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Submission to:
Food Standards Australia New Zealand (FSANZ) Proposal P1057 - Review of the kava standard (October 2022)

CC: The Ministry for Primary Industries (MPI)

This submission is provided by [redacted] For a six-year period, from 2016 to 2021, I was funded by the New Zealand Health Research Council to investigate the effects of kava - when consumed at traditional consumption volumes - on cognition, driver safety, health and productivity. To my knowledge, I am the only post-doctoral researcher to work full-time investigating kava's socio-cultural implications and effects on health when consumed naturalistically.

I have over 20 peer reviewed kava-related publications (of which three are books) with another six papers currently either in press or under review. [redacted] The Australian National University stated, '[redacted] must now be considered the world's leading researcher on the social use of kava (Piper methysticum)".

I am Fijian by ancestry, have been consuming kava for over twenty years and have farmed kava while living and working in rural Fiji. I actively engage with the Pacific diasporic kava drinking community in Aotearoa New Zealand (ANZ) and Australia, and I am a member of the Australian Kava Movement. I have recently been awarded a Fulbright Scholarship to study the potential of traditionally influenced kava use environments to reducing post-traumatic stress disorder among post-combat soldiers and the possibility that kava *washdown*, or the drinking of kava with, or shortly after alcohol, causes hepatotoxicity. I present these qualifications to support my submission.

The following are a collection of comments to inform the Food Standards Australia New Zealand (FSANZ) *Proposal P1057 - Review of the kava standard* (October 2022) and also The Ministry for Primary Industries (MPI) who are linked to the review. Some of those comments include submissions.

1. General comments

- Kava (*Piper methysticum*) is arguably the Pacific's most dominant icon of identity, a plant and drink (made from the plant) that plays a key role in almost every event from birth to death.[1]
- Kava also plays a dominant role in the facilitation of talanoa and the creation and maintenance of vā, or relational spaces critical to the continence of Pacific culture and respect-based values both in the islands and Pacific diaspora. [2]
- Kava's cultural significance and use is also critical to diasporic Pacific peoples in allowing them to appropriately engage in significant life events and ceremonies. Kava also provides a sacred link to home (their Pacific land, culture and people), with kava use spaces acting as 'cultural classrooms'[3] aiding cultural continuance which includes Pacific respect-based values.

- Kava use is also increasing in popularity among many Māori who view this as a re-engagement with their pre-migration (from the Pacific Islands to ANZ) practices and tikanga. [4] Some Māori are also promoting kava as a cultural response to the socio-cultural impacts caused by alcohol.[5]
- Kava's value in facilitating quality discussion has been well documented.[6] This is because kava does not intoxicate or disinhibit the user in the same manner as alcohol, cannabis, hallucinogens or narcotics.[7] Moreover, Professor Peter D'Abbs[8] from the Darwin School of Medicine (DSM), asserts that even at high use levels, kava will "not lead to violent behavior" often associated with alcohol use, and does not "befuddle the mind and can be used to stimulate clear-headed discussion".
- Kava use is also increasing among non-Pacific people as a safe alternative to alcohol.[9]
- Kava's safety advantages over alcohol were demonstrated in the 2019 *Australian drug ranking study*. [10] That study was advised by 25 Australian drug experts, some of them Australian Government advisors. Of the 22 drug substances assessed, kava was ranked as the least-most harmful substance at three (3) harm points (comprising: harm to user – 2, socio-cultural harm – 1). Conversely, alcohol – the most widely used drug in Australia – was assessed at 77 harm points (comprising: harm to user – 36, socio-cultural harm – 41). Confusingly, in Australia, alcohol has less access restrictions than kava.
- Restrictions on access to kava, when first introduced at a national Australia level in 2007, led to an increase in alcohol use by Pacific peoples correlating with increased violence and negative socio-cultural implications.[11]
- In their lengthy report that assessed the risk of kava on health, the World Health Organisation's (WHO) 2016 reported states, "On balance, the weight-of-evidence from both a long history of use of kava beverage and from the more recent research findings indicates that it is possible for kava beverage to be consumed with an acceptably low level of health risk".[12]
- A recent literature review[13] focused on traditionally influenced/naturalistic kava use shows a lengthy history of exaggerated narratives and deliberate misinformation linked to kava and its effects on health. The review shows kava, even at high consumption volumes, to have minimal socio-culture and harm risk, including not being addictive.

A. I submit that because of kava's minimal harm concern (also reflected in its status as a 'food' under the FSANZ Code) and significant level of cultural importance, not only to Pacific peoples, but increasing numbers of Māori together with those using kava as a safe alternative to alcohol, great care and consideration be taken by FSANZ ANZ and MPI in any deliberations that could lead to restrictions on kava access and availability in ANZ. This is particularly important as such access and availability limitations would counter sections within the *Treaty of Waitangi* (in cases of kava use by Māori), the *New Zealand Bill of Rights Act*, *The Human Rights Act* and *The United Nations Universal Declaration of Human Rights* (of which ANZ is a signatory), a UN document that endorses cultural engagement and expression, of which kava is included due to its cultural keystone species status[14] for Pacific peoples.

2. Kava research and clinical understanding

Hundreds of clinical studies and published works exist that have investigated kava's effects on anxiety, depression, saccades, cognition and a variety of other topics. However, with the exception of a very small number, almost all of these studies used, as part of their methodology, a tablet (or capsule) form of kava.[15] Those tablets or capsules are manufactured products, and often contain six extracted kavalactone (active properties in kava) typically ingested at a pharmaceutically recommended daily dose of 60–250mg kavalactones.[16] Naturalistic kava, or kava as mixed and consumed in its traditionally influenced use form, contains over 20 lactones together with various other active ingredients including flavokavains and alkaloids.[17] Additionally, in traditionally-influenced spaces, kava use is typically underpinned by Pacific respect-based values and protocols (which also influences and impacts 'set and setting', or a person's mindset related to the social and physical environment of the substance use[18]) and accompanied by the use of cultural receptacles and drinking utensils in which users consume kava over several hours.[19]

The key point here is, regardless that there is a significant difference between naturalistic and tablet-style kava and its use practices, kava psychopharmacology understanding continues to be chiefly viewed through the lens of effect descriptors and research associated with tablet-form kava use. Moreover, that tablet-form kava understanding is often applied to, and overlaid on, kava users and kava psychopharmacology in the naturalistic traditionally influenced setting.[20] Admittedly there are limited cases in which findings from tablet-based research can inform wider naturalistic kava use understanding, however that correlation must be applied with caution.

B. I submit that in the 'Proposal P1057 - Review of the kava standard', when FSANZ and MPI are considering research findings to gain understanding, or support arguments in relation to naturalistic kava use, they do so with great caution, particularly as most published studies on kava have used a tablet-form of kava in their investigative process as opposed to naturalistic kava in traditional use volumes.

3. Supporting documentation to 'Proposal P1057 - Review of the kava standard': Australian Aboriginal kava use.

The supporting documentation (*Risk and technical assessment* and *Social Science Evidence Summary: Consumer demographics, practices, contexts, and understandings of kava beverage in Australia and New Zealand*) to 'Proposal P1057 - Review of the kava standard' cites research that investigated kava use by Australian Aborigines. Much of that research is old, with some of that research recently criticised as being inaccurate, exaggerated, alarmist and politically motivated to draw attention away from underlying health inequity issues. For instance, starting in the 1980s, the *Darwin School of Medicine* (*DSM*) reported concern over Government and judicial misinformation linked to Aboriginal kava use, a matter that has continued through to today. The following points support my claim and inform three submissions:

- Kava was introduced to Aboriginal communities in the 1980s as part of a suite of measures aimed at reducing harm caused by alcohol.
- Opinion pieces published following kava's introduction to Aboriginal communities referred to all-night binges and illicit mixing of kava with other drug substances.[21] This

was also accompanied by growing reports by Australian health officials about kava related health concerns.

- In addition to those concerns were reports that Aboriginal kava users in the Northern Territory (NT) were habitually mixing kava with alcohol, an assertion that may have been dispelled by a subsequent *Northern Territories Drug and Alcohol Bureau* (*DAB*)[22] investigation, although continues to be cited today as one of several factors influencing the need to restrict kava in Australia, and particularly in Aboriginal communities.
- That *DAB* study prompted senior researchers at the *DSM* to call out Australian health officials, claiming Government sponsored research investigating, and policy aimed at, Aboriginal kava users was flawed, as the research and policy documents were never made "available for scrutiny", preventing an assessment of the "evidence"[23]. *DSM* Professor Peter d'Abb's also accused kava regulatory processes of being based on "bureaucratic encroachment" and "public health bureaucracy" as opposed to fact and "scientific legitimacy".[24]
- Since the *DAB* and *DSM* critiques, several studies and reports have added fuel to anti-kava rhetoric.[25] These include:

    - Cawte[26] and Matthews *et al*.[27] who stated Aboriginal users were consuming kava at rates vastly higher than their Pacific counterparts and risked "direct effects on the liver". That *higher than their Pacific use rate is disputed* when compared with Fiji-based findings.[28]
    - Clough[29] asserted that excessive kava use by Aboriginal peoples lowered body mass index (BMI) and led to malnutrition. Conversely, several researchers have voiced concern that kava may be a contributing factor in Pacific obesity rates (a claim I personally dispute). So, does kava cause malnutrition or obesity?
    - Trevena-Vernon's[30] investigation which tracked impacts from the 1998 *Kava Management Act* reported Aboriginal kava use had a major negative impact on productivity. Because my Doctoral research focused on kava and impacts to productivity, I contacted Trevena-Vernon (2008, March 5, email) seeking to understand the methodology she had used; specifically how she had measured productivity loss and increase. Unfortunately, her response mirrored that of other experiences I had when making similar enquiries with other Australian-based researchers such as those at the *Menzies School of Health Research* in Darwin and the *Alcohol and Other Drugs Unit* at the Northern Territory Health Department. All, including Trevena-Vernon[31], appeared either evasive or circumspect in their responses, often suggesting I either speak with Professor Helen Hughes (since deceased, of the Australian National University) or Associate Professor Alan Clough (at the Menzies School of Health Research), both known for their anti-kava views.[32]

- Starting in 2007 I was approached by several Australian-based Pacific groups and asked to assist in lobby the Government so as to increase the supply of kava into the country and in turn, aid cultural continuance and curb the increasing use of alcohol following the 2007 kava importation restriction. Following pressure from the Australian Pacific kava using community and Pacific leaders in the Islands, the 2007 2kg limit was increased to 4kg in late 2019. However, the conditions remained;

any kava coming into Australia could only be brought by incoming passengers, and not posted. A complete ban on kava remained in the NT.

- Regardless that kava could not be posted into Australia, this did not extend to alcohol. It was, and still is, permissible to post a box of 12 x 40oz bottles of spirits, Jack Daniels for instance, into Australia from NZ; a substance with a harm ranking of 77 and an alcohol volume sufficient to kill. However, it is illegal to post 100grams of kava, a safe substance with a harm ranking of 3, into Australia. This incongruency is baffling.
- This led to renewed lobbing of the Australian Government which included lengthy communications and discussions with Australian health officials. Initially they reasoned kava restrictions on specific threats to health, concerns I was able to refute by citing research. However, as time went on, responses from health officials became sporadic and vague; although Australian officials reported health concerns, they refused to state exactly what those concerns were.
- Lobbying also included explanation on the negative impacts that limited kava supplies were having on Pacific cultural practices, with this argued to breach Australian Pacific people's rights under *The Universal Declaration of Human Rights* (of which Australia is a signatory). Also cited was the vicarious health and socio-cultural impacts, that I argued were being perpetuated by the Australian Government, resulting from increased alcohol use by Pacific peoples unable to access kava due to draconian policy.
- Finally, I also pointed out that the Australian Governments policies on (safe) kava were unnecessarily driving the kava black market as Pacific peoples sought kava to support culturally significant events.
- This led me to publish an article in which I called out the Australian Government for their "imperialistic", narrow minded kava policies – 'health bureaucracy gone mad' – and all based on non-existent health concerns.[33] I also published an article in the triple peer reviewed *Journal of Drug Science, Policy and Law*, and written for health professionals and policy makers, so as to provide a key source of information on kava and health for the Australian Government.[34]
- In late June 2021, I was invited to Canberra to speak to Government officials about kava health risk. That meeting was also used by the Government to announce details on the Phase 2 kava importation application process and programme intended to start in January 2022.
- Present at that meeting was the Hon. Zed Seselja MP, Minister for International Development and the Pacific, Mr Avi Rebera, Assistant Secretary Federal Government Department of Health and Mr Radomir Krsteski, Director Environment Health Food, Health Protection Service, ACT Health, together with five High Commissioners from the Pacific (Tonga, Samoa, Fiji, Solomon Islands and Vanuatu), and other dignitaries.
- Over a 40-minute period I spoke to what appeared to be the regurgitation of unsubstantiated and misinformed kava health concerns by Australian health officials. This included addressing the 14 kava health harms published in a 2019 paper entitled *Review of kava use among Aboriginal and Torres Strait Islander people,*[35] and written by an Australian National Drug Research Institute researcher. That paper presents a number of concerns regarding kava's impacts on health that are <u>not</u> supported by wider research, anecdotal evidence or real-life experience.
- I also addressed the matter of 'kava' being reported as a major cause of health and socio-cultural disruption in Northern Territory Aboriginal communities. I pointed out that this was little more than scapegoating, with a number of Australian researchers

making it clear that Aboriginal socio-cultural upheaval has been exacerbated by land confiscation, Government influence legal injustices and disempowerment over the previous 50 years which led to "traumatic social change".[36] Therefore, to suggest cause-and-effect conditions between Aboriginal kava use and socio-cultural disharmony lacks research rigour protocols, professionalism and considered process.

- Following the June 2021 meeting I had a lengthy discussion with Mr Avi Rebera from the Federal Government Department of Health. We discussed NZ's regulation of kava under the FSANZ, my concerns about the ongoing misrepresentation of kava health impacts by the Australian Government, the scapegoating of 'kava' as the cause of Aboriginal struggles, and the impact of the kava restrictions on the Australian Pacific community. He stated that some of my concerns would be addressed in the upcoming kava pilot as the programme would be advised by experts at Australia's *National Data Advisory Council* (*NDAC*) and fully evaluated to ensure proper process and information. I asked how many kava experts *NDAC* had, and he replied none. I then asked how he could assure appropriate process when *NDAC* lacked kava expertise, to which he replied they would look into this. I have not heard from Mr Rebera. Of added interest was a comment he made about kava also being regulated in Australia under the *Poisons Act* in addition to FSANZ. When I asked whether alcohol was also regulated under the *Poisons Act*, he replied it was not.

I apologise for this lengthy point by point, however I felt it was necessary as it supports this following:

C. I submit that FSANZ ANZ and MPI not cite, rely upon, or consult Australian reports or research discussing kava use by Australian First Nations people. Much of that narrative, and most research, is highly subjective and contestable. Moreover, the Australian Government have scapegoated kava as a key contributor to Aboriginal health concern (particularly in the NT). This is unprofessional and unethical. Further, the Australian Government appear to have unnecessarily highlighted concern over kava, and instituted draconian restrictions (*Poisons Act*, postal), on a substance some of their own drug assessors ranked as having a harm-value of three (3).[37] Conversely, regardless that their same drug assessors reported alcohol as “the most harmful substance overall, followed by cigarettes, crystal methamphetamine, cannabis, heroin and pharmaceutical opioids”, with a harm ranking of 77, [38] restrictions on alcohol are more relaxed than kava.

I also submit that FSANZ ANZ and MPI request FSANZ Australia to provide full and transparent reasoning for P1057’s urgent proposal amendment to “the kava standard in the Australia New Zealand Food Standards Code (the Code)”. Moreover, that the full and transparent response go beyond “existing Standard 2.6.3 - to ensure it continues to protect public health and safety following the commencement of commercial importation of kava into Australia” reasoning.[39] It is clear kava poses a very small health and safety risk (to quote the WHO[40]), one that several of the Australian Governments own drug advisors acknowledge (awarding kava a harm ranking of 3). Further, that the full and transparent response be reported to the ANZ public in a press statement.

Finally, I submit that FSANZ ANZ refuse to debate kava use and Code regulation with the Australian Board of FSANZ until such time as they appoint a team, similar to that

of a ANZ *Royal Commission*, to fully review kava research, policy and regulation in that country. Further, that such a review addresses: (a) claims that kava use by Aboriginal peoples is directly linked to health concerns; (b) the impact of kava restrictions on Pacific peoples living in Australia and implications this has in relation to *The United Nations Universal Declaration of Human Rights* (of which Australia is a signatory); and (c) reasoning as to why kava (harm ranking of 3) has a disproportionate level of restrictions when compared with alcohol (harm ranking 77).

The Australian Governments bullying practices in respects to kava regulation and their indigenous peoples, which has also had major implications for Pacific peoples living in Australia and countered *The United Nations Universal Declaration of Human Rights*, together with the Australian Board of FSANZ's urgent P1057 proposal amendment, which was pushed through without consultation with ANZ, must be called out and publicly responded to.

4. Supporting documentation to 'Proposal P1057 - Review of the kava standard': 'intoxication'.

The supporting documentation (*Social Science Evidence Summary: Consumer demographics, practices, contexts, and understandings of kava beverage in Australia and New Zealand*) to 'Proposal P1057 - Review of the kava standard' uses the word "intoxication". Three New Zealand Health Research Council funded projects (resulting in more than 10 publications[41]), all using active/control quantitative data drawn from naturalistic kava use settings in which attendees were assessed with brain function tests, and with the results applied to driver safety, report:

- Although "kava has a statistically significant impact on Temporal Order Judgement [defined as sequencing or event ordering], no interference occurs to Focus, Accuracy, Timing Perception, Plasticity or Fatigue, cognitive faculties typically disrupted by alcohol and cannabis use."[42]
- "An additional factor worthy of consideration is the potential effects resulting from a lack of sleep. It is common for traditionally influenced kava sessions to finish [late]... Additionally, consecutive nights of kava use are also common, including on weeknights… Professor of neuroscience and psychology, Roxanne Prichard, from the University of Minneapolis, stated, 'it only takes a small amount of sleep loss for … negative effects to kick in… if you stay awake for eighteen hours—so you woke up at 6 a.m. and went to sleep at midnight—by the end of the day, your reactions are equivalent to if you had 0.05 percent blood alcohol'… Although the brain function test data shows a slight (non-statistical) improvement in the Focus scores of the active participants between the mid-point and final Brain Gauge test, it is worth considering the potential of sleep deprivation when combined with kava use as a contributing factor to the significant negative Temporal Order Judgement scores."[43]
- "The current findings add quantitative understanding to ethnographic data on *kava* effects, suggesting the often-used term '*kava* intoxication' is misleading and incorrect." [44]

D. I submit that in the 'Proposal P1057 - Review of the kava standard', FSANZ and MPI review these kava cognition findings and consider how the effects of kava are

explained in order to limit misrepresenting kava effect and in turn perpetuate misinformation.

5. Supporting documentation to 'Proposal P1057 - Review of the kava standard': 'negative social effects' etc.

The supporting documentation (*Social Science Evidence Summary: Consumer demographics, practices, contexts, and understandings of kava beverage in Australia and New Zealand*) to 'Proposal P1057 - Review of the kava' includes commentary that "Kava is acknowledged to have potential negative social effects associated with the physiological effects of tiredness and lethargy, which can reduce heavy users' involvements in familial, community, and economic life." [45] Research is clear that kava is not addictive,[46] therefore attendance at kava environments is voluntary as opposed to driven by addictive compulsion. Negative commentary linked to the "social effects" presented above are typically accompanied by emotive "claims that kava drinking is time consuming and 'takes men away from their families'". I have addressed this matter in a publication, explaining "that excessive television watching, gaming or involvement with sport can do the same thing ['take men away from their families'] – it's about how people choose to spend their time. Kava, as opposed to personal choice, or even poor choice, has become the scape-goat and the point of criticism".[47]

E. I submit that in the 'Proposal P1057 - Review of the kava standard', FSANZ and MPI consider how the social effects of kava are explained in research and media, and compared this with wider circumstances. Additionally, that FSANZ and MPI recognised that Pacific research participants making statements to researchers often communicate from an *English as a second language* position in which explanations can easily be misinterpreted, particularly when the researcher is not Pacific in ethnicity. Therefore, it is important the potential of miscommunication be taken into consideration by FSANZ and MPI when reading research findings, and then comparing research participant responses with wider circumstances. Additionally, that such considerations and wider circumstances also be aligned with the findings from the 2019 *Australian drug ranking study*[48] which ranked kava's socio-cultural harm at 1 (one) point, whereas the socio-cultural harm for alcohol use was ranked at 41.

I also submit that in relation to kava's reported "social effects … [on] community", these be balanced against kava's role in facilitating 'cultural classrooms' and quality discussions, together with use that does "not lead to violent behavior" [49] which is often associated with alcohol.

6. FSANZs seeking of commentary re: Kava use in a historically safe and culturally appropriate way.

Culture is not static, and this has led to some changes in kava use.[50] For instance, kava is no longer masticated and rarely is it strained using the fibres from a hibiscus branch (unless in highly formal settings).[51] Additionally, strict traditional kava use in Vanuatu has been replaced by the urban *nakamal*, a post-1980 independence creation aimed at reducing problematic alcohol use.[52] Nevertheless, urban *nakamal* kava use frequently includes the acknowledgement of ancestral deities by niVanuatu, therefore including aspects of '*kustom*'. Some, including several attendees on the *MPI kava webinar* (7 Sept.

2022), suggested cultural shifts in kava use provided opportunity for new hybridised kava products. I strongly disagree. Although there have been some shifts in culturally influenced kava use, fundamentals remain. These include the mixing of kava by hand, the ongoing use of kava as an icon of identity and protocol, the communal aspects of kava use inclusive of talanoa, and respect for kava and those present. Dr Vincent Lebot, arguably the world's leading kava ethnobotanist, states, "Kava is kava; it is the traditional beverage prepared by cold water extraction of the ground organs of the plant Piper Methysticum, and nothing else. We want to protect the geographical origins and the healthy quality kava plants we use here on an original basis." Therefore, I would argue restrictions can still be applied to kava preparation, use and supply, with those restrictions complying with cultural fundamentals. For this reason:

F. I submit that in the 'Proposal P1057 - Review of the kava standard', FSANZ and MPI prohibit the adding of flavours to kava; prohibit preprepared kava drinks packaged in pop-culture drink-styled bottles and cans that resemble 'lollie-water', and/or give the impression, that kava is a form of alcoholic RTD; prohibit kava vapes (which would promote smoking); and prohibit kava being added to food or the manufacture of kava lollies (that suggest kava is a play-thing). I wish though to provide a caveat to this submission:
I also submit that premixed kava, in plain (as possible) bottling, with a stabilizer allowing at a period of shelf-life, be permitted for sale from recognised kava outlets. This caters for those Pacific ethnicities, particularly those from the Western Pacific, who typically mix kava, and then carry that kava to other venues for consumption. Additionally, this form of shelf-stable pre-mixed kava also provides new non-Pacific kava users, who are often seeking an alternative to alcohol, a safe introduction to kava and typical kava mix-strength, prior to sourcing kava powder and negotiating the mixing process themselves.

7. Kava label warnings and retail.

The Code currently requires kava to include two warnings on labels: (a) 'Use in moderation'; and (b) 'May cause drowsiness'.

G. I submit that kava labelling include a third warning: (C) 'Combining kava with alcohol, or drinking alcohol in the hours immediately following kava, can cause liver damage'. I make this submission based on the following:
Showman et. al[53] explain, "Traditionally, kava is mixed with water, is not extracted with another solvent, is strained by hand, and is prepared as a social drink. By contrast, non-traditional nutraceutical forms of kava are solvent-extracted (alcohol or acetone), usually as part of a commercial process, and not consumed socially… the elevated levels of kavalactones [resulting from solvent-extracted] … are often pointed to as a potential source of toxicity in organic/nutraceutical preparations."
Put simply, solvent-extraction of kavalactones, and kava interaction with alcohol and acetone, are suspected of causing a chemotype disruption to properties in kava that may cause damage to the liver. Understanding of this nature informed the 2014 Federal Court of Germany ruling[54] which overturned the *European Kava Ban* and led to a ban on the solvent-extraction of kavalactones.

As kava has increasingly moved away from its traditional Pacific island home-base and into Pacific diasporic environments, this has also led to increased kava use by non-Pacific peoples. Coinciding with kava's growing popularity is *washdown*, an evolving practice in which some mix alcohol with, or drink alcohol after, kava. While alcohol is known to potentiate the effects of kava,[55] *washdown* is anecdotally reported to cause hepatotoxicity in some users.[56] The University of Waikato, in a joint project with the New Zealand Institute of Environmental Science and Research (ESR), are currently running a pilot study exploring *washdown* hepatotoxicity. The results of this pilot will not be known for several months and will then require assessment at full study.

H. I also submit that because of the potential of *washdown* hepatotoxicity, kava be restricted from being sold from liquor outlets; kava is not alcohol, and does not belong in liquor outlets.

I. I further submit that FSANZ and MPI make a public statement that kava is not alcohol, is not to be sold or consumed with alcohol, and that a number of Pacific academics and elders recommend the use of kava by Pacific peoples over alcohol.

8. A mountain out of a molehill?

During The Ministry for Pacific Peoples (MPP) and MPI *Kava Zoom Fono* on 18 Oct. 2022, aimed at discussing "proposed changes that might affect cultural users of kava", an attendee questioned what all the fuss was about, essentially asking *why were we putting so much effort into systems – kava use and sale in Aotearoa – that is not broken*, particularly when we have so many more pressing social issues. This is worth considerating. It appears Australia have again created *a mountain out of a molehill*, perpetuating "bureaucratic encroachment" and "public health bureaucracy" by raising unsupported kava concern and alarmism, action that has generated unnecessary work and costs for FSANZ Aotearoa, MPI, kava researchers, kava retailers and the Pacific kava using community. This submission along took several hours to write, with me loosing productivity time that could have been spent elsewhere. This has also led to anxiety among the kava using community of Aotearoa and vicariously Pacific Island kava farmers, with rumours of a kava ban in ANZ. Clearly, if Australia (and I should add ANZ) were to be concerned about a legal drug substance, should it not be alcohol, particularly with alcohol "ranked the most harmful substance overall" at 77 harm points when compared with kava at **3** harm points? [57]

If a (small) concern did exist, it is adulterated kava entering the ANZ market, a matter I raised in 2017.[58] However, since I made that comment, I have been actively monitoring kava quality coming into ANZ. Essentially the market appears to be regulating itself, with poor quality kava quickly being identified, users being advised where to and where not to purchase from, and with poor quality kava being boycotted. This has led, particularly in the past five years, to retailers being unable to sell poor quality stock. They have in turn pushed back on their suppliers, and in most cases, the kava available for sale in ANZ is of high quality. These observations prompt my final submissions:

J. I submit that in the 'Proposal P1057 - Review of the kava standard', FSANZ and MPI continue to allow personal use kava to be carried into ANZ without import duty or

testing at the Boarder. Commercial imports of kava (kava for retail) should attract import duty.

K. I also submit that in the 'Proposal P1057 - Review of the kava standard', FSANZ and MPI simply make minor tweaks to the Code, such as the inclusion of a third warning on kava packaging: (C) 'Combining kava with alcohol, or drinking alcohol in the hours immediately following kava, can cause liver damage', and then allow the kava market in ANZ to regulate itself as it has done successfully for the past five years.

L. I finally submit that any future changes to kava regulation in ANZ actively consult with ANZ based Pacific health researchers who have studied the use of kava among Pacific peoples (such as Dr Edmond Fehoko, Dr Sione Vaka, Professor Malakai Kolomatangi, Professor Palatasa Havea and myself), together with consultation in the Pacific and Māori kava using community.

Finally, I wish to make it clear that while my submission addresses kava misinformation, challenges exaggerated kava health concerns and pushes for measures to increase kava availability, I am not suggesting kava is an idyllic and totally harmless substance. As I explain in the *Journal of Drug Science, Policy and Law*[59] article, "no drug is harm-free". However, as psychopharmacologist and psychiatrist Professor David Nutt[60] from Imperial College London explains, the key to understanding a drugs level of harm is through measurement and comparison. With this being a prescribed standard, it is worth reconsidering the WHO[61] 2016 risk assessment which describes kava as having an "acceptably low level of health risk" when we consider "the weight-of-evidence from both a long history of use of kava beverage and from the more recent research findings." Additionally, when compared and measured against other drug substances, as was done in the 2019 *drug harm ranking study*, [62] kava compared extremely well, particularly against ANZs most popular social lubricant, alcohol: **alcohol 77** harm points vs. **kava 3** harm-points. Professor Nutt makes a valuable point regarding the measurement and comparison of kava against other drugs: "If any government is serious about being 'tough on drugs', they need to be tough on the most harmful drug of all: alcohol." [63]

Vinaka vakalevu sara (sincere thanks) for the opportunity to submit to the 'Proposal P1057 - Review of the kava standard' with the understanding that this submission will be read in detail and will be considered by the Proposal P1057 Review Team.

[redacted]

References and notes

[1] Aporosa, A. (2019). Kava and ethno-cultural identity in Oceania. In S. Ratuva (Ed.), *The Palgrave handbook of ethnicity.* (pp. Ch. 98. pp.1923-1937). London: Springer-Nature. Permanent link: https://hdl.handle.net/10289/12377

[2] Aporosa, A. (2019). Kava and ethno-cultural identity in Oceania. In S. Ratuva (Ed.), *The Palgrave handbook of ethnicity.* (pp. Ch. 98. pp.1923-1937). London: Springer-Nature. Permanent link: https://hdl.handle.net/10289/12377

Fa'avae, D. T. M., Hemi, K. V., & Aporosa, S. A. (Eds.). (2021). Talanoa vā: Honouring Pacific research and online engagement. *Waikato Journal of Education: Special Issue* (Vol. 26) 10.15663/wje.v26i1

Fa'avae, D. T. M., Tecun, A., & Siu'ulua, S. (2021). Talanoa vā: Indigenous masculinities and the intersections of indigeneity, race, and gender within higher education. *Higher Education Research and Development*, 1-14. 10.1080/07294360.2021.1882402

[3] FSANZ. (2022*). Supporting document 2: Social Science Evidence Summary: Consumer demographics, practices, contexts, and understandings of kava beverage in Australia and New Zealand*. July 2022. (p.16)

[4] Aporosa, S. A., & Forde, J. (2019). Māori and kava: New drug fashion or re-engagement with 'kawa'? *Pacific Dynamics: Journal of Interdisciplinary Research, 3*(1), 72-85. doi:http://dx.doi.org/10.26021/865

[5] Aporosa, S. A., & Forde, J. (2019). Māori and kava: New drug fashion or re-engagement with 'kawa'? *Pacific Dynamics: Journal of Interdisciplinary Research, 3*(1), 72-85. doi:http://dx.doi.org/10.26021/865

[6] Aporosa, S. A. (2019). De-mythologizing and re-branding of kava as the new 'world drug' of choice. *Journal of Drug Science, Policy and Law, 5*, 1-13. doi:10.1177/2050324519876131

[7] Aporosa, S. A., Ballard, H., Pandey, R., & McCarthy, M. J. (2022). The impact of traditional kava (Piper methysticum) use on cognition: Implications for driver fitness. *Journal of Ethnopharmacology, 291*(115080), 1-15. doi:10.1016/j.jep.2022.115080

[8] D'Abbs, P. (1995). The power of kava or the power of ideas? Kava use and kava policy in the Northern Territory, Australia. In N. J. Pollock (Ed.), *The power of kava* (Vol. 18, Canberra Anthropology (Special volume,1&2), pp. 166-183). Canberra: Australian National University. (p.169)

[9] Aporosa, S. A. (2015). The new kava user: Diasporic identity formation in reverse. *New Zealand Sociology*, 30(4), 58–77.

Blackwood, A. (2019). *How Four Shells Kava bar is giving Pacific roots a place to grow in Auckland*. Metro Magazine (online), Aug. 13. Retrieved from https://www.metromag.co.nz/food/food-drinks/four-shells-kava-bar-pacific-roots-auckland

[10] Bonomo, Y., Norman, A., Biondo, S., Bruno, R., Daglish, M., Dawe, S., . . . Castle, D. (2019). The Australian drug harms ranking study. *Journal of Psychopharmacology, 33*(7), 759-768. doi:10.1177/0269881119841569

[11] Pinomi, S. (2008). *Kava restriction puts an unfair burden on Pacific culture*. The Sydney Morning Herald. May 30. p.15. Retrieved from http://www.smh.com.au/news/opinion/kava-restriction-puts-an-unfair-burden-on-pacific-culture/2008/05/29/1211654216506.html

[12] Abbott, P. (2016). *Kava: A review of the safety of traditional and recreational beverage consumption (Technical Report)*. Rome: Food and Agriculture Organization of the United Nations and World Health Organization.

[13] Aporosa, S. A. (2019). De-mythologizing and re-branding of kava as the new 'world drug' of choice. *Journal of Drug Science, Policy and Law, 5*, 1-13. doi:10.1177/2050324519876131

Aporosa, A. S., & Foley, E. (2020). De-mythologizing and re-branding the traditional drink kava. *Research Outreach*(113), 106-109. Permanent link: https://hdl.handle.net/10289/13568

[14] Aporosa, A. (2019). Kava and ethno-cultural identity in Oceania. In S. Ratuva (Ed.), *The Palgrave handbook of ethnicity.* (pp. Ch. 98. pp.1923-1937). London: Springer-Nature. Permanent link: https://hdl.handle.net/10289/12377

[15] Aporosa, S. A., Hébert-Losier, K., & Aughton, H. (2022). Traditional kava use and body sway: A pilot investigation. *Pacific Health Dialog: The Journal of Pacific Research*. (in post)

[16] Bian, T., Corral, P., Wang, Y., et al. (2020). Kava as a clinical nutrient: Promises and challenges. *Nutrients*, 12(10):3044. https://doi:10.3390/nu12103044

[17] Cheung, C., Baker, J., Byrne, J. M., & Perrault, K. A. (2022). Investigating volatiles as the secondary metabolome of Piper methysticum from root powder and water extracts using comprehensive two-dimensional gas chromatography. Journal of Ethnopharmacology, 294, 115346-115346. doi:10.1016/j.jep.2022.115346

[18] Zinberg, N. (1986). Drug, set, and setting: The basis for controlled intoxicant use. Connecticut: Yale University Press.

Aporosa, S. A. (2022). 'Doped' on kava: Understanding kava's impacts on cognition and driving. Suva: Pacific Studies Press. (in press, due Nov.)

[19] Aporosa, S. A., Hébert-Losier, K., & Aughton, H. (2022). Traditional kava use and body sway: A pilot investigation. *Pacific Health Dialog: The Journal of Pacific Research*. (in post)

Aporosa, S. A. (2022). 'Doped' on kava: Understanding kava's impacts on cognition and driving. Suva: Pacific Studies Press. (in press, due Nov.)

[20] Aporosa, S. A. (2022). 'Doped' on kava: Understanding kava's impacts on cognition and driving. Suva: Pacific Studies Press. (in press, due Nov.)

[21] D'Abbs, P. (1995). The power of kava or the power of ideas? Kava use and kava policy in the Northern Territory, Australia. In N. J. Pollock (Ed.), *The power of kava* (Vol. 18, Canberra Anthropology (Special volume,1&2), pp. 166-183). Canberra: Australian National University. (p.198)

[22] Alexander, K., Watson, C., & Fleming, J. (1987). *Kava in the North: A research report on current patterns of kava in Arnhem Land Aboriginal communities*. Darwin: Australian National University North Australia Research Unit.

[23] D'Abbs, P. (1995). The power of kava or the power of ideas? Kava use and kava policy in the Northern Territory, Australia. In N. J. Pollock (Ed.), *The power of kava* (Vol. 18, Canberra Anthropology (Special volume,1&2), pp. 166-183). Canberra: Australian National University. (p.198)

[24] D'Abbs, P. (1995). The power of kava or the power of ideas? Kava use and kava policy in the Northern Territory, Australia. In N. J. Pollock (Ed.), *The power of kava* (Vol. 18, Canberra Anthropology (Special volume,1&2), pp. 166-183). Canberra: Australian National University. (p.179)

[25] Although some Vanuatu *kava* is exported to Fiji to aid local demand (Fiji Times, 2009a:12), the majority supplies the pharmaceutical industry, a partnership that has been far from problem free. In 2001 *kava* was banned in a number of European countries after pharmacological preparations were reportedly linked with liver toxicity (Moulds & Malani, 2003:451; Singh & Singh, 2002:739; Richardson & Henderson, 2007:418-9). This markedly impacted the substance's value as an export commodity (Singh, 2004c:46). This is in contrast to traditional *Pasifika* use where 'Kava hepatotoxicity has not been observed" (Beyer, 2007:4; Provino, 2009:104). Some

argue that the ban was "a vile plot devised by the multinational drug companies to strangle competition" (Keith-Reid, 2002:15) as "kava was starting to eat into [their] profits" (Moulds & Malani, 2003:451; Lindstrom, 2009:303). In the World Health Organisation (WHO) 2007 *Assessment of the risk of hepatotoxicity with kava products*, researchers determined that these "rare" cases of liver toxicity resulted from "kava-drug interactions, excessive alcohol intake, metabolic or immune mediated idiosyncrasy, excessive dose or pre-existing liver disease" and a conflict between the chemical structure of *kava* and the use of ethanol and acetone in some pharmacologically preparations (Coulter, Tamaya & Sotheeswaran, 2007:iv). For further information on this, Dr. Vincent Lebot, "the worlds leading *kava* expert" according to ABC News (2008) Australia, explains this topic in an ANC News documentary available online (starting at 04.05 minutes). The WHO report, together with strategies such as Teschke, Sarris and Lebot's (2010:100-2) "six point plan", have sought to prevent future cases of hepatotoxicity and renew European confidence in *kava*. Over the past 24 months exports have increased although an element of suspicion lingers, especially among the uninformed. What is known is that kava's link with liver toxicity and fear among European users has had very little impact within the traditional use arena (Singh, 2004c:48). Tabureguci (2012:16-7), reporting on "the high level validation workshop in Port Vila, Vanuatu, in March [2012, stated that since the ban]... volumes of scientific research... [have] all vindicated kava. And that's really where the 'dirty politics' started because despite the scientific evidence... to prove kava's effectiveness through updated clinical trials, the goalposts were always shifting." As previously discussed, kava is seen as a threat to pharmacologically manufactured anxiolytic medications (Moulds & Malani, 2003:451; Lindstrom, 2009:303). Discussion in my Master's thesis further supports the assertion that the ban is driven by competition and profits with concerns over safety comprising "dirty politics" and a smokescreen to the real issue (Aporosa, 2008:53-4). There I discussed Schmidt, Morgan & Bone *et al*. (2005), who investigated 83 alleged toxicity reports and found that "only three cases could be attributed to *kava* with high probability" and in those cases it is suspected that other factors were responsible for the negative reactions (p.182). They added that 12 "probable" cases had been confirmed responsible for liver failure, this would account for a toxicity rate of "0.23 cases per 1 million daily doses" (p.187). At the same time though, the researchers reported that consumers in Germany – one of the European country's who initiated the ban – were reportedly taking *Diazapam* (a commonly prescribed pharmaceutically manufactured anxiolytic) with a toxicity rate of 2.12 cases per million daily doses (p.187). However *Diazapam* continues to be widely prescribed in Germany together with the other European country's observing the *kava* ban (Aporosa, 2008:54). Baker (2011) has written a valuable and detailed account of the factors that led to the ban, together with the varied responses to it (including that of the traditional users).

[26] Cawte, J. (1986). Parameters of kava used as a challenge to alcohol. *Australian and New Zealand Journal of Psychiatry, 20*, 70-76.

[27] Mathews, J. D., Riley, M. D., Fejo, L., Munoz, E., Milns, N. R., Gardner, I. D., . . . Gununywawuy, J. (1988). Effects of the heavy usage of kava on physical health: Summary of a pilot survey in an Aboriginal community. *Medical Journal of Australia, 148*, 545-555.

[28] Aporosa, S. (2014). *Yaqona (kava) and education in Fiji: Investigating 'cultural complexities' from a post-development perspective*. Albany: Massey University, Directorate Pasifika@Massey.

Aporosa, A. S. (2022). Yaqona (kava) and the school campus: Regulation versus facilitation. *The Australian Journal of Indigenous Education, 51*(1), 1-20. doi:doi:10.55146/ajie.2022.6

[29] Clough, A. (2003). Enough! or too much. What is 'excessive' kava use in Arnhem Land? *Drug and Alcohol Review, 22*(1), 43-51. (#484:45-6)

[30] Trevena-Vernon, M. (2001). Kava. In J. Condon, G. Warman & L. Arnold (Eds.), *The Health and Welfare of Territorians* (pp. 47-48). Australia: Epidemiology Branch, Territory Health Services, Northern Territory Government.

[31] In an email reply dated March 5, 2008, Trev stated that she had been instructed that her "reports were to remain closed. I therefore do not feel I can speak further of the research".

[32] Aporosa, S. (2014). *Yaqona (kava) and education in Fiji: Investigating 'cultural complexities' from a post-development perspective*. Albany: Massey University, Directorate Pasifika@Massey. (p.161-2)

[33] Aporosa, A. (2019). *Australia's discussion of kava imports reflects lack of cultural understanding*. The Conversation, June 9. Retrieved from https://theconversation.com/australias-discussion-of-kava-imports-reflects-lack-of-cultural-understanding-115662

[34] Aporosa, S. A. (2019). De-mythologizing and re-branding of kava as the new 'world drug' of choice. *Journal of Drug Science, Policy and Law, 5*, 1-13. doi:10.1177/2050324519876131

Aporosa, A. S., & Foley, E. (2020). De-mythologizing and re-branding the traditional drink kava. *Research Outreach*(113), 106-109. Permanent link: https://hdl.handle.net/10289/13568

[35] Butt, J. (2019). Review of kava use among Aboriginal and Torres Strait Islander people. *Australian Indigenous Health Bulletin, 19*(2). Retrieved from http://healthbulletin.org.au/wp-content/uploads/2019/04/kava-bulletin-web.pdf

[36] D'Abbs, P. (1995). The power of kava or the power of ideas? Kava use and kava policy in the Northern Territory, Australia. In N. J. Pollock (Ed.), *The power of kava* (Vol. 18, Canberra Anthropology (Special volume,1&2), pp. 166-183). Canberra: Australian National University. (p.167)

Altman, J. (2018). Raphael Lemkin in remote Australia: The logic of cultural genocide and homelands. *Oceania*, 88(3), 336-359. doi:doi:10.1002/ocea.5204

Altman, J. (2020). Self-determination's land right: Destined to disappoint? In L. Rademakers & T. Rowse (Eds.), *Indigenous self-determination in Australia: Histories and historiography* (pp. 227-245). Canberra: ANU Press.

[37] Bonomo, Y., Norman, A., Biondo, S., Bruno, R., Daglish, M., Dawe, S., . . . Castle, D. (2019). The Australian drug harms ranking study. *Journal of Psychopharmacology, 33*(7), 759-768. doi:10.1177/0269881119841569

[38] Bonomo, Y., Norman, A., Biondo, S., Bruno, R., Daglish, M., Dawe, S., . . . Castle, D. (2019). The Australian drug harms ranking study. *Journal of Psychopharmacology, 33*(7), 759-768. doi:10.1177/0269881119841569

[39] https://www.foodstandards.gov.au/code/proposals/Pages/Proposal-P1057--Review-of-the-kava-standard-.aspx

[40] Abbott, P. (2016). *Kava: A review of the safety of traditional and recreational beverage consumption (Technical Report)*. Rome: Food and Agriculture Organization of the United Nations and World Health Organization.

[41] Aporosa, S. (2017). Understanding cognitive functions related to driving following kava (Piper methysticum) use at traditional consumption volumes. *Journal of Psychopharmacology, 31*(8), (Supplement) A84. Retrieved from https://hdl.handle.net/10289/11307

Aporosa, S. A. (2018). *Improving road safety and health: Understanding kava's impact on driver fitness. Technical report prepared (and accepted) for Health Research Council of New Zealand, July 31.*

Aporosa, A. S. (2019). Cognitive functions associated with consumption of traditional volumes of kava (Piper methysticum): A feasibility study. *Journal of Psychopharmacology, 33*(8), A98. Retrieved from https://hdl.handle.net/10289/12792

Aporosa, S. A., Atkins, M., & Brunton, R. (2020). Kava drinking in traditional settings: Towards understanding effects on cognitive function. *Journal of Human Psychopharmacology: Clinical and Experimental, 35*(2), e2725. doi:10.1002/hup.2725

Aporosa, S. A. (2021). Improving road safety and health: Understanding kava's impact on driver fitness. Technical report prepared for (and accepted by) Health Research Council of New Zealand, July 31. Retrieved from https://hdl.handle.net/10289/14570
Aporosa, S. A., Atkins, M., & Leov, J. (2021). Decolonising quantitative methods within a Pacific research space to explore cognitive effects following kava use. *Pacific Dynamics: Journal of Interdisciplinary Research, 5*(1), 74-92. doi:10.26021/10642
Aporosa, S. A., Ballard, H., Pandey, R., & McCarthy, M. J. (2022). The impact of traditional kava (Piper methysticum) use on cognition: Implications for driver fitness. *Journal of Ethnopharmacology, 291*(115080), 1-15. doi:10.1016/j.jep.2022.115080
Aporosa, S. A. (2022). Traditional kava use, cognition and driver fitness. *Journal of Psychopharmacology*(36, No. 8), A91-A92. Retrieved from https://hdl.handle.net/10289/15093
Aporosa, A. S., & Pathe, A. (2022). Traditional kava-drinking, cognition, and driver fitness. *Research Outreach*(129), 70-73. doi:10.32907/RO-129-2464096742
Aporosa, S. A. (2022). 'Doped' on kava: Understanding kava's impacts on cognition and driving. Suva: Pacific Studies Press. (in press, due Nov.)

[42] Aporosa, S. A., Ballard, H., Pandey, R., & McCarthy, M. J. (2022). The impact of traditional kava (Piper methysticum) use on cognition: Implications for driver fitness. *Journal of Ethnopharmacology, 291*(115080), 1-15. doi:10.1016/j.jep.2022.115080 (p.11)

[43] Aporosa, S. A. (2022). 'Doped' on kava: Understanding kava's impacts on cognition and driving. Suva: Pacific Studies Press. (in press, due Nov.) (p.58-9)

[44] Aporosa, S. A., Ballard, H., Pandey, R., & McCarthy, M. J. (2022). The impact of traditional kava (Piper methysticum) use on cognition: Implications for driver fitness. *Journal of Ethnopharmacology, 291*(115080), 1-15. doi:10.1016/j.jep.2022.115080 (p.12)

[45] FSANZ. (2022). Supporting document 2: Social Science Evidence Summary: Consumer demographics, practices, contexts, and understandings of kava beverage in Australia and New Zealand. July 2022. (p.246)

[46] See Kanumuri, S. R. R., Mamallapalli, J., Nelson, R., McCurdy, C. R., Mathews, C. A., Xing, C., & Sharma, A. (2022). Clinical pharmacokinetics of kavalactones after oral dosing of standardized kava extract in healthy volunteers. *Journal of Ethnopharmacology*, 297, 115514. doi:https://doi.org/10.1016/j.jep.2022.115514 (p.2): "While the mechanisms behind kava's anxiolytic properties are not well-established, its clinical use showed no signs of addiction or withdrawal (Connor and Davidson, 2002; Gastpar and Klimm, 2003; Geier and Konstantinowicz, 2004; Lehrl, 2004; Malsch and Kieser, 2001; Sarris et al., 2009a, 2009b, 2013, 2020)."

[47] Aporosa, A. S., & Foley, E. (2020). De-mythologizing and re-branding the traditional drink kava. Research Outreach(113), 106-109. Retrieved from https://hdl.handle.net/10289/13568

[48] Bonomo, Y., Norman, A., Biondo, S., Bruno, R., Daglish, M., Dawe, S., . . . Castle, D. (2019). The Australian drug harms ranking study. *Journal of Psychopharmacology, 33*(7), 759-768. doi:10.1177/0269881119841569

[49] D'Abbs, P. (1995). The power of kava or the power of ideas? Kava use and kava policy in the Northern Territory, Australia. In N. J. Pollock (Ed.), *The power of kava* (Vol. 18, Canberra Anthropology (Special volume,1&2), pp. 166-183). Canberra: Australian National University. (p.169)

[50] Aporosa, S. (2014). *Yaqona (kava) and education in Fiji: Investigating 'cultural complexities' from a post-development perspective*. Albany: Massey University, Directorate Pasifika@Massey.

[51] Aporosa, S. (2014). *Yaqona (kava) and education in Fiji: Investigating 'cultural complexities' from a post-development perspective*. Albany: Massey University, Directorate Pasifika@Massey.

[52] ABCNews. (Writer). (2008). *Kava culture - Vanuatu*. Foreign Correspondent (Broadcast Sept. 9). Australia., from http://www.abc.net.au/foreign/content/oldcontent/s2464188.htm.

[53] Showman, A. F., Baker, J. D., Linares, C., Naeole, C. K., Borris, R., Johnston, E., . . . Turner, H. (2015). Contemporary Pacific and Western perspectives on `awa (Piper methysticum) toxicology. *Fitoterapia*, 100, 56–67. doi:10.1016/j.fitote.2014.11.012 (p.57, 62)

[54] Kuchta, K., Schmidt, M., & Nahrstedt, A. (2015). German kava ban lifted by Court: The alleged hepatotoxicity of kava (Piper methysticum) as a case of ill-defined herbal drug identity, lacking quality control, and misguided regulatory politics. *Planta Med*, 81(18), 1647-1653. https://doi.org/10.1055/s-0035-1558295

[55] Anke, J., & Ramzan, I. (2004). Pharmacokinetic and pharmacodynamic drug interactions with Kava (Piper methysticum Forst. f.*). Journal of Ethnopharmacology*, 93(2-3), 153-160.

[56] Kumar, A., & Aporosa, A. (2017). *A 'wash-down' with alcohol after drinking kava may be harmful, says researcher*. Radio Tarana (via Stuff.co.nz online), Dec. 12. Retrieved from https://tinyurl.com/ycswzawt

[57] Bonomo, Y., Norman, A., Biondo, S., Bruno, R., Daglish, M., Dawe, S., . . . Castle, D. (2019). The Australian drug harms ranking study. *Journal of Psychopharmacology, 33*(7), 759-768. doi:10.1177/0269881119841569

[58] Kumar, A., & Aporosa, A. (2017). *A 'wash-down' with alcohol after drinking kava may be harmful, says researcher*. Radio Tarana (via Stuff.co.nz online), Dec. 12. Retrieved from https://tinyurl.com/ycswzawt

[59] Aporosa, S. A. (2019). De-mythologizing and re-branding of kava as the new 'world drug' of choice. *Journal of Drug Science, Policy and Law,* 5, 1-13. doi:10.1177/2050324519876131

[60] Nutt, D. (2012). *Drugs - without the hot air: Minimising the harms of legal and illegal drugs*. England: UIT Cambridge. (p.5)

[61] Abbott, P. (2016). *Kava: A review of the safety of traditional and recreational beverage consumption (Technical Report)*. Rome: Food and Agriculture Organization of the United Nations and World Health Organization.

[62] Bonomo, Y., Norman, A., Biondo, S., Bruno, R., Daglish, M., Dawe, S., . . . Castle, D. (2019). The Australian drug harms ranking study. *Journal of Psychopharmacology, 33*(7), 759-768. doi:10.1177/0269881119841569

[63] Nutt, D. (2012). *Drugs - without the hot air: Minimising the harms of legal and illegal drugs*. England: UIT Cambridge. (p.110)