“Eat Your Fat Fish”
Community Health Through Traditional Fisheries Management

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Tropical Fish Fats & The Bardi

People in small fishing communities in the Pacific and Oceania choose to eat fish with a high fat content. This preference for “fat fish” was first scientifically reported by Rouja and Dewailly working with the Bardi people of One Arm Point, North Western Australia - who selectively hunt and fish the fattest available fish and animal species [1].

The Bardi’s preference for fat marine animals and the associated hunting and fishing patterns were researched from 2001 –2003 to assess their efficacy in procuring fat (the relative amounts of fat secured by the Bardi) and the lipid profiles of these tropical fish fats and the potential health benefits that are gained from the Bardi fishery model.

Our research found that:
1. The Bardi fish seasonally.
2. Each species has its season where it is fattest and that is when they are specifically procured.
3. Bardi intentionally eat fat deposits in the gut of fish.
4. Gut fat deposits are a vital source of omega three fatty acids [1].

The results of the research were published in 2003 and supported the wisdom of Bardi fishermen. Their seasonal fishing patterns, moving from species to species based on their relative fatness and focusing and isolating fat deposits in the gut of fish, secures for them an important source of omega three fatty acids.

For many of the fish in the Bardi fishery, species fatness is inversely related to spawning season. For this reason, Bardi avoid fish when they are skinny so as to let them “do their business”, and as a result, most fish species are not harvested while they reproduce.

This fisheries model not only brings net health benefits to the Bardi people but also contributes to the reproductive viability of many of these fish.

Research in Bermuda, a temperate semi-tropical fishery in the Atlantic, assessing beneficial nutrient and harmful contaminant levels also noted important seasonal variation in the accumulation of fat in fish, largely evident as fat deposits in the mesenteric cavity but also in the flesh [2]. Fishermen in Bermuda like many other in temperate and tropical jurisdictions in the Atlantic discard the contents of the entire gut cavity of the fish (with the exception of the liver and roe) as part of the fish cleaning process and these fats are not consumed by the Bermuda public.

Fat Fish in French Polynesia

At first we thought the Bardi were unique among tropical fishermen in that they captured fish seasonally and consumed the entire fish including parts of the intestines and associated fat reserves.

“Figure 1”. Sigannus Linneatus from One Arm Point displaying fat deposits on intestine.
However, while doing fieldwork in French Polynesia in 2007-08, we noted that the practice of consuming the gut contents of reef fish was also very common among native Tahitians.

In French Polynesia the majority of fish being sold at local markets are left completely intact specifically so that the purchaser can consume the gut contents, “the fat” [fig 2].

Mixed Messages

Interviews with local fishermen on Moorea, Raivave, and Tubuai suggest that traditionally all fishermen followed seasonal and lunar cycles in their lagoon fishing, specifically to maximize the fatness manifest in the gut and flesh of the caught fish species.

While the tradition of fishing on lunar cycles and other traditional practices that focused capture on fish at their fattest may be on the decline in FP, the desire for fat fish has not depreciated. The practice of selling fish whole, even at the large market in Papeete that receives fish by airplane from all over French Polynesia, is a testament to that.

Older Tahitian Elders were not surprised to hear that the fat they prized was good for their health. However, it was interesting for us to note that for most fishermen and fish consumers, this continued desire for fat fish and the maintenance of this traditional preference was seen as being in opposition to current health advisories which specifically suggest that less fat of all types be consumed [fig 3].

Good Fat vs. Bad Fat - Not all fats are created Equal.

Pacific Islanders are being told to lower their fat intake due to an epidemic of obesity and diabetes in their communities. Unfortunately, while people are aware that poor health is primarily due to the dietary transition from traditional foods to western foods, many are unaware of the great benefits held by their traditional foods and dietary practices.

Local fish consumers from FP and other Pacific Islands reacted with surprise and joy upon hearing that their local fish and their preferred way of consuming it contained the Omega three fatty acids normally only attributed to cold water fish; this information being a vindication of the value of their Elders and Ancestors knowledge and way of life.

Ironically, some even revealed that they and their relatives had cut back on their consumption of local fish fat in order to reduce their consumption of bad fats, while simultaneously taking Omega three pills bought at the pharmacy to improve their health!

Empirical Cultural Exchange

In French Polynesia, avoiding consumption of pelagic fish during pregnancy may have reduced fetal exposure to mercury [3, 4]. It may be that this tradition encouraged the consumption of fatter lagoon fish by pregnant women; promoting a healthy pregnancy. The Bardi people actively carried out the promotion of seasonally fat fish during pregnancy. [1].

In FP the traditional selection of fish only at specific lunar phases or on certain tides at specific places possibly also served a fisheries management function.

The loss of tradition is usually viewed as the decline of cultural practices in the realms of the arts, religion, language or social systems. It is rarely perceived as the loss of hard-earned scientific knowledge.

It may seem self-evident to scientists and public health officials that coastal communities would retain their historically healthy dietary patterns, which have now been so successfully communicated to the rest of the world. However, there are many pernicious and complex reasons for shifts away from traditional practices that
result in the lowering of the health status of traditional communities now networked with the globalised world: conflict, modernization, compromise of ecological systems etc. For these, there are no simple solutions. There is clearly still a need for communities to be informed of the health benefits of their traditional dietary practices.

It is indeed unfortunate that many community members now perceive all fatty foods to be problematic and have extended this recommendation to include fatty traditional foods such as fish which may in fact be a part of a solution to the diabetes and health epidemic among many native communities. However today there is strong scientific appreciation of the benefits of historical coastal diets.

We must now help a new generation of indigenous people celebrate the empirical underpinnings as well as health benefits of their traditional resource use and food consumption strategies.

In addition, we need to devise new research methods - formulated in partnership with local people that incorporate and extend indigenous scientific knowledge into new research paradigms.

Many of the insights achieved with nutrition research today are based on the tested empirical knowledge and example set by the world’s remaining indigenous people. Communicating the value of this knowledge and its contribution to Western science reaffirms its relevance to coastal communities.

Revalidating cultural traditions may encourage communities to resume their traditional fishing practices that may simultaneously hold the key to managing their fishery in a sustainable way and supporting healthier dietary practices.

References
