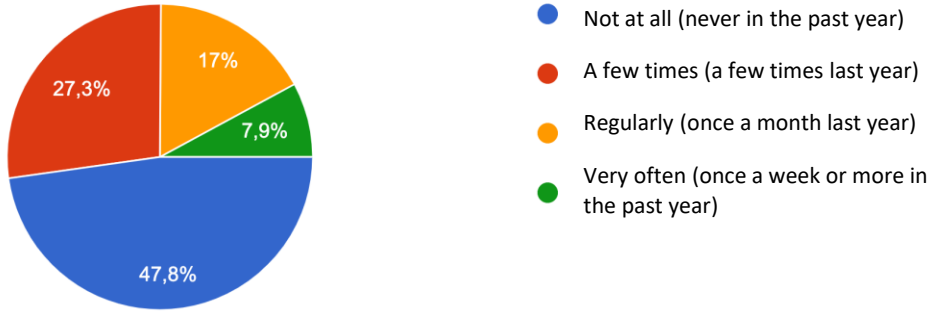
Preliminary results

Regarding food preparation, do you use products from family activities (field or garden cultivation, gathering, breeding, hunting, fishing)?



Regarding food preparation, do you use products from family activities (field or garden cultivation, gathering, breeding, hunting, fishing)?

Regarding food preservation, would you say that you use traditional methods (smoking, drying, storage, baking for preservation, etc...) for products from family activities (field or garden cultivation, gathering, breeding, hunting, fishing)?



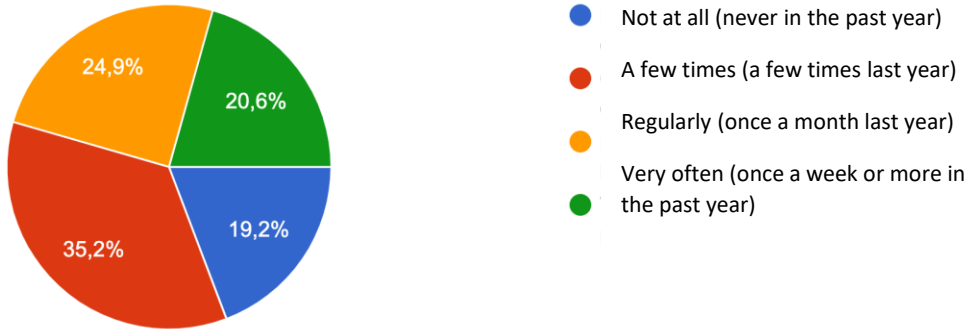
N=482 participants

Regarding food preservation, would you say that you use traditional methods (smoking, drying, storage, baking for preservation, etc...) for products from family activities (field or garden cultivation, gathering, breeding, hunting, fishing)?

N=44 participants

Preliminary results

Regarding the management of diseases and injuries, would you say that you use traditional methods and practices?



Do you use traditional knowledge to interpret climatic and meteorological phenomena?

N=482 participants

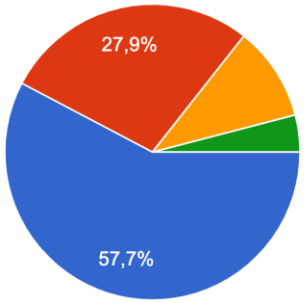
Regarding the management of diseases and injuries, would you say that you use traditional methods and practices?

Do you use traditional knowledge to interpret climatic and meteorological phenomena?

N=44 participants

Preliminary results

Regarding crafting of traditional clothes or ornaments, would you say that you make?



- Not at all (never in the past year)
- A few times (a few times last year)
- Regularly (once a month last year)
- Very often (once a week or more in the past year)

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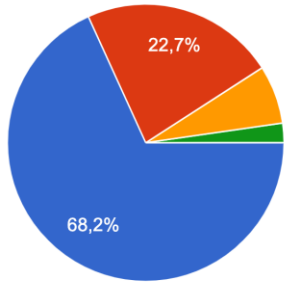

- Not at all (never in the past year)
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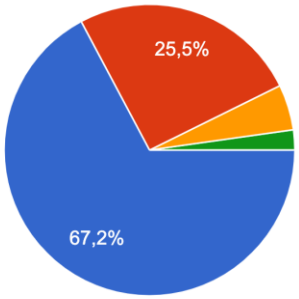
Regarding the manufacture of traditional tools, would you say that you make?



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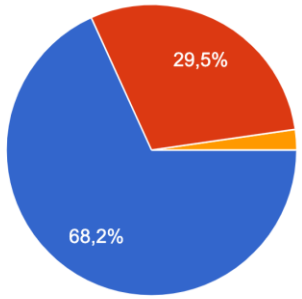

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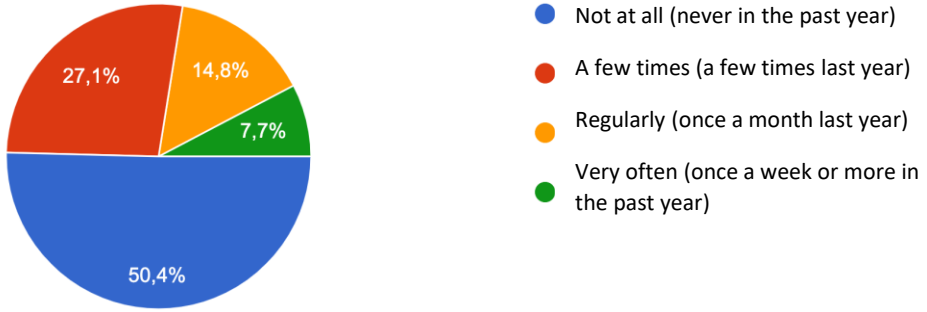
N=44 participants

Preliminary results

Regarding shelters, would you say that you build and maintain them?



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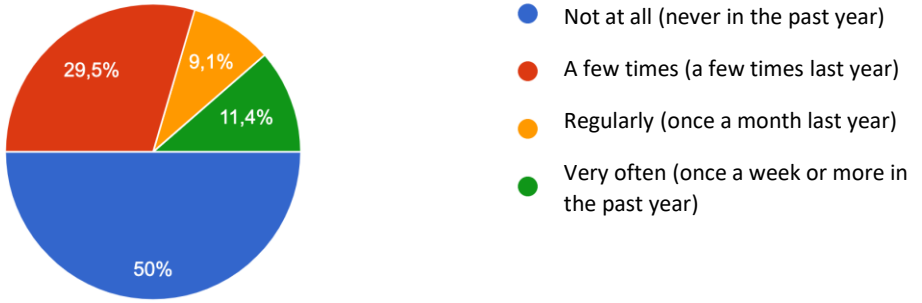
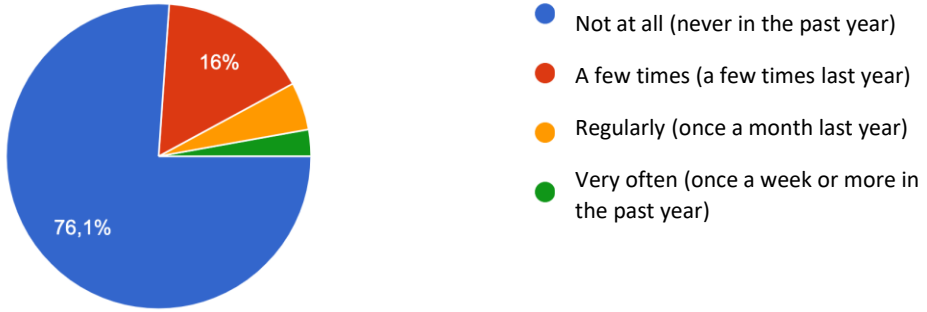


Regarding musical instruments and dance accessories, would you say that you make them?



N=482 participants

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N=44 participants

Preliminary results

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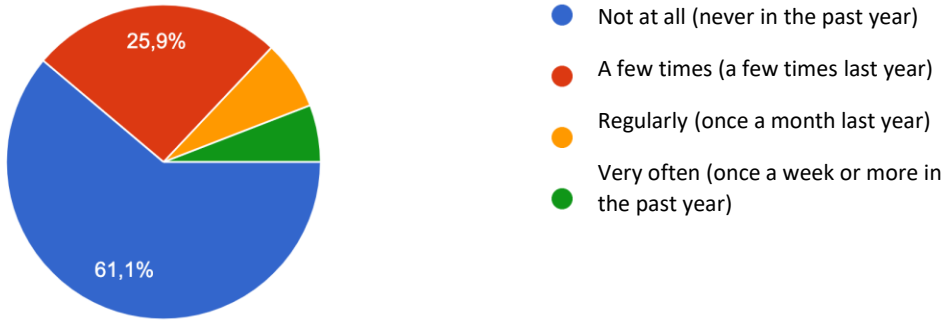


N=482 participants

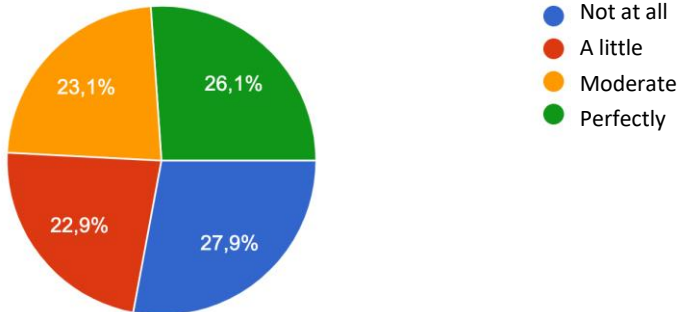
Regarding shelters, would you say that you build and maintain them?

N=44 participants

Preliminary results

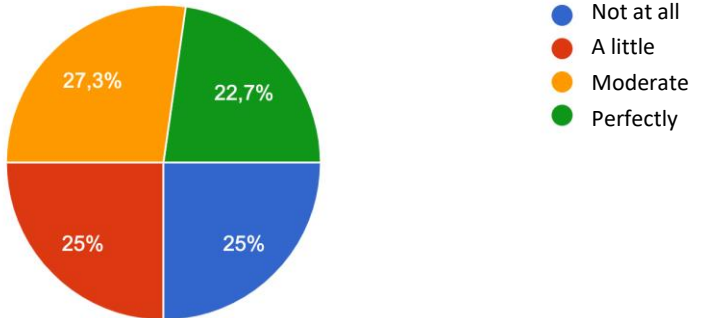
Languages

Regarding languages, would you say that you understand at least one vernacular?

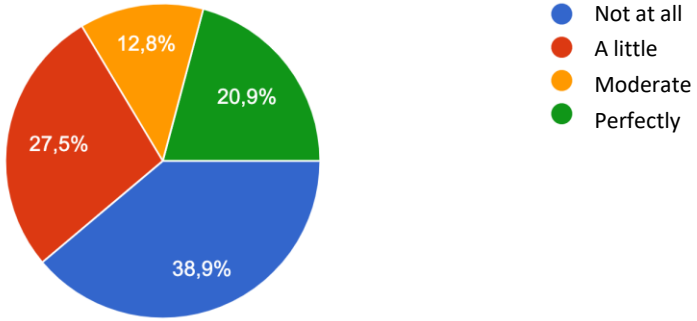


N=482 participants

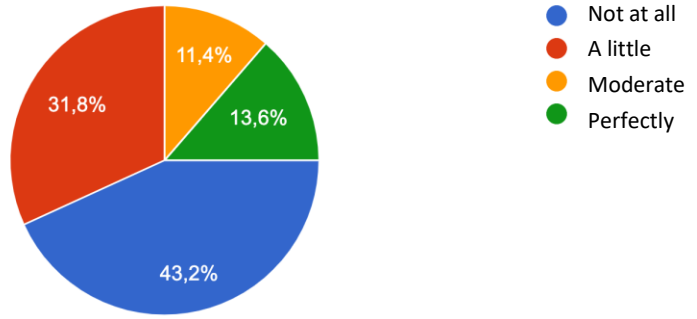
Regarding languages, would you say that you understand at least one vernacular?



Regarding languages, would you say that you speak an indigenous or vernacular language?



Regarding languages, would you say that you speak an indigenous or vernacular language?



N=44 participants

METHODOLOGICAL SYNCHRONISATION APPLIED TO FALAH RESEARCH FIELDS
(Complementarities and transversalities between WP2 and WP3)

28th - 30th march 2023

Université de la Nouvelle Calédonie

Fishing activities and small scales fisheries in Family farming: insights from NC, Vanuatu,

Catherine Sabinot (IRD), Séverine Bouard (IAC), Chloé Faure (IFREMER), Jonas Brouillon (IAC), , Pascal Dumas (IRD), Christophe Sand (IRD), Franck Thomas (USP)

Disclaimer: the views expressed in this presentation are purely those of the author and may not in any circumstances be regarded as stating an official position of the Research Executive Agency

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 873185

Definitional issue: what is Family Farming?

- There is no universally accepted definition of “family farming” (Lowder and al., 2014)

- The absence of a standardised and operational definition of family farming in the censuses and the low use of this name in many regions of the world are at the origin of some confusion which implies a necessary proposal for clarification. (Bosc et al., 2018)

Family farming in the Pacific

- But in the Pacific:
  - → few data
  - → Narrow, even very narrow market and the place on non-market practices
  - → Diversity between the islands…
  - → and strong connexions with the Ocean (lagoon gardens, place of fishing activities, etc.)

→Difficulties to embrace all rural activities: opportunities with **livelihoods approach**

→ What place for fishing activities?

Fishing activities and small scales fisheries in Family farming: insights from NC, Vanuatu, Fiji

Session co-lead by Catherine SABINOT and Séverine BOUARD

- **Fishers & Fishing in Family Farming: Is it concrete ? Is it anchored in local realities as well as in regional institutions? (Dr. Catherine Sabinot, IRD)**

- **Fishing activities in livelihoods in NC (Dr. Séverine Bouard, IAC)**
- **How can we estimate non-professional fishery catches in rural villages from NC ? (Chloé Faure, IRD/IFREMER, fisheries management expert)**

- **Collecting shellfish in Oceania: an archeological perspective? (Dr. Christophe Sand, NC government, IRD)**
- **Understanding Foraging Decisions: Implications for Nutrition, Health, Income, and Sustainability among Shellfish Gatherers in Oceania (Dr. Franck Thomas, USP)**
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Université de la Nouvelle Calédonie

• Fishers & Fishing in Family Farming: Is it concrete ? Is it anchored in local realities as well as in regional institutions?

Dr. Catherine Sabinot, IRD

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FAO Definitions

FAO : 2 definitions

Family farming is “a means of organizing agricultural, forestry, fisheries, pastoral and aquaculture production which is managed and operated by a family and predominantly reliant on family capital and labour, including both women’s and men’s. The family and the farm are linked, co-evolve and combine economic, environmental, social and cultural functions.” »

“A family farm is an agricultural holding which is managed and operated by a household and where farm labour is largely supplied by that household.”

Evolution of the use of the term “family farming” in the FAO’s “The State of the World” publications

- Research paper in progress on connexions and disconnexions, similarities and differences between

  . the evolution of the definitions of family farming in regional and international forum

  . and the definition of family farming for people who live on several family activities including fishing

Evolution of the use of the term “family farming” in the FAO’s “The State of the World” publications

- Two steps for this paper co-lead by C. Sabinot and S. Bouard, and open to all volunteers

. Debate on the bibliography analysis on the evolution of the expression "family farming" in the FAO's publications

Work started with K. Jandot

. Develop a short field survey to understand the diversity of uses of the "family farming" expression in the Pacific and local perceptions

Work started with K. Jandot

…consolidated following your contributions in Port-Vila with J. Brouillon, J. Drouin

…to be completed with all of you (N. Georgeou, P. Welby, C.Serra-Maillol, etc.)

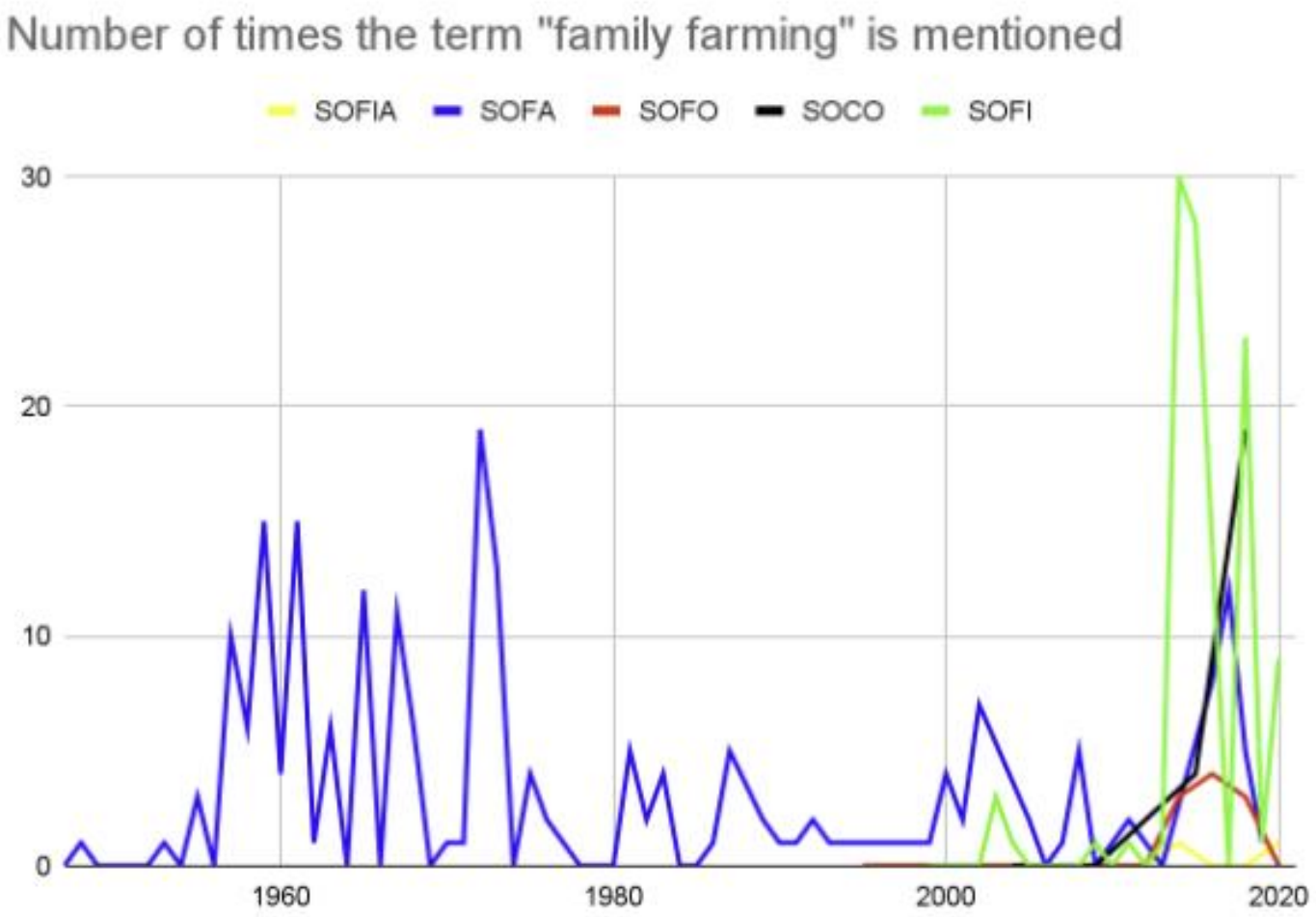
Evolution of the use of the term “family farming” in the FAO’s “The State of the World” publications

FAO regularly publishes reports in the collection “*The State of the World*” to provide a comprehensive overview of the most pressing global issues and challenges affecting the world today.

Five types of publications :

- “*The State of World Fisheries and Aquaculture*” (SOFIA)
- “*The State of the World's Forests*” (SOFO)
- “*The State of Food Security and Nutrition in the World*” (SOFI)
- “*The State of Food and Agriculture”* (SOFA)
- “*The State of Agricultural Commodity Markets*” (SOCO).

Methodology



- Keyword search
- *“family farming”,“family farm”, “family farms”, “farm family”, “farm families”, “family farmer”, “farmer families” and “family farmers”.*
- English vs Français

“The State of World Fisheries and Aquaculture” (SOFIA)

Published every two years. 14 reports.

Not use before 2014.

The term appears only twice.

Differences between english and french

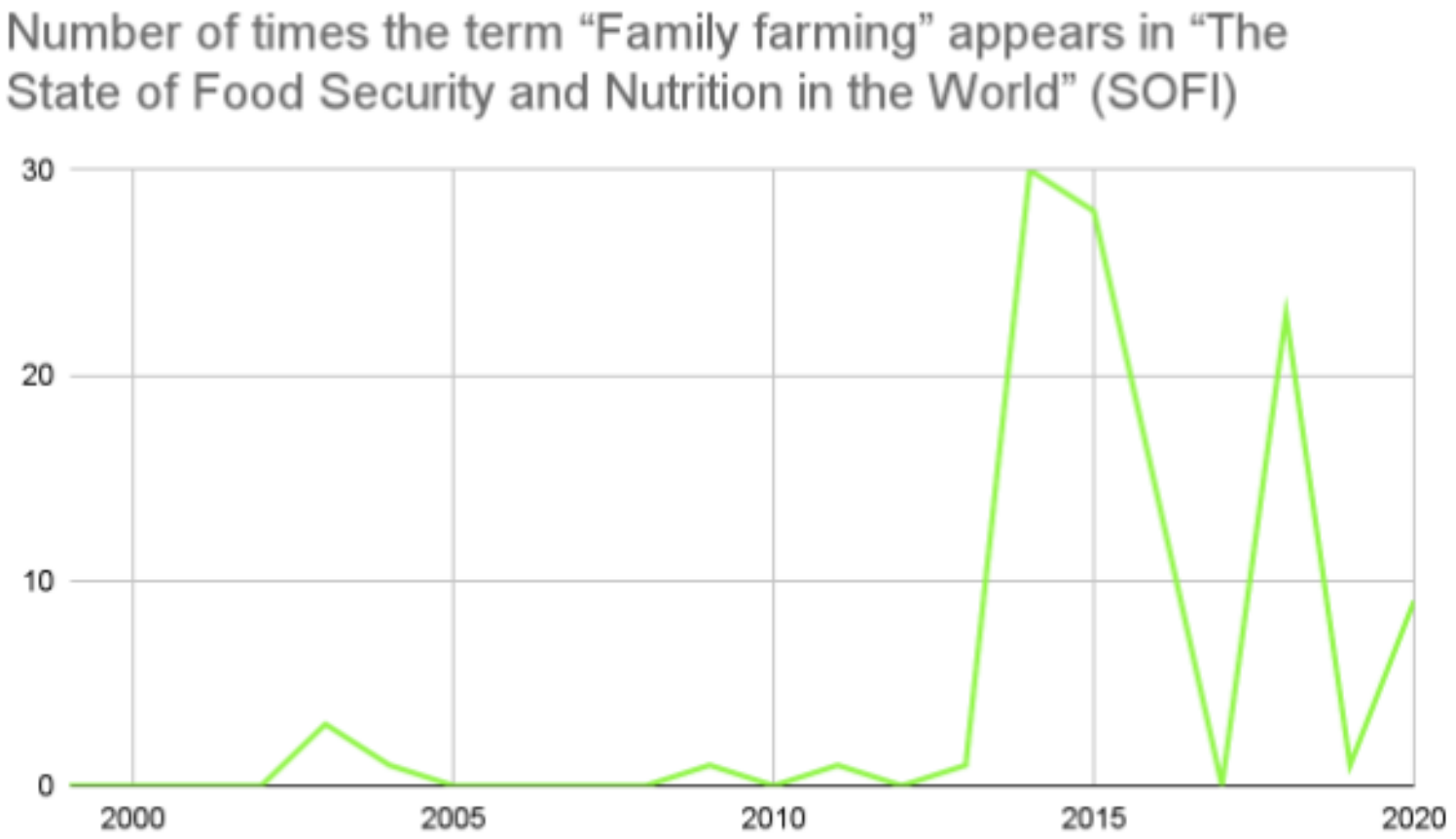
2014 Year of family farming decreed by the United Nations (UN)

> “*These efforts are also very much aligned with the 2014 International Year of Family Farming, during which we will continue to highlight the importance of aquaculture – especially smallscale fish farming – and support its development.*” (SOFIA 2014)

“The State of the World's Forests” (SOFO)

- Published every two years. 14 reports.
- Not use before 2014.
- « “Forest dwellers are part of the group of family farmers »
- 4 times in 2016; 3 times in 2018.

“The State of Food Security and Nutrition in the World” (SOFI)



- Published annually. 20 reports.
- Not constant over time

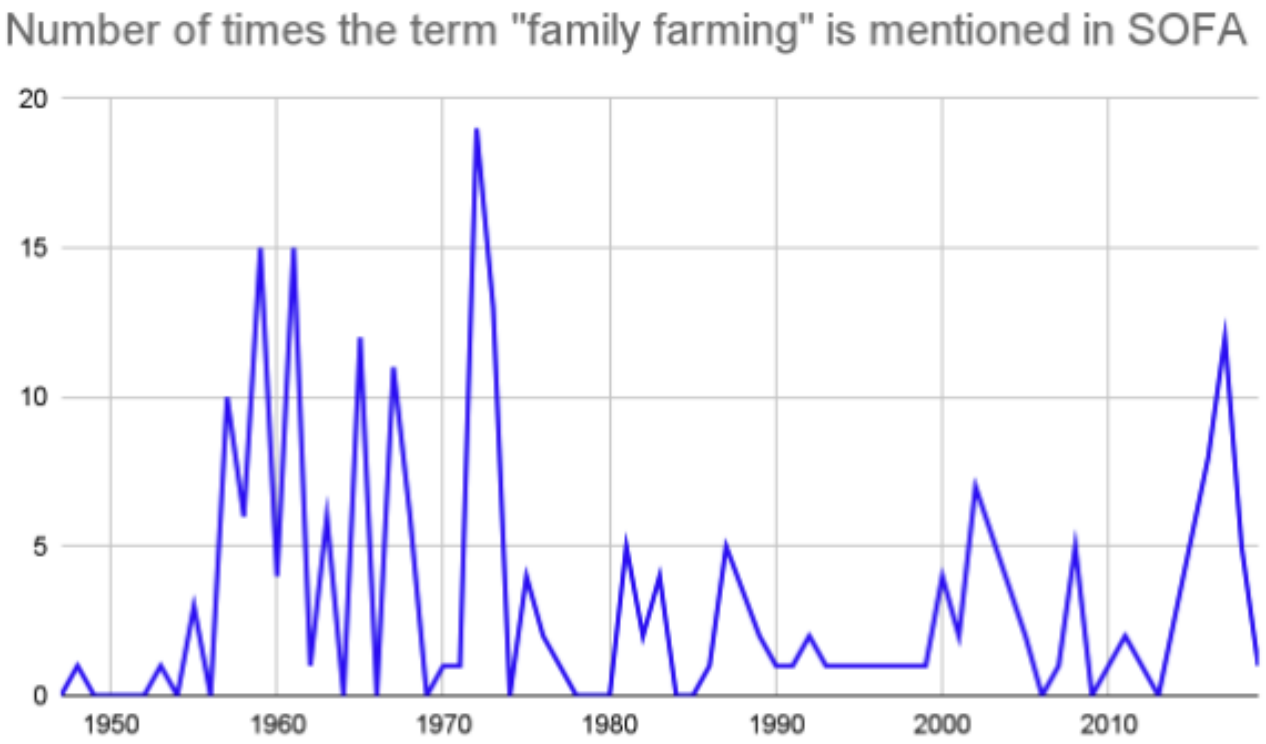
  > Family Farming as a seasonal concept ?
- Not use before 2003

“The State of Food and Agriculture"

Published annually. 71 reports.

- “farmers (who) are largely on a subsistence basis”
- English and French terms in 1957
  * “farm families” > “ménages ruraux exploitants” or “exploitants agricoles”.
  * “farm family” > “ménages d’agriculteurs”
  * “nonfarm families” > “ménages non agricoles”
  * “family farm ownership » > “propriété familiale” or “petite propriété familiale”
  * “family farm” >“exploitations familiales”.

- Place of fishing in family farming visible only in 2014: l’agriculture familiale regroupe “*entre autres, les petits et moyens exploitants, les populations autochtones, les communautés traditionnelles, les pêcheurs, les bergers, les habitants des forêts et les cueilleurs*”.



Collective work for the scientific paper?

What does family farming significate for people who live on several family activities?

> How is the term "family farming" perceived by the people of the Pacific?

> Does this perception correspond to the official definition of the term, proposed by the FAO?

Fishers & Fishing in Family Farming:

Is it concrete ? Is it anchored in local realities as well as in regional institutions?

Interview ‘s guide

Brainstorming on Family farming

AAA

Welcome in this brainstorming, the session goal is to answer to this question : How the term "family farming" is perceived by the people of the Pacific?

Does this perception correspond to the official definition of the term, proposed by the FAO?

Please complete the questionnaire below.

Your country:
* doit fournir une valeur

Are you....?
* doit fournir une valeur

- ○ Researcher
- ○ Engineer
- ○ Student
- ○ Public authority
- ○ Non governmental organization
- ○ Other (specify)

réinitialiser la valeur

Your organization ?
* doit fournir une valeur

Envoyer

Fishers & Fishing in Family Farming:

Is it concrete ? Is it anchored in local realities as well as in regional institutions?

Interview ‘s guide

Fishers & Fishing in Family Farming:

Is it concrete ? Is it anchored in local realities as well as in regional institutions?

Interview ‘s guide

Family farming activities

AAA

1) **For you, what does family farming include in terms of activities?**
* doit fournir une valeur

2) **Does subsistence activities include all activities that provide food?**
* doit fournir une valeur
- Yes
- No

réinitialiser la valeur

3) **What are the other activities than the cultivation of the field that allow you to feed yourself? What should we add to our list of important activities to eat ?**
* doit fournir une valeur

Développer

4) **For example, is hunting or fishing considered family farming in your opinion?**
* doit fournir une valeur
- Yes
- No

réinitialiser la valeur

Envoyer

Fishers & Fishing in Family Farming:

Is it concrete ? Is it anchored in local realities as well as in regional institutions?

Interview ‘s guide

Family farming uses and work

AAA

1) **In your opinion, the productions that are defined as coming from family farming, are they entirely consumed by the producers or is there a part that is given and/or sold? (you can choose multiple answers)**

* doit fournir une valeur

- [ ] Entirely consumed by the producers
- [ ] Part given
- [ ] Part sold
- [ ] Part consumed

2) **Who works on the family farm?**

* doit fournir une valeur

Développer

Envoyer

Fishers & Fishing in Family Farming:

Is it concrete ? Is it anchored in local realities as well as in regional institutions?

Interview ‘s guide

- Would like to carry out the short questionnaire surveys in your island and contribute to the paper?

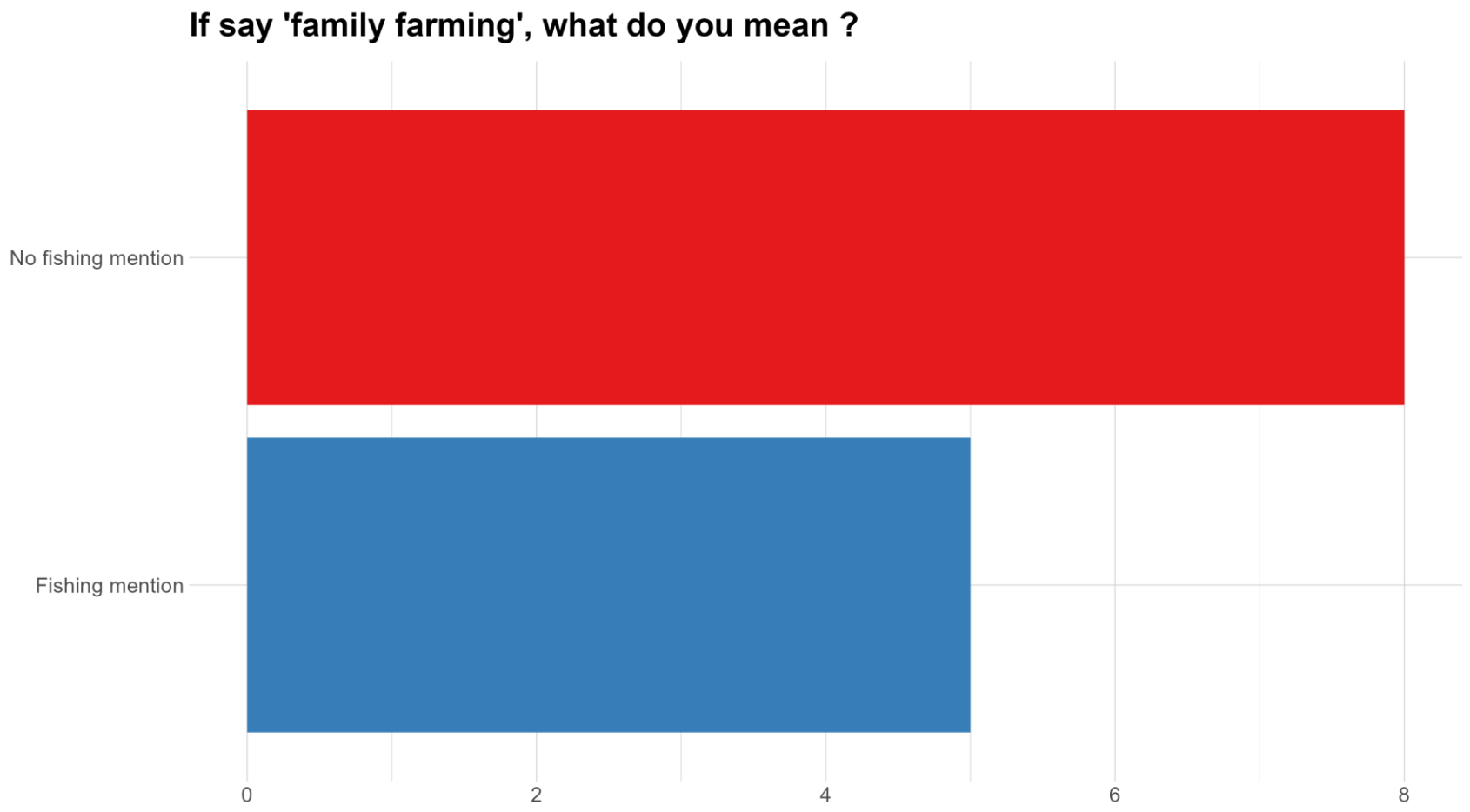
Fishers & Fishing in Family Farming:

Is it concrete ? Is it anchored in local realities as well as in regional institutions?

Let’s debate now or and/or write to

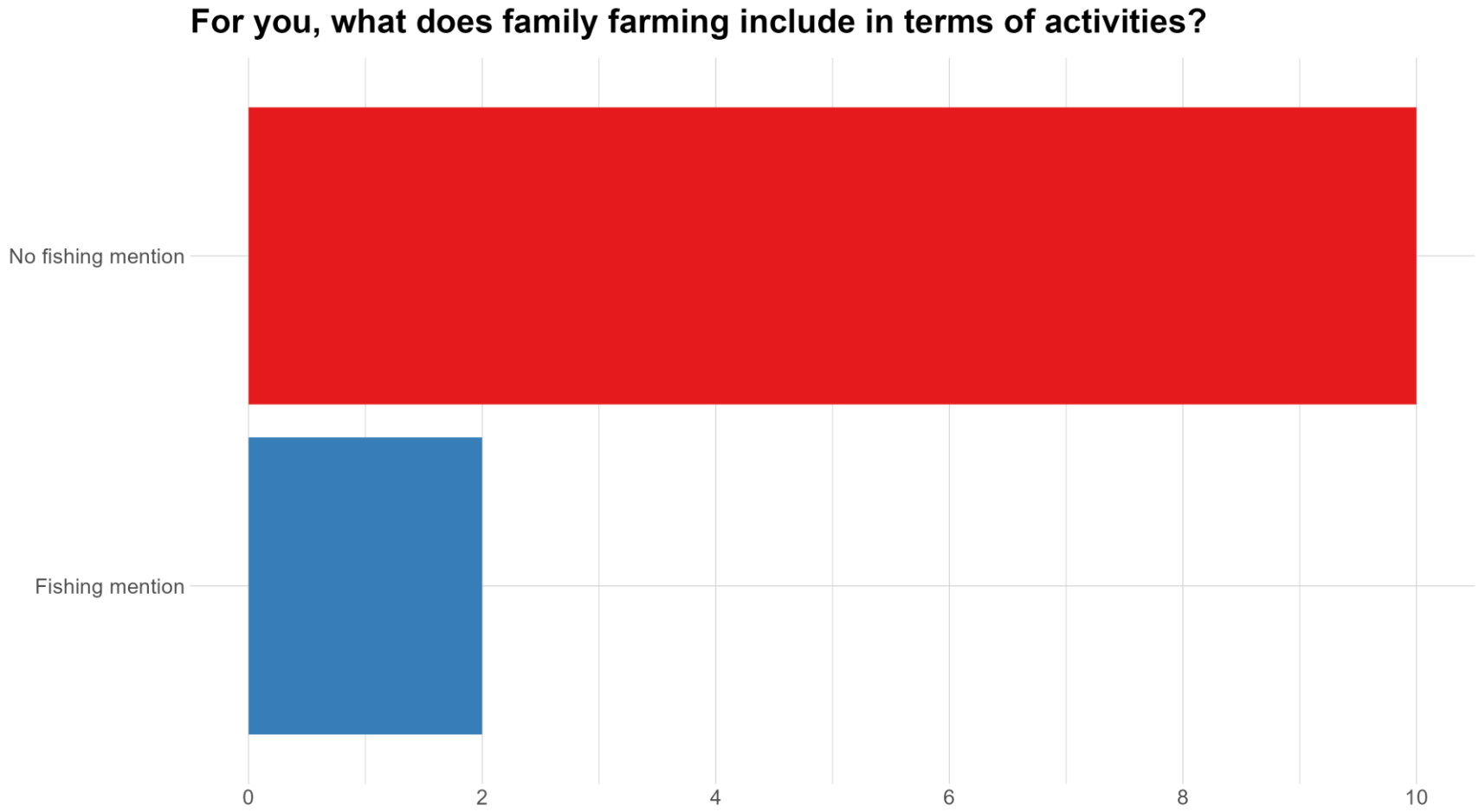
Catherine Sabinot - Catherine.sabinot@ird.fr
Kim Jandot - Kim.Jandot@hotmail.fr
Séverine Bouard - bouard@iac.nc

What is Family Farming for you:

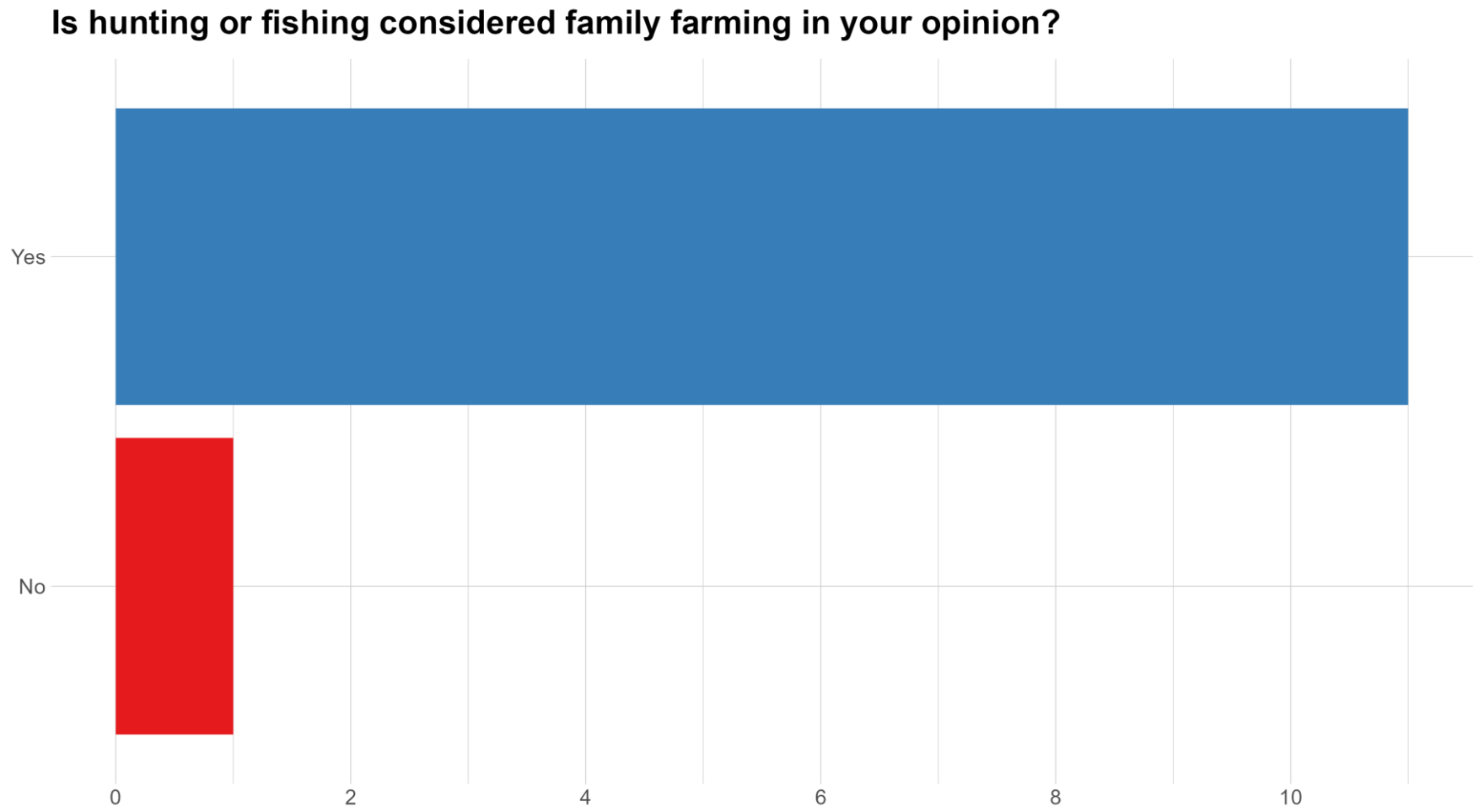


What is Family Farming for you:

Results


For you, what does family farming include in terms of activities?
No fishing mention
Fishing mention
0
2
4
6
8
10

Results


Is hunting or fishing considered family farming in your opinion?
Yes
No
0
2
4
6
8
10

Fishing activities and small scales fisheries in Family farming: insights from NC, Vanuatu, Fiji

Session co-lead by Catherine SABINOT and Séverine BOUARD

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METHODOLOGICAL SYNCHRONISATION APPLIED TO FALAH RESEARCH FIELDS
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Université de la Nouvelle Calédonie

Fishing activities in livelihoods in NC, Dr. Séverine Bouard

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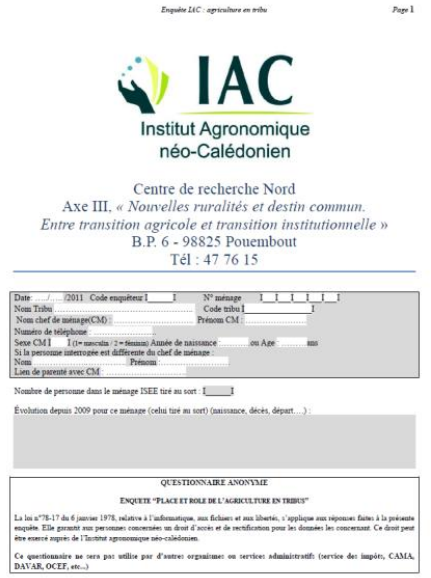
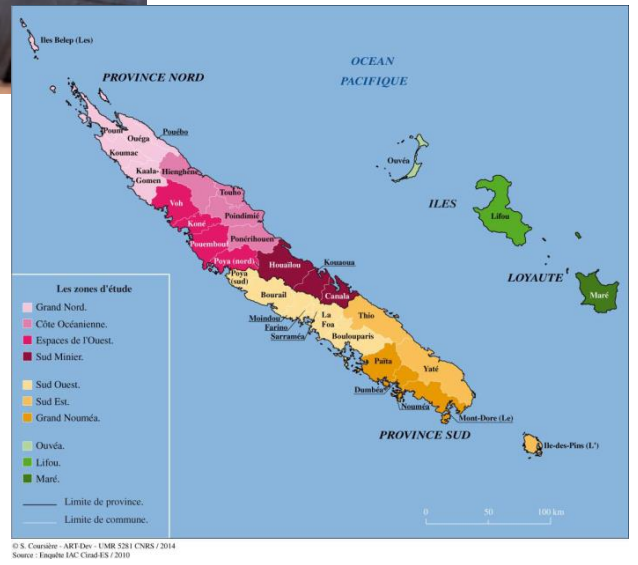
The place of fishing activities in Family Farming: Insight from New-Caledonia

- Data on FF are rare in the Pacific, as well as in New Caledonia
- The wide survey « Agriculture in tribe NC » realised in NC in 2010 is the only representative study we have to measure the importance of agriculture, fishing, hunting, and gathering activities on customary lands
- Assessing the extent of agriculture and hunting/fishing activities for tribes





The place of fishing activities in Family Farming: Insight from New-Caledonia

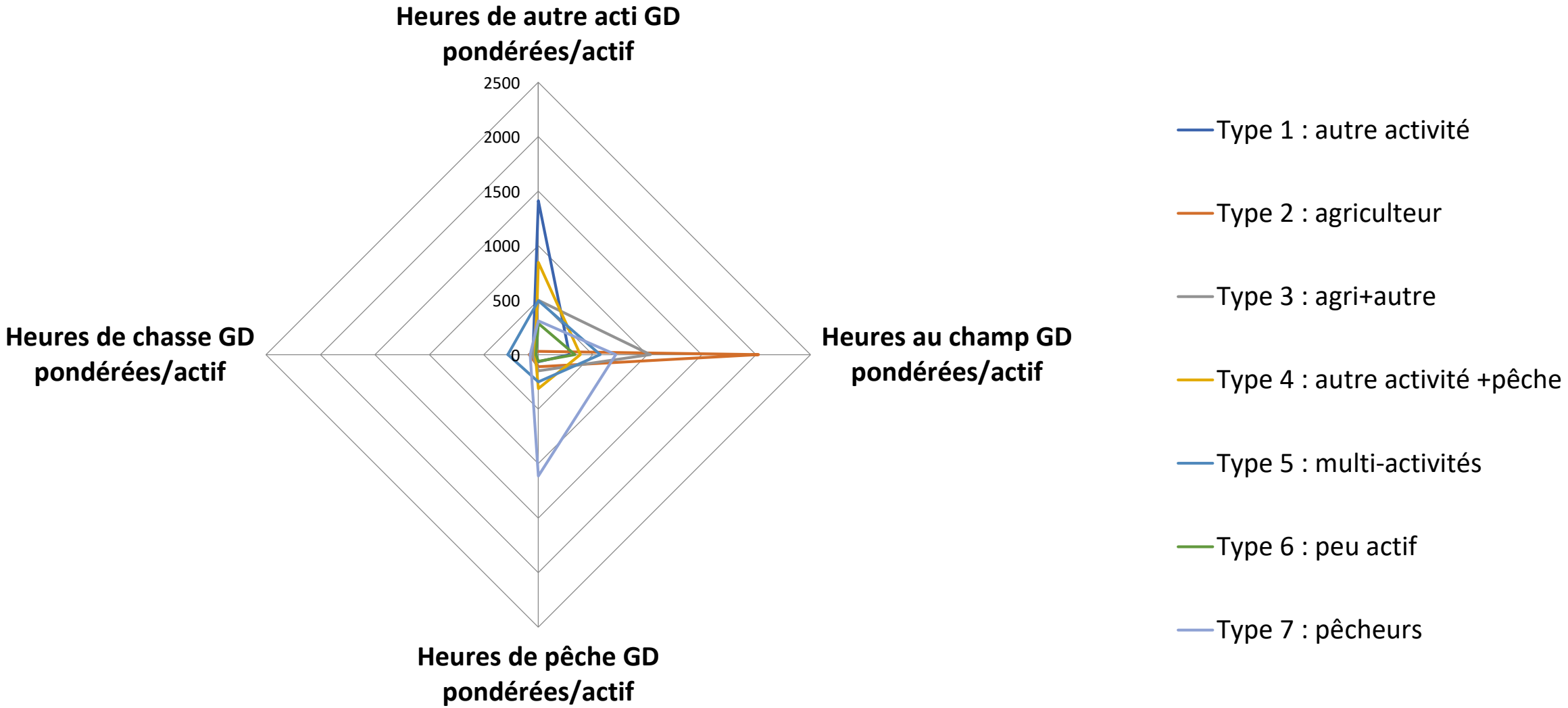
Combinations of activities of workers who only had an agricultural and/or fishing/hunting in tribe in NC (2010)

	Sectors of activity							
	Only agriculture	Only fishing	Only hunting	Agri+ hunting	**Agri+ fishing**	Hunting + fishing	Agri+fishing+ hunting	Together
Agriculture, animal breeding, and fishing and hunting only	36,5%	2,9%	0,2%	4,4%	**38,7%**	1,0%	16,3%	100,0%

-> The most common combination of activities is agriculture and fishing at individual scale

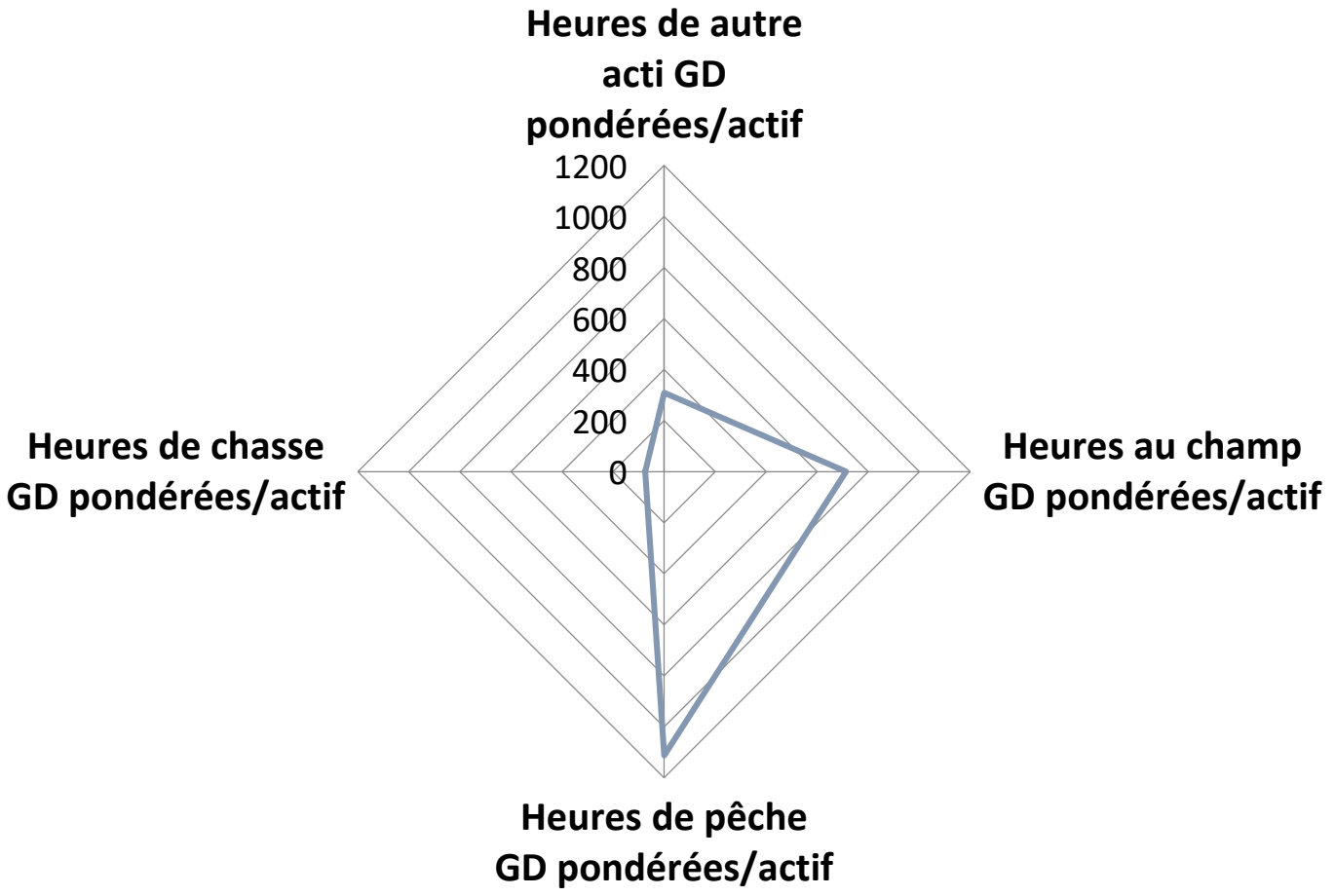
The place of fishing activities in Kanak Family Farming

-Activity profiles of households and families according to working time for each activity



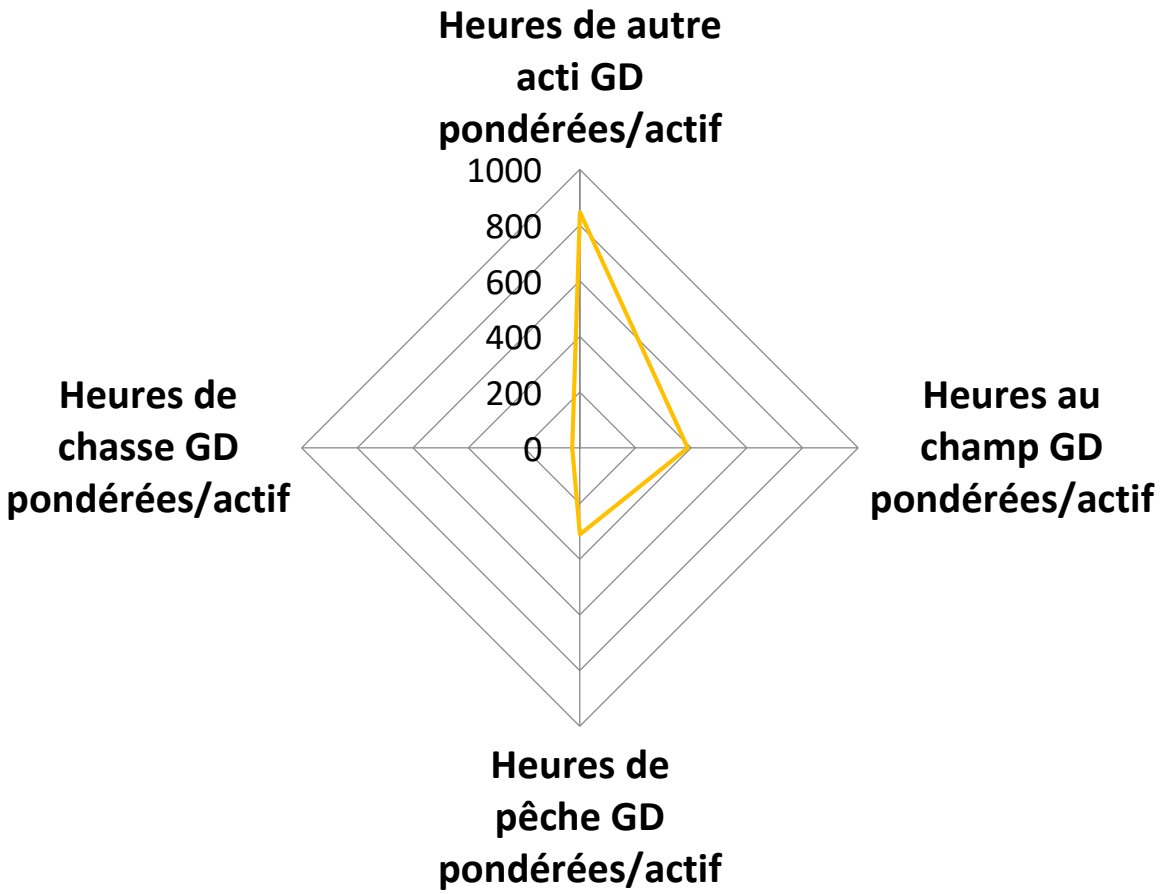
The place of fishing activities in Kanak Family Farming

- **« Fishers »** (1% des GD)
  - 1 000 hours/year spent fishing
  - cheaf of the household, younger than the mean age, or over 55 years olds
  - overrepresented on the Oceanian coast, in the North and in the South East



The place of fishing activities in Kanak Family Farming

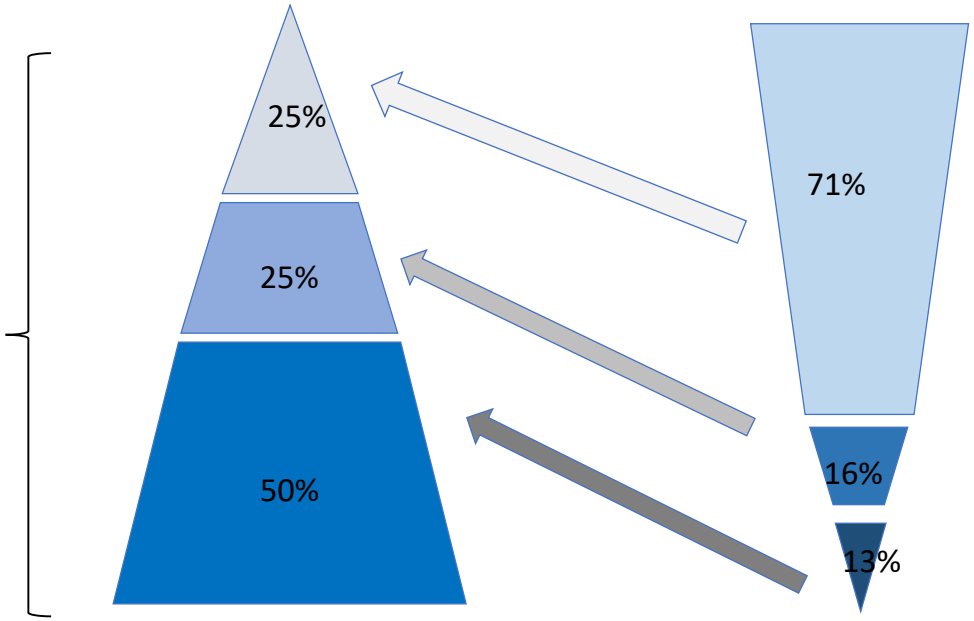
- « **Other activities and fishers** » (18% of households)
  - 54% of working time in other activities (wages, mine, administration, etc.) / 20% of working time in fishing
  - South East, Ouvéa, the far North



The place of fishing activities in Kanak Family Farming

62% of domestic groups/households living in Kanak villages fish at sea

Total quantity fished at sea in 2010 by people living in Kanak villages 3,158 tons

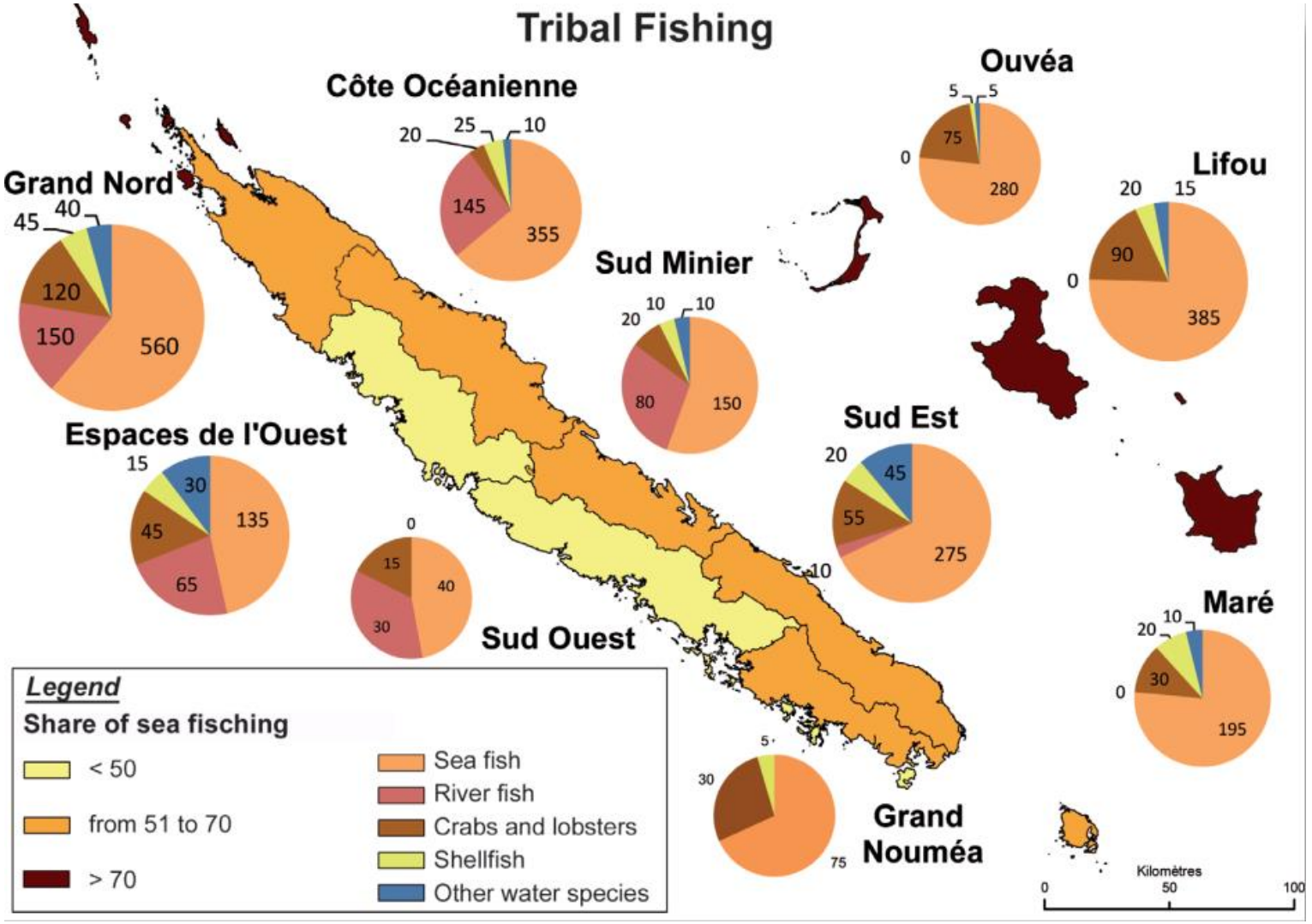


“Little” fishers
- 71% of domestic groups
- 340 lbs (154 kg) on average

“Common” fishers
- 16% of domestic groups
- 1,522 lbs (690 kg) on average

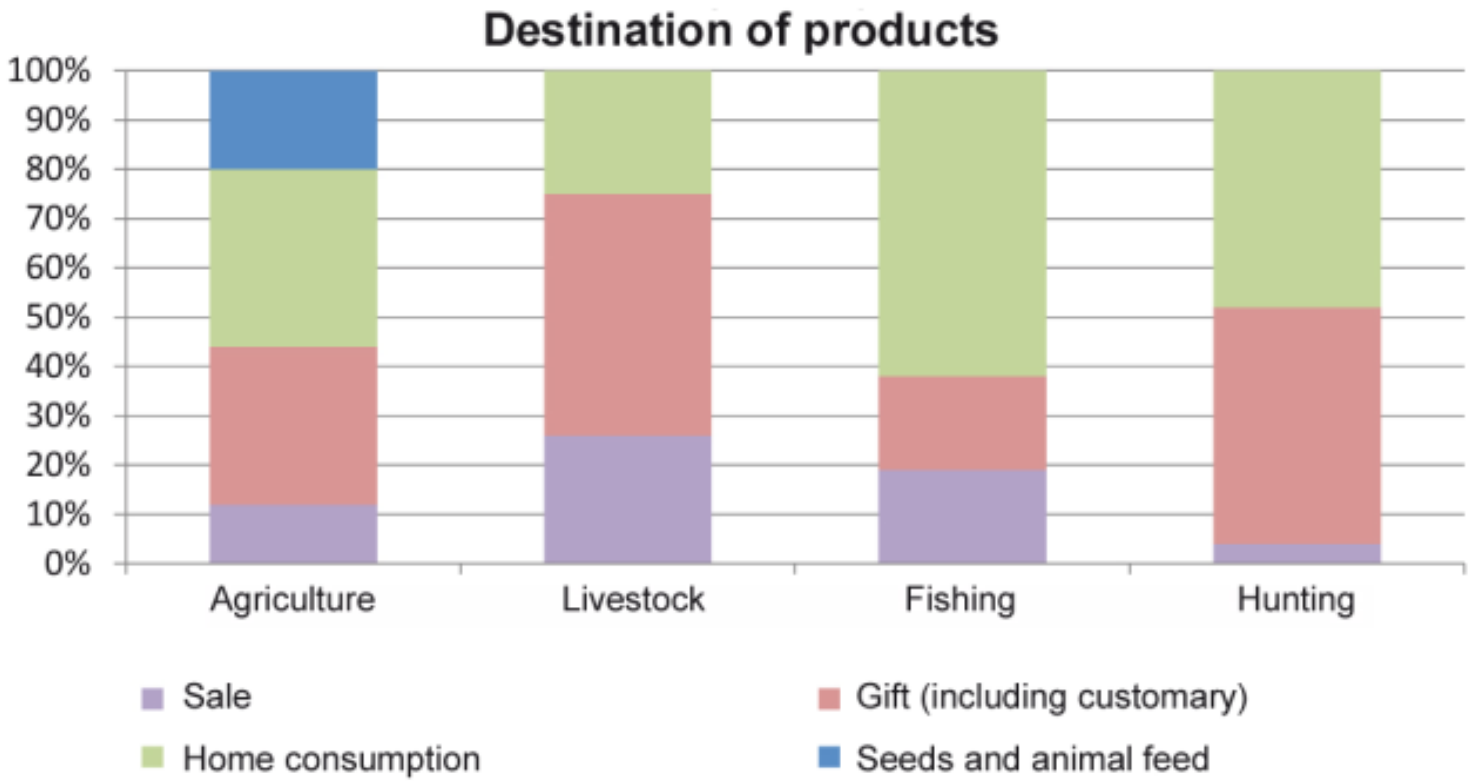
“Intensive” fishers
- 13% of domestic groups
- 1.7 tons on average

The place of fishing activities in Kanak Family Farming



- Sea fishing on the East Coast and in Loyalty Islands

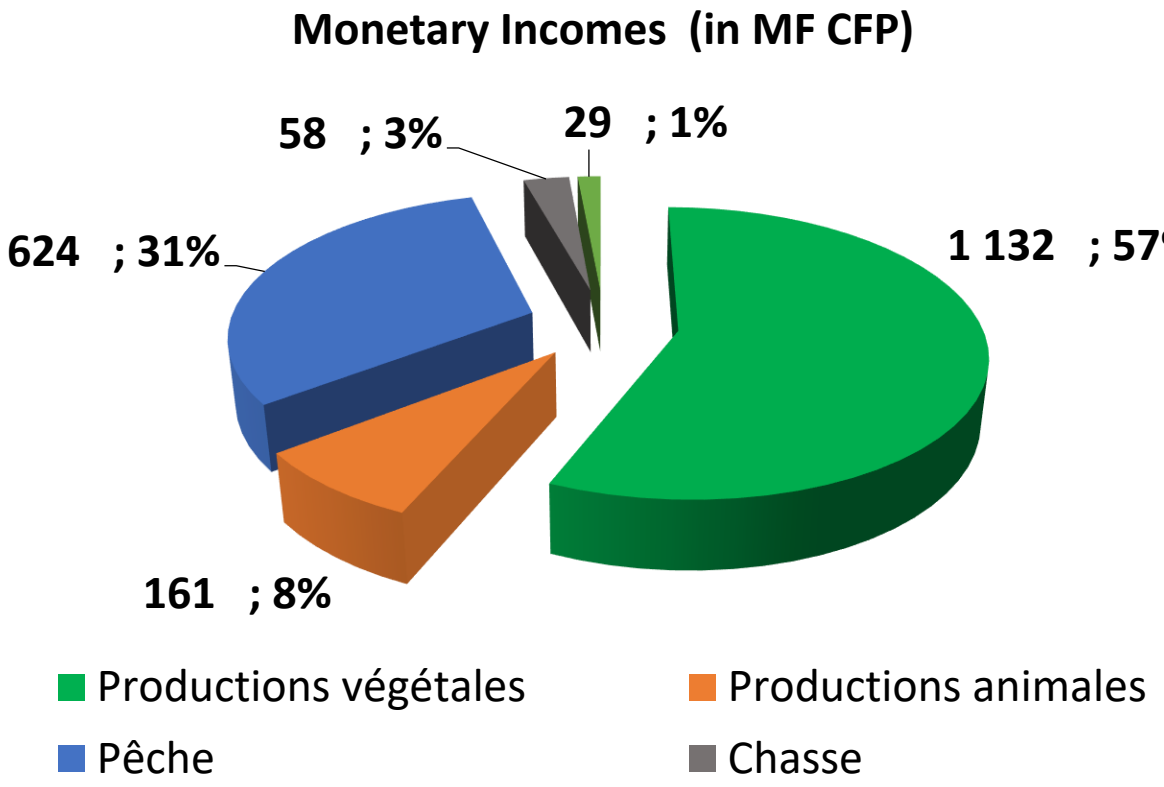
The place of fishing activities in Kanak Family Farming



→ First destination for Home consumption

The place of fishing activities in Kanak Family Farming

Place of fishing activities within monetary incomes in Kanak Family Farming : 31% of the annual monetary incomes from FF



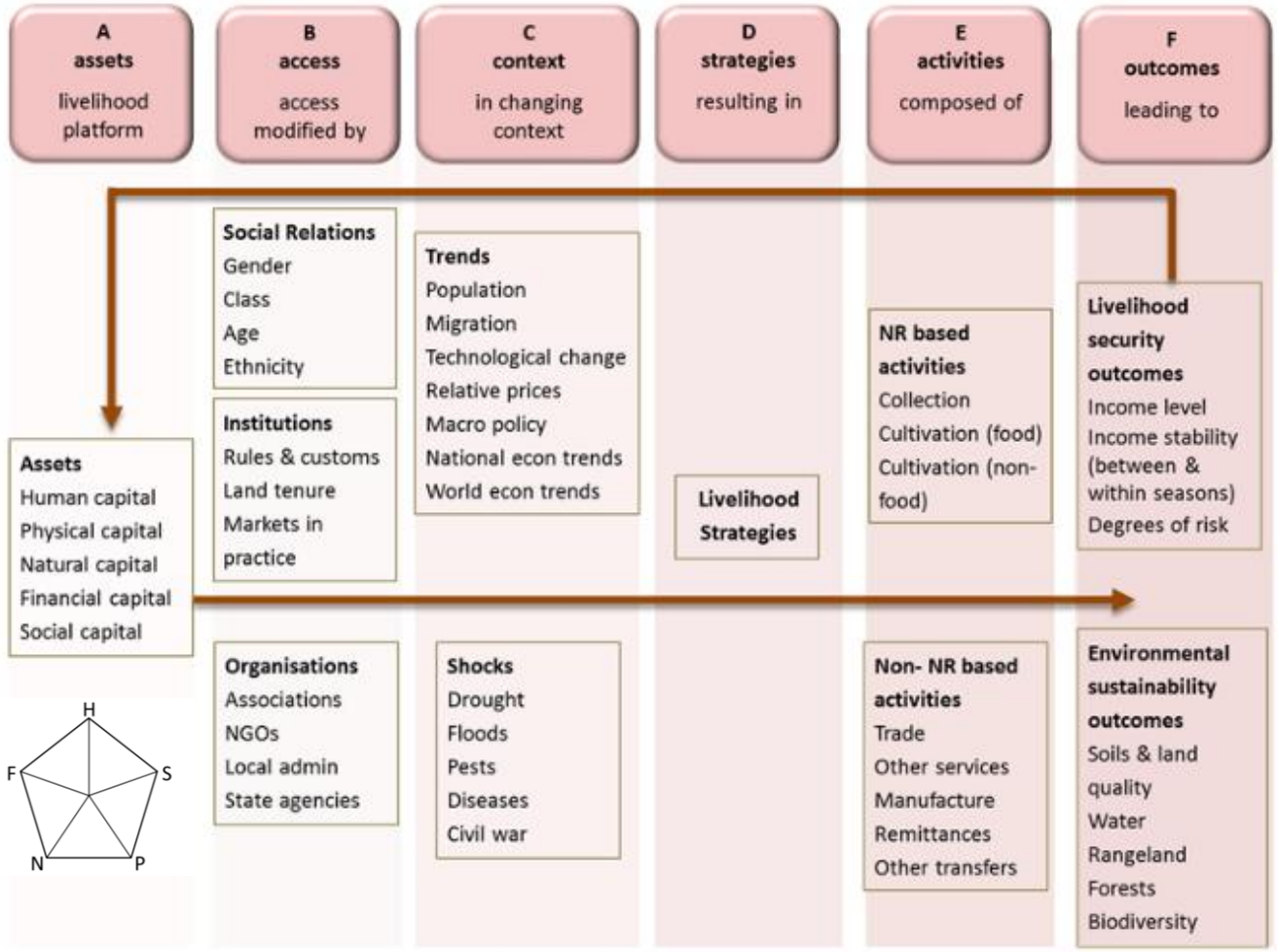
The place of fishing activities in Kanak Family Farming

Structuring role of fishing activities in the livelihoods of rural New Caledonian households, in particular for rural coastal communities

For everyday food,
For costomary ceremonies,
For monetary incomes
And Time spent to theses activities :

→ Social dimension and connexion to nature
→ Knowledge transmission
→ Way of living the territoire, source of wellbeing

« Sustainable Rural Livelihoods »



Adapted form Scoones 1996, 1998

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28th - 30th march 2023

Université de la Nouvelle Calédonie

How can we estimate non-professional fishery catches in rural villages from New Caledonia ?

Chloé Faure (Fisheries management consult, IRD-IFREMER)

chloe.-faure@wanadoo.fr

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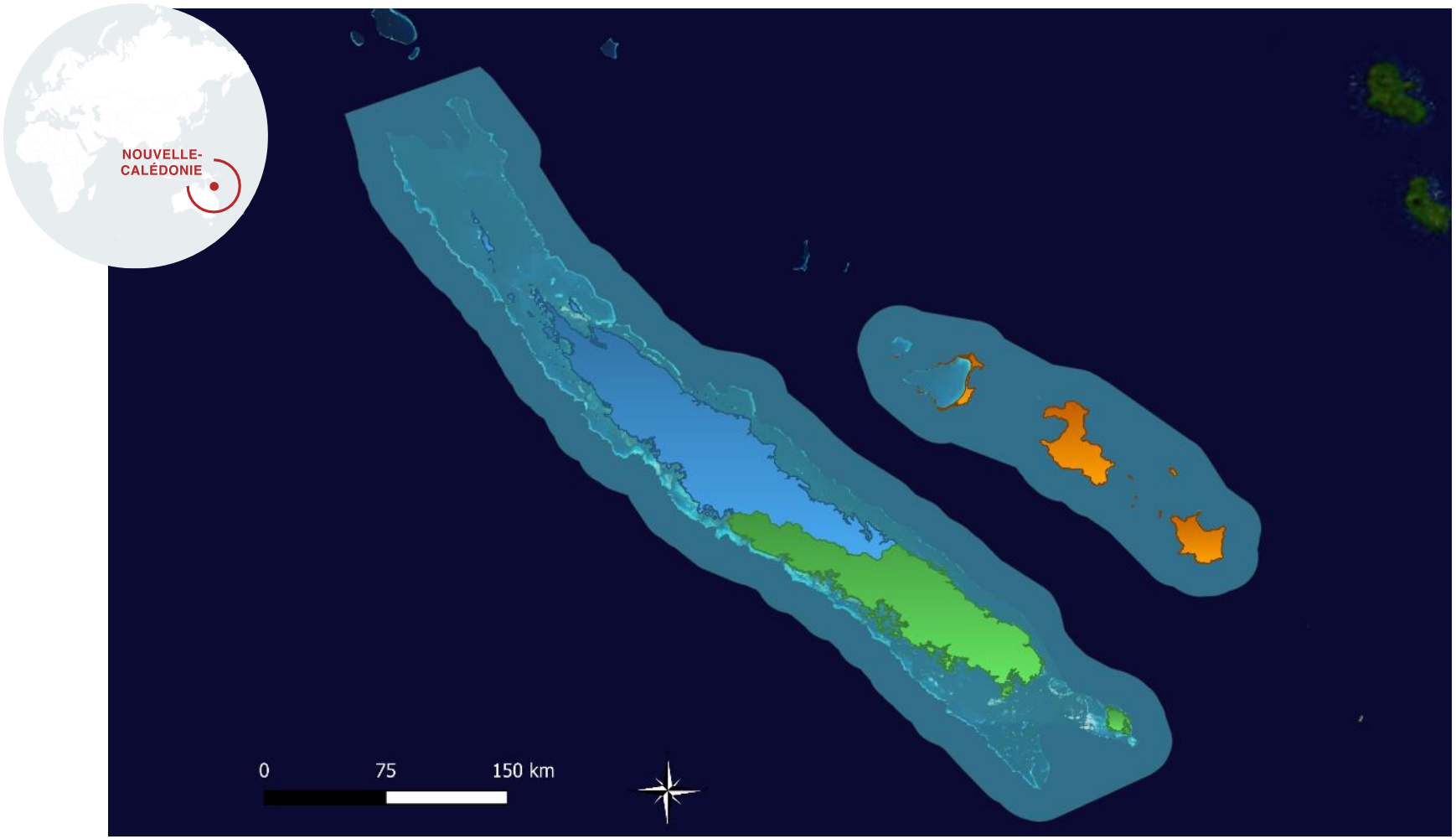
Why this project ?



Map of provincial terrestrial and maritim limits

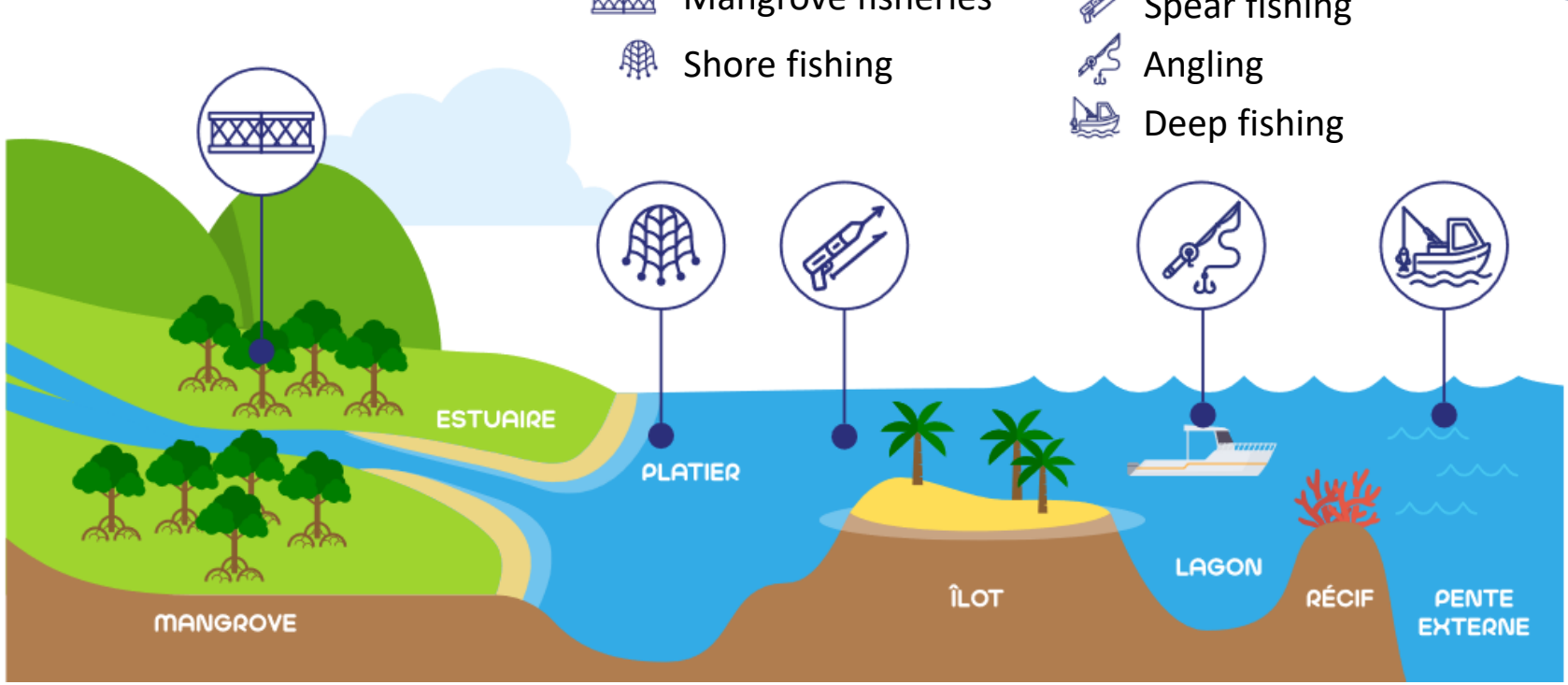
North Province

South Province

Island's Province

Provincial waters

Why this project ?



Source : Coastal fisheries observatory, New-Caledonia

Why this project ?

Coastal fisheries assessment methods used in the past :

Non-professional and professional fisheries :

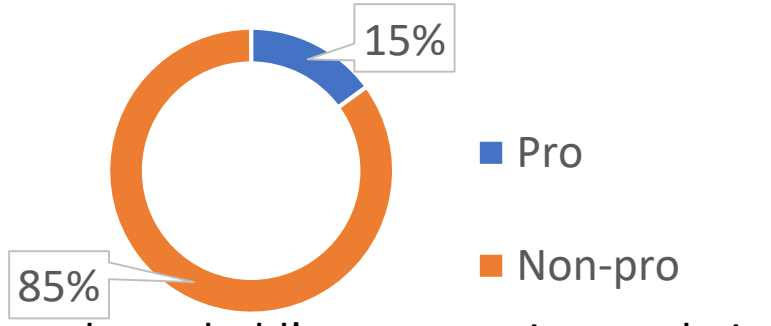
2003-2007
ProcFish
Socio-economic and consumption interviews

2004-2008
Leopold *et al.*
Cartography by interviews of stratified fishermen sample

2019-2020
André *et al.*
Cartography by fishermen interviews and habitats' map

Professional fisheries

Provinces
Assessment by mensual or annual logbook



Source : household's consumption study in 2016 (ERPA, ASS-NC, DAVAR)

Impossible replication in time because of their costs

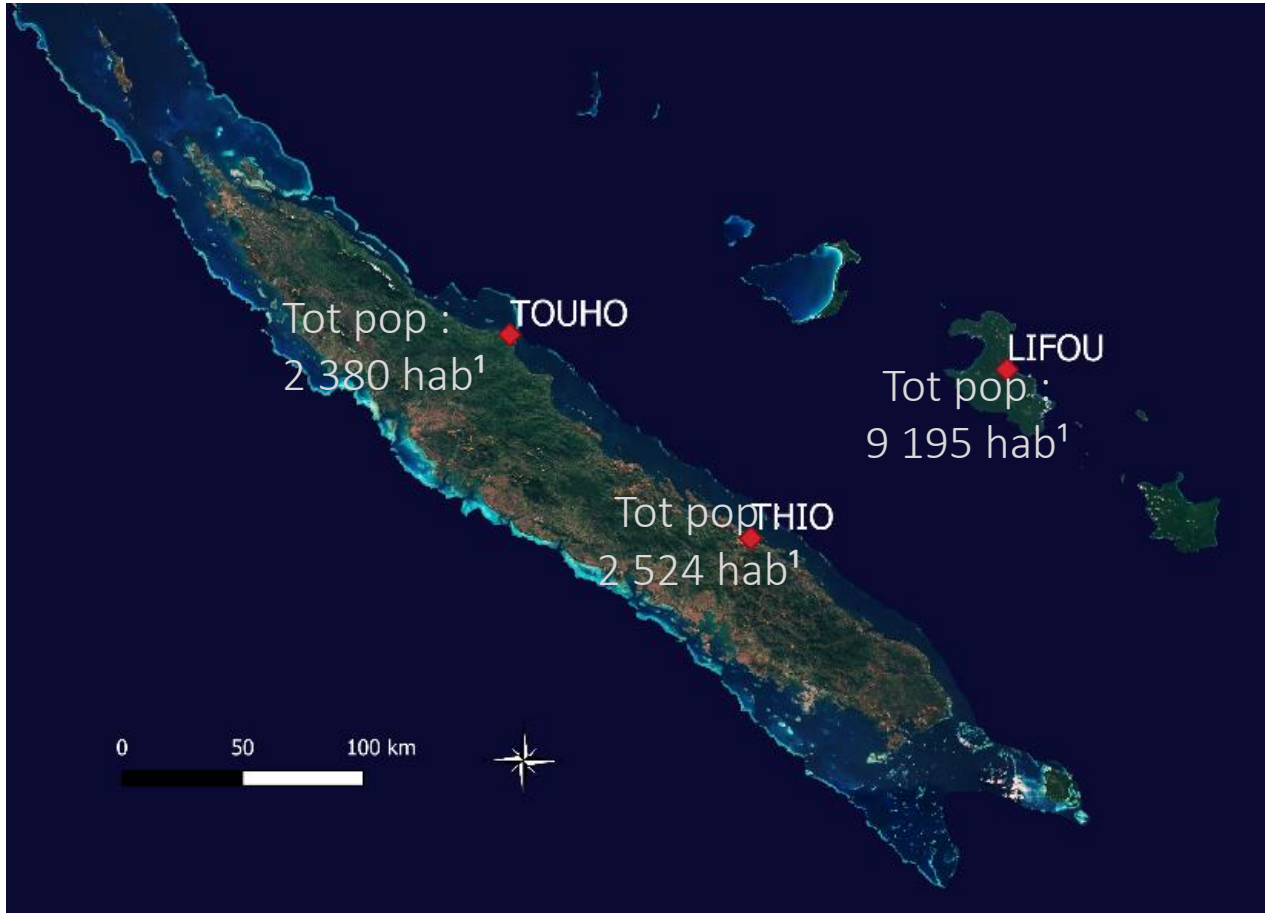
Why this project ?

- Develop a low cost method for non-professional catches monitoring by purpose and species ' groups for three rural villages in New-Caledonia

- Transfer the methodology to local managers for futur spatial and temporal replications

OBSERVATOIRE DES PÊCHES CÔTIÈRES NOUVELLE-CALÉDONIE

Cartography of the three pilot sites



[1] ISEE census, 2019

Why this project ?

The project team

Catherine Sabinot

Coordinator - Anthropology

Simon Van Wynsberge

Halieutic science

Chloé Faure

Halieutic science

Sévérine Bouard

Geography

Jonas Brouillon

Statistics

Nicolas Guillemot

Halieutic science

Antoine Wickel

Geography

Why this project ?

The partners

Conservatoires d'espaces naturels

IFRECOR
INITIATIVE FRANÇAISE POUR LES RÉCIFS CORALLIENS

PROVINCE NORD

PROVINCE DES ÎLES LOYAUTÉ

PROVINCE SUD
NOUVELLE-CALÉDONIE

OBSERVATOIRE DES PÊCHES CÔTIÈRES
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NOUVELLE-CALÉDONIE

PROTEGE
PROJET RÉGIONAL OCÉANIEN DES TERRITOIRES POUR LA GESTION DURABLE DES ÉCOSYSTÈMES

RÉPUBLIQUE FRANÇAISE
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Local populations

Methods used

Until 15th March 2022

Describe how and why locals fish

- To understand the local socio-economic context for each commune
- To collect general data about fisheries (technics, species, areas, fishing motivation, …) and events using fishing products
- To identify the sites (tribes or village) renowned to fish a lot

Methods used

Until 15th March 2022

Describe how and why locals fish

April to August 2022

Quantify non-professional fisheries catches

- Daily fishery : interviews with regular fishermen
- Events fishery : Interviews with events ressource individuals

Methods used

Events fishery

Fishery to contribute for events like wedding, grief, communal events

Data collection

Events organizer or ressource individual interviews

Data collection during the project presentation at Thio

Catches estimations

1) By event, using global catches data and consumption data
2) Multiplication by the annual number of event of this type on the commune

Daily fishery

Fishery for daily purposes like self-subsistence or regular sells

Data collection

Individual halieutic interviews of regular fishers of 3-4 sites (tribes ou village) renowned to fish a lot, gathered by local person or in places where they are directly present.

Interview of a fisherwoman in Touho market

Catches estimation

1) For interwieved individuals (quantities catched per fishing trip x annual trips number)
2) For non-interviewed individuals (catches order by interviewed fishermen)
3) Simulation to define incertitude

Methods used

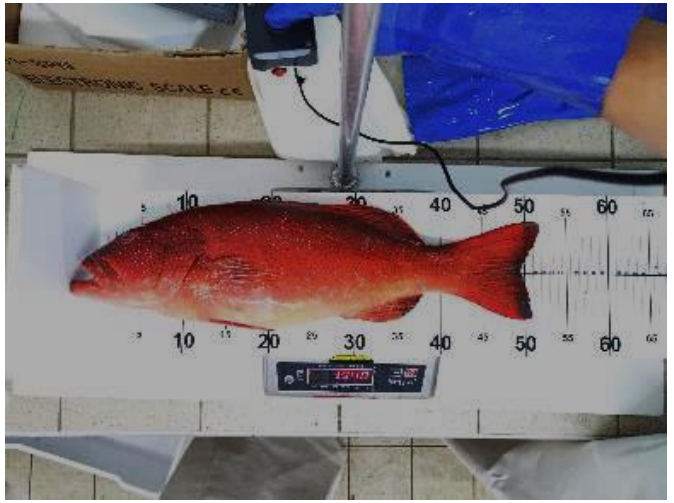
Units conversion

Conversion data in liveweight equivalent kilogramme

Exemple of units declared by interviewed individuals

Data collection

By using existing data from fisheries observatory, Province, research laboratories, government) according to the species or species groups, the units (individual, ba, cooler, …) and the forms (full, flesh, cleaned)



Lenght-weight data collection at Noumea's market by coastal fisheries observatory

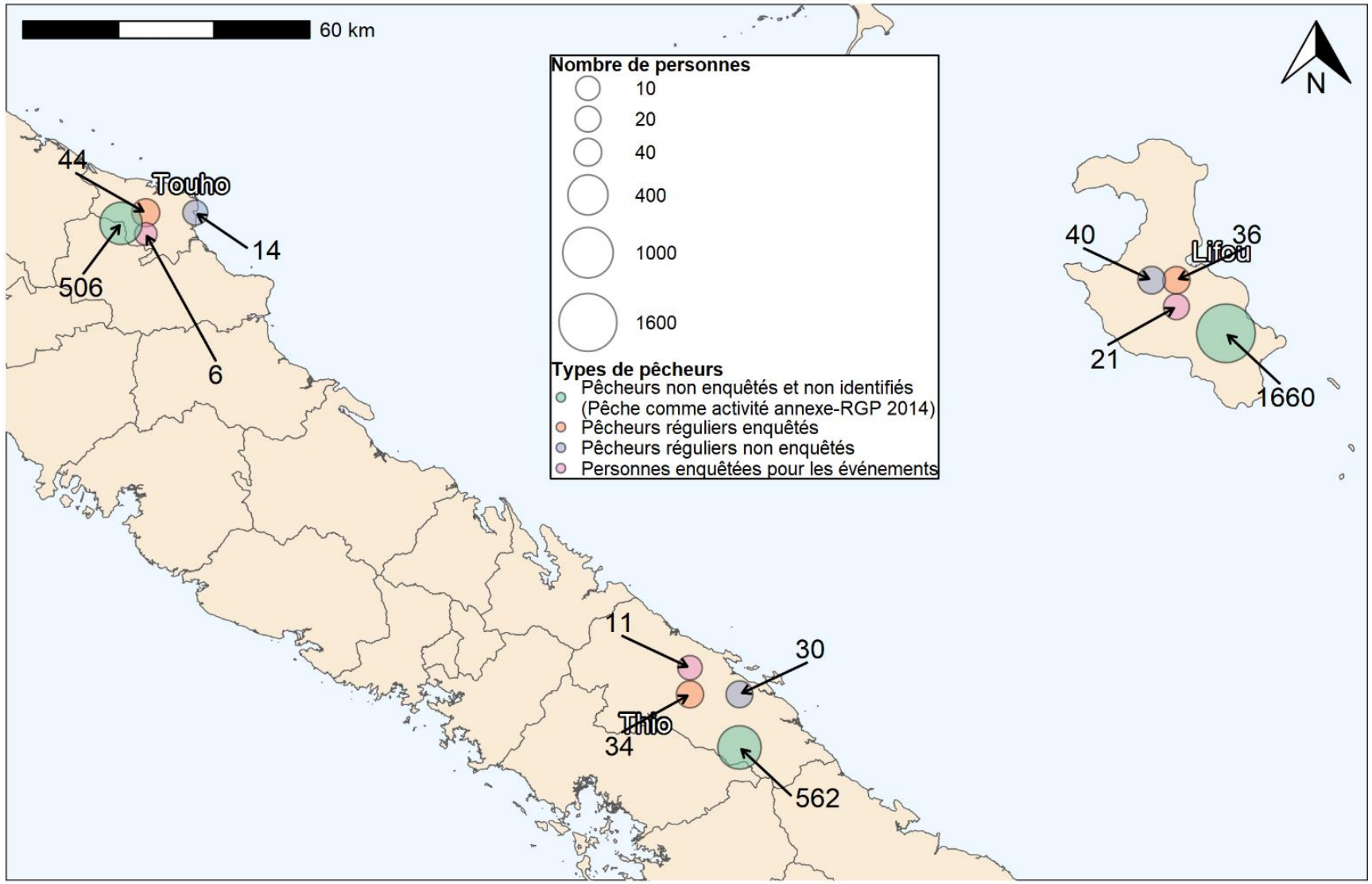
Methods used

Mission dates and periods

	Thio	Touho	Lifou
Step 1	05th and 25th February 2 days	14th to 18th February 5 days	7th to 10th March 3 days
Step 2	25th April to 02nd May 4th to 6th July 11 days	02nd to 07th May 19 – 23 juin 11 days	18h July to 1st August 15 days
Total days of mission	**13 days**	**16 days**	**18 days**

Results

Sampling effort

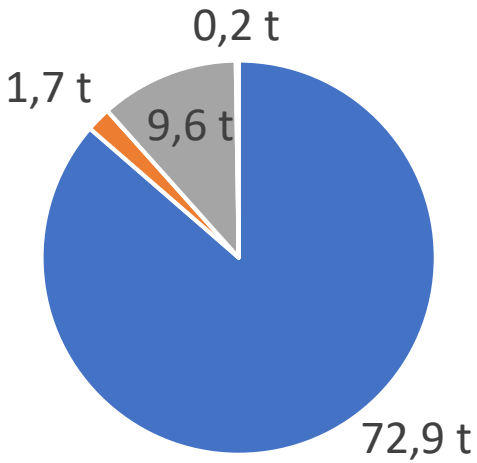


Sampling effort map for daily and events fisheries

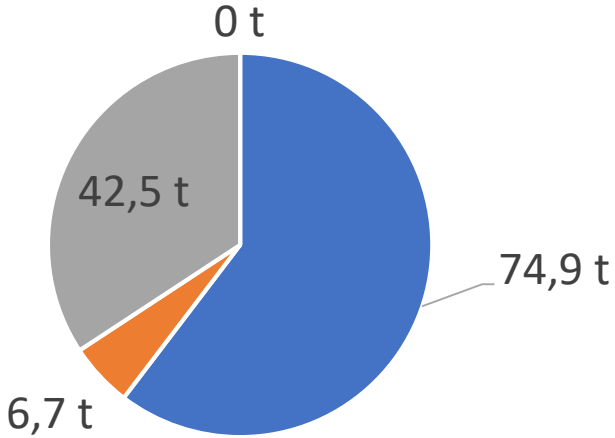
Results

Daily fisheries

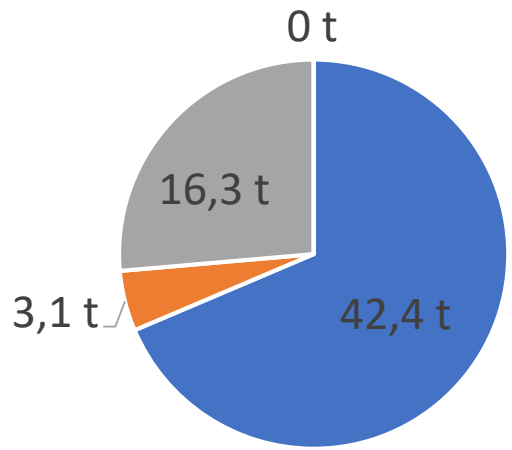
Touho (communal scale) : **84,4 tonnes** [77,9 – 91,1]

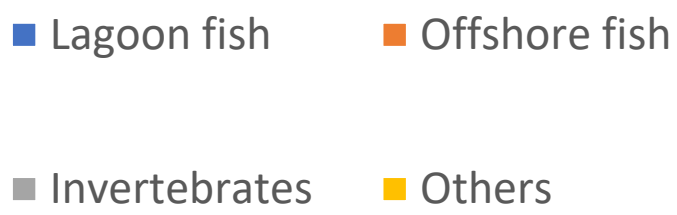


Thio (communal scale) : **124,1 tonnes** [109,0 – 139,3]



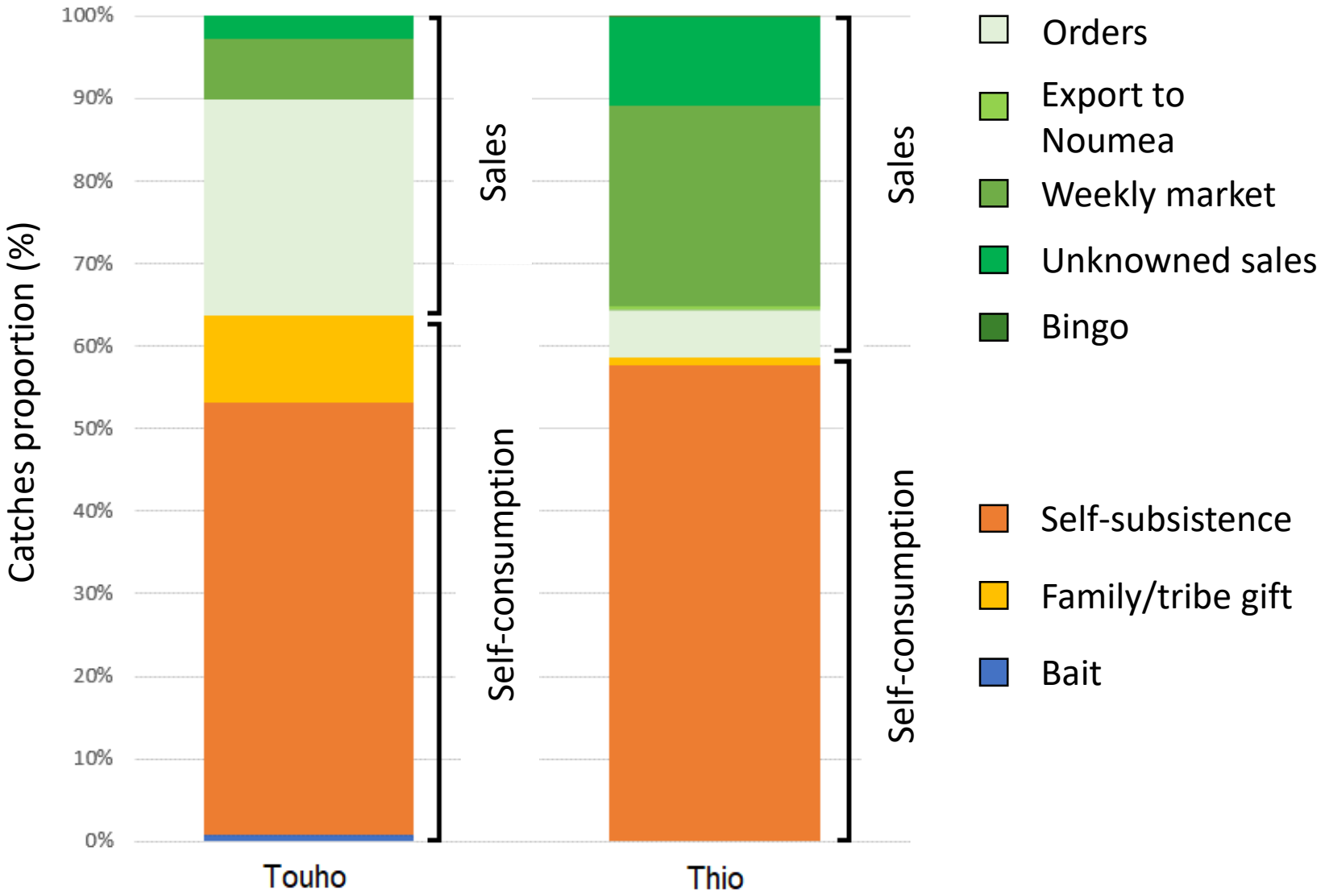
Lifou (fishers interviewed) : **61,8 tonnes** [61,0 – 62,4]





Results

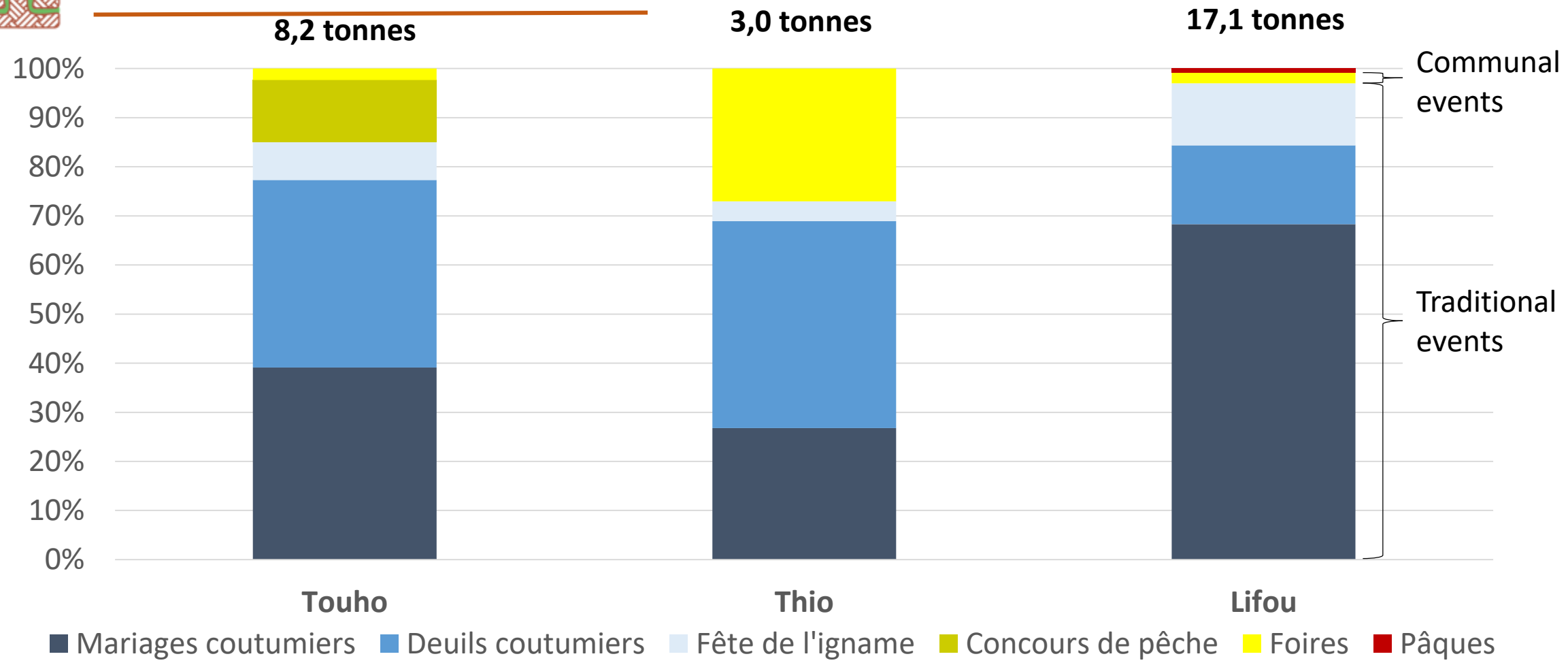
Daily fisheries



Daily fisheries catches proportions according to the finality types

Results

Events fisheries

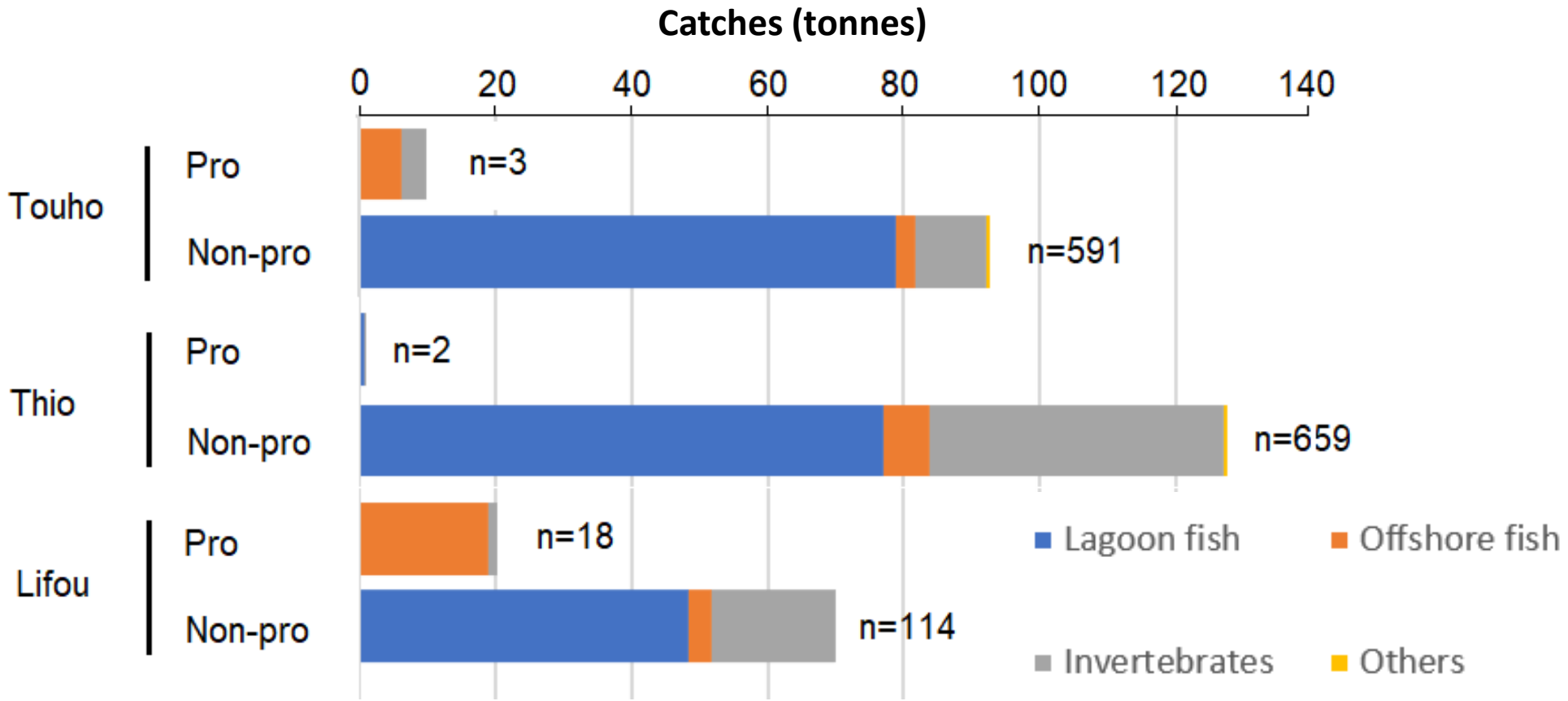


Total catches estimation and by type of events for each pilot commune

Results

Events fisheries

Catches by species category for professional fishery in 2020 (observatory data) and estimate for non-professional fishery in 2021



Perspectives

Methods réplication on 2 more communes in 2023 by the coastal fisheries observatory : Koumac and La Foa

- → **To consolidate even more the method ;**
- → **To potentialy limit the method duration ;**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Fishing activities and small scales fisheries in Family farming: insights from NC, Vanuatu, Fiji

Session co-lead by Catherine SABINOT and Séverine BOUARD

- **Fishers & Fishing in Family Farming: Is it concrete ? Is it anchored in local realities as well as in regional institutions? (Dr. Catherine Sabinot, IRD)**

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METHODOLOGICAL SYNCHRONISATION APPLIED TO FALAH RESEARCH FIELDS
(Complementarities and transversalities between WP2 and WP3)

28th - 30th march 2023

Université de la Nouvelle Calédonie

Collecting shellfish in Oceania: an archaeological perspective

Christophe SAND (New Caledonia Government, IRD-Nouméa)

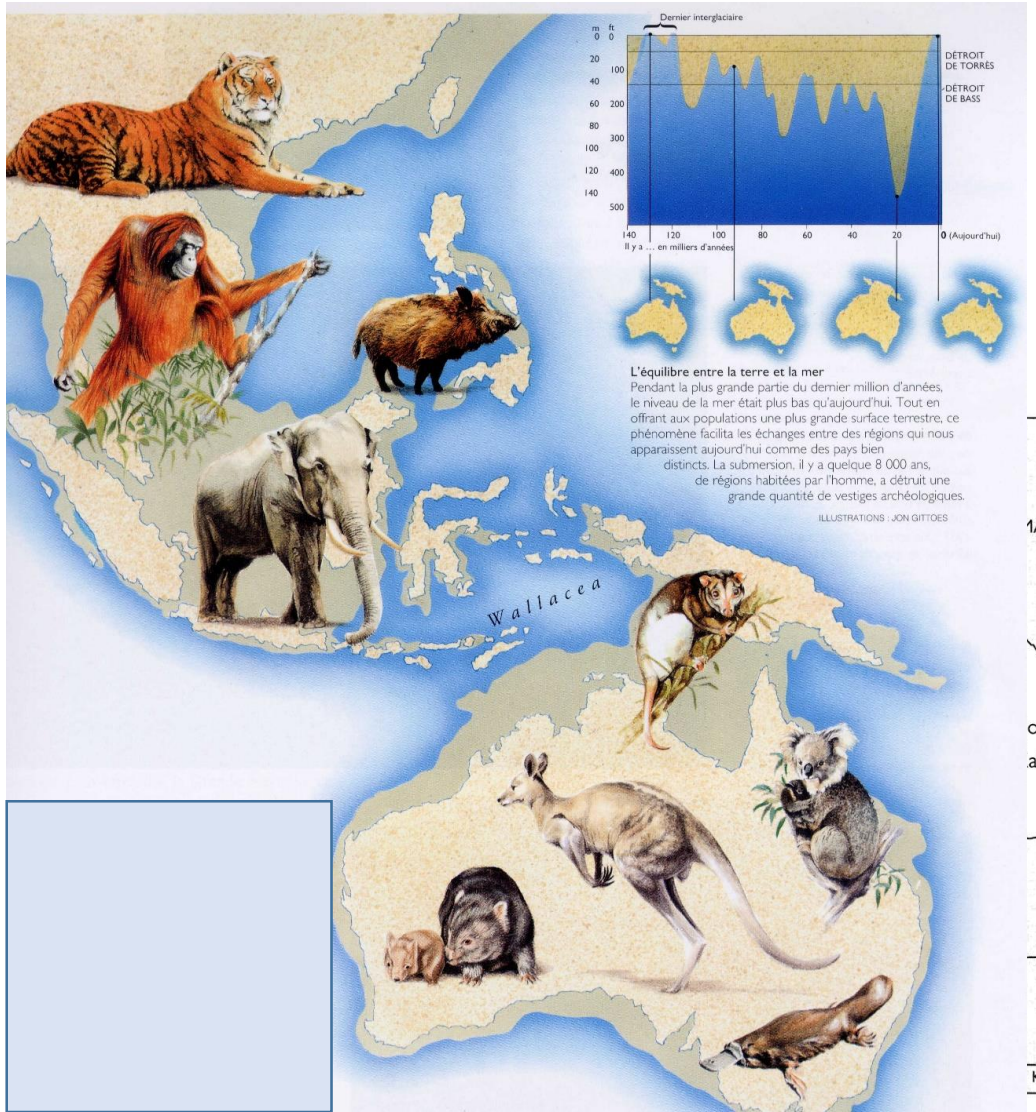
Disclaimer: the views expressed in this presentation are purely those of the author and may not in any circumstances be regarded as stating an official position of the Research Executive Agency

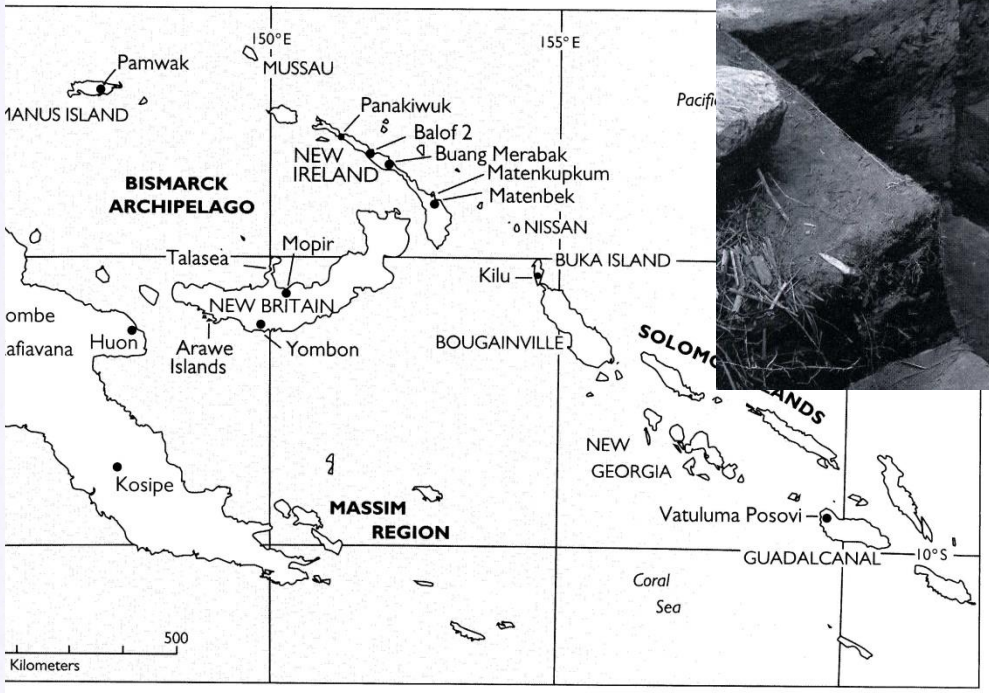
This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 873185

A diachronic approach to Shellfish collection

- 1. Settling Near Oceania
- 2. Shellfish at Lapita arrival in Remote Oceania
- 3. Changing landscapes, changing natural habitats
- 4. Depopulation and habitat recovery
- 5. The other uses of shells accross Oceania

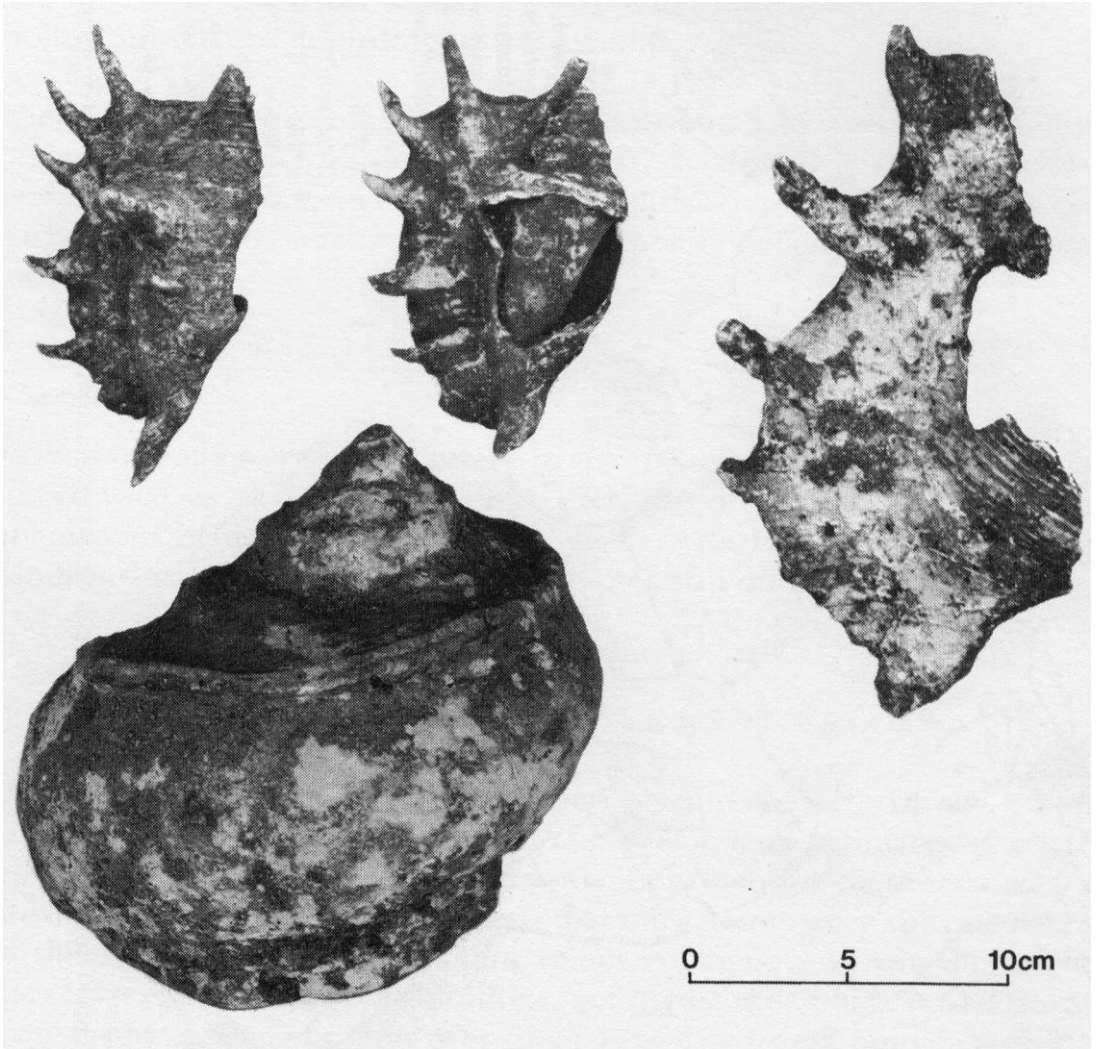
1. Discovering Oceania in the Pleistocene





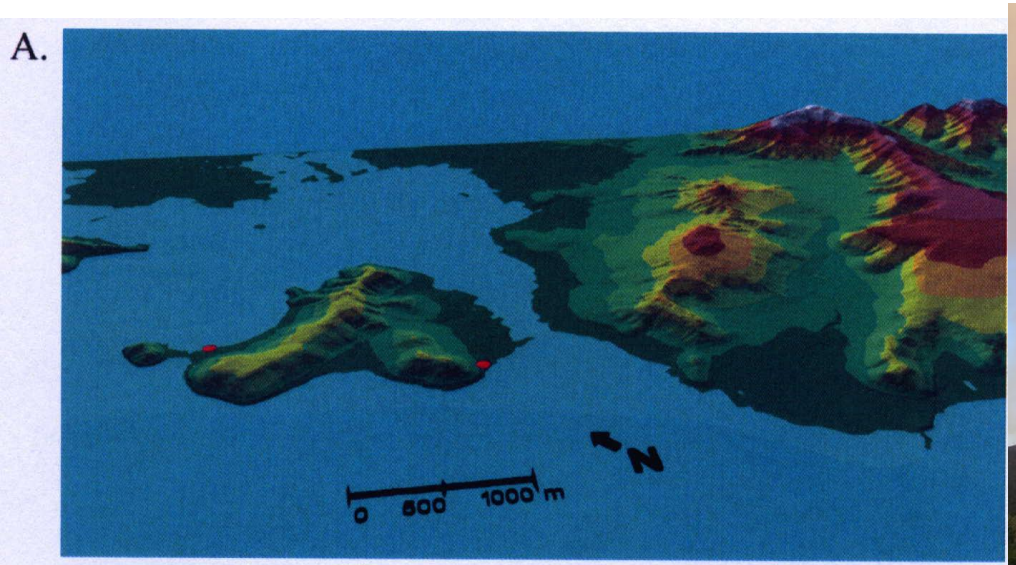
2. Lapita expansion into Remote Oceania 3000 years ago

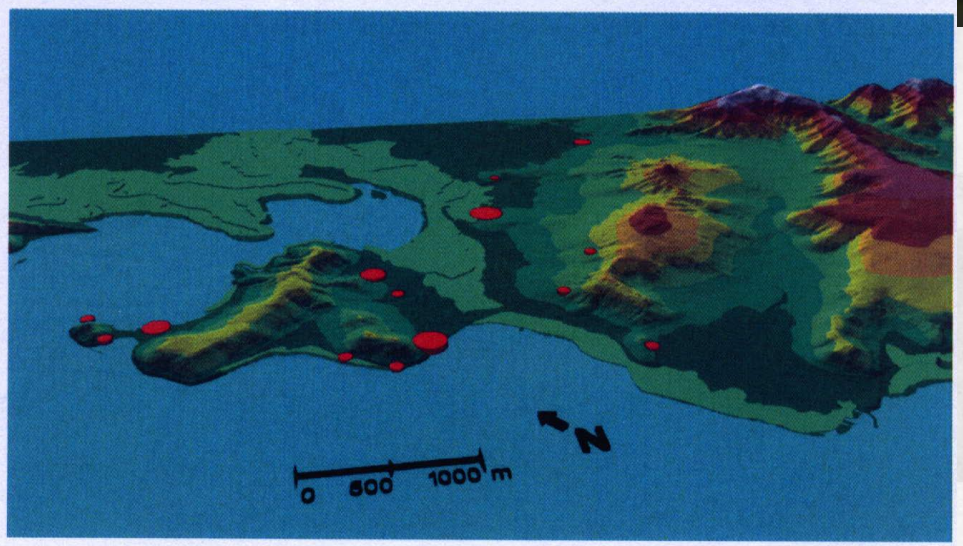
Pristine ecosystems and huge shells

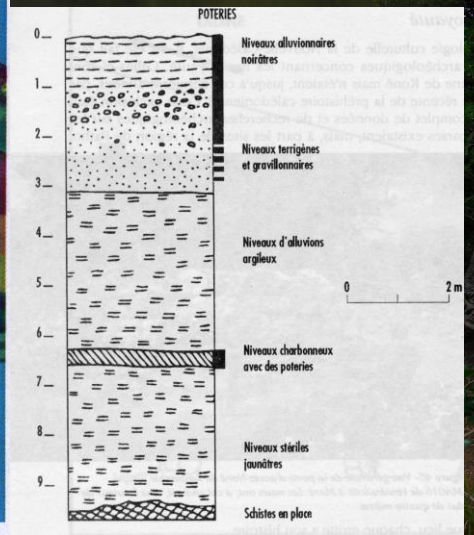


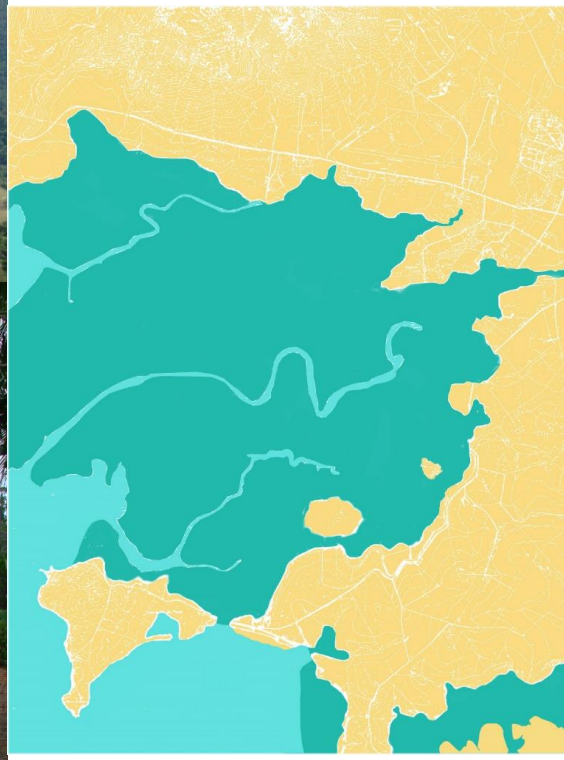
3. Changing landscapes, changing natural habitats

Fires, erosion and sedimentation



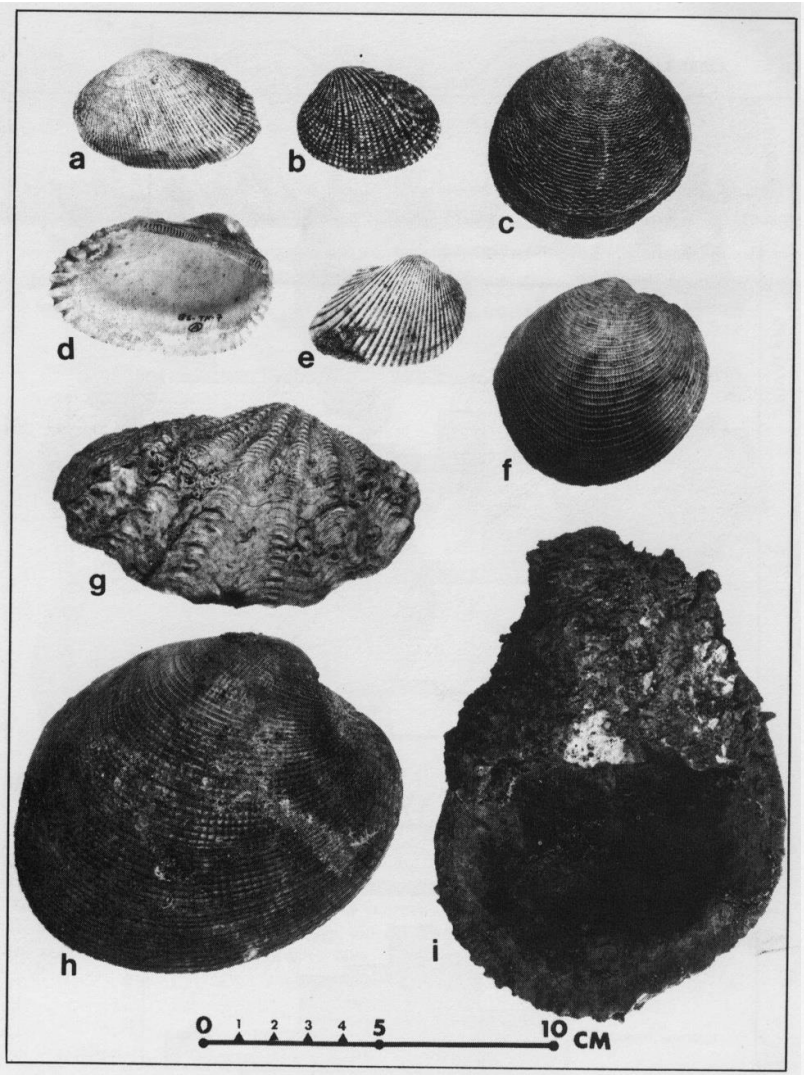


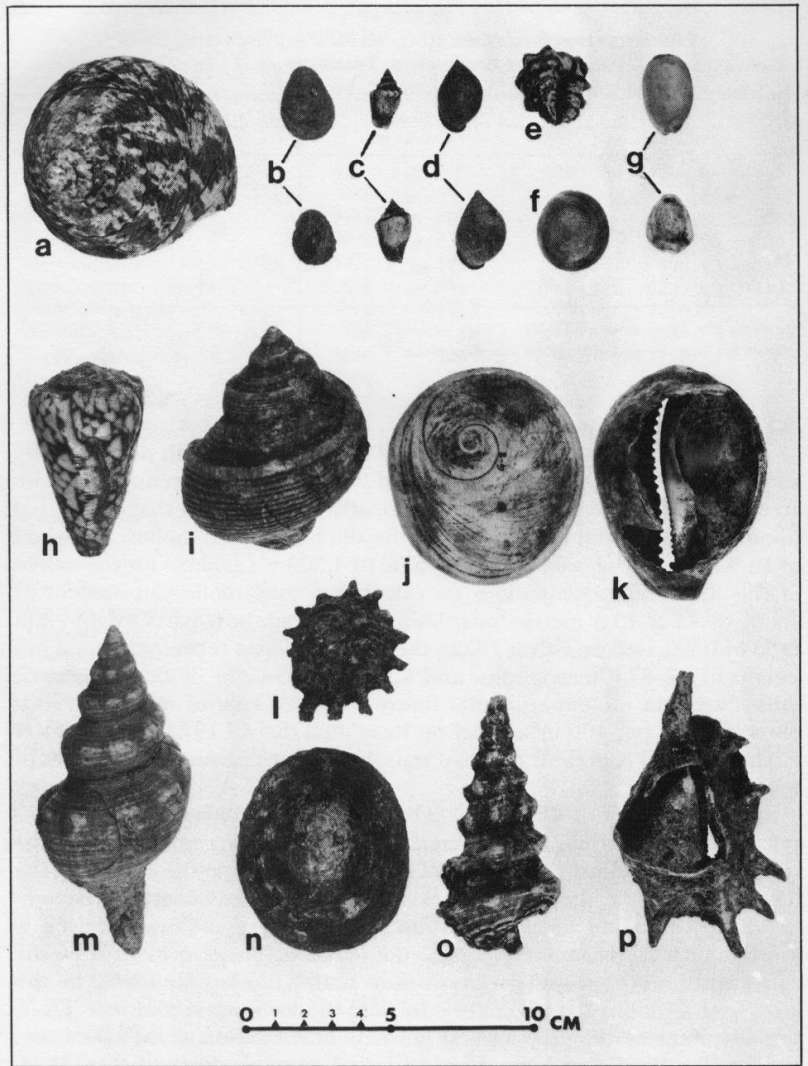


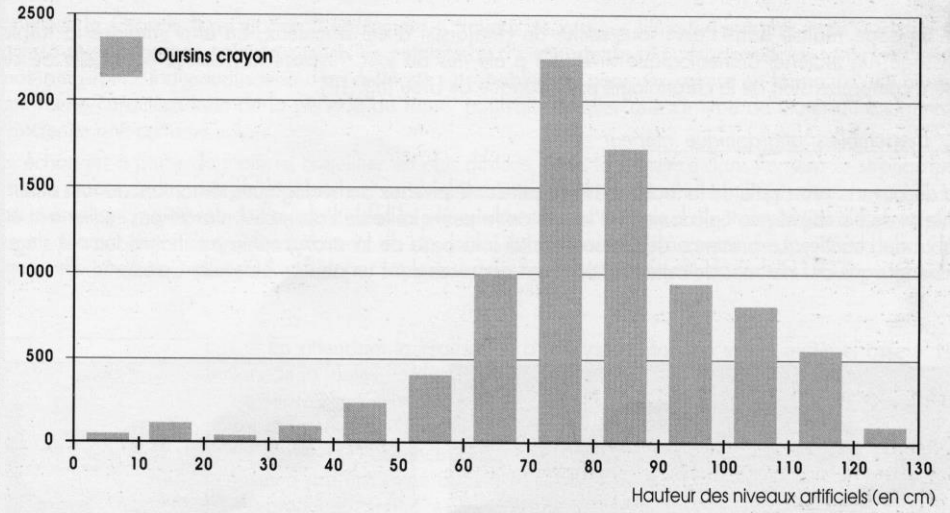


Collecting Shellfish in Oceania: an archaeological perspective

A diachronic approach to Shellfish collection

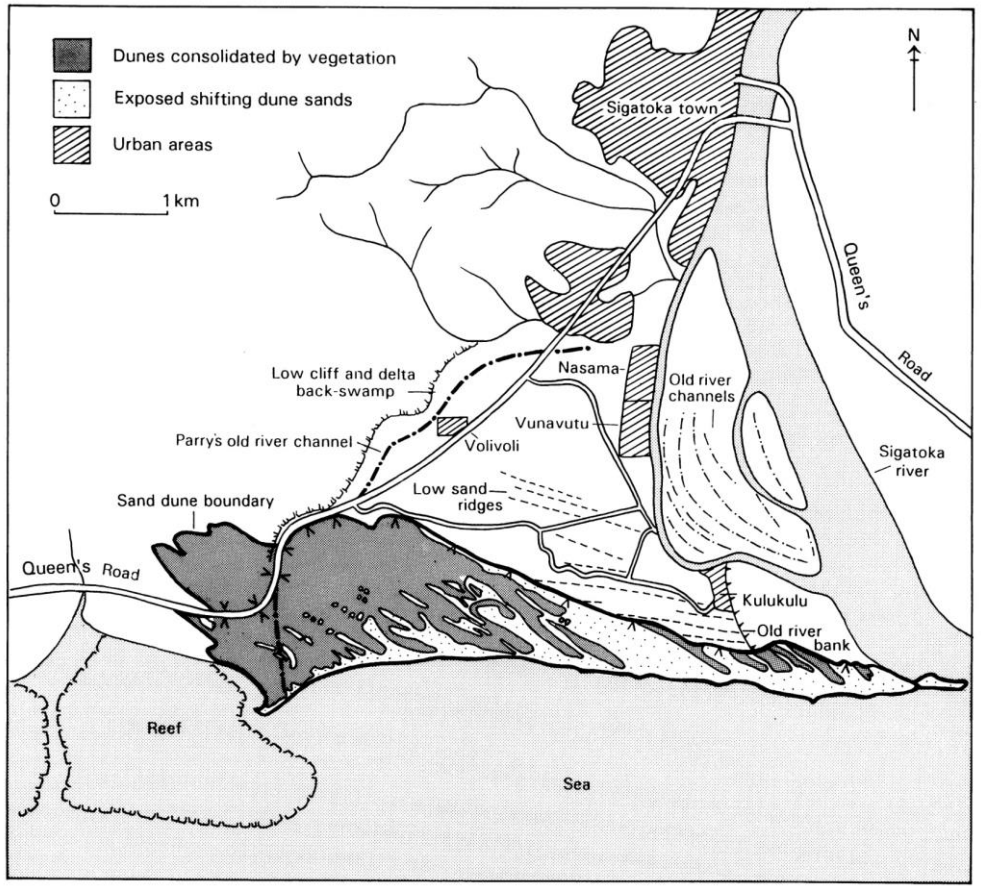


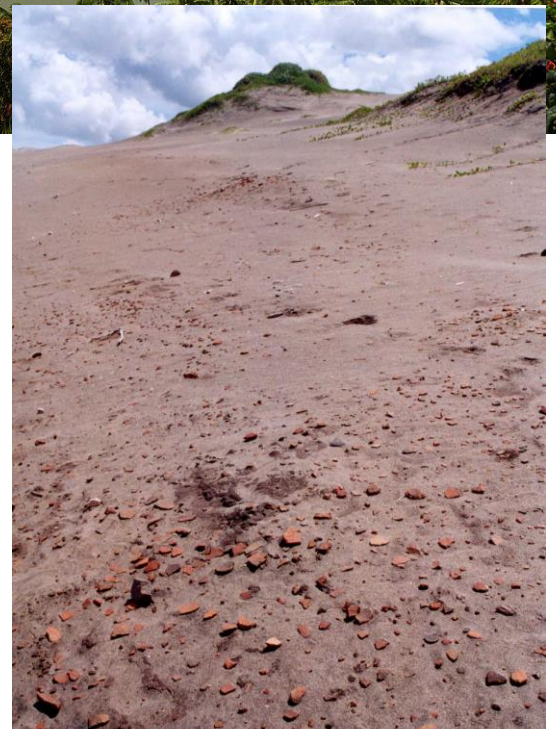


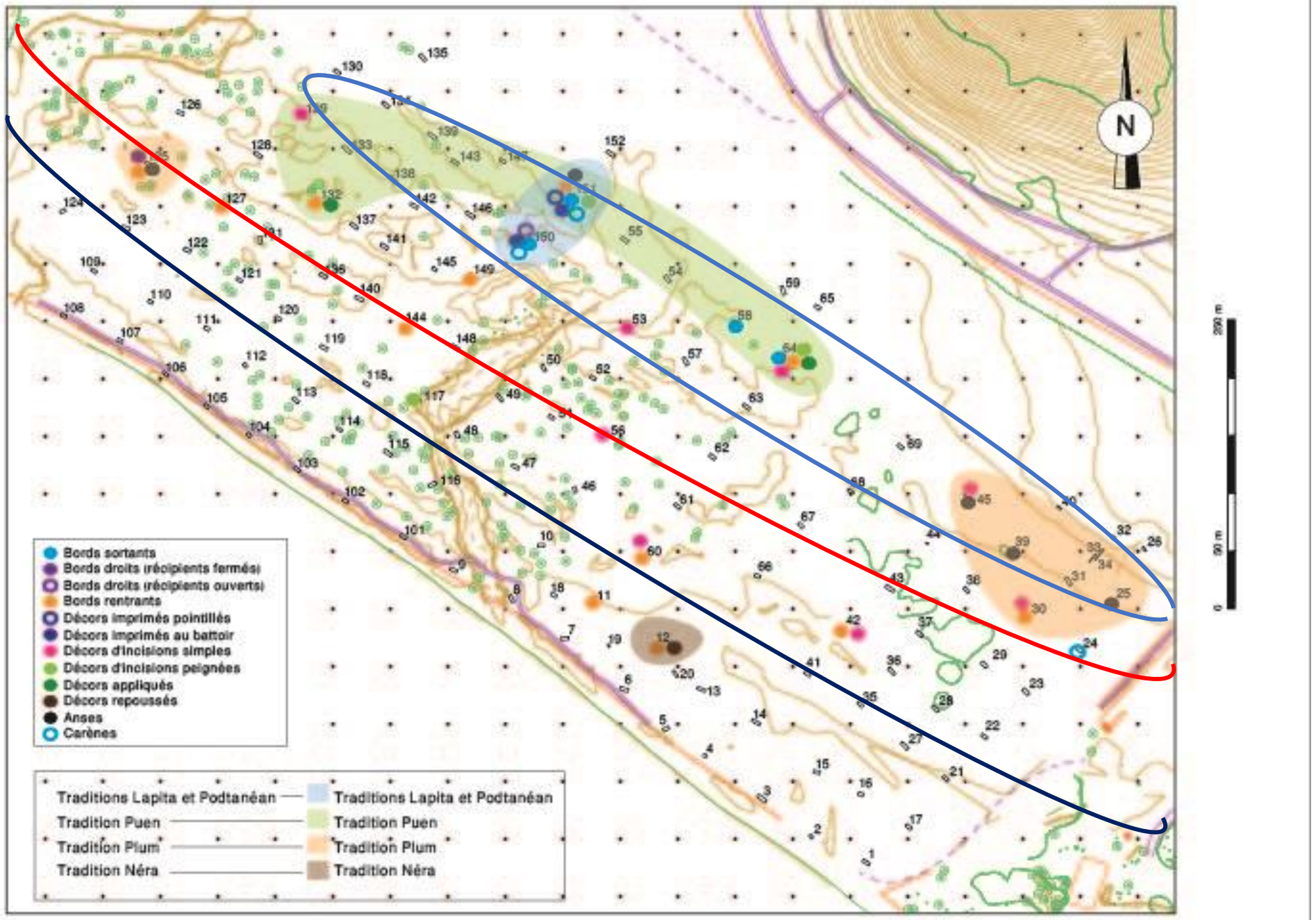


A diachronic approach to Shellfish collection

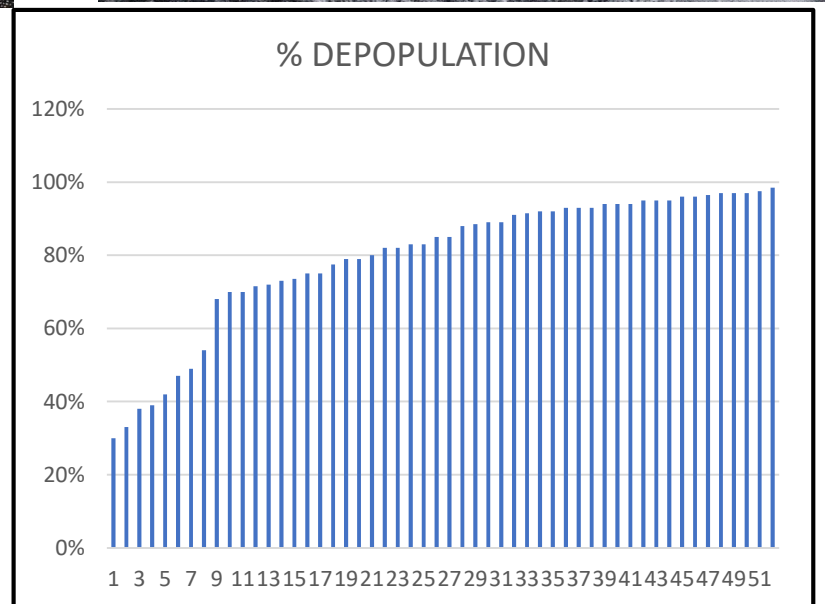
"Unlike shellfish in the earlier assemblage, economically viable species of gastropods such as Tectus and Turbo are undersized. When one adds in the reptile component of Pacific boa, small iguana, and lizard, it can be suggested that Navatu peoples (around 1800 years ago) foraged widely and collected a diverse range of foods while living on the Sigatoka beachfront. This assemblage, in fact, has the hallmarks of a people facing food stress" (Burley 2005, p. 332).

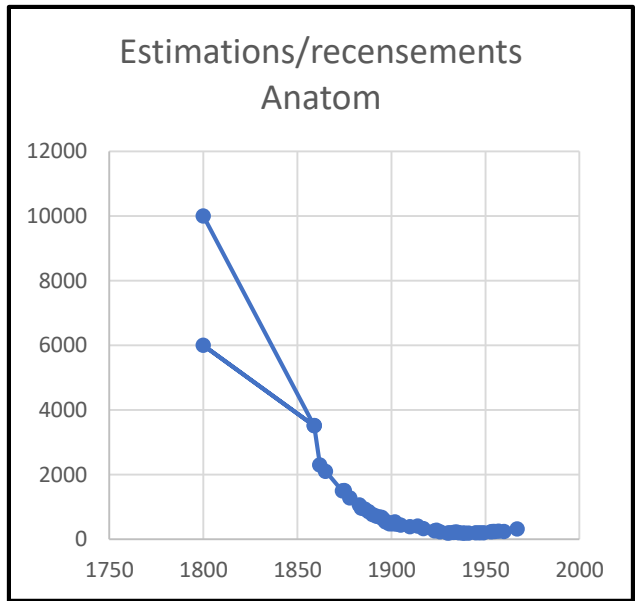





N
200 m
100 m
0
Bords sortants
Bords droits (récipients fermés)
Bords droits (récipients ouverts)
Bords rentrants
Décors imprimés pointillés
Décors imprimés au battoir
Décors d'incisions simples
Décors d'incisions peignées
Décors appliqués
Décors repoussés
Anses
Carènes
Traditions Lapita et Podtanéan
Tradition Puen
Tradition Plum
Tradition Néra
Traditions Lapita et Podtanéan
Tradition Puen
Tradition Plum
Tradition Néra

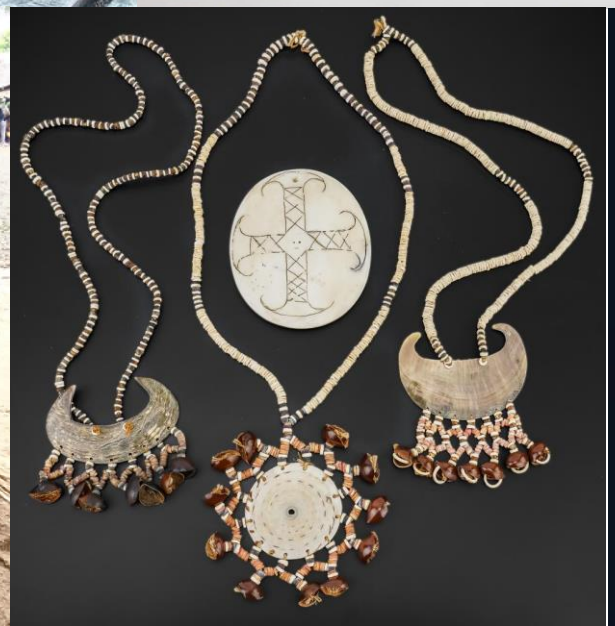
4. Depopulation and habitat recovery





Collecting Shellfish in Oceania: an archaeological perspective

5. The other uses of shellfish in Oceania



Collecting Shellfish in Oceania: an archaeological perspective

Olé, Tangyu tumas, Merci

Fishing activities and small scales fisheries in Family farming: insights from NC, Vanuatu, Fiji

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Understanding Foraging Decisions: Implications for Nutrition, Health, Income, and Sustainability among Shellfish Gatherers in Oceania

Frank R. Thomas, USP

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Some observations

Antiquity of shellfish foraging (gathering) in Oceania.

Importance of foraging in contemporary societies.

Opportunities and constraints when foraging.

The fluctuating state of marine tenure systems and the resources they contain.

The Lapita ‘cultural complex’ 3000-2500 BP (Before Present)


C6H/55
10 cm

- Shellfish resources as a ‘pull factor’ in early Pacific migrations.
- What the archaeological record reveals about human impacts.
- The role of changing environments.
- Projecting ‘traditional’ conservation/management onto the past.

Fast forward in time…

- Fish vs shellfish.
- When, where, who.
- Contribution to Pacific diets and social cohesion.
- The role of traditional tenure systems and MPAs (Marine Protected Areas) at the subsistence and commercial levels – diet, health, income, and sustainability.

Interviews, of course, but also participant observation…

‘The humbled anthropologist’ (Philip Devita)

Sorting out what people say and what they actually do.

Ask questions, but also stay quiet and observe – reminiscent of how some people learn from their elders.

Not passive observation, but guided by ‘theory’ – some would argue by biases or pre-conceived ideas.

Testing ecological model predictions in an attempt to understand behavior (**human behavioral ecology**).

Ultimately marry the best of traditional knowledge and practices with ‘science’.

Kiribati (Micronesia) fieldwork 1993-1998

Foraging for shellfish governed by a host factors, including **household composition, level of income, availability of alternate food sources, and tide conditions**, to name a few.

As in most other Pacific communities, fish always seems to be preferred over most invertebrates.

Fish have been disproportionally documented by social and natural scientists at the expense of other marine resources, no doubt a reflection of the bewildering techniques/practices associated with the former and the thrill of many fishing expeditions, primarily carried out by men.

- A behavioral ecological approach to shellfish foraging has revealed the complexities of decision-making related to individuals' perceptions of spatial and temporal attributes of a wide range of invertebrate resources and their habitats (**patches**).
- Mer Is. (Torres Strait, Australia), Solomon Is. (New Georgia) and atolls in Kiribati (Gilbert Islands) have seen detailed applications of **optimal foraging models**, together with ethnographic descriptions to understand patterns of variability in shellfish gathering.
- Aswani (1998), in particular, examined findings from research in New Georgia to explore ways patterns of behavior related to shellfish gathering could be incorporated with 'managerial measures that *mimic* the seasonal movement of fishers' (p.231).

A bit of theory…

- The premise of optimal foraging is that people will choose food or ‘prey types’ that **maximize their short-term harvesting rate**.
- Foraging models usually focus on **net calorie intake** as the **currency** being maximized, although other nutrients can be measured as well.
- Some have argued that this is deterministic way of explaining human behavior. However, it can also be argued that foraging models are more relevant in understanding food choices among humans compared to other organisms precisely because of people’s ability to process large amounts of information about their environment to guide them towards the optimal choice, thereby maximizing fitness (Smith 1983 and references therein).

- It should be emphasized that organisms, including humans, are unlikely to achieve an optimum level of resource acquisition.
- Foraging models attempt to predict the optimum state under specified environmental conditions, which are then tested against the behavior exhibited by particular organisms to determine the fit between observation and prediction.

Field and Analytical Methodology – with some improvements

- Field methodology is variable, but essentially seeks to collect the following data:
- - targeted **prey type(s)** – vernacular and Latin binomial terms
- - actual **prey type(s)** harvested – as above
- - habitat or **patch type** - as perceived and defined by local informants and compared to ‘scientific’ descriptions
- - location
- - date and moon phase
- - age, sex, and identity of each forager

- - round-trip travel time
- - one-way distance from central place (where the returns are usually processed)
- - search time
- - handling (processing) time
- - rate of encounter
- - weight of **prey type** (for calculation of edible meat and energy)
- - general weather and tide conditions insofar as these are relevant to the foraging process

- The analytical methodology comprises information derived from time-motion records and matched to the closest physical activity category published in various tables, as well as data found in nutritional tables

- Since Thomas (2007) published his research results, the list of physical activities has expanded to allow for more accurate determinations of energy expenditure (Ainsworth et al. 2000, 2011).

- Food composition tables for the Pacific are still relatively sparse on caloric values and micro-nutrients for shellfish species compared to other food categories (Dignan et al. 2004). Thomas (2003) compiled data on 24 shellfish species that were mostly subjected to single trials to determine caloric values (amino acids, fatty acids, and glycogen). There is a need to collect more information on species that remain under-represented and measure their nutritional values under varying environmental conditions.

Sustainability

Explanatory Frameworks for sustainability:

Low human population densities and extractive limitations in the past(technology and absence of markets).

Optimal foraging decisions (derived from behavioral ecology), supported by actualistic studies, resulting in epiphenominal conservation (secondary phenomenon, where conservation is not the cause, but the consequence of a decision leading to conservation).

Conservation by design and customary marine tenure systems.

Customary marine tenure, foraging, and sustainability

Notion that marine tenure institutions are cultural systems designed to conserve resources.

Data from the Solomon Is. and Kiribati suggest that regulatory collective action to maintain the sustainability of marine habitats is not regularly practiced.

The analysis of patch choice and time allocation (the **patch choice** model and the **marginal value theorem** to explain patch switching) suggest that the daily ecological and social behaviors will ultimately affect sustainability of any fishery, and not the indigenous institutions of marine tenure.

Patch switching to explain resource conservation as a possible side effect of optimal foraging.

Notwithstanding that foragers are not environmental altruists, institutionalized communal tenure provides a framework in which co-managerial goals to control littoral fisheries can be accomplished

- Link behavioral ecology with coastal resource management by studying the relationship between human foraging and conservation or depletion of marine resources.

- As frequency of visits to a habitat type or set of patches decreases (because of diminishing returns), the temporary closure of that area may be encouraged.

- Hybrid Marine Resource Management Programs – customary management (CM) and ecosystem-based-management (EBM) (Aswani and Ruddle 2013) are particularly applicable in Melanesia, although other areas of the Pacific either retain or historically have had some form of customary management that is remembered (e.g. Kiribati) and therefore could be revived, adapted, or hybridized to perform modern management and conservation tasks.

- Prospects in managing and conserving critical ecosystems in a culturally, politically, economically, and environmentally sound fashion.

Dark clouds on the horizon?

Increasing climate-related vulnerability of communities who depend on near-shore ecosystems affected by temperature fluctuations, altered weather patterns, precipitation cycles and hydrological regimes, increases in soil and water salinity or acidity, erosion, and coral bleaching (Nunn and McNamara 2019).

Designing adaptation by conducting social and ecological research on local climate change to gauge local perception of its effects.

A way forward – integrated CM that includes forest, farmland, and marine habitats to help improve diet, health, income, and sustainability of fishers (Aswani and Furusawa 2007)

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- **Understanding Foraging Decisions: Implications for Nutrition, Health, Income, and Sustainability among Shellfish Gatherers in Oceania (Dr. Franck Thomas, USP)**
- **Harvesting invertebrate resources in Oceania: Adapting management scales to species ecology (Dr. Pascal DUMAS, IRD)**

METHODOLOGICAL SYNCHRONISATION APPLIED TO FALAH RESEARCH FIELDS
(Complementarities and transversalities between WP2 and WP3)

28th - 30th march 2023

Université de la Nouvelle Calédonie

Harvesting invertebrate resources in Oceania: Adapting management scales to species ecology

Pascal DUMAS, IRD

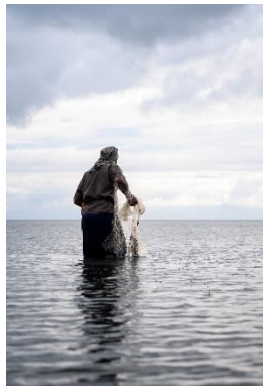
Disclaimer: the views expressed in this presentation are purely those of the author and may not in any circumstances be regarded as stating an official position of the Research Executive Agency

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 873185

COASTAL INVERTEBRATES IN THE PACIFIC

A WIDE RANGE OF USES

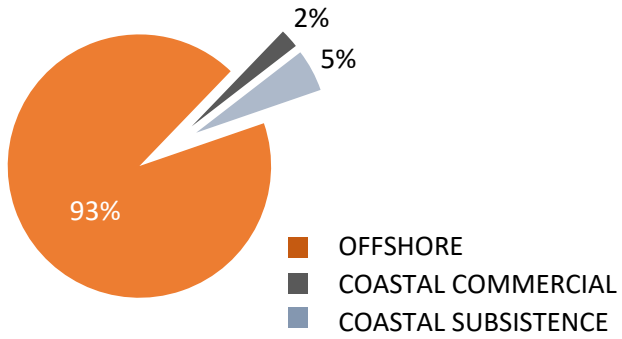
- FOOD SECURITY (*artisanal/subsistence fisheries*)
- ECONOMY *(commercial fishing, tourism, aquarium, handicrafts…)*
- CULTURAL, SOCIAL practises
- INNOVATION *(pharmacology, active molecules…)*

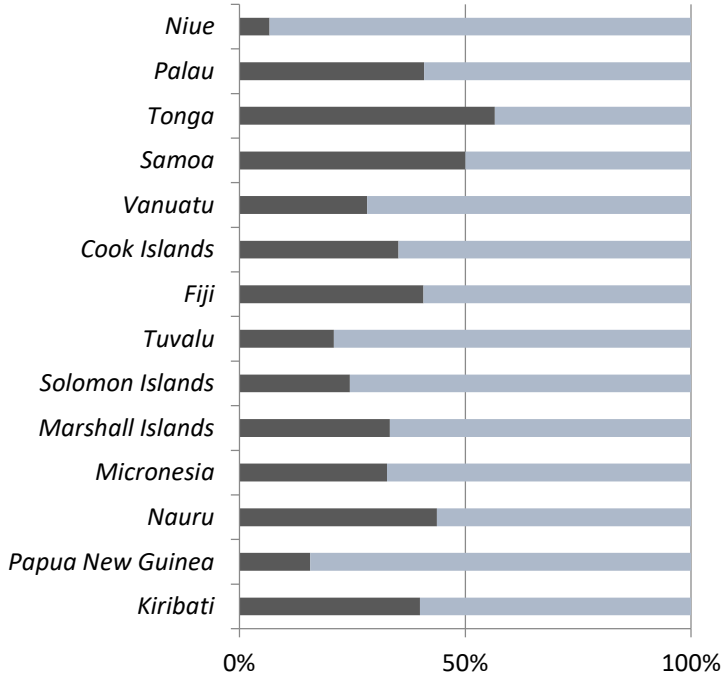





FISHERIES

In the Pacific





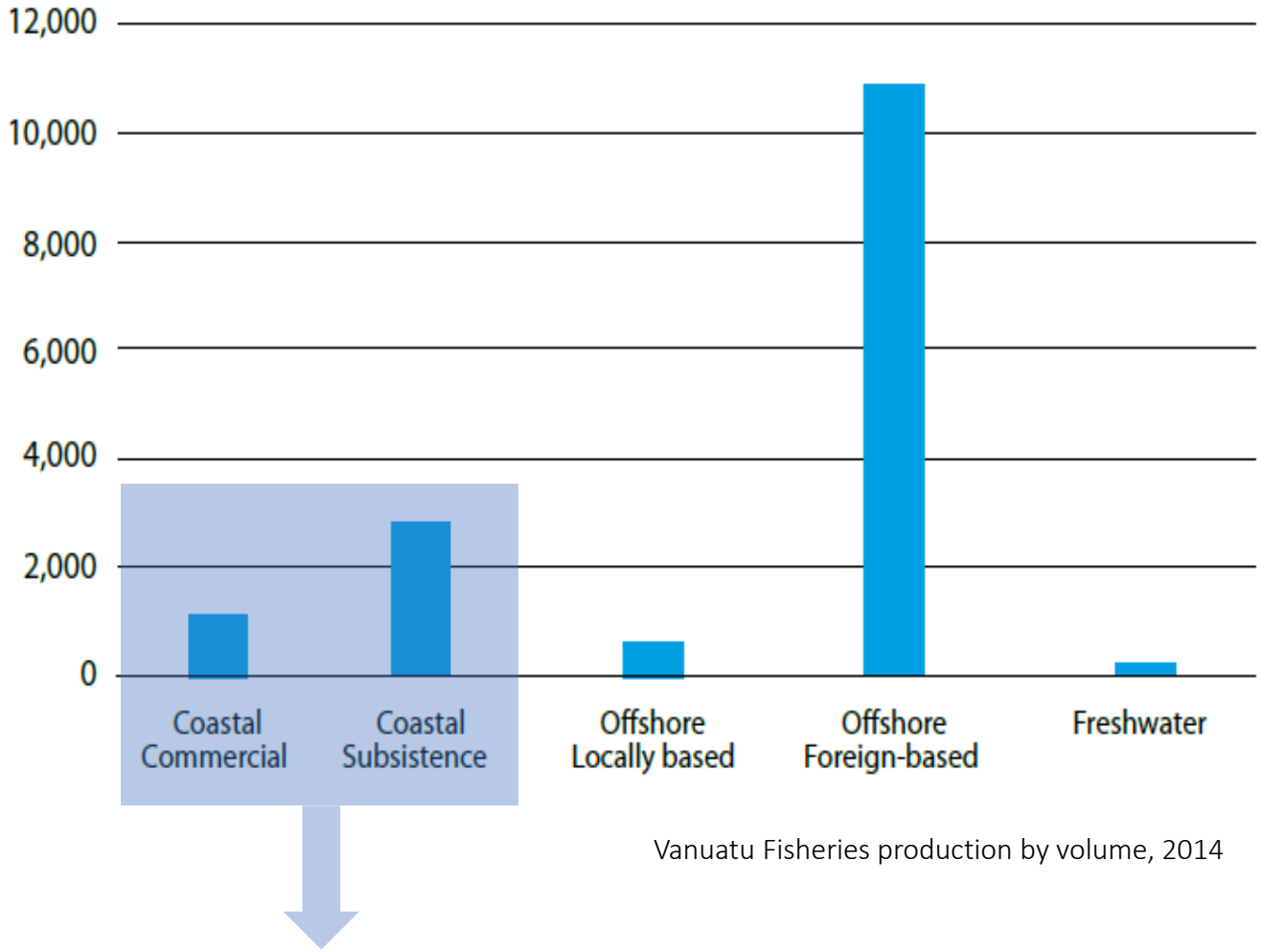
(FAO 2018)

" **A characteristic of Pacific island countries** is the large number of people who derive most of their basic needs from **non monetary subsistence production** "

(Preston 1997)

VANUATU

Coastal fisheries



Vanuatu Fisheries production by volume, 2014

~ 4 000 t/year

4 000 boats (3 500 canoe)

16 000 households

24 Millions VT/year

INVERTEBRATES

FISHING in the Pacific

- Small scale, multi-species
- Opportunistic, informal
- Difficult to quantify

- **Artisanal / Subsistence**

200-300 reef fish species
100-500 invertebrate species

- **Commercial**

About a hundred species (?)

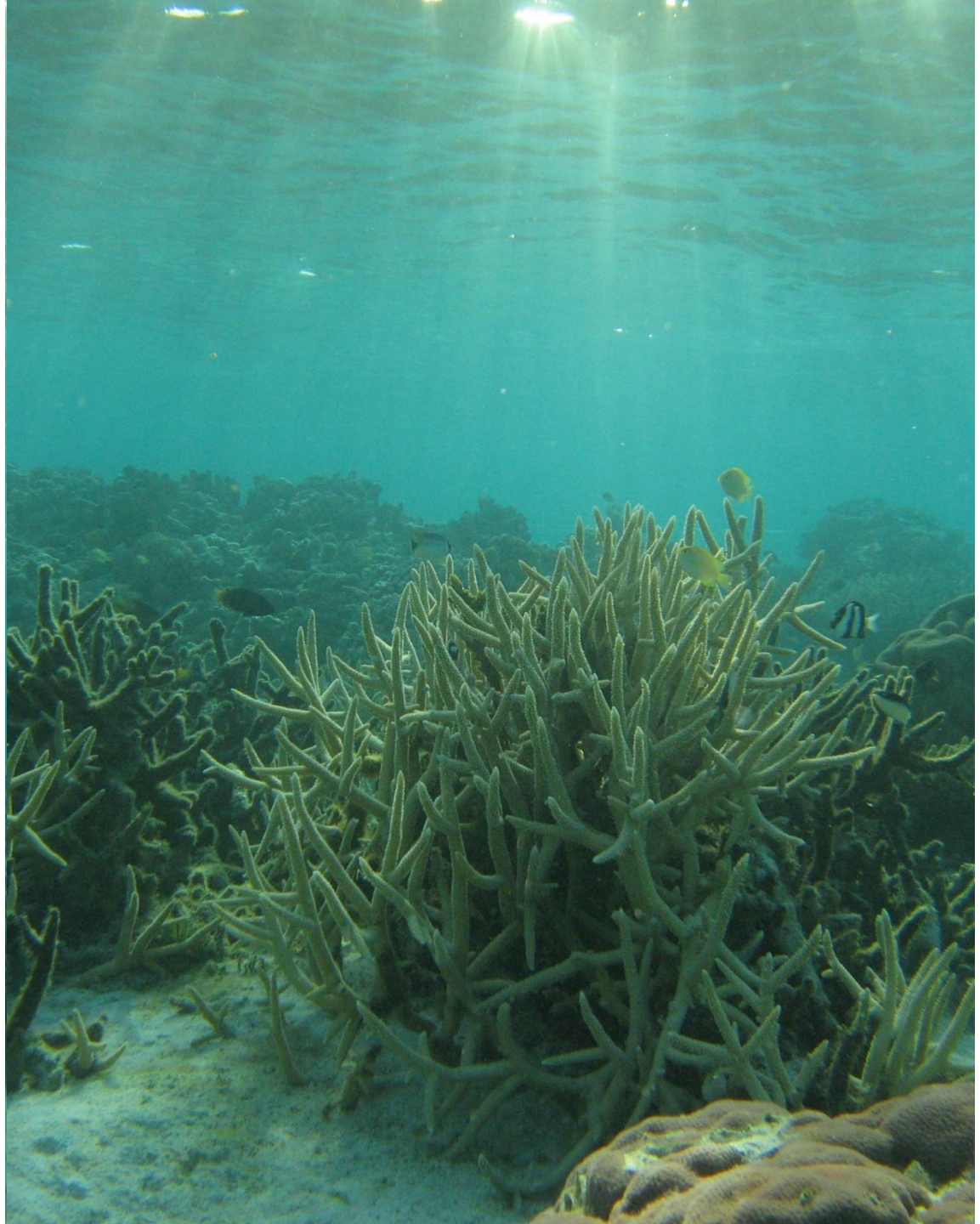
GROUP		RESOURCES
MOLLUSCS	GASTROPODS	Trochus, cones, strombus, spider conchs…
	BIVALVES	Giant clams, cardiums, oysters, mussels, clams…
	CEPHALOPODS	Octopus
CRUSTACEANS		Crabs, shrimps, lobsters, slipper lobsters, hermit crabs, coconut crabs…
ECHINODERMS		Urchins, sea cucumbers, sea anemones…
ANNELIDS		Palolo

BIODIVERSITY

New Caledonia

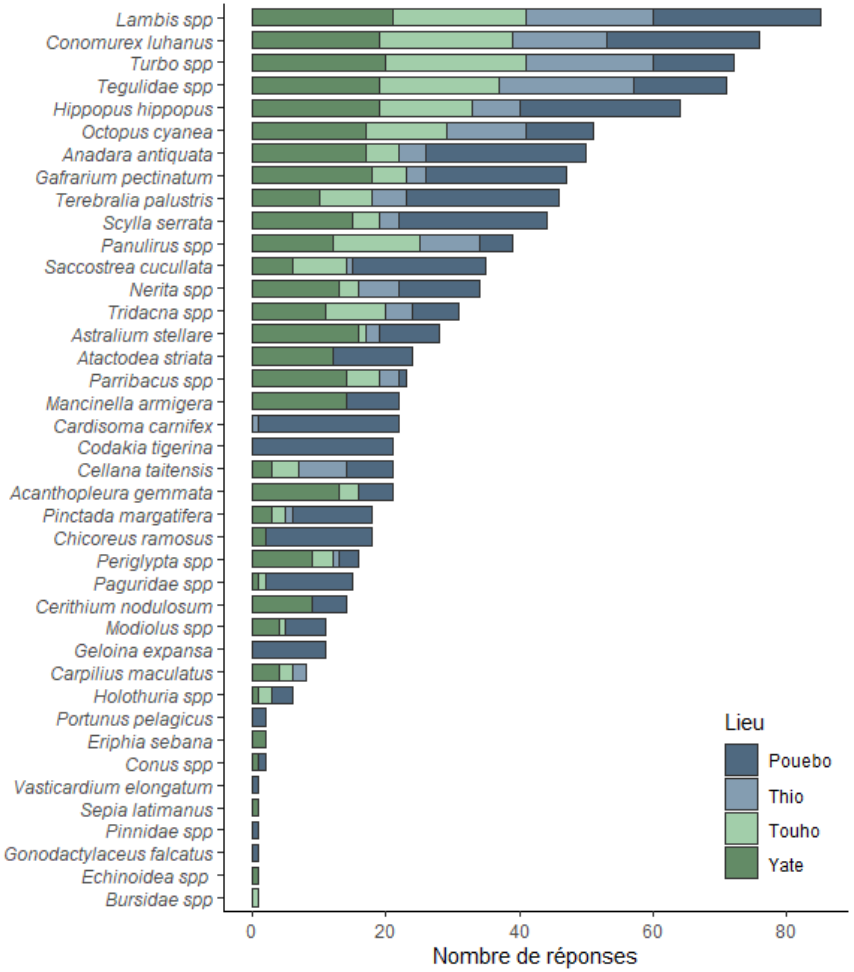
	Group	Nb. Species
	FISH	~2 000
	CORALS	~400
INVERTEBRATES > 9 000 species	CRUSTACEANS	> 1100 décapods
	MOLLUSCS	> 2 700
	ECHINODERMS	~250

➡ How much of this is « SUBSISTENCE BIODIVERSITY »?



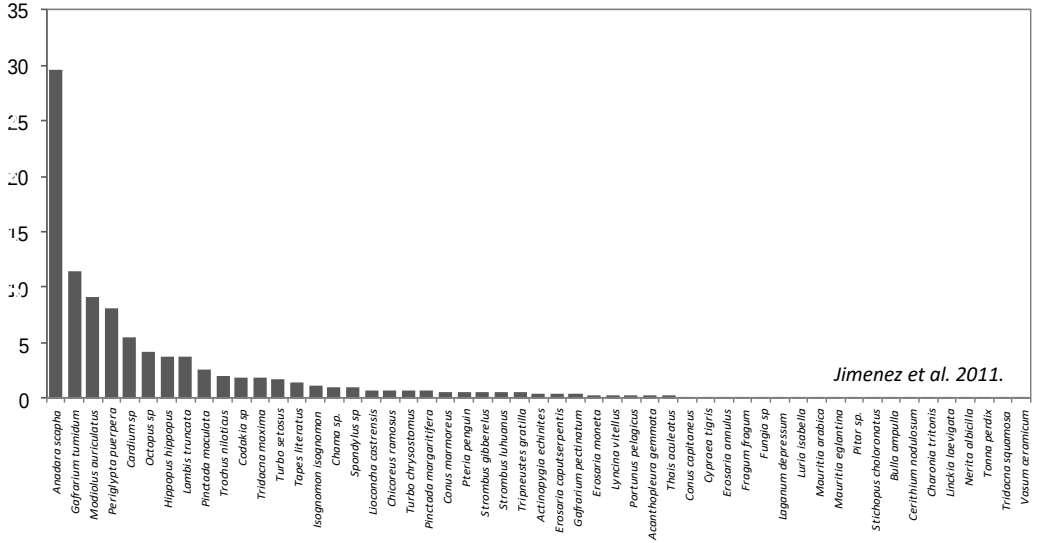
TARGET SPECIES

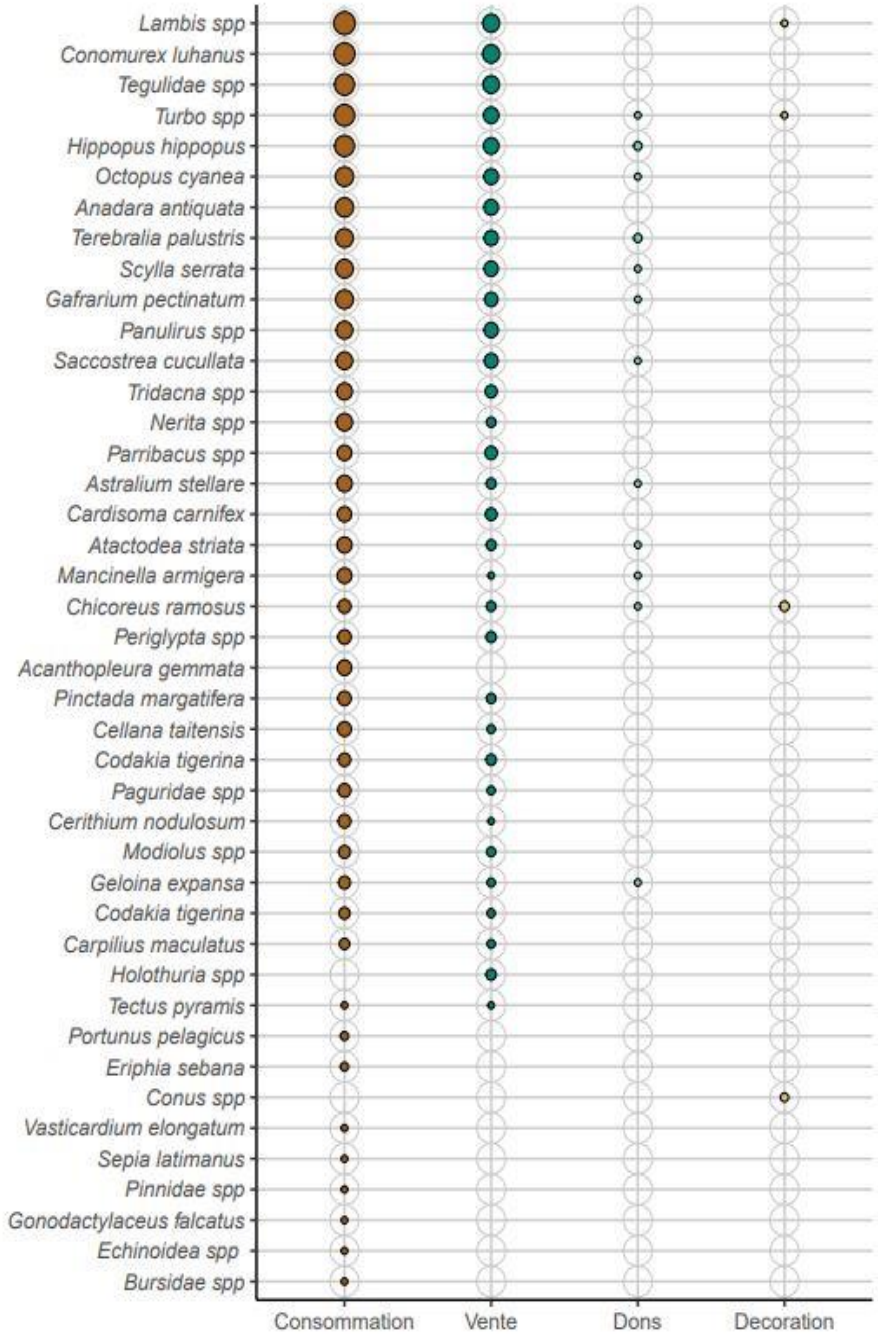
Eastern coast, New Caledonia



CATCH

Noumea, New Caledonia



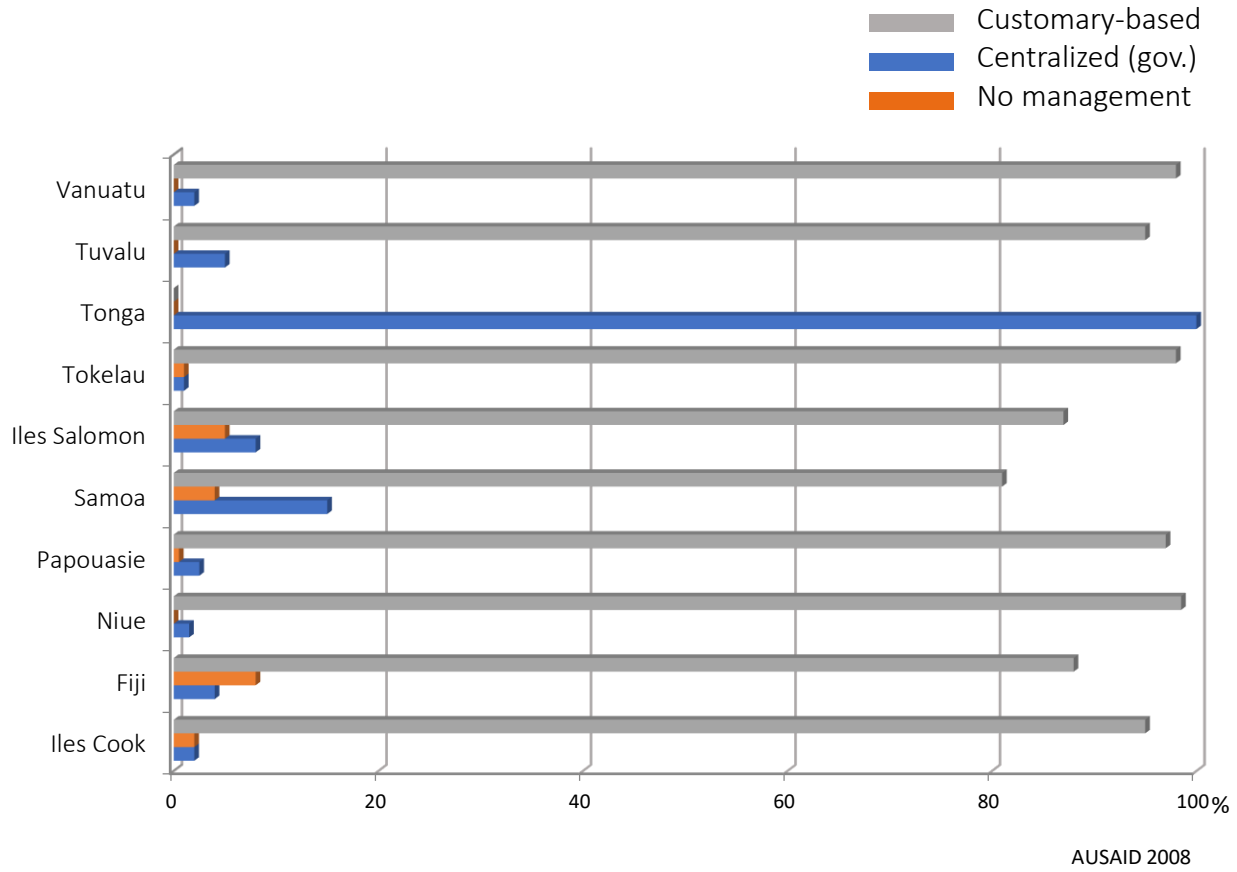


Uses

Eastern coast, New Caledonia

MANAGEMENT & CONSERVATION

of coastal resources



AUSAID 2008

BIOLOGY - ECOLOGY USES - MANAGEMENT

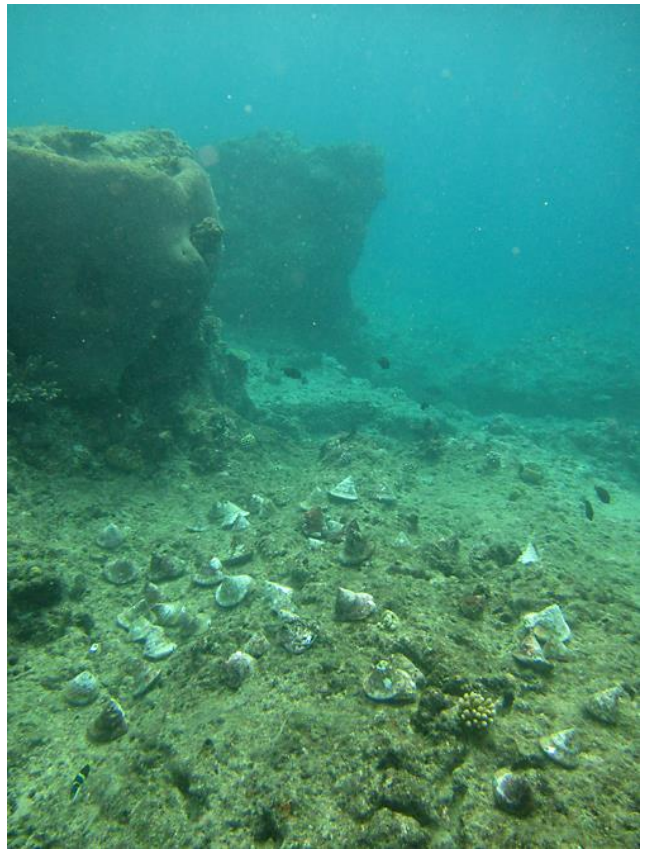
DO **SCALES** MATCH?

Movement and dispersion patterns

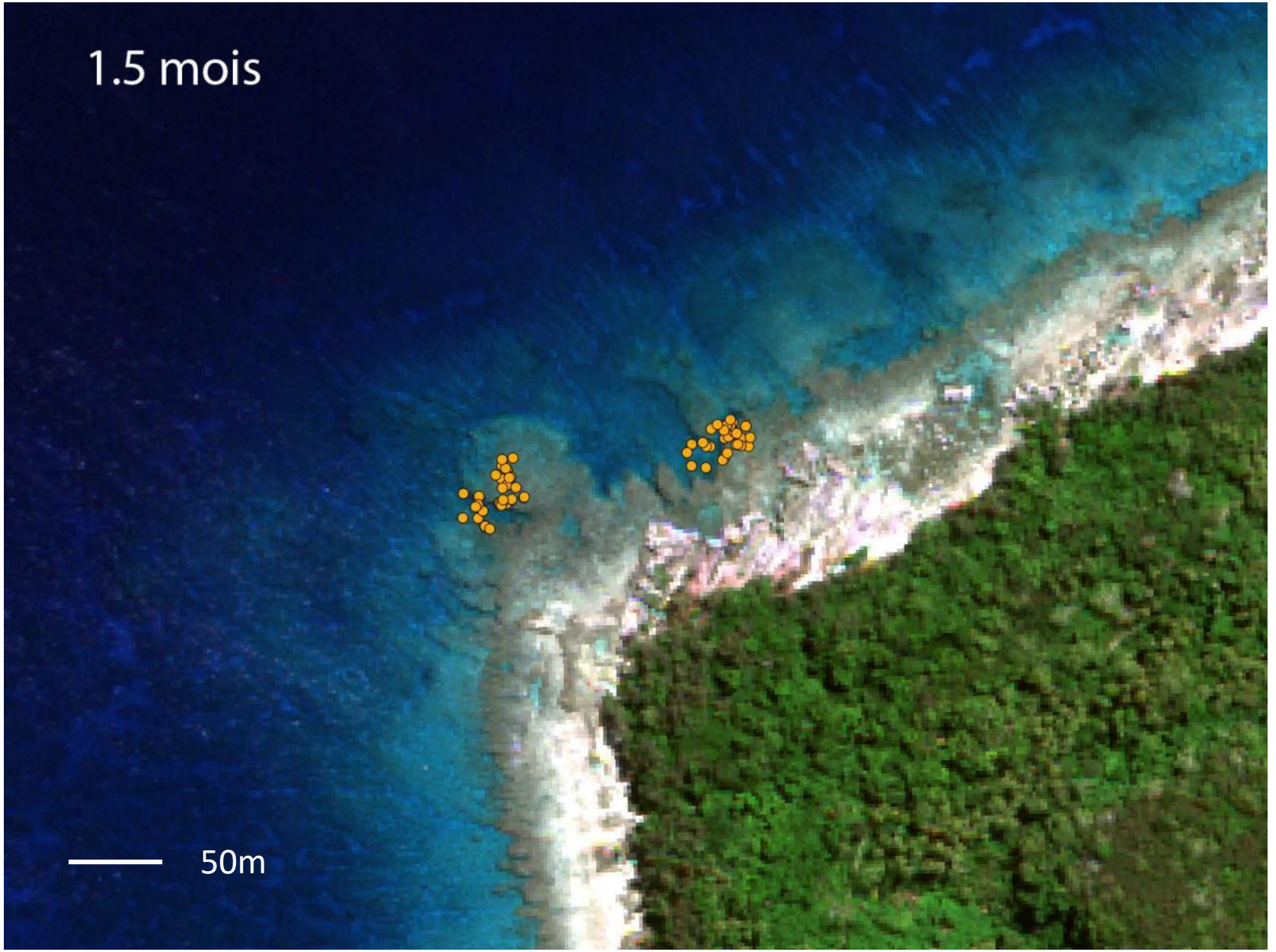
of adult Trochus (*Rochia nilotica*)

Tagging

Massive release



Geolocation of tagged individuals


1.5 mois
50m

- High recapture rates

9 months – 56%
15 months – 37%

- Limited dispersal

90% of tagged trochus were found within 30m from the initial release point

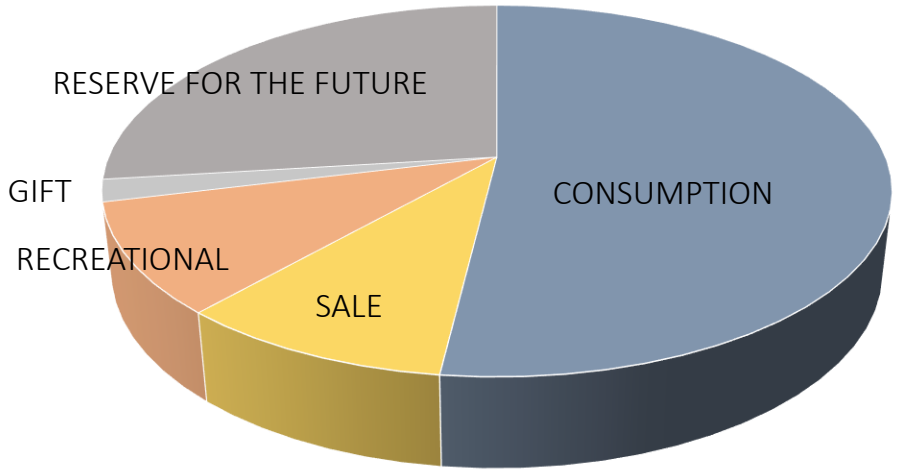
➡ SCALES *(ecology, management)* MATCH

Aggregation and spawning

of giant clams (*Hippopus*, *Tridacna* spp.)

Massive aggregation

- 6 500 clams (*H. hippopus*)
- Total biomass 11 t
- Mostly adults (broodstock)



Interviews - C. Portes 2010

MASSIVE SAMPLING

- 114 transects (100 m^2)
- 100 larval collectors deployed

SURVEY

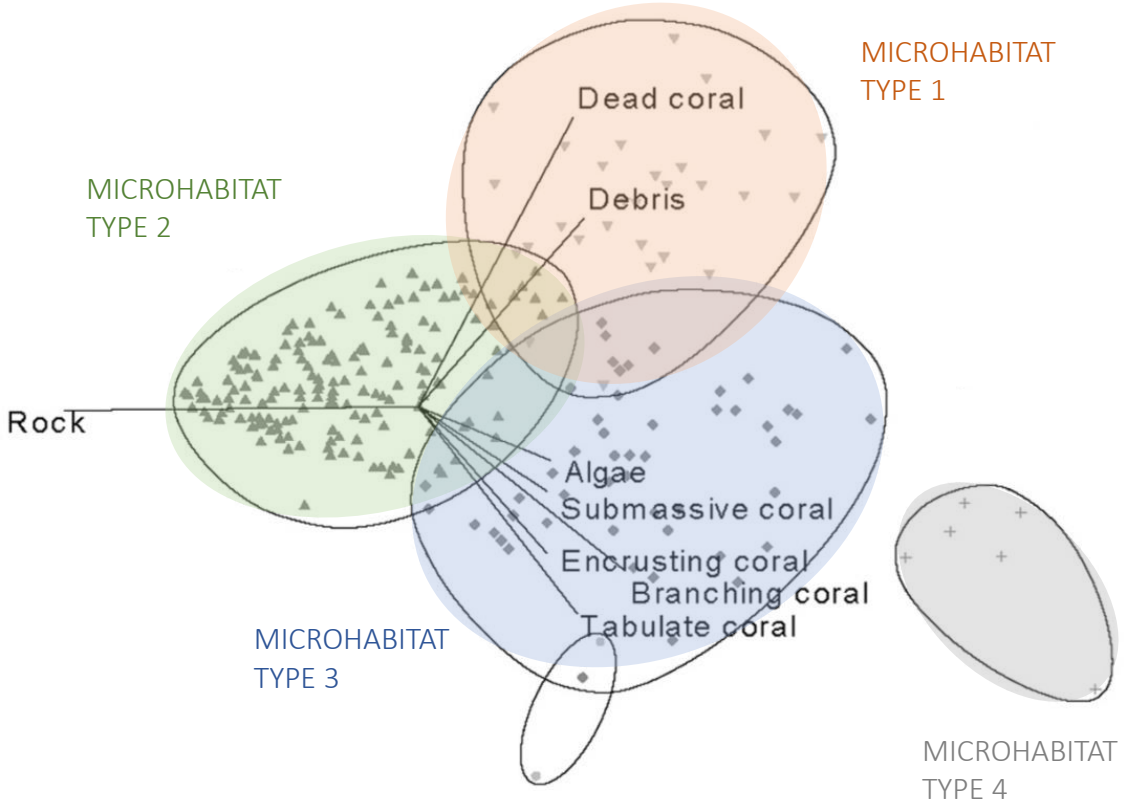
27 « alien » clams

No recruitment

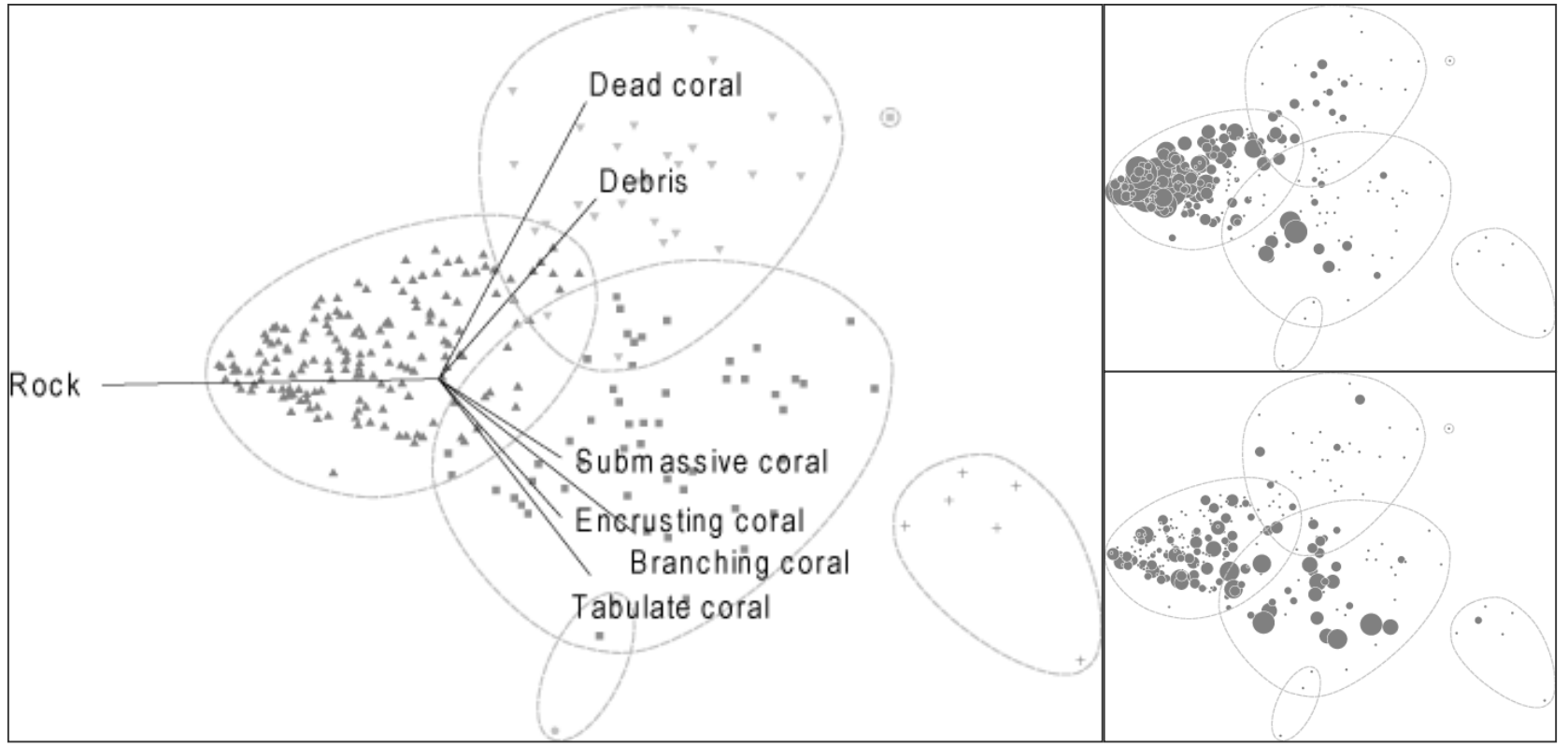
~~SCALES~~ *(biology, management)*

~~MATCH~~

Habitat typology and species distributions



Dumas et al. 2013 – Plos One



Dumas et al. 2013 – Plos One

USES - MANAGEMENT

BIOLOGY - ECOLOGY

WAY FORWARD:

Aligning management scales
with species
biology & ecology

USES - MANAGEMENT

BIOLOGY - ECOLOGY

1. Set realistic expectations
2. Put more science into local management practices
3. Explain / educate / build capacity

The place of fishing activities : links between conservation & social uses

Let’s debate!

Any question?

METHODOLOGICAL SYNCHRONISATION APPLIED TO FALAH RESEARCH FIELDS
(Complementarities and transversalities between WP2 and WP3)

28th - 30th march 2023

Université de la Nouvelle Calédonie

For a better use of digital tools in real life conditions

Jonas Brouillon (IAC), **Guillaume Wattelez** (UNC)

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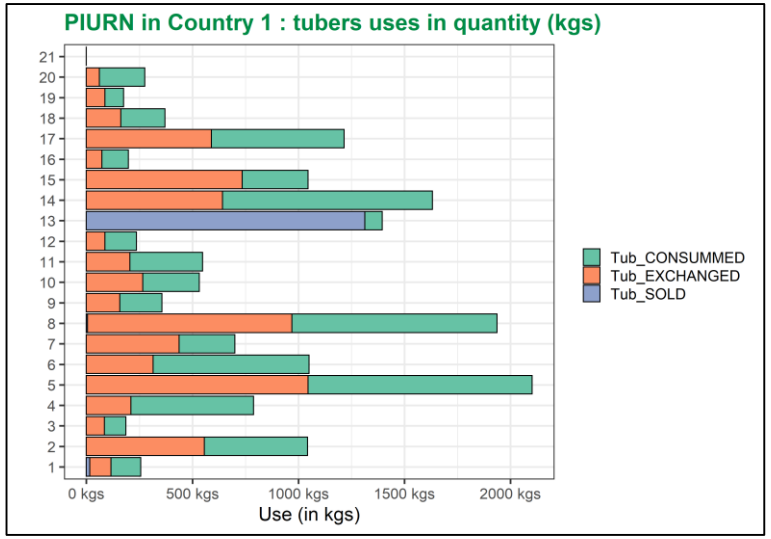
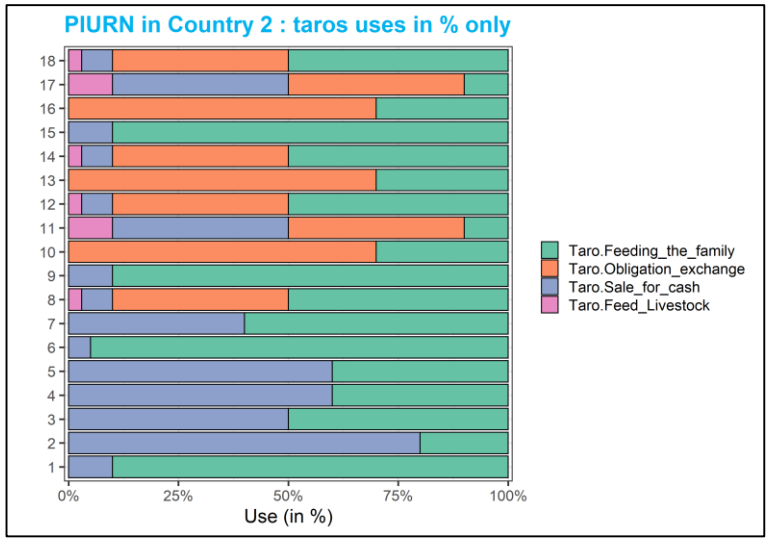
Better use of digital tools in real life conditions

Why?

- Main objective: Compare results between different countries

- Reminder: (Port-Vila October 2022)
  - Issues when methods are not shared or not well-suited
    - Questions do not provide the same information
    - Units may be different: is it comparable?
    - Errors in data entry
  - Data are not able to provide strong evidences for conclusions
  - Quality of research is impacted





Better use of digital tools in real life conditions

How?

- Same methodology
  - Shared questionnaires
  - Shared tools
- Standardized databases

- March, 13th – 16th: training for using digital tools to collect survey data

REDCap
Research Electronic Data Capture

Mainly used in the WP but agriculture WP needs specific features not implemented in RedCap

WORLD BANK GROUP
Survey Solutions
Designer

Not available on iOS

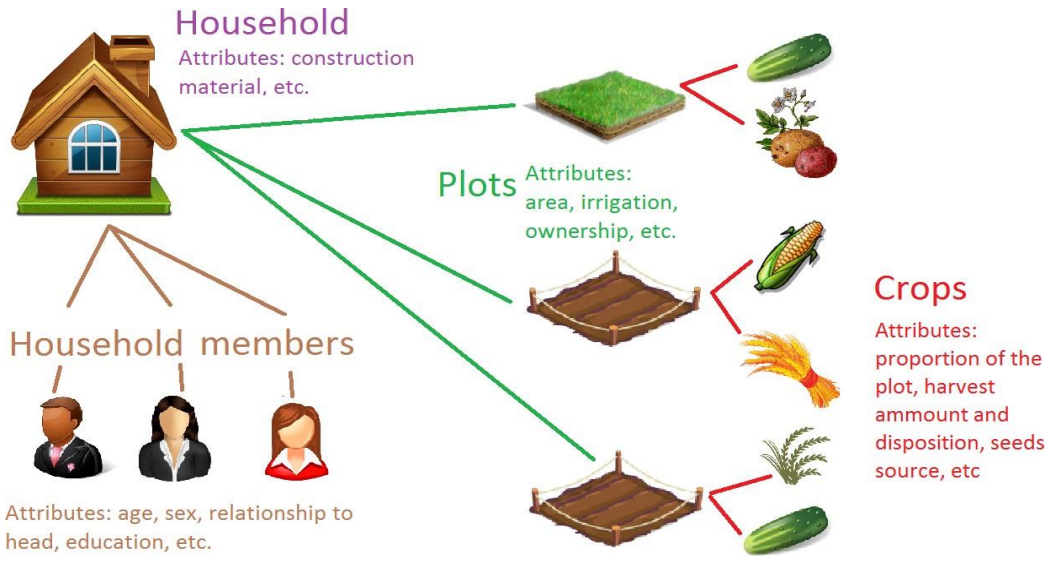
- Surveys are designed and stored on a web server
- Surveys are conducted through
  - Web links (online)
  - Tablets (online or offline)

Better use of digital tools in real life conditions

How?

Why 2 different software ?

- Survey Solution is useful to construct relational databases for surveys which concern different kind of groups : household, plots, crops…
- The “rosters” in Survey Solution allow replication of questions and logic for different units linked each other.
- Redcap is less convenient for this type of complex surveys so My Survey Solution will be used for the agricultural survey.



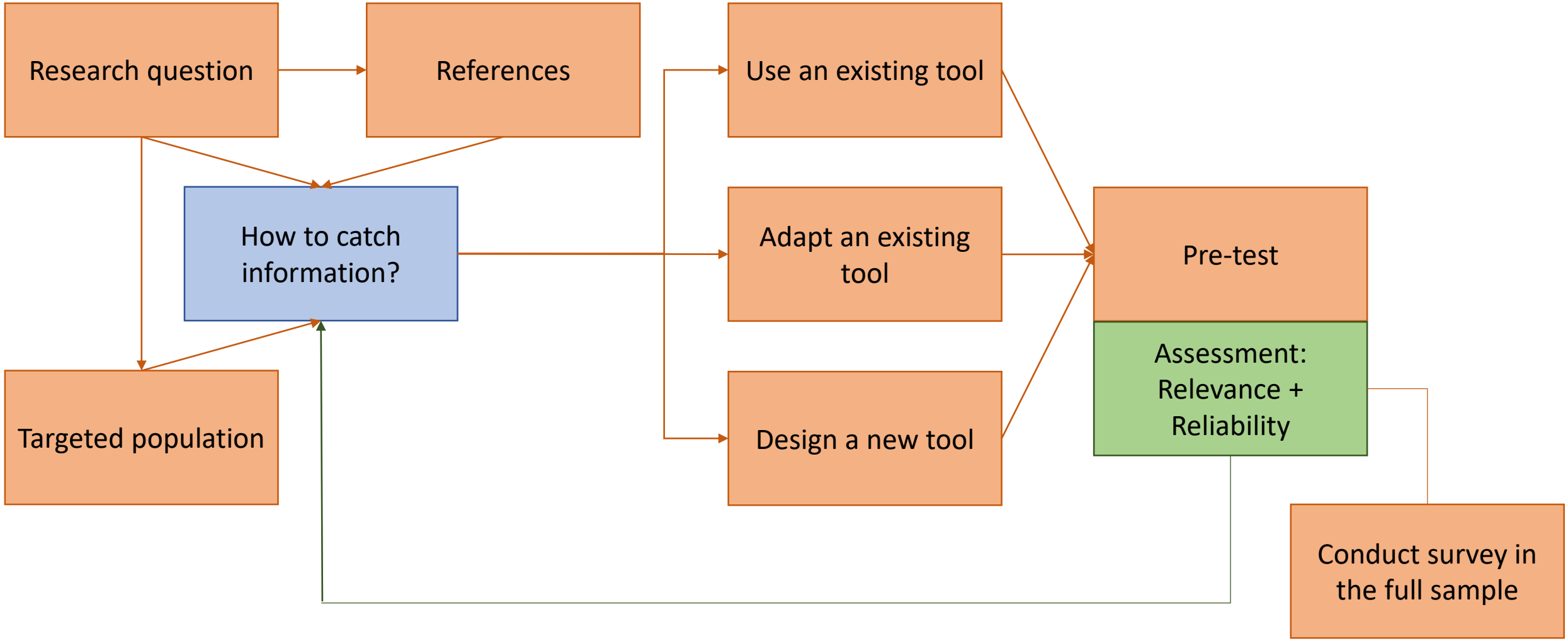
Better use of digital tools in real life conditions

What about the training?

- Knowing how to use digital tools to design surveys is not enough
  - Awareness of the process enabling to build a relevant survey
  - Important to previously
    - Have clear research questions
    - Think about instruments / questionnaires able to catch the desired information
    - Who is targeted?
  - Assess relevance
- When designing a questionnaire
  - Type of wording
  - Types of questions (open-ended and closed-ended)
  - Pre-test
  - “Production” when all is OK

Better use of digital tools in real life conditions

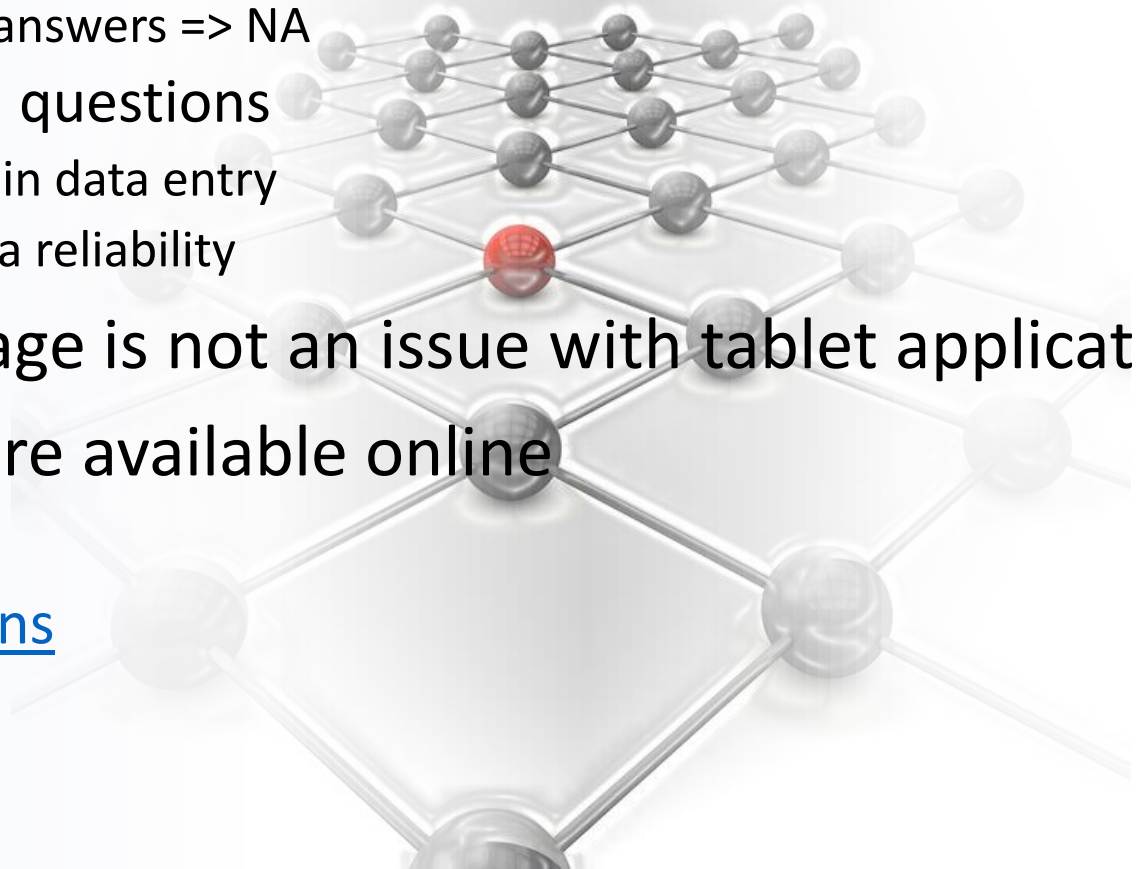
What about the training?



Better use of digital tools in real life conditions

What about the training?

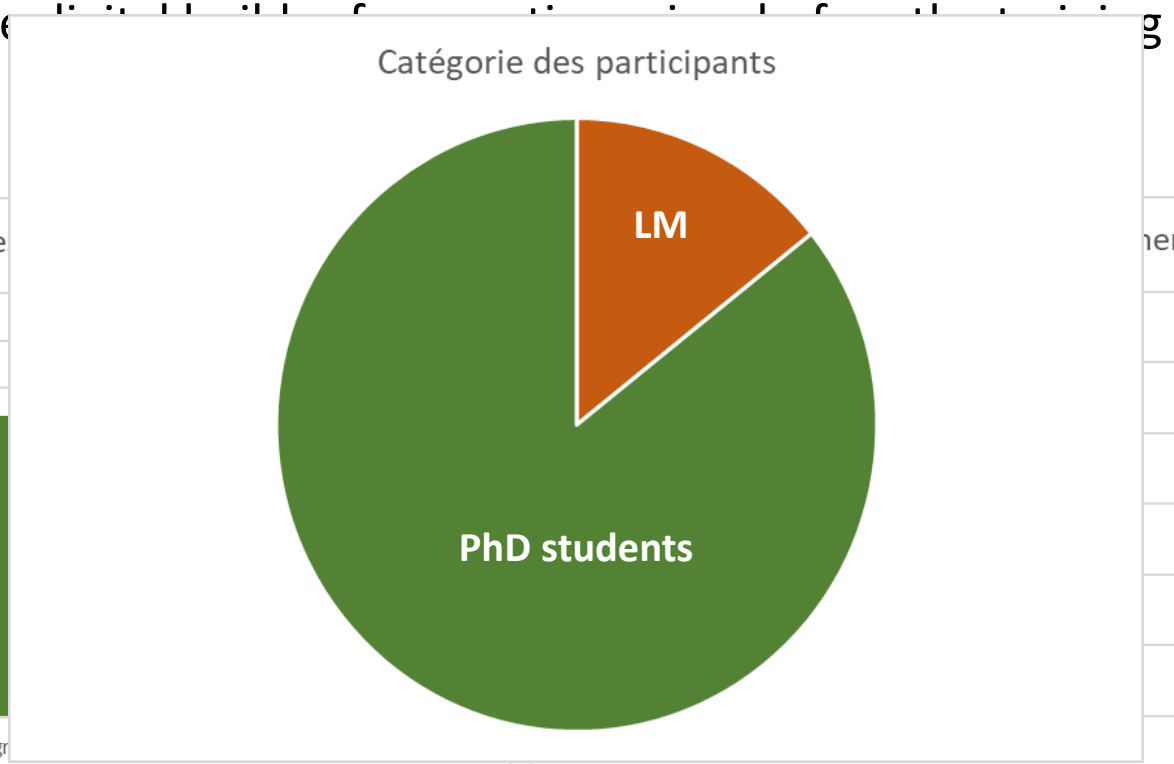
- Features of digital tools enable getting more reliable data
  - Constraints for completeness
    - Avoid blank answers => NA
  - Constraints on questions
    - Avoid errors in data entry
    - Promote data reliability
- Network coverage is not an issue with tablet applications
- Presentations are available online
  - RedCap
  - Survey solutions

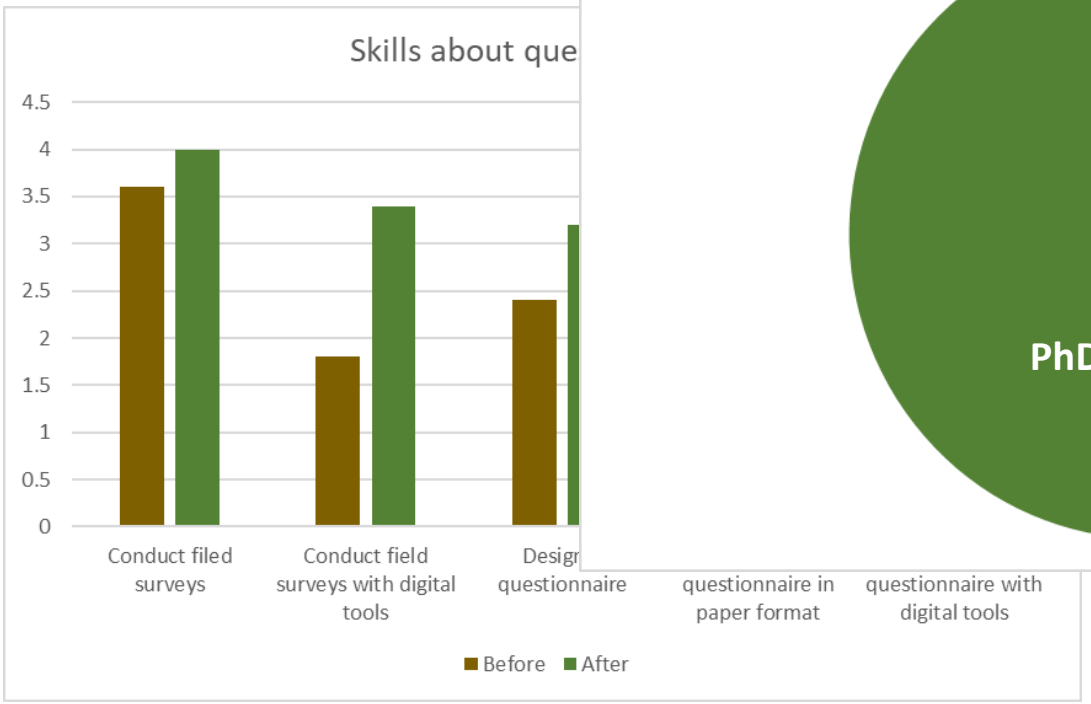


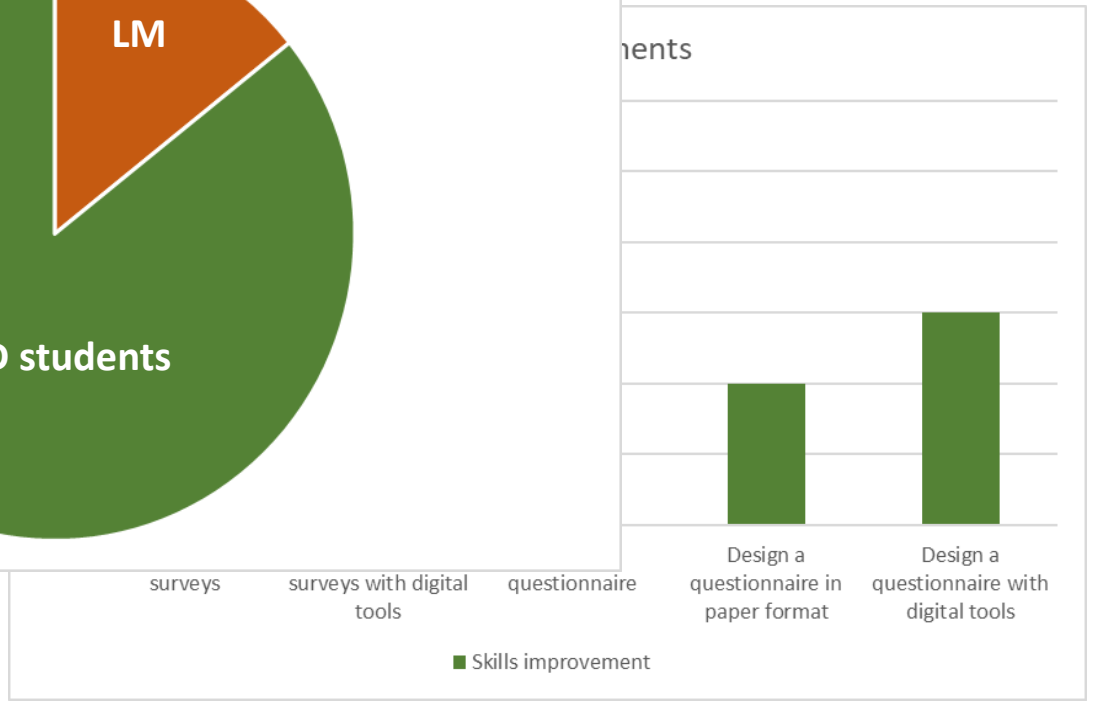
Better use of digital tools in real life conditions

Feedback about the training

- 60% knew at least one
  - Google form
  - Kobo toolbox



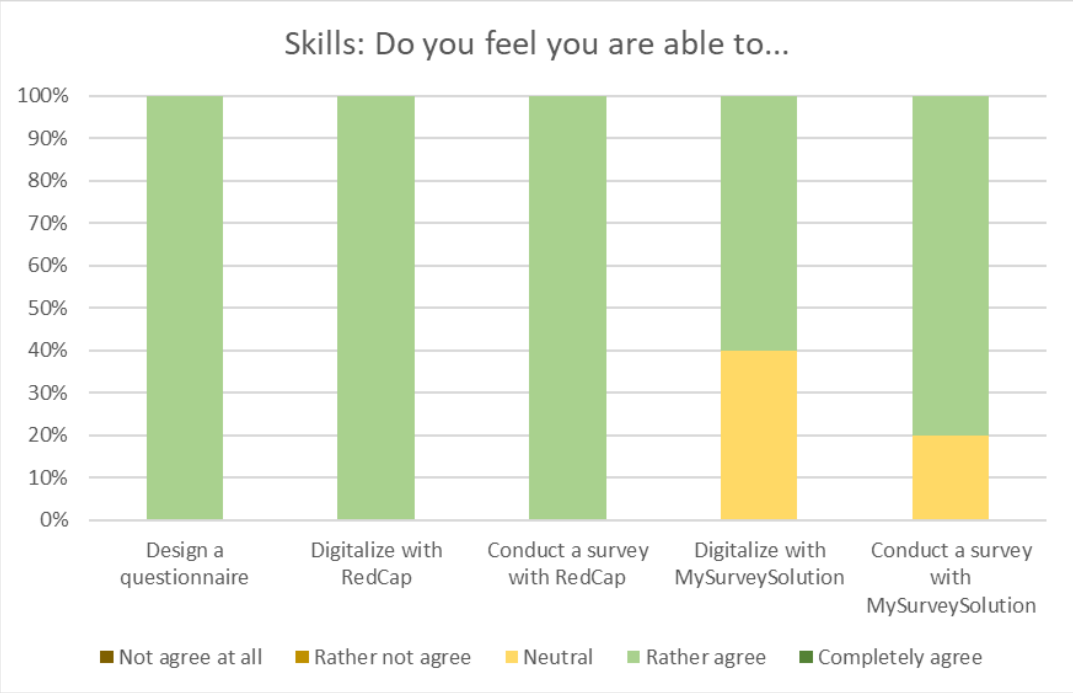


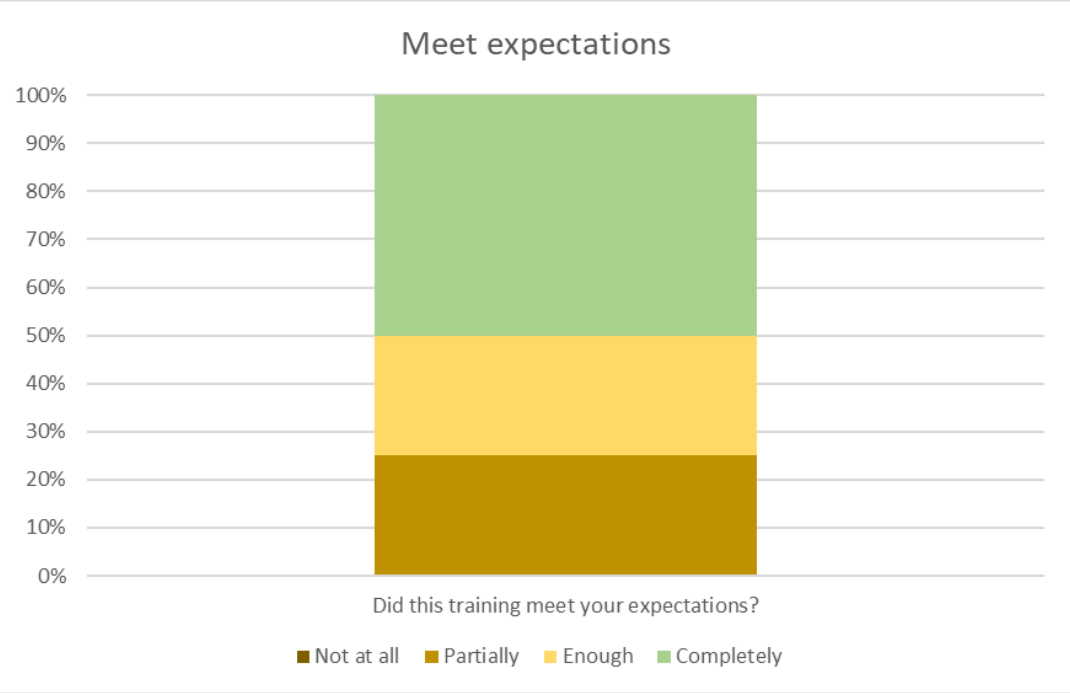


- Great improvement for “Conduct field survey with digital tools”

Better use of digital tools in real life conditions

Feedback about the training

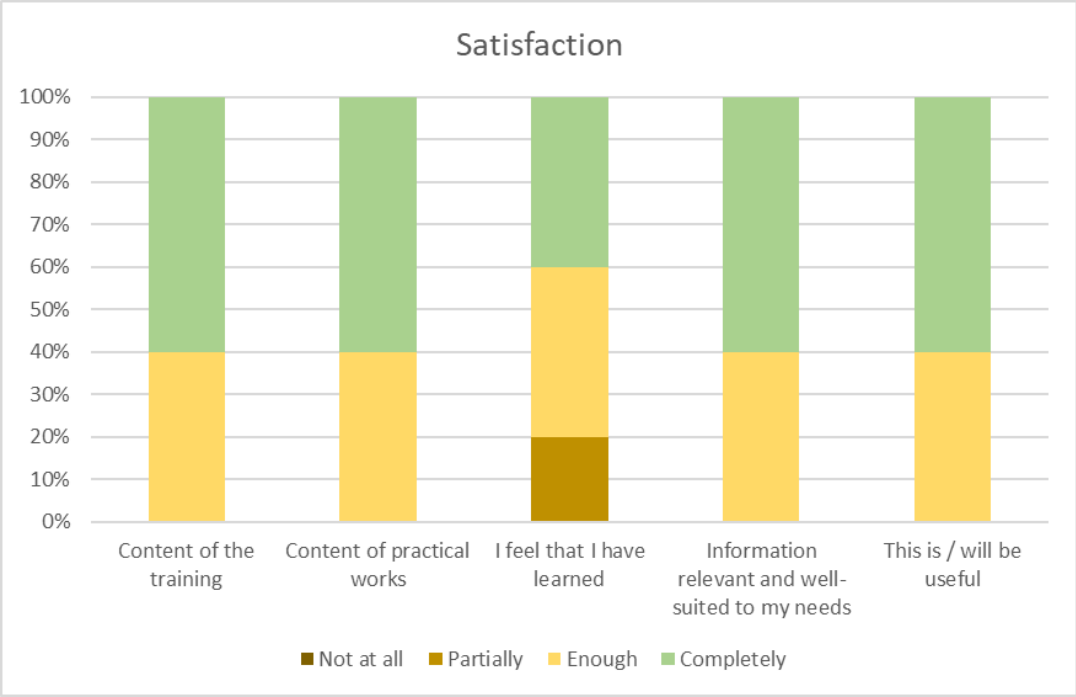


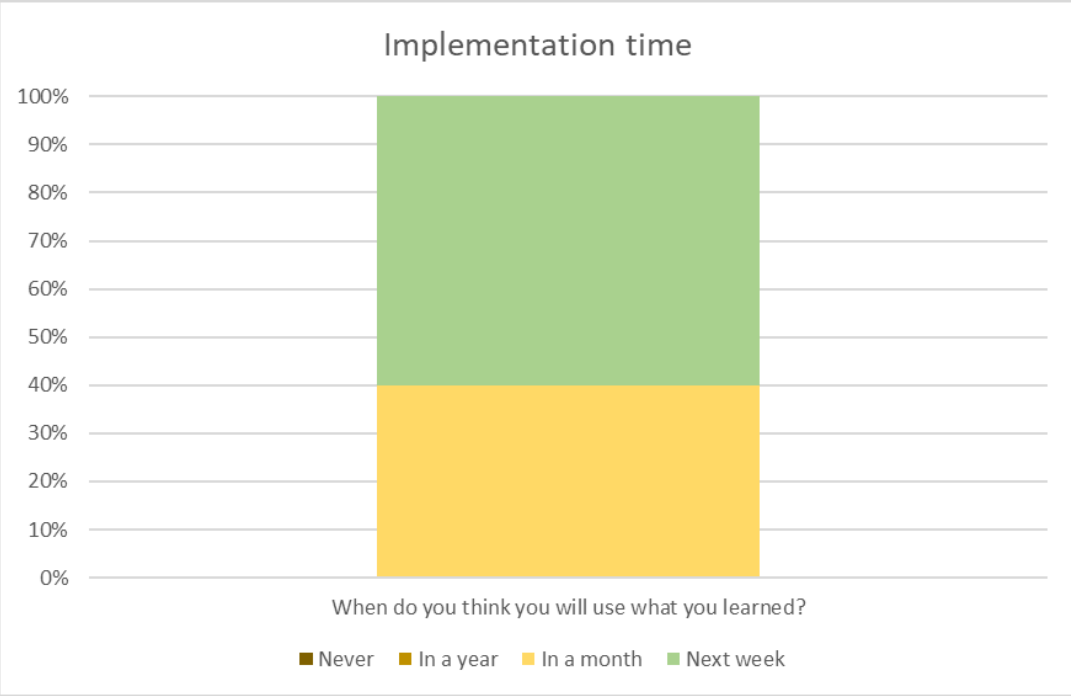


- Participants will be able to use these digital tools but they need exercise to be more comfortable
- 80% had expectations about this training
  - Amongst them: 75% found the training met their expectations enough or completely

Better use of digital tools in real life conditions

Feedback about the training



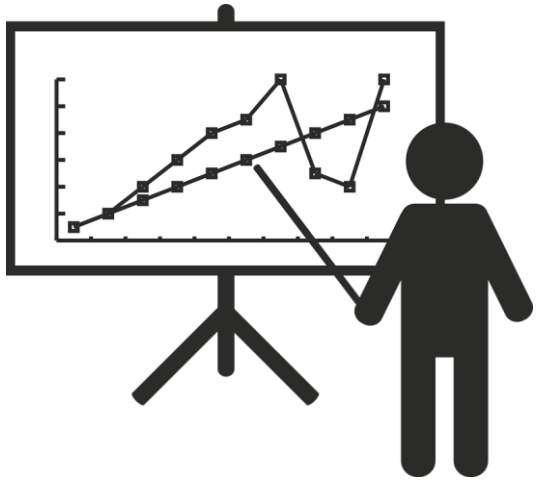


- Participants are globally satisfied and feel that it is / will be useful in their future works
- They feel that they will use these skills in a short time after the training (in a month or less)

Better use of digital tools in real life conditions

Feedback about the training: suggestions

- More time for training
- Using questionnaires designed for research projects
- Design and digitalize their own questionnaires
- Training about statistical analyses and dedicated software



Better use of digital tools in real life conditions

What have been done after?

- Tools used in RedCap (Health)
  - General and socio-demographic information (children 1 and 2 and parents)
  - FFQ (children 1 and parents)
  - Barriers and facilitators of PA (children 1)
  - Sleep (children 1 and parents?)
  - Multigroup ethnic identity measure (children 2 and parents)
  - Use of digital tools (children 2)
  - Well-being index (children 2 and parents)
  - Health and weight perception (children 2 and parents)
  - Body image (children 2 and parents)
  - Perception on biological sampling (children 2 and parents)
- Tools used in Survey solution (Agriculture)
  - Agriculture survey
- App iRecall 24 Pacific (Health)
  - 24 intake
- Tools used in *** (Market)
- Anything else?

Plan to publish protocols and tools (in discussion with actors)

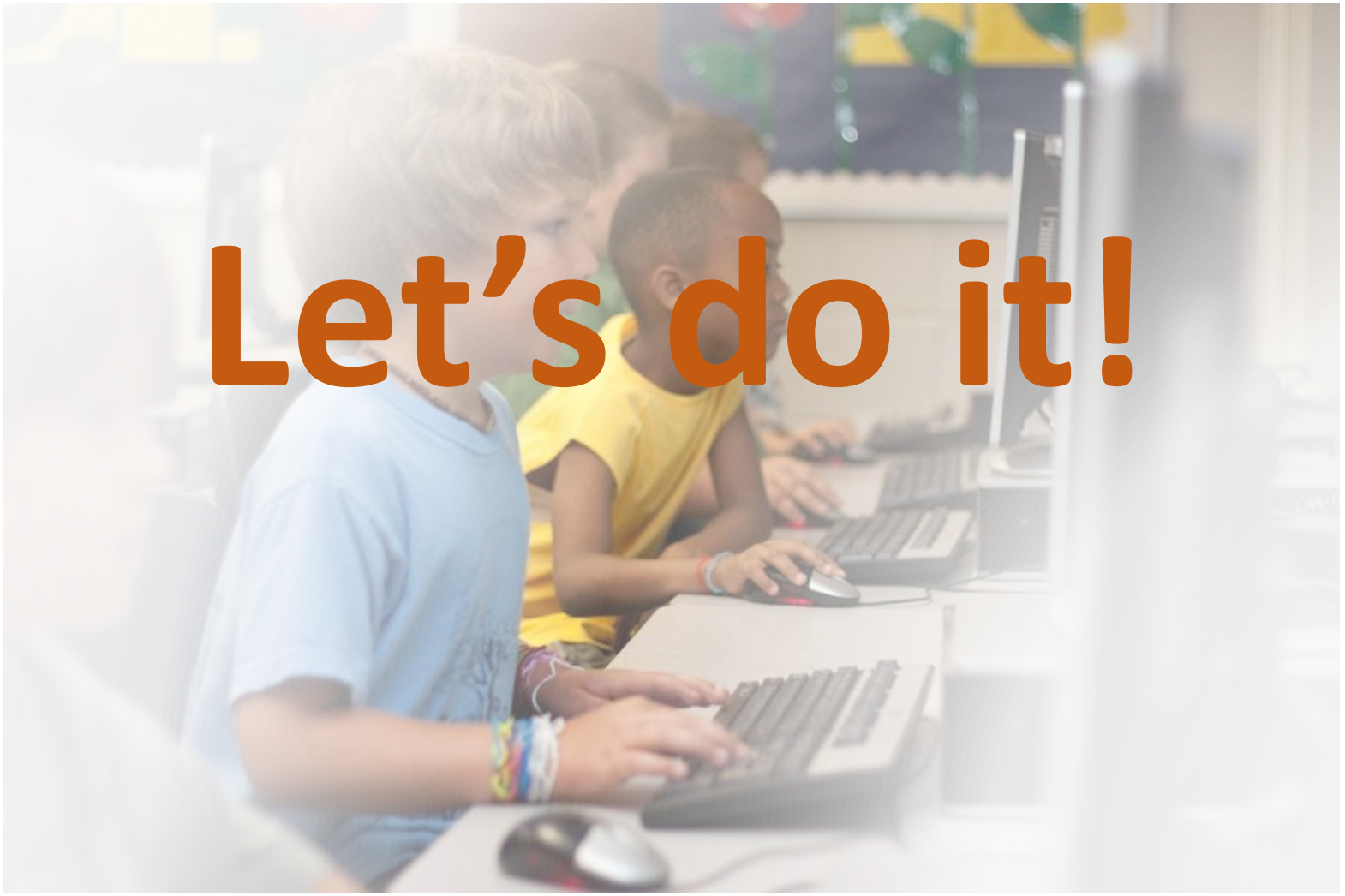
Better use of digital tools in real life conditions

What have been done after?

- Digitization of tools in RedCap and Survey solution
  - Example: Body image
  - Example: Agriculture

Better use of digital tools in real life conditions

What will be done now?



METHODOLOGICAL SYNCHRONISATION APPLIED TO FALAH RESEARCH FIELDS
(Complementarities and transversalities between WP2 and WP3)
28th - 30th march 2023
Université de la Nouvelle Calédonie
Session 3 : Tools and Transversalities 1 (29th march 2023)

CONTRIBUTION OF SATELLITE IMAGES AND SPATIALIZED DATA

Pr JM. FOTSING (UNC), **Dr M. DESPINOY** (IRD ESPACE-Dev)
Dr P. DUMAS (UNC / IRD ESPACE-Dev), **M. T. GAILLARD** (ECOSOPHY)

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 873185

Plan and objectives

- **Satellite evolution : state of art**
- **From images to land** (landscapes)

  (Throught case studies)

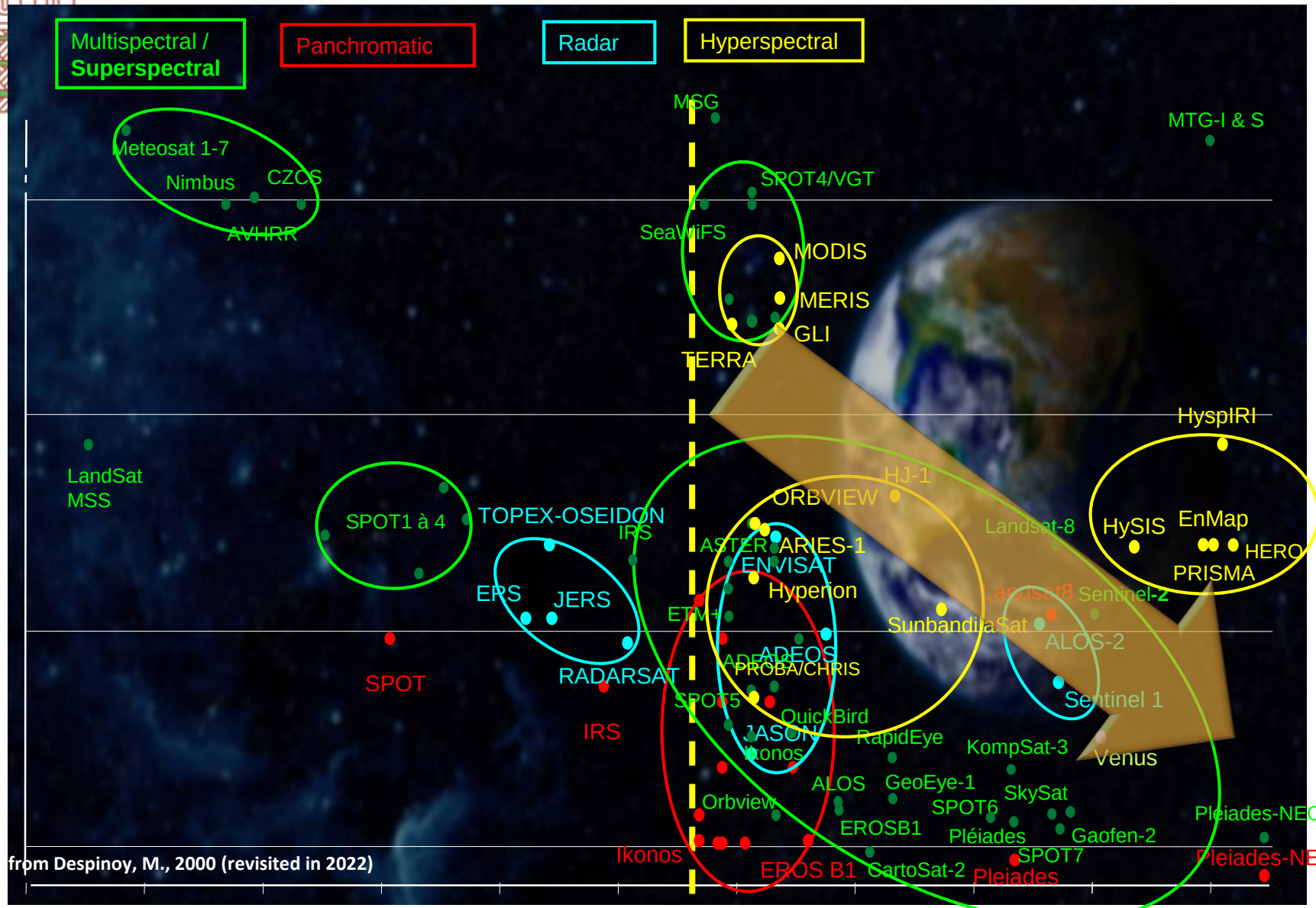
  - Broader/Global scale
  - Medium/Regional scale
  - Finer/Local scale

Objectives

- **Use of spatialized data for cartography the farming areas end dynamics (downscaling : urban and peri-urban aerea)**

=> Try to link these areas and places of FF with other components like food, population, health…. data collection (for what….)

Satellites evolution (1972-2022)



In the last two decades :

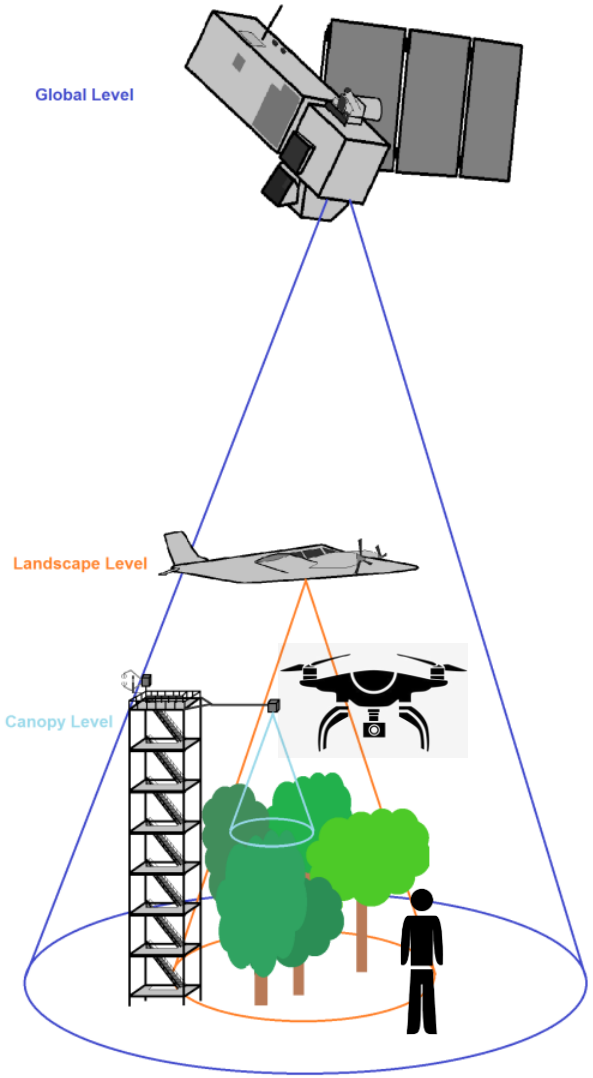
- More Hyperspectral data (hundreds of wavelength)
- More superspectral data (dozen of wavelength)
- More multispectral data (Very High Spatial résolution images: WorldView, Pléiades, Pléiades NEO...)
- More temporal data (High spatial resolution ; 6 days revisit: Sentinel) : time series

The use of satellite imagery series (SPOT, Quickbird, Ikonos, Pléiades...) over Sub-urban cultivated areas to analyze the dynamics (migration of people, politics…)

Satellites evolution

Different scales of observation : different informations

=> Spatial scale (3 levels)



Broader scale (From world to country)

Medium scale (From City to allotment gardens)

Finer scale (From parcel to Plant)

From images to Land

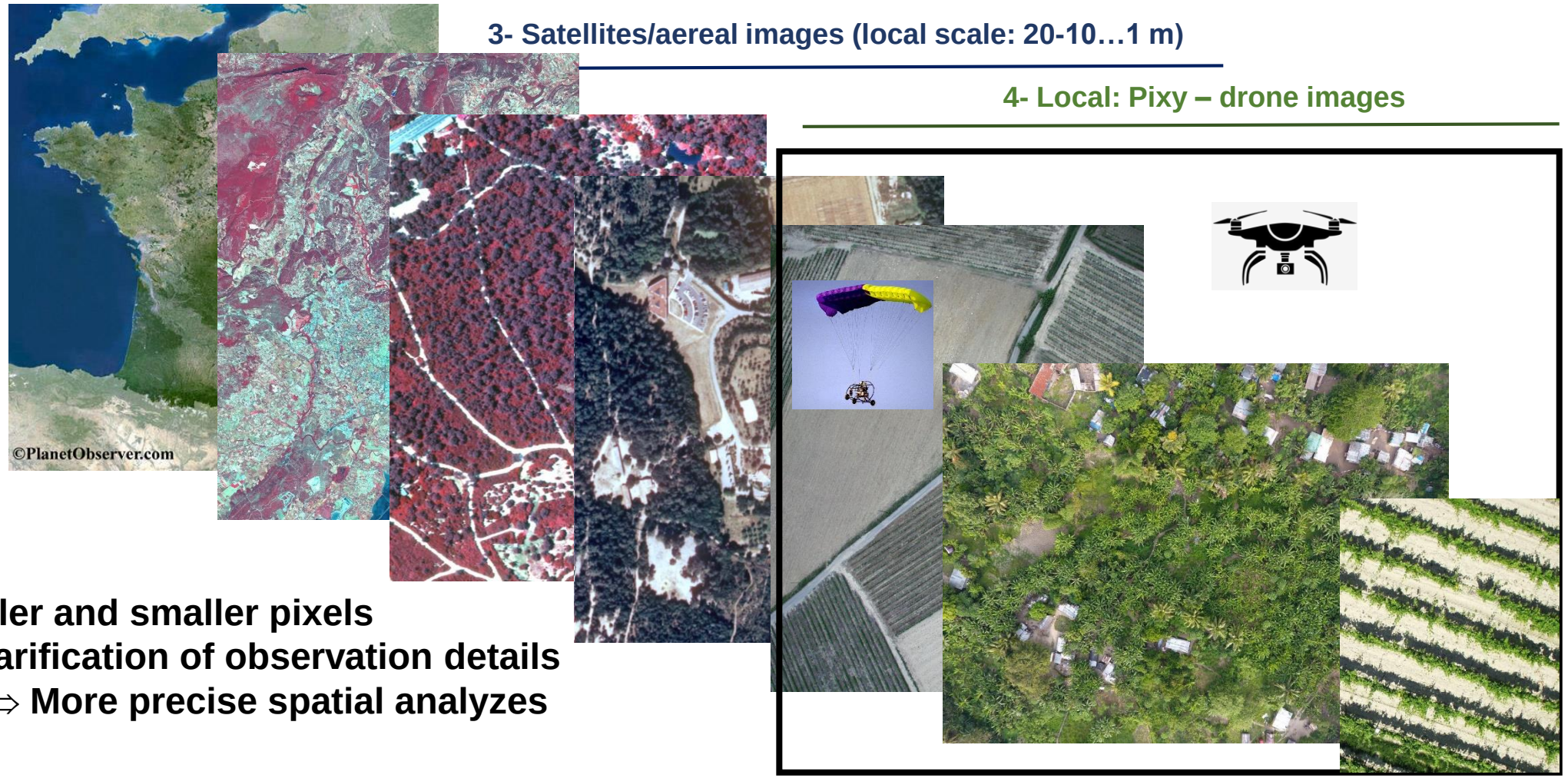
Observation levels and spatial configurations

1- Satellites images (Global scale : 1000 m)

2- Satellites images (medium scale: 30-80 m m)

3- Satellites/aereal images (local scale: 20-10…1 m)

4- Local: Pixy – drone images



Smaller and smaller pixels

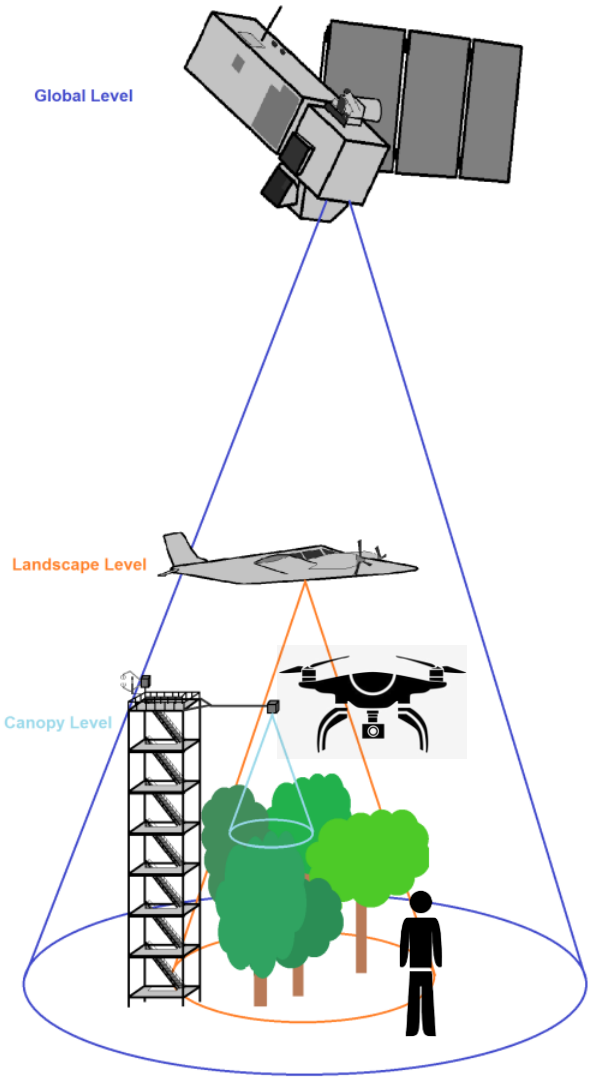
⇒ Clarification of observation details

⇒ More precise spatial analyzes

From images to Land

Different scales of observation : different informations

=> Geographic scales (3 levels + 1)



Broader **/ Global scale-Level 1** (From world to country)

- Global changes (Large-scale transformations)

Medium **/ Regional scale-Level 2** (From City to allotment gardens…)

- Land cover / Land use
- Thematic approches… (Landscapes)

Finer / **Local scale-Level 3** (From **parcel** to Plants)

-Rura/Urban areas: Plots, houses, roads, buildings...

Sites/station**-Level 4**: Ground observations (details….Field)

=> Case studies: urban and peri-urban spaces

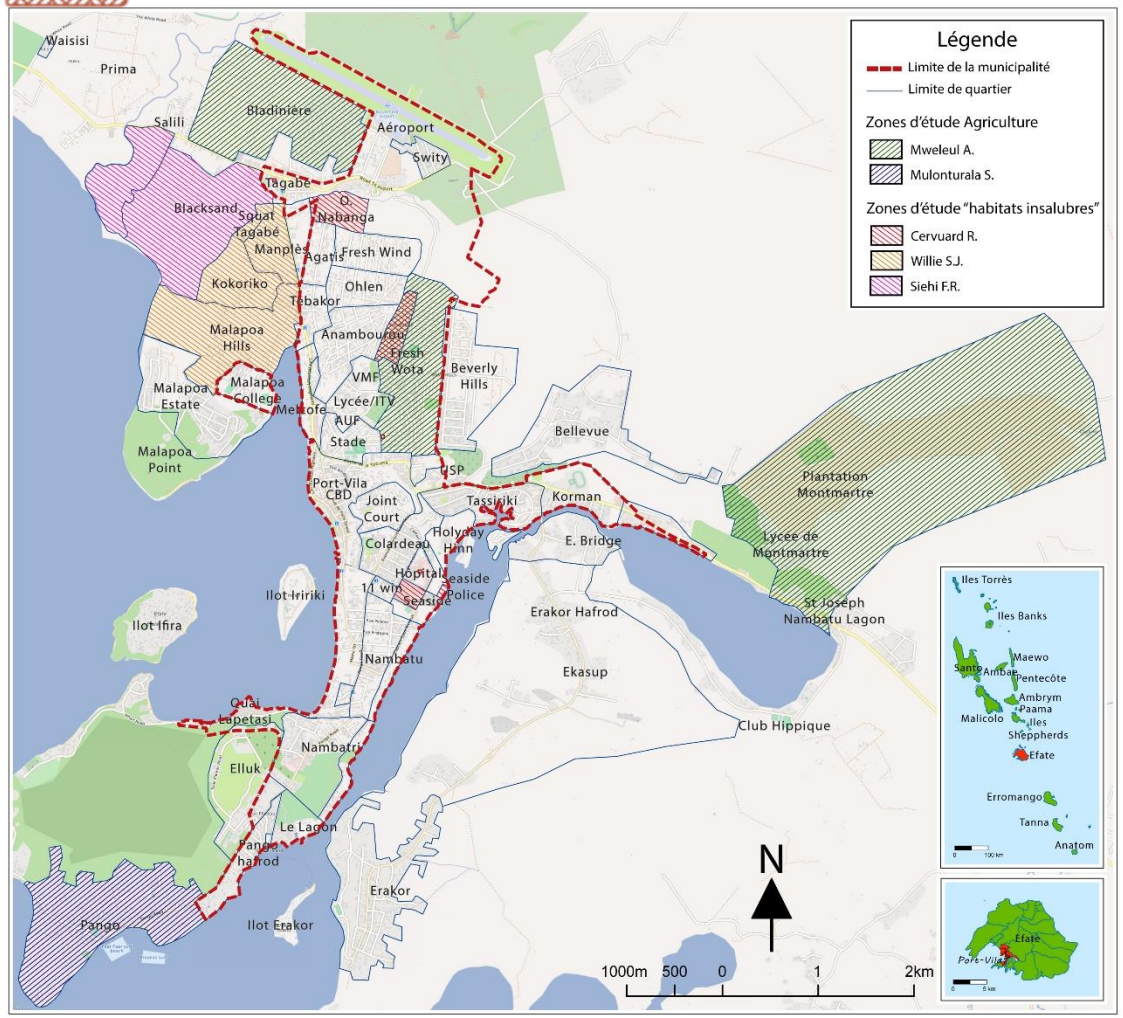
Regional and Local scale

Port-Vila: Urban Neibourghoods and informal setlements (environments and urbanization)

Examples of the use of satellite imagery SENTINEL/LandSat... (Land Use – Land Cover)

Ground Survey and details observations

Regional and Local scale



Types of urban land uses :

(Size and density of cabins + veget.)

1- Very low density of cabins (0-5 %)

2- Low density of cabins (5-30 %)

3- Medium density of cabins (30-50%)

4- High density of cabins (50-80%)

5- Very high density of cabins(+80%)

=> Next step: Secondary markets and peri-urban limits

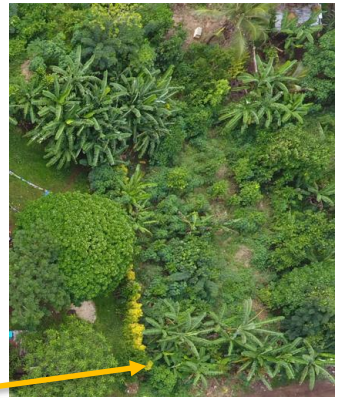
Finer scale / Aerial and drone images

Google Earth satellite image (THR)
Freswota 6- Port Vila - Vanuatu

UAV image (P4 DJI) April 19/2019
Altitude : 100m /
Resolution : 3,5 cm/pixel Freswota 6

Vertical view

With drone data, the mapping of crop areas becomes possible



Banana tree

Oblique view

The spatial resolution is not fine enough to characterize food crops

Medium and Finer scale

Example of complexe environment monitoring

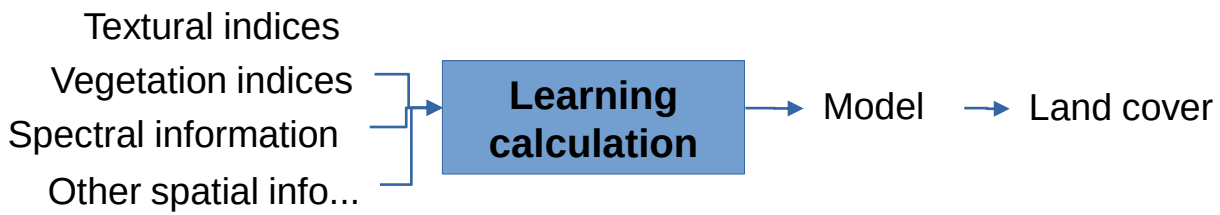
Tropical = mixed vegetation, steepy environment, cloudy...

Main challenges = manage and treat this huge amount of data (Zafari and al., 2019)

=> Efficient supervised classifier should address :

- Handling the Hughes phenomenon or curse of dimensionality that occurs when the number of features is much larger than the number of training samples
- Dealing with noise in labeled and unlabeled data, and reducing the computational load of the classification

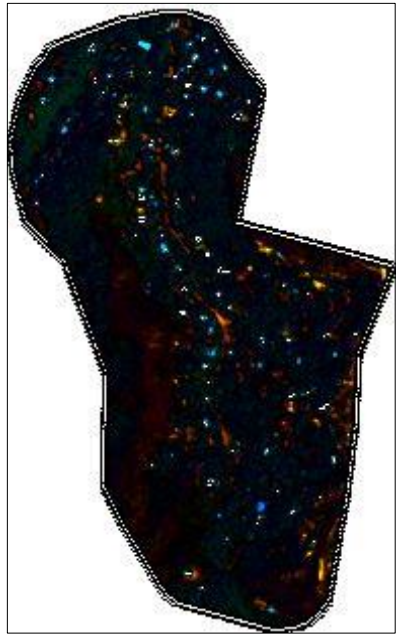
=> The kernel methods generally show good performance for high-dimensional problems (SVM, classification trees : RF, XGBoost…) = **machine learning algorithms**



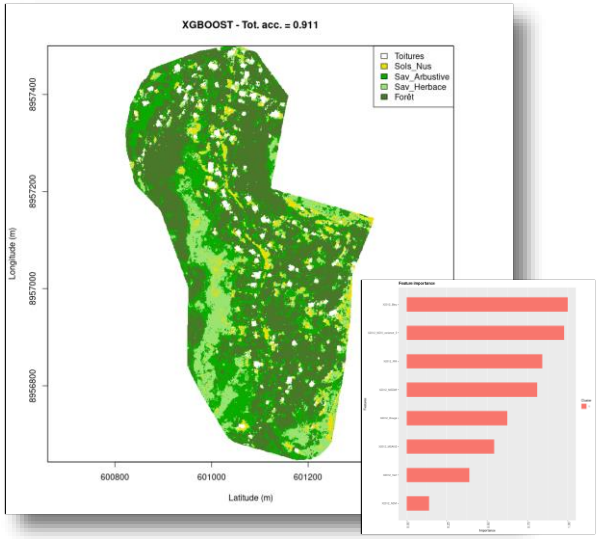
Medium and Finer scale

Example of complexe environment monitoring

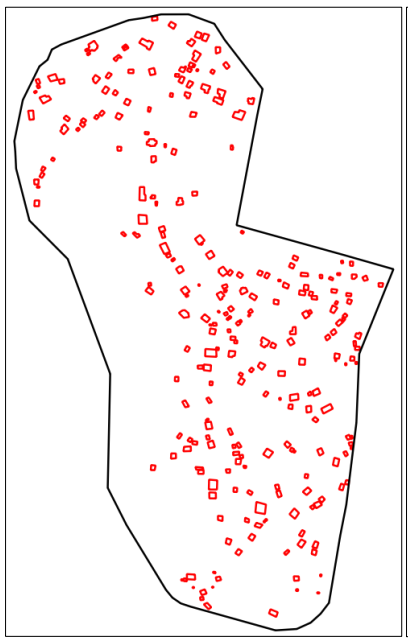
Tropical = mixed vegetation, steepy environment, cloudy...



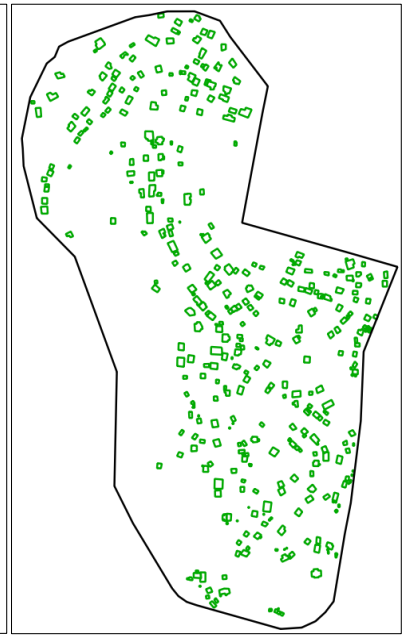
Quickbird 2012
Wind Valley
Honiara



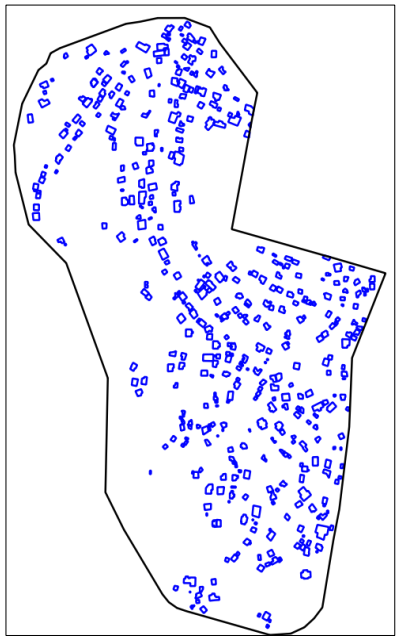
Land cover classification.
XGBoost model result from Qbird imagery of 2012 (Wind-Valley - Honiara)



Informal habitat in 2012

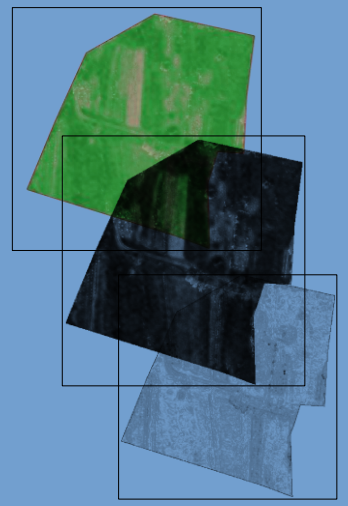


Informal habitat in 2016



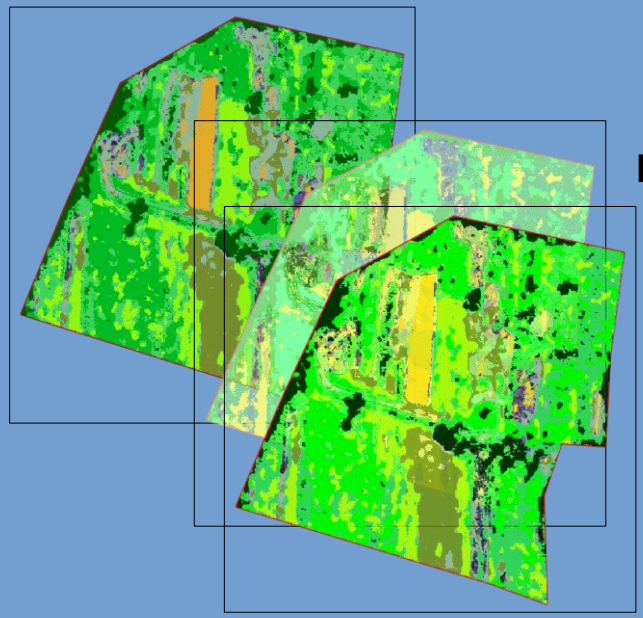
Informal habitat in 2020

Example of cultivated area (Nord-Eastern coast of NC) - Pleiades imagery of Mai 2018



Texture, veg. Indice, spectral...

Land Cover (mid 2018) – XGBoost/RF



End 2018

Mid 2019

OUTPUTS

Family gardens cartography series

GIS Approach

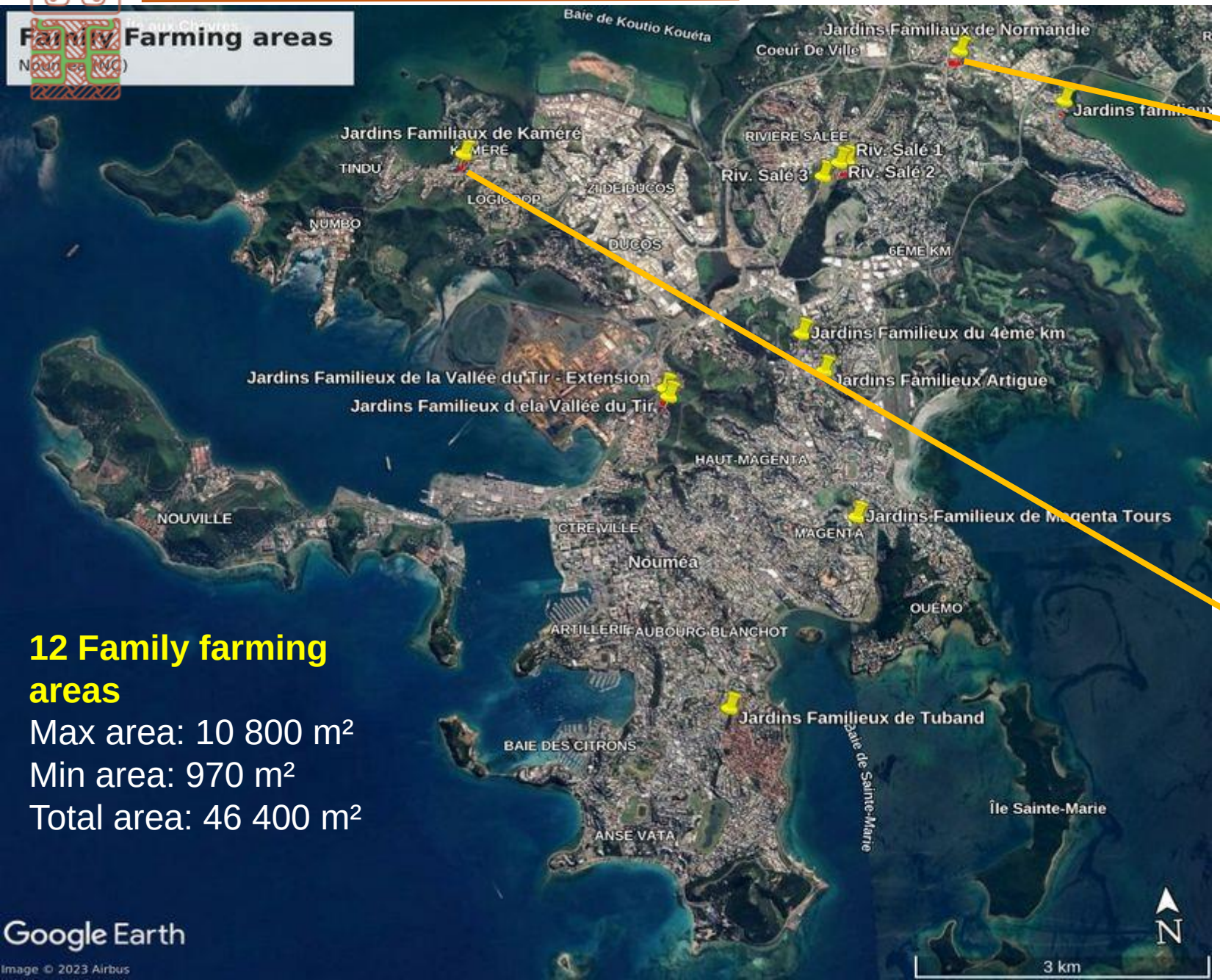
Exo-data

- Land cover classification
- Time evolution of LC
- Area
- Geographical situation
- Start date
- Nb of family areas
- Climate impact (stress indices series)
- ...

Geo

Area extension
Nb expansion
Density (area / hab)
Climate change adaptation
Economic adaptation
...

Medium and Finer scale



12 Family farming areas

Max area: 10 800 m²

Min area: 970 m²

Total area: 46 400 m²

Normandie, 12th 2020

Kamere, 10th 2021

Finer scale / : UAV images

ZAC Panda - Dumbéa

August 15 /2021 / Altitude : 50 m / Resolution ; 1,4 cm/pixel

Data providing information :

- on the structuring and organization of fields
- the nature of the species cultivated

Only the drone with a centimetric spatial resolution allows the recognition of species

Cassava plant

Taro plant

Specific objectives: gardens and informal settlement

APPROCHE LOCALE

KUENDU

91% de la surface couverte

Specific objectives: gardens and informal settlement

EX3b

APPROCHE LOCALE

KUENDU

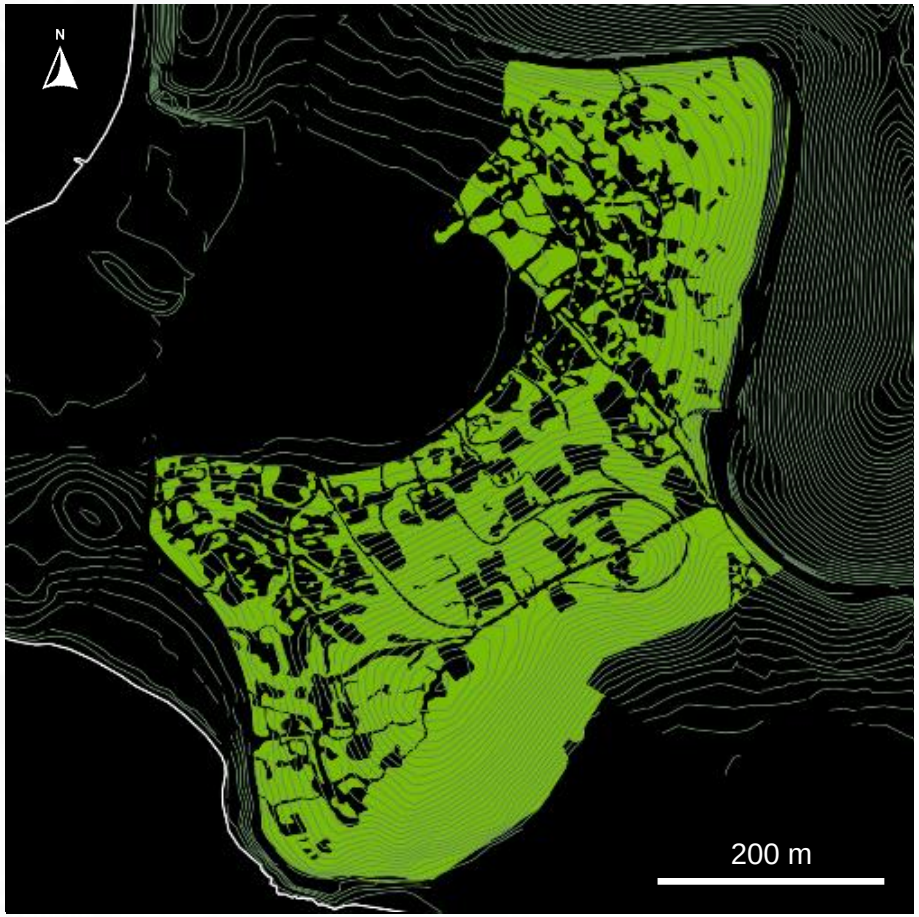
Specific objectives: gardens and informal settlement

EX3c

APPROCHE LOCALE

KUENDU

62% de la surface couverte



METHODOLOGICAL SYNCHRONISATION APPLIED TO FALAH RESEARCH FIELDS
(Complementarities and transversalities between WP2 and WP3)
28th - 30th march 2023
Université de la Nouvelle Calédonie

Session 3 : Tools and Transversalities 1 (29th march 2023)

CONTRIBUTIONS OF GEO-SPATIAL IMAGES

OLETI

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 873185

FALAH

Agriculture familiale, mode de vie & santé

Language: from the garden to the fork

Fabrice Saiqë WACALIE
Pauline WELBY

UNIVERSITÉ de la NOUVELLE-CALÉDONIE

Outline

1. research framework
2. context of the Pacific languages
3. what do the Kanak languages say about "eating"?

1. reseach framework

FALAH PROJECT Main objectives & Research questions

MAIN OBJECTIVES

- Build a network of *research teams* operating in the Pacific Islands that have a common interest in *food security* and its direct or indirect *relationship with the environment, health and nutrition*.

- Final goal: *promote and revitalise family agriculture to improve the health of Pacific populations and ensure food security* in the context of rapid social and economic transformations and *climate change*, which effects are particularly harmful to Pacific Islands.

“Farming” practices encoded in the local languages

What are some of the concepts and practices related to the FALAH areas of interest (farming, fishing, preparing food, eating...) that are encoded in the languages of the South Pacific islands?

That might be lost in French, English, Bislama, Tok Pisin...? That might be lost if a language dies?

How do local actors, scholars, and policy makers talk about these aspects?

Main objectives & Research questions

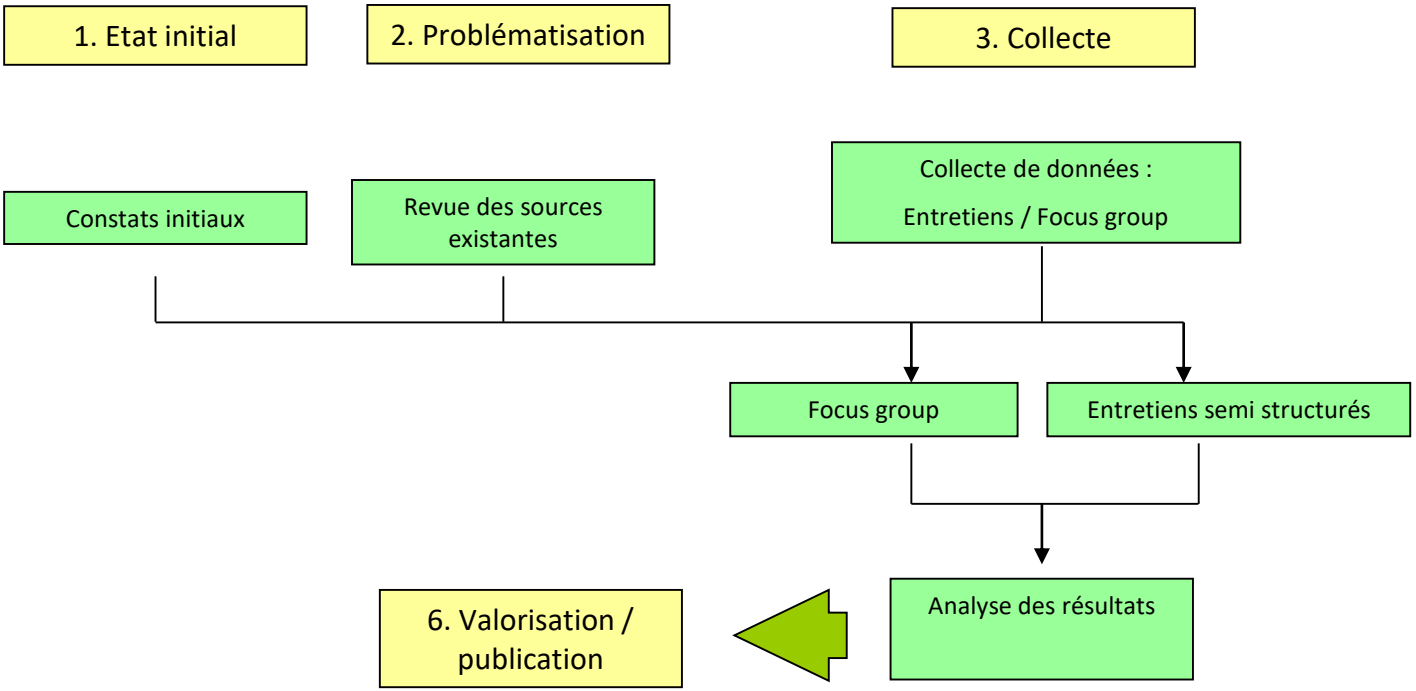
WP2	2.1 Gather and summarize knowledge on cropping practices, consumption, innovation and the dynamics of family farming 2.2 Improve understanding of how family farming functions through ecological, economic, sociological and spatial dimensions and how it adapts to the environment
WP3	3.1 Examine the effects of family farming on lifestyle and its impact on the health and well-being 3.2 Explore nutrition and physical activity in families practicing family farming 3.3 Analyze inter-generational benefit on family farming lifestyle
WP4	4.1 Compare traditional family farming practices, its adaptation to the environment and identify best practices to disseminate 4.2 Examine the role of school in promoting food education, physical activity, and changing dietary habits 4.3 Share new knowledge to develop sustainable intervention strategies that can help people from other regions 4.4 Accumulate, cross and share traditional and scientific knowledge on small-scale farming and eating habits to establish production and consumption strategies adapted to the socio-cultural context.

Main objectives & Research questions

Scientific viewpoints : « what is a language? »

- combining our expertise in : linguistics, sociolinguistics, anthropology
- a new perspective : a reservoir of thought systems => an ethnographic field
- access to knowledge from experiences of the world

QUALITATIVE APPROACH



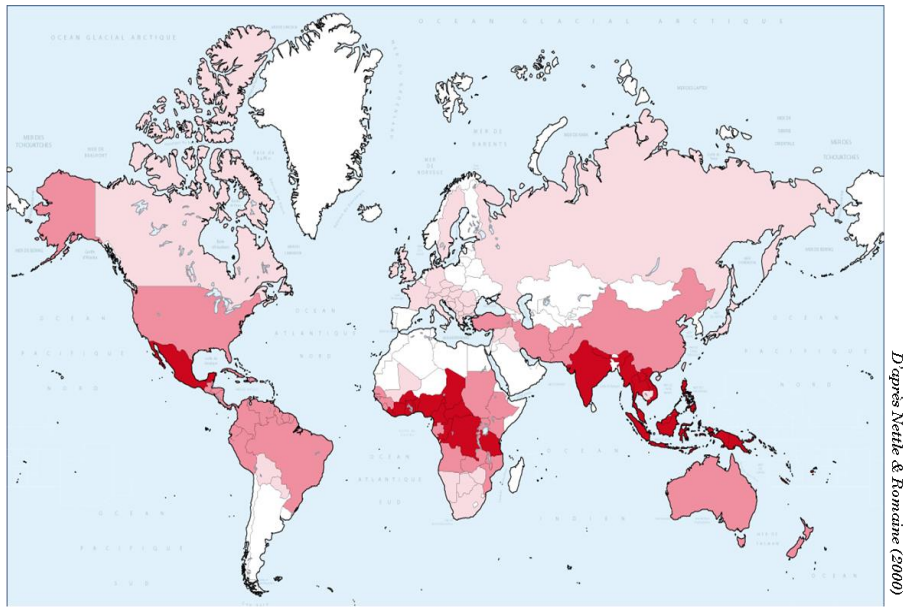
Implications

What knowledge do indigenous languages give access to?
What do speakers have to say about the links between languages and knowledge of food and eating?

Food culture (2019/2020):
4 interviews conducted
2 Koumac
1 Lifou
1 Nouméa

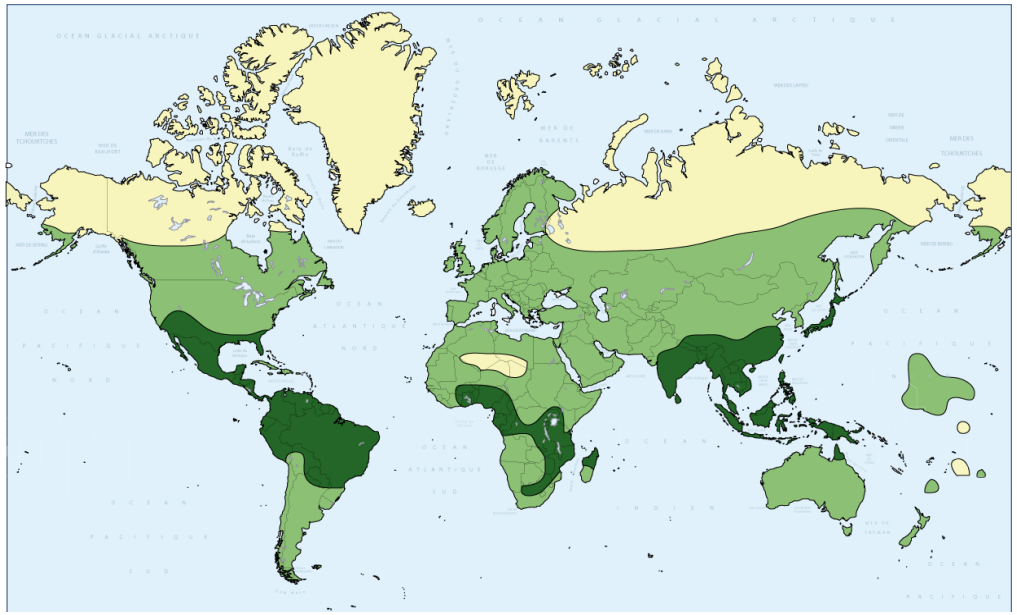
2. context of the Pacific languages

Rich in "farming »/food traditions
Rich in languages…



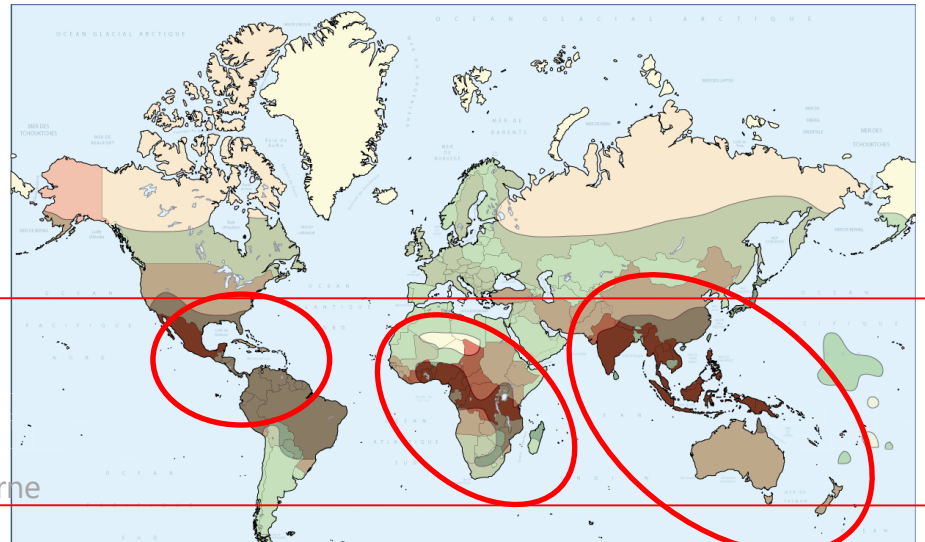
D'après Nettle & Romaine (2000)

Très forte diversité linguistique



D'après Nettle & Romaine (2000)

Biodiversity &



Linguistic diversity

Languages of New Caledonia

~ 30 Kanak languages, many endangered

French, Vietnamese...

Wallisian, Futunian, Tahitian, Bislama...

Académie des Langues Kanak

3. What do the Kanak languages say about "eating"?

Linguistic focus:
Use languages to understand

mwâ-apagu (langue nixumwaak)

maison-avare

« maison de l’avare »

Entretien avec Paeten-Whaap Pombei (2019)

Linguistic focus: Verbs ‘to eat’

PMP		*kaen	‘eat’
POc		*kani[-]	‘eat (s.t. starchy), eat (in general)’
Proto-New Caledonia		*kani	
Mainland (North)	Hienghène languages, Pwapwâ, Bwatoo	cani	‘eat starchy food’
	Pwaamei	zani	‘eat starchy food’
Mainland (South)	Xârâcùù	kê	‘eat starchy food’
Loyalty Islands	Iaai	han	‘eat (intransitive)’
		an	‘eat (transitive)’
	Drehu	xen	‘eat, eat starchy food’
	Nengone	kaka(n)	‘eat (generic; less protein)’
Proto-Polynesian		*kai†	‘eat, food’
Loyalty Islands	Fagauvea	kai	‘eat (intransitive)’
		kaina	‘eat (transitive)’

(3) IAAI (Ouvéa island)
an ‘eat (generic, TR)’
hwii ‘eat (or gnaw) sugarcane’
hicâ ‘eat chewable food (barks, chewing-gum . . .)’

(4) DREHU (Lifou island)
xen ‘eat (generic; anything other than protein)’
öni ‘eat protein (meat, fish, egg . . .)’
atra ‘eat (or gnaw) sugarcane’

(5) NENGONE (Maré island)
kaka(n) ‘eat (generic; anything other than protein)’
ia ‘eat protein (meat, fish, egg, seafood . . .)’
chaphan ‘eat chewable barks (magnania, chewing-gum . . .)’

Source : Dotte & Moyse-Faurie (2021)

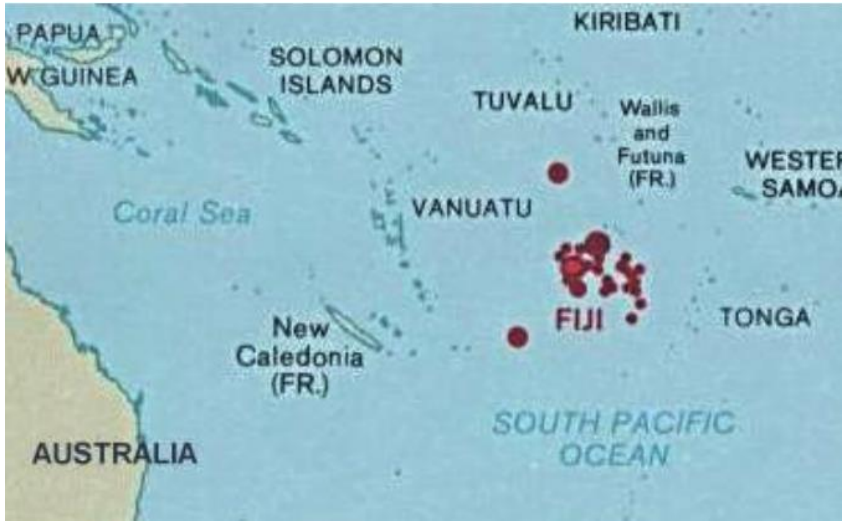
Linguistic focus: Classification "real"

Hornung, J. J. (2011)
https://commons.wikimedia.org/wiki/File:Naso_unicornis_2838x2277.png

"In Poindimié [] the dawa and the turtle are the fish associated with *la coûtume* [customary offerings], the 'real fish'.... The dawa is [] considered to be like a human because in the Paicî language, one says « a dawa » when there are two of them, to indicate that it represents the couple, the man and the woman. In addition, to talk about a single dawa, one says "the fruit of the dawa", i.e., the couple's son. As a result, in customary offerings, one always gives dawas in pairs."

Leblic (2008, p. 204), our translation; N.B.: research conducted 1982–1987

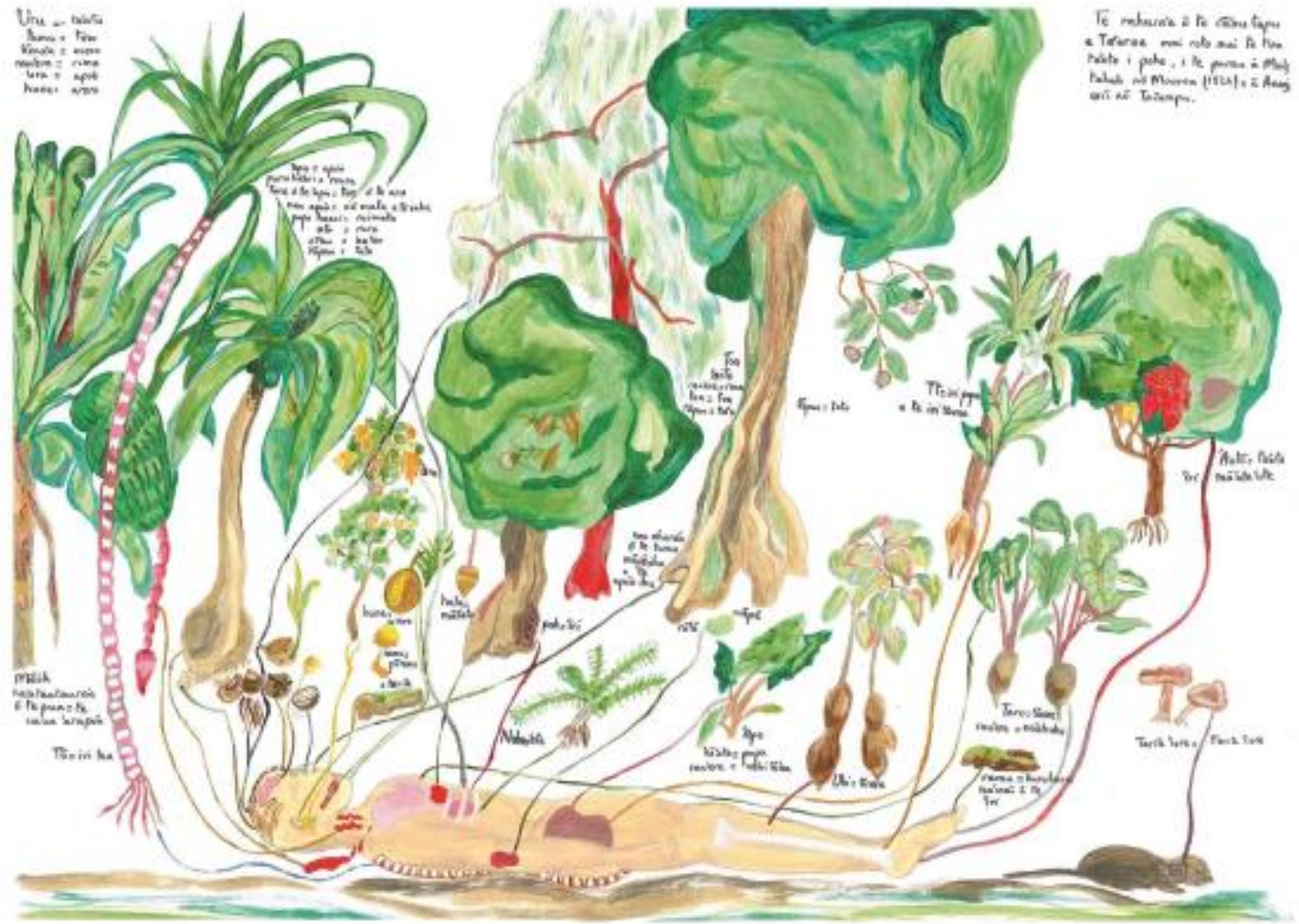
Linguistic focus: What counts as "real food"?



"For Fijians, taro is their basic, i.e. essential food (*kakana dina* 'food real'), a root starch that satisfies as well as fills, but only when well cooked and eaten with an accompaniment of fish or a piece of coconut and eaten in the company of others...."

Pollock (2012, p. 247)

Cultural focus: Languages, a database ?



"There is a fundamental link between language and traditional knowledge related to biodiversity. Local and indigenous communities have developed complex classification systems for the natural world, which reflect a deep understanding of their local environment. This knowledge of the environment is embedded in indigenous names, oral traditions and taxonomies, and may disappear when a community begins to speak another language. »
UNESCO

Cosmomorphism:

trunk	=>	the human body (*aito* in tahitien)
sap	=>	the blood (*drè* in numèè)
eaves	=>	the lungs (*kùni* in a'jië)
creepers	=>	the veins (*wâk* in nemi)

Aufray, 2012

Cultural focus:
Languages, a database ?

Ecological knowledge

9 months pregnant

Source : « Teaser Yam, quand l'igname raconte l'homme », Dominique Roberjot, Christine Della-Maggiora, *2016.*

Source : Wacalie, 2019

Ku = phallus
Ku-j = dig the earth

ho = to yell
hna – ho = who shouts
=> Reflection of baby's cry at birth

Languages knowledge

Cultural focus: Languages, a database?

SATRESI janvier	Sa = san =cuire Atresi = protecteur de la chefferie	Période conventionnellement marquée par la préparation du bougna des *atresi*, dignitaires et protecteurs de la grande chefferie.
CANALU février	Can = tige, morceau Alu = magnagna (légumineuse)	La période de disette se prolonge bien souvent jusqu'en février. On ramasse des *alu* pour s'alimenter.
XOMATHIPIKOKO mars	Xom = prendre Athip = accrocher, mettre en l'air Koko = igname (terme générique)	C'est la période de récolte des ignames.
NGÖNEQEU avril	Ngöne = corps, tronc Qeu = débrousser, défricher	Période de défrichage.
QIELU mai		Période de transition après la récolte.
HNAIHEDRÖ juin		Période de défrichage et de débroussaillage.
MECIPUDRELË juillet	Mec = mort Pu = pune = bout Drelë = peuplier kanak	En référence à cette période où le peuplier kanak perd ses feuilles.
UTHIXAJI NGONGOXAJI août	Uthe = tirer, retirer, extirper Ngongo = velouté, velouteux Xaji = semence, plant	Période où l'on retire les semences et les plantes avant l'apparition des bourgeons à venir.
WENEHMITRE septembre	Wene = fruit, graine Hmitre = patchouli, thym (plante médicinale)	Désigne la dernière cérémonie coutumière de l'année à la chefferie. Certains clans font des offrandes d'ignames ou autres tubercules au grand chef, afin de garantir une nourriture suffisante en période de disette.
XÖLEP octobre	Xöl = donner de jeunes pousses, des rejets Ep = bois bleu	À cette période, le bois bleu donne de jeunes pousses.
SAWAAN novembre	Sa = couper Waan = racine	Période où l'on coupe la racine (métaphore invitant à penser aux semences) qu'il convient donc d'enlever.
KÖTRECILEËJI décembre	Kötre = s'enfuir Cil = debout Eë = feu Ji = caresser	Marque le début des périodes de grande chaleur et de disette.

Source : https://denc.gouv.nc/sites/default/files/documents/2_itre_treu_fiche_1.pdf

Cultural focus: Prospects?

Social dimension

=> Cement social contracts

Biological dimension

=> Eating/nourishment

Affective dimension

=> Relationship with the earth and the land

Philosophical dimension

=> Link with the living

Economic dimension

=> Exchanges and income

Conclusion
What focus?

The potential topics and approaches are many and varied – there is ”something for everyone” – linguists, agronomists, sociologists...

What should we focus on?

How can we harness what we learn to advance the project goals of FALAH?

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OLETI ATRAQATR
MERCI BEAUCOUP
THANKS YOU VERY MUCH

Complementarities and transversalities between WP2 and WP3

4TH FALAH workshop (28th - 30th march 2023)

Université de la Nouvelle-Calédonie

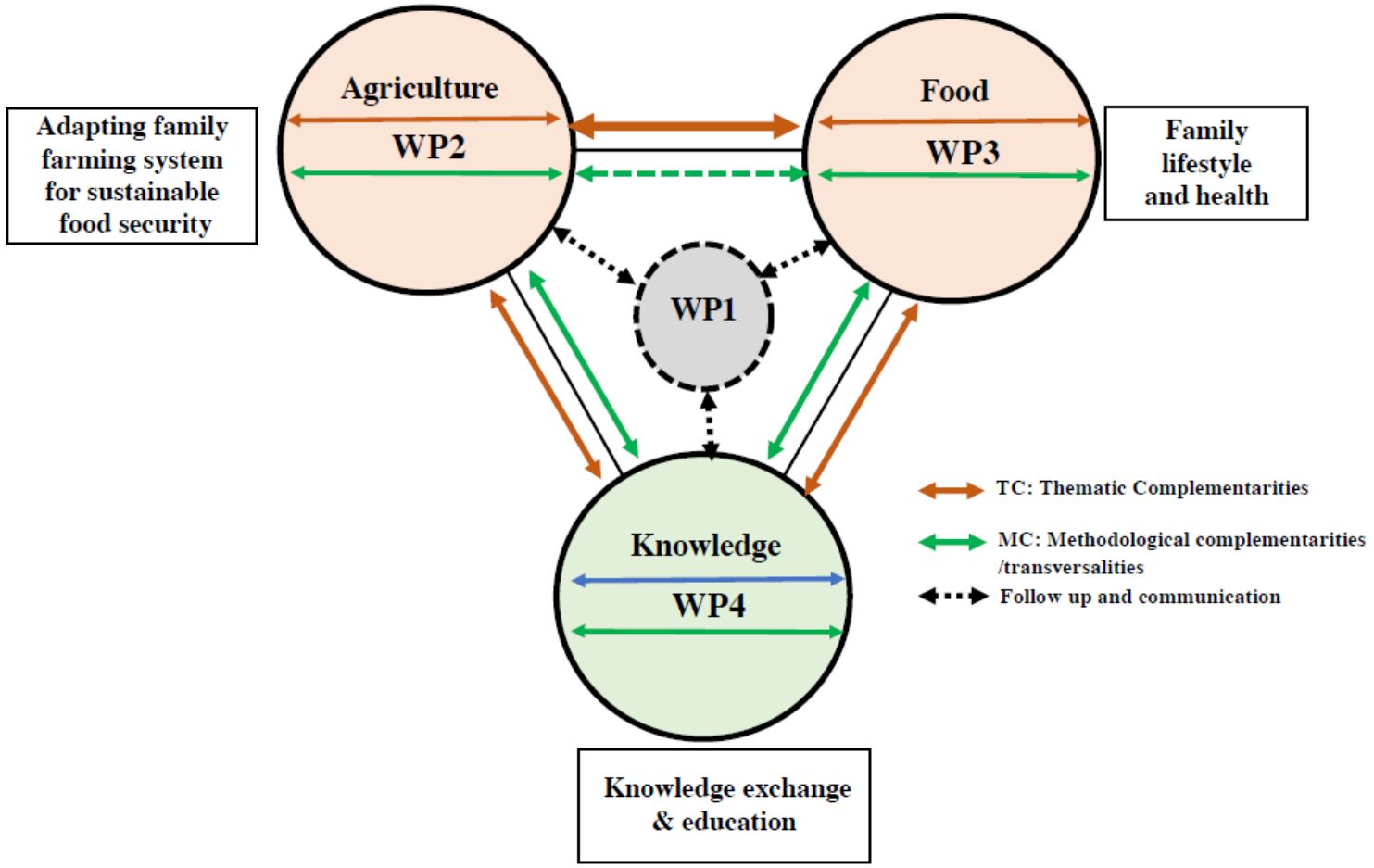
COMPLEMENTARITIES OF QUANTITATIVE, QUALITATIVE AND SPATIALIZED METHODS

Pr. J-M. FOTSING (UNC) **- Dr G. DAVID** (IRD)
Dr C. SARRA MALLOL (CNRS)

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 873185

FALAH : Scientific WPs

Figure 2: FALAH Pacific, methodological approach

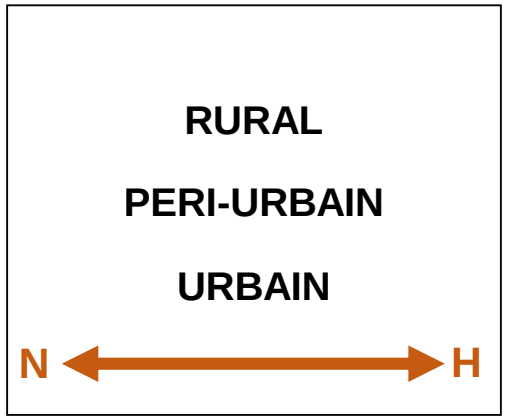


FALAH: Components and Tools

Dim. sociales

+

Dim. spatiales



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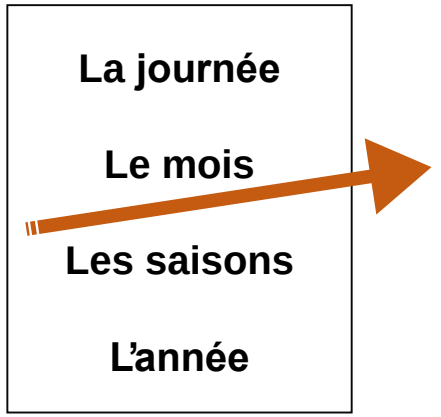
Dim. temporelles



FALAH: Components and Tools

1- REDCAP & MYSURVEY:

=> Relational data bases

2- SPAR : Quantitative & Qualitative methods

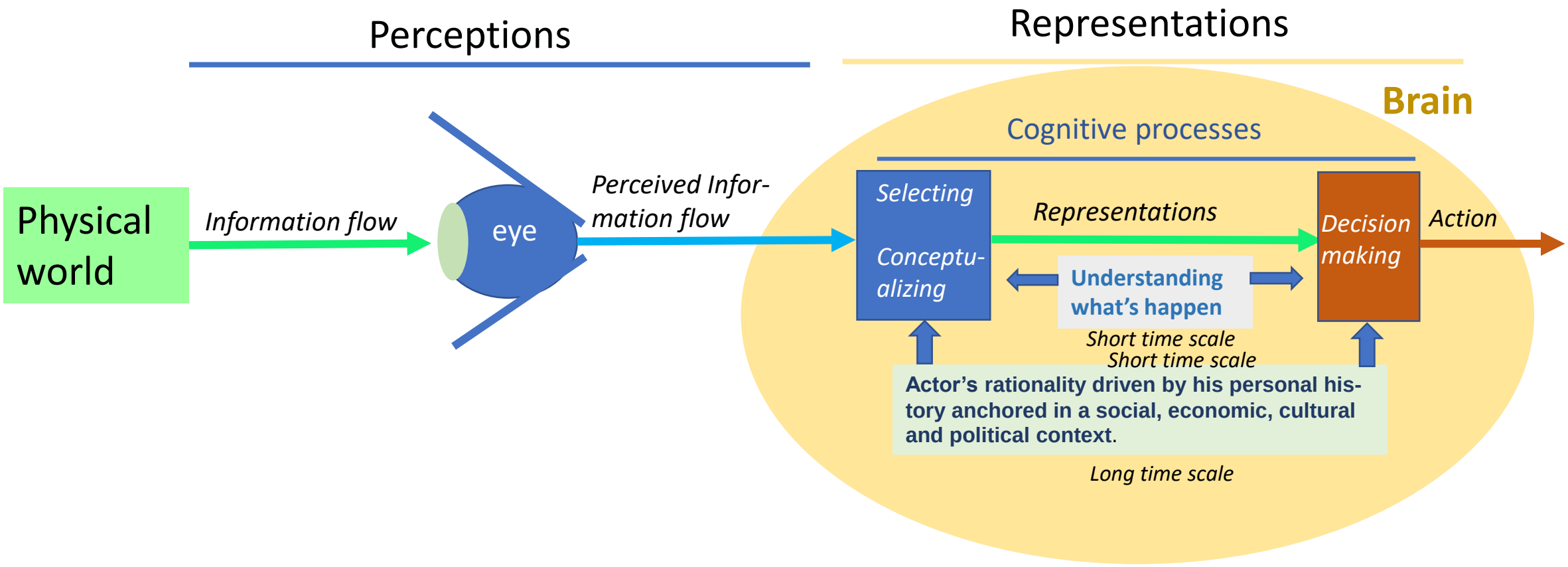
3- Satellite images (spatial tools… GIS)

4- FF = Space - People and communities ?

5- Population => Perception/Representation

How to collect perceptions / representations of people

1. PERCEPTIONS ARE NOT REPRESENTATIONS



How to collect perceptions / representations of people

2. ARE QUESTIONNAIRES A GOOD WAY TO ASSESS REPRESENTATIONS ?

Questionnaires are an easy way to collect quantitative data and sometimes qualitative too BUT

Questionnaires are not a good way to collect people's representations

WHY ?

Any questionnaire design comes from the designer's representations of the situation to be assessed

Any answer to the questionnaire does not provide the representations of investigated people but their degree of acceptance to the designer's representations of the situation to be assessed

How to collect perceptions / representations of people

3. HOW TO COPE WITH THIS CONSTRAINT ?

Use another method than the questionnaire

- For in depth-studies, use interviews. Very efficient but need times for collecting data and then data analysis

- For studies requiring many people to be interviewed, use free word associations

1. Quickly write five words that seem close to or associated with the word dealing with the object of the representation

2. Quickly write five words that seem opposite to the word dealing with the object of the representation

A wide variety of words show an unstabilized representation. A low variety of words show a representation shared with lots of people, called "a social representation"

How to collect perceptions / representations of people

4. HOW TO GO FURTHER ?

Example, study of respresentations of the viability of family farming

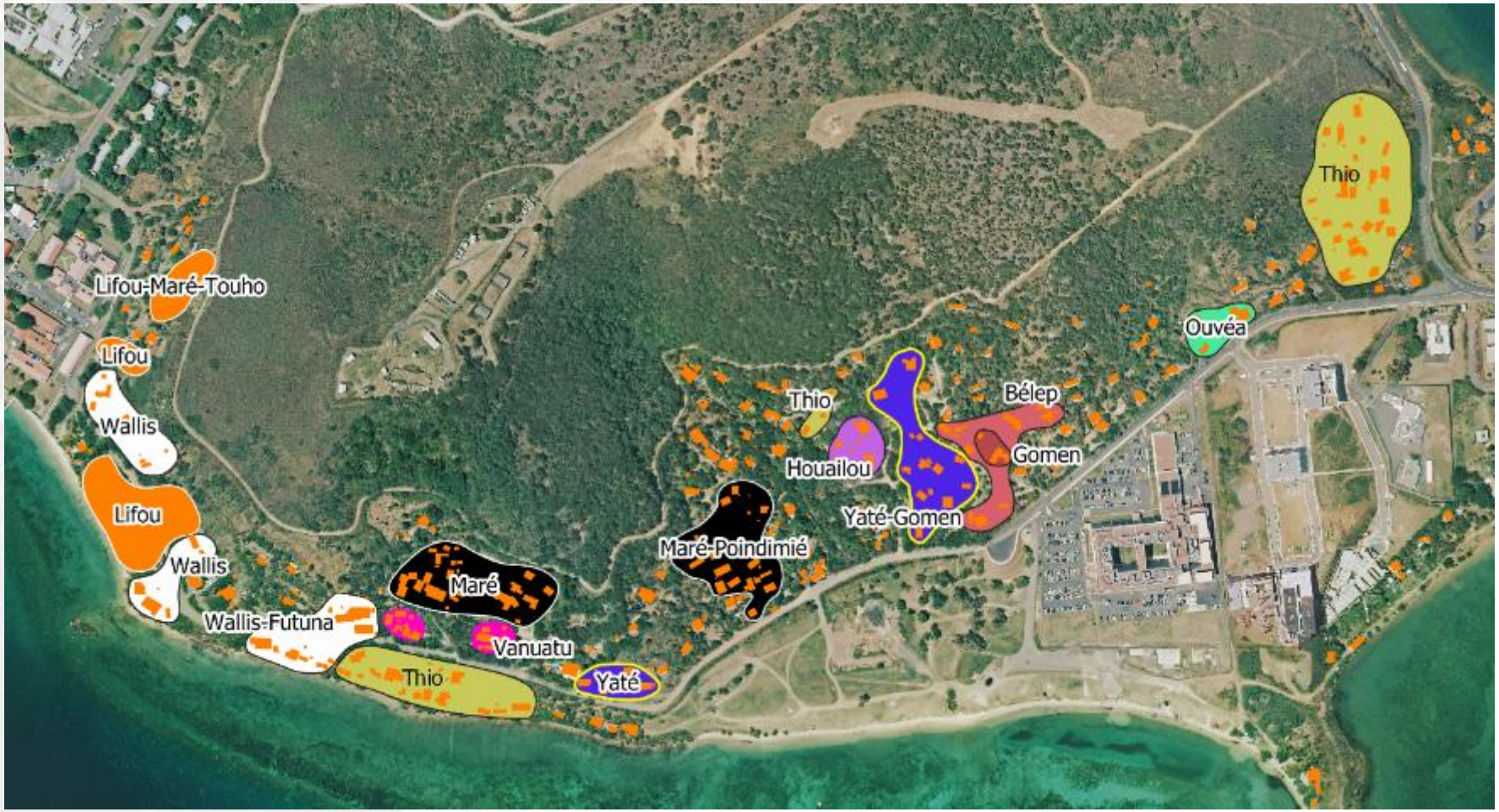
1. List five factors that drive viability of family farming
2. Give them a weight (+1, +2, +3) in terms of contribution to this viabilit
3. List five factors that threaten this viability
4. Give them a weight (+1, +2, +3) in terms of contribution to this threat

- The words most cited are the central core of social representation.
- The other words own to the peripheral zone. The allow the adaptation of the representation to the context and to individual understandings.
- These words therefore make it possible to understand how, despite a share of common understanding (the central core), the individuals of the same group can have different behaviors.

Informal settlement: spaial and qualitative data

APPROCHE LOCALE

NOUVILLE



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MERCI POUR VOTRE ATTENTION

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Open Research Europe

European Commission

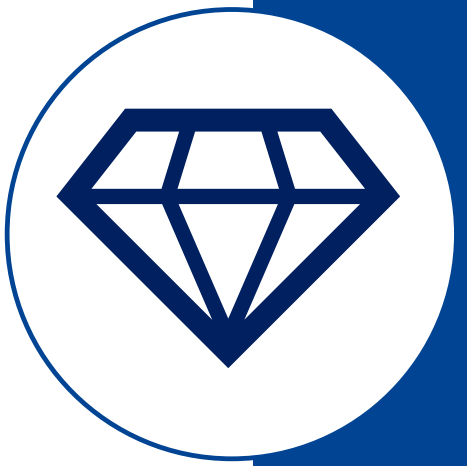
Powered by F1000Research

A short history of Open Research Europe

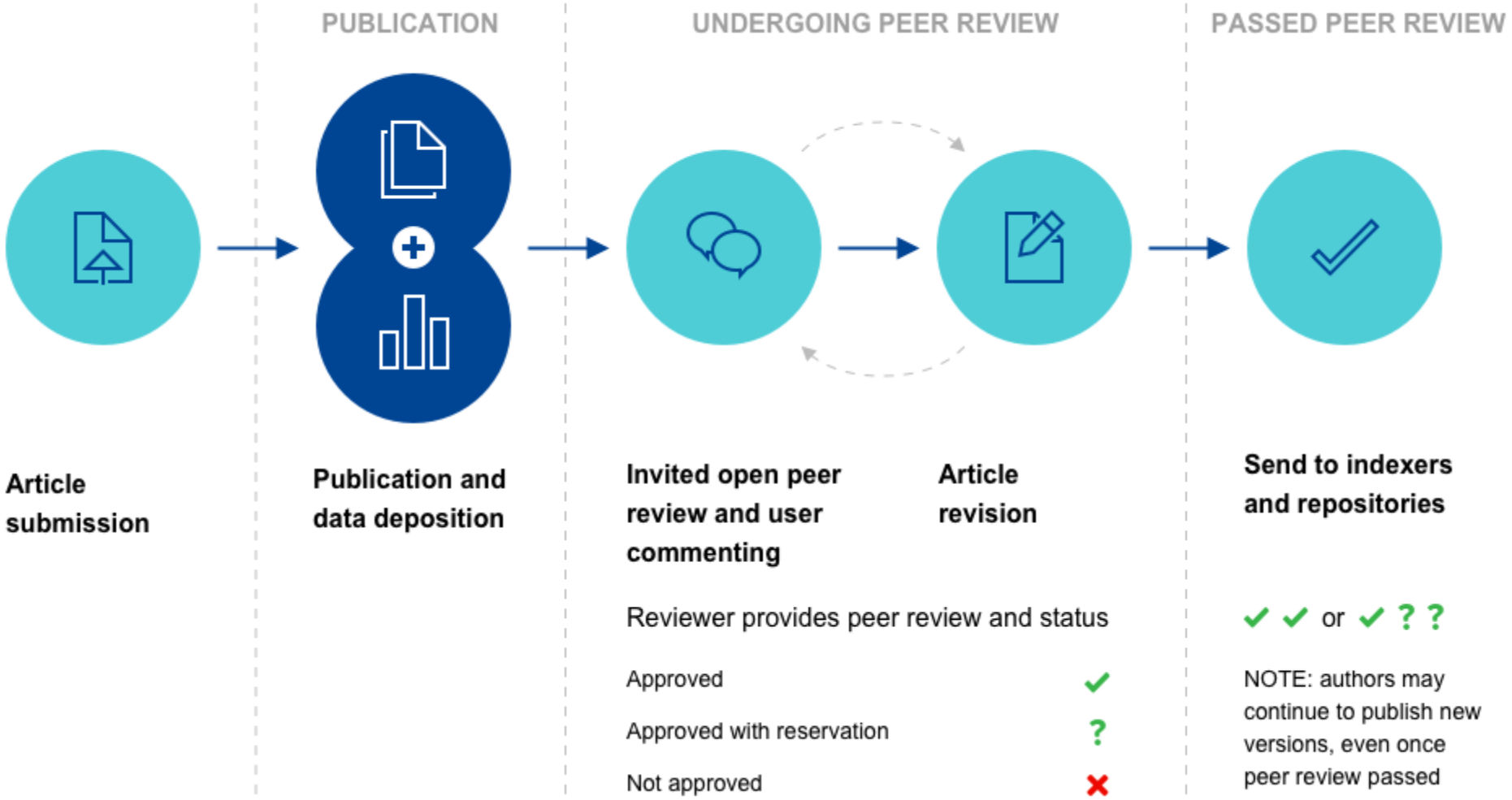
- European Commission's publishing platform, launched March 2021
- Publishes across all subject areas
- Over 350 articles already published
- Indexed in Scopus, PubMed Central, ERIH Plus, DOAJ, Google Scholar, INSPEC etc.
- International Scientific Advisory Board, Eurodoc, the Global Young Academy, LIBER Europe, OpenAire and Zenodo

Key definitions

- Diamond open access publishing
- Author-led submissions
- Sound science
- Transparent, post-publication peer review

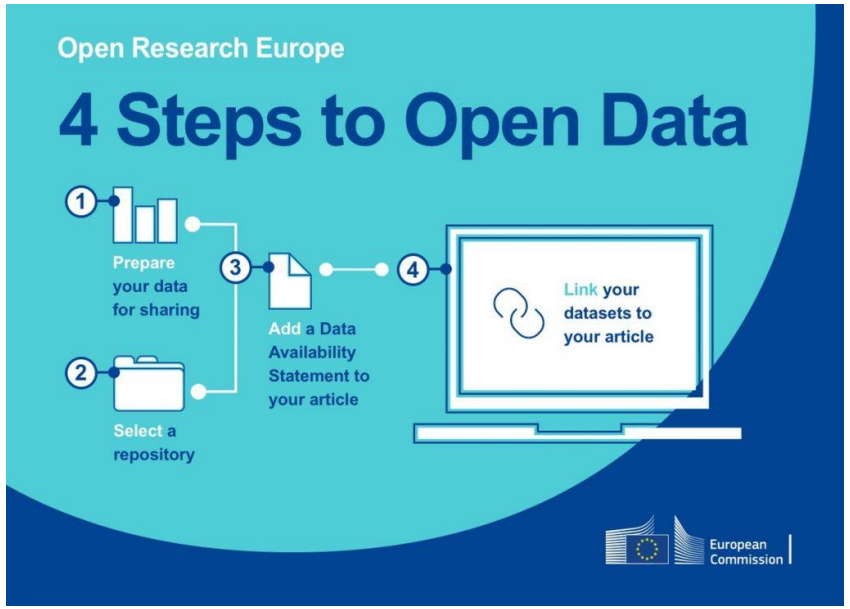


Open Research Publishing Model



FAIR data sharing practices

- Open Research Europe endorses FAIR data principles (Findable, Accessible, Interoperable, Reusable)
- Data sharing is expected when submitting
- If you can’t share your data, talk to us!



Journal Impact Factor and changes to Research Assessment

- **Why doesn't Open Research Europe have a Journal Impact Factor?**
  - Issues with journal-level metrics

- **What changes are happening in research assessment at a European-level?**
  - Creation of Coalition for Advancing Research Assessment (CoARA)
  - Signatories make commitments to change research assessment practices
  - The commitments require that changes are evidenced!

How to maximise your grant funded research outputs through a variety of article types

CONCEPT

Review
- Provides a balanced and comprehensive summary of the latest discoveries in the field which can be cited in subsequent articles.

PLANNING

Study Protocol
- Allows researchers to present their rationale and proposed methods for their study and get these peer reviewed.

Method
- Can be used to present new methods or modifications of existing methods.
- Methods support robust, reproducible research, and research training while ensuring those who developed the method are given credit.
- Can be updated as the method is refined.

Research Note
- Research Notes allow researchers to share small preliminary studies, describe unexpected or unexplained results or small finding that traditional would be hidden away in supplementary materials.
- Can be described using a few illustrations or even a single figure.

DATA COLLECTION

Research Note
- Publishing a Research Note during the data collection stage of your project allows you to analyse a sub-set of the data and to validate it.

Data Note
- Allows researchers to present their data openly in a highly discoverable, useable, and reproducible way ensuring they get both recognition and credit for their data.
- Data Notes can then be linked to any subsequent research articles using the data.

Software Tool Article
- Software tools and code are themselves a research output.
- Software Tool articles therefore improve the transparency, visibility and reproducibility of algorithms, code, workflows etc. developed as part a research project, while ensuring the researchers and any associated developers are credited.

Method
- A Method article can be produced alongside a Software Tool Article to provide detailed operational instructions to facilitate reuse.

ANALYSIS

Research Articles
Writing a Research Article at the analysis stage of a research project is now really easy:

1. Published Reviews, Study Protocols and Methods are citable.
2. Data, relevant code and software is already available and can be linked and cited.

Research Note
- Ensures that findings outside the scope of the Research Article are made accessible.

What are the benefits?

- Fast
- Inclusive
- Open
- Reproducible
- Transparent
- Easy

ORE demonstration - weblinks

Open Research Europe platform

Example collection page

Article that has passed peer review with multiple versions

Article types

European Commission's Reforming Research Assessment statement

Coalition for Advancing Research Assessment (CoARA)

CoARA signatories

Interested?

Contact for further information about publishing on Open Research Europe:

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