FAMILY FARMING LIFESTYLE AND HEALTH IN THE PACIFIC

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SUMMARY

This deliverable provides a synthetic, policy-oriented and public-facing document on how family agriculture (including land- and sea-based small-scale food systems) can be revitalised in Melanesia (Vanuatu, New Caledonia, Fiji and Solomon Islands). It is built in priority on the consortium draft provided by the user and completed with results and key messages from the FALAH project (deliverables, living labs, scientific events and final conference synthesis). The objective is to translate evidence into actionable pathways for (i) political representatives, (ii) the education sector and (iii) the general public.

Key messages

- Revitalisation is systemic: production gains must be coupled with logistics, markets, education, health and governance.
- Traditional knowledge revival is an asset, but it cannot substitute for storage, transport, safe market spaces and processing.
- COVID-19 showed a recurring paradox: local production may rise while dietary diversity declines, underlining the need for resilient circulation and preservation.
- Agroforestry and diversified systems deliver co-benefits (resilience, soil, biodiversity, multiple products) but require long-term support and incentives.
- FALAH adds operational pathways: school-based tools in Vanuatu, gender-aware coastal foodscape evidence in Solomon Islands, and intergenerational lifestyle evidence in New Caledonia.
- The final FALAH synthesis structures revitalisation through five transformative change pathways : places of value, sectoral transitions, economic rules, governance, and values.

Target audiences:

- Political representatives and public institutions (agriculture, health, education, environment, economy, municipalities).
- Education actors (ministries, school leaders, teachers, training institutions).
- General public and community organisations.

INTRODUCTION

Pacific island family agriculture is a multifunctional system combining food production, cultural continuity, social protection and ecosystem stewardship. In Melanesia, it includes home gardens and agroforests, small livestock, fishing and reef gleaning, gathering and small-scale processing, all embedded within customary rules of access to land and sea and within reciprocity networks. These systems support food security and health through 'from garden/reef to fork' pathways: diverse local foods and active daily lifestyles through gardening, fishing and food preparation (FALAH D4.8, 2024; Georgeou et al., 2022; FAO, 2018).

However, rapid socio-economic transitions, urbanisation and the spread of imported staples and ultra-processed foods reshape preferences and daily routines. Climate change and global shocks increase vulnerabilities by disrupting local production and transport and by amplifying dependence on imports. FALAH research confirms that revitalisation must therefore be treated as a cross-sectoral transition: agriculture, food systems, lifestyle and health, education, infrastructure, trade and governance need coherent responses (Sievert et al., 2019; Brewer et al., 2023; Popkin, 2004; IPCC, 2022; Reddy, 2024).

So, the central question that address this deliverable through FALAH project is: *How can family agriculture/farming in Pacific island nations be revitalised to improve food security, household income, and environmental sustainability?*

This deliverable focuses on the Melanesian Pacific where FALAH has built living labs and long-term institutional partnerships: Vanuatu, New Caledonia, Fiji and Solomon Islands. Evidence from other island settings is retained only for comparison when it helps clarify mechanisms (e.g., how market access and infrastructure shape outcomes), and it is clearly labelled as non-Melanesian (Georgeou et al., 2022; FAO, 2018; FALAH D4.8, 2024).

EVIDENCE SYNTHESIS APPROACH

Following the approach presented in the user-provided draft, the consortium performed a semantic search across the scientific literature and FALAH project results. Papers were screened in using a holistic judgement across six criteria: (i) population and geographic scope (family/smallholder agriculture), (ii) intervention focus (revitalisation strategies), (iii) relevant outcomes (food security, income, environmental sustainability, productivity or livelihoods), (iv) agricultural focus (crops, livestock, aquaculture, agroforestry, mixed systems), (v) empirical evidence, and (vi) study design (reviews, quantitative or qualitative studies, case studies) Harrison et al., 2016; Georgeou et al., 2022; FAO, 2018.

For this revised deliverable, we keep the draft's analytical structure (strategies, outcomes, implementation factors, synthesis) and complete it with FALAH evidence from key deliverables and the final conference synthesis. In particular, we integrate (i) school-based revitalisation tools tested in Vanuatu, (ii) gender and coastal foodscape insights from Solomon Islands exchanges, (iii) intergenerational lifestyle and obesity evidence from New Caledonia, and (iv) the five transformative change pathways articulated during the final conference synthesis (WHO, 2025; Galy et al., 2022; FALAH D3.1, 2025; FALAH D4.8, 2024; Georgeou et al., 2022; IPBES, 2024; FALAH D4.9, 2025).

Characteristics of Included Studies

The consortium draft selected ten studies (2016–2025) examining family agriculture revitalisation in Pacific island contexts. Three full texts were retrieved, while seven studies were synthesised primarily from abstracts. The evidence base includes empirical studies in Fiji and Solomon Islands (including COVID-19 impacts), work on agroforestry governance in Fiji

and Vanuatu, and a scoping review across Pacific Island Countries and Territories. It also contains comparative evidence from other humid tropical island settings used to highlight potential impacts under different infrastructure and market conditions (Iese et al., 2021; Leweniqila & Vunibola, 2020; Harrison et al., 2016; FALAH D4.8, 2024).

Revitalisation strategies

Across the draft evidence base, revitalisation strategies fall into four broad families. First, traditional knowledge revival: reactivating planting calendars, collective labour systems and reciprocity-based exchange mechanisms that sustain self-sufficiency and social safety nets. Second, diversification and agroforestry: multi-species systems that provide multiple foods and ecosystem services while reducing climate and market risks. Third, value chain and market access improvements: transport, storage, processing and marketing that make local foods reliably available and economically attractive. Fourth, enabling conditions: institutional support, cross-sector governance and complementary off-farm employment that stabilise cash income and allow investment in farming (IPCC, 2022; Reddy, 2024; Harrison et al., 2016; Georgeou et al., 2022; FAO, 2018).

FALAH: operational examples

- Vanuatu (education): a curriculum-friendly toolkit for schools organised as 4 stages (demonstration visit → preparation → weeks/months of practice → reinvestment in lessons), with a typology of school contexts (dry rural coast / wet rural coast / urban-peri-urban coastal) FALAH D3.1, 2025.
- New Caledonia (health & intergenerational transition): household-level evidence linking family farming, diet and objectively measured physical activity, showing different obesity determinants between adults and children (WHO, 2025; Galy et al., 2022).
- Solomon Islands (coastal foodscapes & resilience): emphasis on traditional food preservation (drying/fermentation/smoking) and on recognising women's roles and knowledge in land–sea food systems (FALAH D4.8, 2024; Georgeou et al., 2022).
- Regional synthesis (final conference): five pathways of transformative change structuring coherent policy action (IPBES framework) IPBES, 2024; FALAH D4.9, 2025.

Food Security Outcomes

Food security impacts vary substantially across contexts. Several studies suggest that strengthening traditional practices and increasing household production can improve food availability and buffer shocks. Yet a key finding in the draft is a paradox revealed during COVID-19 in Fiji and Solomon Islands: households increased local production as people returned to villages or expanded gardens, but dietary diversity scores declined. This indicates that producing more staples does not automatically restore diverse, nutrient-rich diets, especially when markets, transport and access to fruits, vegetables and animal-source foods are disrupted (IPCC, 2022; Reddy, 2024; Iese et al., 2021; Leweniqila & Vunibola, 2020; FALAH D4.8, 2024; Georgeou et al., 2022; FAO, 2018).

FALAH results reinforce this interpretation. The final conference synthesis highlights that resilient food security requires both production and the capacity to circulate and preserve foods: open-air markets, inter-island circulation, and low-tech preservation methods are repeatedly identified as high-impact levers. In addition, FALAH health research illustrates that the protective effects of family farming on diet and physical activity can be modest and uneven

across generations, strengthening the case for integrated actions that rebuild both the availability and desirability of local foods alongside active lifestyles.

Economic Outcomes

Economic impacts documented in the draft include income gains from diversified systems and market vending, as well as the stabilising role of off-farm employment. Off-farm income acts as a complement rather than a competitor to family agriculture by providing cash to buy tools, pay transport and finance schooling and health expenses. However, market outcomes are sensitive to infrastructure and shocks: when distribution collapses, farm-gate prices can drop sharply even when production remains high (IPCC, 2022; Reddy, 2024).

FALAH contributions add a practical focus on post-production losses and service constraints. Case-based work on dairy farming systems (Fiji) shows that losses occur both on-farm (feed, infrastructure, handling) and post-farm (transport, storage), compounded by limited veterinary access. Loss-reduction investments therefore act as an 'income multiplier' because they increase effective supply without expanding land area—an important consideration for small islands.

Environmental Sustainability Outcomes

Environmental sustainability outcomes are most consistently positive for agroforestry and diversified systems. The draft reports benefits for soil health, carbon capture and biodiversity, while highlighting negative consequences of shifts from traditional multi-species gardening to cash-crop monocultures, including soil depletion and biodiversity loss. These shifts are often driven by short-term livelihood needs, suggesting that environmental objectives must be coupled with incentives and market pathways that keep diversified systems economically viable (Harrison et al., 2016).

The FALAH final synthesis explicitly frames revitalisation through transformative change: mobilising research funding for agrobiodiversity and agroecology, strengthening inventories of genetic resources and local knowledge, and supporting low-tech preservation to reduce food loss. This approach aligns environmental sustainability with food security and equity (Addinsall et al., 2017; Georgeou et al., 2022; IPBES, 2024; FALAH D4.9, 2025; Palanivel & Shah, 2021; FAO, 2018).

Implementation Factors

The draft identifies multiple factors explaining why interventions succeed in some contexts and fail in others. Cultural preferences and 'path dependency' (e.g., long-term preference for imported staples) can reduce uptake of traditional foods. Institutional gaps and fragmented responsibilities are recurrent, particularly for agroforestry which can fall between agriculture and environment agencies. Market barriers (transport costs, weak storage and processing, limited vendor spaces) reduce incentives for local production (Sievert et al., 2019; Brewer et al., 2023; Popkin, 2004; Harrison et al., 2016).

FALAH adds three implementation lessons. First, schools are scalable entry points: the Vanuatu toolkit shows how practical, curriculum-aligned activities can restore the status of family farming and support intergenerational transmission. Second, gender matters: evidence discussed in FALAH exchanges emphasises that women's roles in coastal and market food systems remain under-recognised, while climate change can increase their burden. Third, governance must be inclusive and adaptive: co-construction of knowledge between

communities, scientists and institutions is necessary for durable solutions in small island contexts.

SYNTHESIS : WHAT WORKS, WHY, AND UNDER WHAT CONDITIONS

The Traditional Food Paradox

A central contradiction highlighted by the draft is the gap between the nutritional and environmental appropriateness of many traditional foods and their reduced place in contemporary diets. This 'Traditional Food Paradox' is driven by three interacting mechanisms: convenience and taste preferences developed over long exposure to imported foods; disrupted intergenerational transmission of cultivation, fishing and preservation skills; and market structures that favour imported products through stable supply chains and economies of scale (Sievert et al., 2019; Brewer et al., 2023; Popkin, 2004).

FALAH evidence suggests that resolving the paradox requires more than cultural promotion: it requires making local foods reliably available, affordable and desirable. This last points (desirable) toward combined interventions on open-air markets, logistics, preservation and healthy processing, together with education and youth engagement. The affordability of local food, notably starchy food as yam (Lebot et al. 2024) and taro which both were the roots of precolonial diet in most of melanesian islands, is a key issue. It is less a problem of ease and cost of transport of local food from gardens to urban consumer markets than of competition with imported food, particularly rice. To solve this problem, the only solution is to tax these imports in order to restore an economic balance, because the cost of producing rice from mainland Asian countries is significantly lower than the cost of producing Pacific island starchy food. This taxation should lead to an increase in local demand for island food which drives an increase in local supply. This positive evolution is subject to a major constraint: the resilience of local production after viral infection, especially on taro (Lebot and Stuart, 2023 ; Mohd et al., 2019). Faced with this risk, it is vital that research on the genetics of taro and yams, as well as their varietal selection, be intensified in order to produce tubers that are much less vulnerable than in the past. Funding for this type of research should be a priority for the EU.

The COVID-19 Natural Experimen

The COVID-19 period provides a revealing natural experiment. The draft reports that cultural capital—reciprocity networks, collective labour and local knowledge—buffered food access in several communities. Yet the same period exposed limitations: despite increased local production, dietary diversity declined in Fiji and Solomon Islands. The interpretation is that shocks narrow access to diverse foods and that diversity depends on both on-farm diversity and functioning exchange/market systems (IPCC, 2022; Reddy, 2024; Iese et al., 2021; Leweniqila & Vunibola, 2020; FALAH D4.8, 2024).

The FALAH final synthesis turns this observation into a preparedness agenda: strengthen open-air markets, support inter-island circulation, and reduce food loss through low-tech preservation methods (drying, fermentation, smoking), with explicit intergenerational transmission components (Georgeou et al., 2022; FAO, 2018; FALAH D4.9, 2025).

The Productivity-Market Access-Policy Triangle

A key insight of the draft is that improved productivity rarely produces sustained benefits without market access and supportive policy. When markets fail, increased production can depress prices; when policies support circulation and procurement, even modest production gains translate into stable income and food access. Successful revitalisation

therefore requires simultaneous progress on productivity/diversification, market access/value chains, and coherent policies (Georgeou et al., 2022; FAO, 2018).

Cultural Capital Versus Infrastructure Capital

The draft proposes that Pacific island societies possess significant cultural capital that can partially compensate for weak infrastructure during shocks. However, this substitution has limits. Without transport, storage, safe water and processing, local foods struggle to compete and remain available year-round. Effective revitalisation therefore requires a deliberate strategy to combine cultural capital with infrastructure investments rather than expecting communities to compensate indefinitely for structural deficits (IPCC, 2022; Reddy, 2024).

Gendered Dimensions of Revitalization

Women play critical roles in farming, marketing and coastal provisioning, yet their work and knowledge can remain invisible in statistics and policy design. The draft notes gendered divisions of labour and higher vulnerabilities for female-headed households in some contexts. FALAH exchanges further emphasise that women's coastal harvesting and knowledge are central to food security and cultural life, and that climate change can increase constraints on women's harvesting efforts. Gender-aware policies—safe market spaces, representation in decision-making, recognition of knowledge—are therefore not optional but central to effectiveness and equity (IPCC, 2022; Reddy, 2024; FALAH D4.8, 2024; Georgeou et al., 2022; FAO, 2018).

Transformative change pathways

The final FALAH conference synthesis structures revitalisation using the IPBES analytical grid of transformative change and proposes five complementary pathways: (1) conserve and regenerate places of value to nature and people (genetic resources, local knowledge, intergenerational education, women's roles); (2) drive systemic change in sectors responsible for nature's decline (shift toward agroecology, promote short circuits, manage digital opportunities/risks); (3) transform economic systems for nature and equity (open-air markets, low-tech preservation, stronger regulation, indicators beyond GDP); (4) transform governance to be integrative, inclusive, accountable and adaptive (co-creation of knowledge, use research in decision-making, empower youth and women); and (5) shift views and values to recognise human–nature interconnectedness (re-embed food within indigenous ontologies, strengthen traditional foods, promote nature-connected physical activity) Addinsall et al., 2017; Georgeou et al., 2022; FAO, 2018; FALAH D4.8, 2024; IPBES, 2024; FALAH D4.9, 2025; Palanivel & Shah, 2021.

RECOMMENDATIONS (POLICY, EDUCATION, GENERAL PUBLIC)

For political representatives and public institutions

1. Adopt explicit local food and resilience targets (e.g., share of local foods in public procurement; reduction of postharvest losses in priority chains) and allocate stable budgets (Georgeou et al., 2022; FAO, 2018).
2. Invest in the backbone of island food systems: inter-island/rural-urban transport, storage, cold chain where relevant, and culturally appropriate low-tech preservation facilities.
3. Strengthen open-air markets and short supply chains, ensuring safe water, sanitation and secure vendor spaces (including for women) Georgeou et al., 2022; FAO, 2018; FALAH D4.8, 2024.
4. Support agroforestry and diversified systems through long-term extension, planting material systems, and incentives aligned with livelihood needs (Harrison et al., 2016; Palanivel & Shah, 2021; FAO, 2018).
5. Implement food-environment measures that reduce the structural advantage of unhealthy ultra-processed foods (marketing rules, fiscal tools, procurement standards) Sievert et al., 2019; Brewer et al., 2023; Popkin, 2004; Georgeou et al., 2022; FAO, 2018.
6. Create cross-sector governance mechanisms bridging agriculture, health, education, environment and trade; organise co-creation of knowledge with customary and community actors.

For the education sector

7. Treat school gardens and practical farming/fishing activities as core educational infrastructure, aligned with curricula (not optional extracurricular projects) FALAH D3.1, 2025.
8. Adopt structured cycles: demonstration visit → preparation → weeks/months of practice → reinvestment into lessons, with friendly competitions on yields and diversity (FALAH D3.1, 2025).
9. Adapt tools to ecological and socio-economic contexts (dry rural coast / wet rural coast / urban-peri-urban coastal) as proposed in the Vanuatu FALAH toolkit (FALAH D3.1, 2025).
10. Link practical activities to healthy eating and physical activity education to address intergenerational determinants of obesity and NCDs (WHO, 2025; Galy et al., 2022).
11. Build partnerships with local farmers, fishers, women's groups and health services to ensure legitimacy, safety and continuity (FALAH D4.8, 2024; Georgeou et al., 2022).

6.3 For the general public and communities

12. Support local producers by prioritising seasonal local foods and valuing open-air markets and community exchange networks (Georgeou et al., 2022; FAO, 2018).
13. Revive and share food knowledge: planting calendars, soil care, reef gleaning skills, recipes and preservation methods (drying, fermentation, smoking) FALAH D4.8, 2024.
14. Aim for dietary diversity from land and sea: combine staples (roots/tubers), vegetables, fruits and local proteins whenever possible.
15. Reduce daily reliance on ultra-processed foods; treat them as occasional rather than default options when alternatives exist (Sievert et al., 2019; Brewer et al., 2023; Popkin, 2004).
16. Promote active lifestyles through gardening, fishing, walking and community activities that reconnect people with land and sea.

Country focus (Melanesia)

Vanuatu

Vanuatu combines strong customary food production with very high exposure to cyclones and droughts. Revitalisation requires coupling diversified production with preparedness measures (preservation, storage, recovery capacity) and with youth engagement.

FALAH provides an operational entry point through curriculum-friendly school tools designed to bridge custom and sustainable innovation, with a typology of school contexts (dry/wet/urban-peri-urban coastal).

Priority directions :

- Scale up school-based tools (gardens, composting, small livestock; coastal clam gardens where relevant) using the four-stage approach (FALAH D3.1, 2025).
- Support low-input ecological intensification and drought-aware practices; protect and circulate local planting material (IPCC, 2022; Reddy, 2024; Palanivel & Shah, 2021; FAO, 2018).
- Improve circulation of local foods between islands and toward consumption centres through targeted logistics investments.
- Document and revitalise preservation practices for cyclone-season resilience (IPCC, 2022; Reddy, 2024).

Flagship actions (examples)

- Teacher training + national dissemination of the Vanuatu toolkit in partnership with MoET and local education authorities (FALAH D3.1, 2025).
- Community preservation hubs (drying/fermentation/smoking) linked to disaster preparedness plans.
- Seed and planting material systems enabling rapid recovery after cyclones (Palanivel & Shah, 2021; FAO, 2018).

New Caledonia

New Caledonia faces strong urban–rural contrasts and rapid lifestyle change. FALAH evidence highlights intergenerational differences in determinants of obesity and suggests that family farming's contribution to diet and physical activity can be modest, reinforcing the need for integrated food-environment and lifestyle strategies (WHO, 2025; Galy et al., 2022).

Agrobiodiversity initiatives and stronger short circuits can increase dietary diversity and reinforce cultural continuity (Georgeou et al., 2022; FAO, 2018; Palanivel & Shah, 2021).

Priority directions

- Integrate local food targets into provincial and municipal procurement (schools, hospitals) and support short circuits and open-air markets (Georgeou et al., 2022; FAO, 2018; FALAH D3.1, 2025).
- Develop youth programmes combining practical food production and processing with physical activity and leadership.
- Support inventories and valorisation of agrobiodiversity and local edible plants, with attention to safety and knowledge protection (Palanivel & Shah, 2021; FAO, 2018).
- Strengthen inclusive governance mechanisms and use research evidence in decision-making.

Flagship actions (examples)

- Local procurement pilots combined with logistics support for producers and canteens (Georgeou et al., 2022; FAO, 2018).
- Community 'food and lifestyle' programmes co-designed with youth and customary actors.
- Agrobiodiversity communication tools translated into educational and extension formats (Palanivel & Shah, 2021; FAO, 2018).

Fiji

Fiji has a diversified agricultural base but faces nutrition transition pressures, market volatility and climate risks. Revitalisation requires protecting dietary diversity and strengthening value chains so that local foods remain affordable and convenient (Sievert et al., 2019; Brewer et al., 2023; Popkin, 2004; IPCC, 2022; Reddy, 2024; Georgeou et al., 2022; FAO, 2018).

FALAH contributions on dairy losses illustrate the role of services and infrastructure for income stability.

Priority directions

- Support diversified farming and fisheries access to protect dietary diversity.
- Reduce postharvest losses through transport, storage and service support (including veterinary access).
- Promote healthy local processing and value addition to increase farmer income and affordability of local foods.
- Strengthen market access and stabilisation mechanisms during shocks (IPCC, 2022; Reddy, 2024; Georgeou et al., 2022; FAO, 2018).

Flagship actions (examples)

- Loss-reduction investment packages for priority chains (including dairy) co-prioritised with farmer organisations.
- Public procurement commitments for local staples and vegetables paired with producer support (Georgeou et al., 2022; FAO, 2018).
- Extension programmes linking diversification, nutrition education and climate adaptation (IPCC, 2022; Reddy, 2024).

Solomon Islands

Solomon Islands combine strong rural subsistence systems and rapid urbanisation in Honiara. Coastal foodscapes (mangroves, reef gleaning) remain central to diets and incomes, and gendered roles require explicit recognition in programmes and governance (FALAH D4.8, 2024).

Urban agriculture is a concrete pathway to improve dietary diversity and position local food production as a public health strategy.

Priority directions

- Strengthen rural–urban linkages (transport, markets, storage) and ensure safe, equitable spaces for women vendors (FALAH D4.8, 2024; Georgeou et al., 2022).
- Support coastal food systems and stewardship approaches integrating food security, conservation and women's knowledge (FALAH D4.8, 2024; Georgeou et al., 2022; FAO, 2018).
- Develop urban agriculture programmes linked to nutrition education and NCD prevention (WHO, 2025; Galy et al., 2022).
- Promote low-tech preservation and storage to reduce reliance on imported foods (Sievert et al., 2019; Brewer et al., 2023; Popkin, 2004).

Flagship actions (examples)

- Honiara urban agriculture training programme with monitoring of dietary and health outcomes (replicable model).
- Community mangrove stewardship programmes integrating food, culture and conservation (FALAH D4.8, 2024).
- Market infrastructure improvements (safe water, sanitation, storage) reducing losses and vendor burden.

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