JOINT FAO/WHO FOOD STANDARDS PROGRAMME

FAO/WHO COORDINATING COMMITTEE FOR NORTH AMERICA AND THE SOUTH WEST PACIFIC

13th Session, Kokopo, Papua New Guinea

DISCUSSION PAPER ON THE DEVELOPMENT OF A REGIONAL STANDARD FOR KAVA PRODUCT THAT CAN BE USED AS A BEVERAGE WHEN MIXED WITH WATER

Prepared by electronic Working Group led by Vanuatu

Background

1. At its 11th session of the Coordinating Committee for North America and the South West Pacific (CCNASWP) held in Tonga in 2010, the Coordinator (Tonga) presented the discussion paper on a proposal for new work on the development of an international standard for dry kava products.

2. The Coordinating Committee discussed the proposal and concluded that it still needs more scientific evidence on the safety of dried kava products, more clarity on the nature of the products to be standardized and the need to determine whether the proposal is for a regional or an international standard. The members agreed to establish an electronic Working Group (eWG), led by Tonga, to revise the discussion paper, including the project document, for consideration at the next session.

3. At CCNASWP12 held in Madang, Papua New Guinea, in 2012, the Coordinator (Tonga) presented the discussion paper on a proposal for new work on the development of an international standard for kava products. The meeting agreed that the proposed standard will be a regional dry kava standard. An eWG was again convened to provide more evidence on the safety of kava as a food. Members agreed that the Group would be led by Vanuatu.

4. This paper is now presented as revision of the original discussion paper based upon additional scientific information available since the CCNASWP12 in 2012 and to guide to future work to be initially progressed through the eWG.

Rationale for Development of a Standard for Dry Kava

5. Kava (Piper mythesticum) is an important agricultural commodity for Pacific Island Countries (PICs), forming an integral part of cultural, economic and social life. It has been cultivated for around 3000 years, and is being traded within and outside of the region in important quantities and value (accurate and up to date formal and informal trade statistics to be collated via eWG).

6. It is important that dry kava and products from it use only ‘Noble’ (as described in Vanuatu) or equivalent kava varieties.

7. A comprehensive review of the use and safety of kava commissioned jointly by the FAO and WHO is presented (Abbott, 2014) that highlights a number of food safety issues relating to kava consumption. Kava varieties fall into two groups - those with the broad description of the desirable ‘Noble’ (or equivalent in countries other than Vanuatu) and the less desirable varieties including ‘Two day,’ and wichmannii kava.

8. The review has identified a number of data gaps but there is now considerable clinical and analytical data to delineate between the two groups. This supports the preparation of Codex-based standard(s) that can underpin the regulation of trade in kava products within and from the PICs. Further consideration of the significance of the data gaps and their resolution will be progressed through the eWG.

9. The preparation of Codex-based standards will also allow the introduction and, as relevant, enforcement of associated requirements including hygienic production and manufacturing practices, informed labelling and packaging.

Recommendation on proposed work

10. The development and refinement of analytical methods for the confirmation of the identity and relevant chemical characteristics of kava (focussed on varieties as listed in Paragraph 2 - Project Document below) should receive further financial support to enable rapid and reliable analysis to be available and baseline data to be collated. The analytical methods will ideally be advanced for use in field as well as laboratory conditions.

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1 CX/NASWP 10/11/CRD5
2 REP11/NASWP
11. It is recommended to request the Codex Alimentarius Commission (CAC) support further work to collate and interpret existing data, more recent safety assessments and analytical data as defined by the WHO/FAO (Abbott, 2014) report that will assist in finalising Codex-based standard(s).

12. Consideration should also be given on the application of Good Manufacturing Practices (GMPs) to current production and processing practices for kava products in PICs. This will be required to identify the relevant practices that are already in place and those which require further strengthening including through appropriate training and awareness programmes.

13. The project document in support of development of a new Codex Regional Standard for Kava Product that can be used as a beverage when mixed with water (current draft attached) be further progressed through the eWG prior to submission to the next session of CCNASWP.

14. CCNASWP13 is invited to note the attached draft project document.
Proposal to develop a Codex Standard for Kava

1. The Purpose and Scope of the Standard:

The purpose of this regional Codex standard for kava products intended for human consumption, is to protect the consumers and assure quality to promote fair trade. The scope of the standard applies to kava products as defined in (2). This proposal is intended to cover kava products used as food or food ingredient and does not apply to products used for medicinal purposes.

2. Product Definition

This standard will apply to dry kava prior to its use as a food or food ingredient. The proposed standard will cover dried kava varieties, plant parts, kava products in the form of dried (in form of chips or roots), powdered and water extract, process, quality, safety, labelling in order to provide certainty and assurance to consumers

The predominant use of kava is as a beverage. The roots, basal stems or rhizomes are commonly harvested, peeled, washed, dried and pounded. The powder is mixed with potable water and filtered prior to consumption.

The kava plant varieties utilized for drinking purposes among the PICs are currently selected on the traditional history of experience of safe use and identified using the local vernacular languages of the country of origin. They include:

Vanuatu “Noble” varieties; Melomelo, Asiyai, Biyaj, Palimet, Miela, Olitao, Kelai, Ge wiswisket, Ge gusug, Borogoru, Silese, Melmel, Borogu, Sese, Urukara, Bir Sul, Bir Kar, Palarasul, Palasa, Poivota, Pia, Ahouia, Leay, Amon, Puariki, Pualiu, Naga miwok, Ge vemea;

Fiji varieties; Matakaro leka, Matakaro balavu, Loa kasa leka, Loa kasa balavu, Vula kasa leka, Vula kasa balavu, Qila leka, Qila balavu, Yalu, Dokobana vula, Dokobana loa; Honolulu, Damu;

Samoa varieties Ava Lea, Ava La’au, Ava Loa, Ava Tonga,and

Tonga varieties; Lekakula, Lekakula ‘akau, Lekahina, Lekahina ‘akau, kava Tea, kava Kula, kava Fulufulu);

Solomon Islands Kava varieties (Melomelo);

Federated States of Micronesia Kava varieties (Rahmwainger);

Papua New Guinea variety (Kau kupwe from Baluan Island).

The recent WHO/FAO review (Abbott, 2014) has clearly defined significant differences in the alkaloid profile of the so called “Noble” kava varieties and the Two day and wichmanni varieties. Until now the origin of the kava varieties suitable for drying and consumption has been used as the sole guide. This paper recommends that support is provided for the development of an objective, rapid and portable method to differentiate the two groups at the point of trading in the field and export.

2.1 Dried Kava Products

Kava plants should be cultivated using Good Agricultural Practices for at least three years growth.

Dried products should have a maximum moisture content of 12% (water activity level not exceeding 0.6). The dried kava should have a minimum total kavalactones content of 10% in the roots and 5% in the rhizomes, and a minimum kavain content of 3% in the roots and 1% in the dried rhizomes.

3. Safety of Dried Kava Products

The major feature of kava is that it is characterised by containing the physiologically active group of substances - kavalactones that are present in the native plant and survive the drying process. (Cairney et al, 2002), (Garner and Klinger, 1985), (LaPorte et al, 2011), (Russell et al, 1987), (Thompson et al, 2004). The recent review commissioned by WHO/FAO (Abbott, 2014) has identified that besides the six major kavalactones (the active pharmacological components) alkaloids and flavokavins are also present. The metabolism of kavalactones is reasonably well understood and involves cytochrome P450 2D6, which has the potential for polymorphism. Kavalactones can also inhibit some P450 enzymes, raising the possibility of affecting the metabolism and toxicity of co-medications. There is little evidence for kavalactone-associated in vitro cytotoxicity or in vivo hepatotoxicity in animals. On the other hand little is known about the metabolism of the kava alkaloids or flavokavins. Evidence of significant in vitro cytotoxicity with alkaloids and flavokavins, as well as hepatotoxicity in animals with flavokavins, has been noted and indicates there is a case for minimizing human exposure to these components when kava is prepared for food use such as a beverage. The presence of these alkaloids and flavokavins have formed the basis of
differentiation between the Noble and the ‘Two-day,’ and wichminni kava varieties (Lebot and Legendre, 2014).

The analytical techniques used to establish the levels of kavalactones, flavokavins, and other hepatotoxic alkaloids, Fourier transform near infrared (FTNIR) and high performance thin layer chromatography (HPTLC), currently utilise equipment that is cumbersome and not suited to field use to inform traders in dried kava products. There is a significant prospect however, that these analytical techniques capable of differentiating contents of kavalactone, alkaloids and flavokavins (ie the difference between Noble and medicinal varieties and Two day and wichminni varieties) can be refined into a simple, portable colour test that can be used in the field potentially at least as a screening test.

In this regard the WHO/FAO (Abbott, 2014) review is useful in guiding the future direction of research. Appropriately directed research will, eventually, ensure increased safety for consumers, allow consumers to make informed decisions improve the standing of Pacific Island Countries in the kava industry and provide greater protection for trading nations against instances of imposing technical barriers to trade (TBTs). These are basic tenets of Codex.

4. Its Relevance and Timeliness:
Kava has been cultivated in the Pacific Region including Fiji, Federated States of Micronesia, Papua New Guinea, Samoa, Tonga and Vanuatu for many years. Kava is a major source of income for thousands of small farm holders in these Pacific countries. With the increasing migration of Pacific Islanders to New Zealand, Australia and the United States, the export of kava has increased over the past 30 years, making it a major export commodity and contributes significantly to the local island economies. [up-to-date data on production and trade volumes and value to be collated by the eWG]

Due to the strong interest in the trade in kava products, particularly in terms of regional trade in the Pacific, it timely and critical to establish a Codex-based standard(s) for kava to protect consumer’s health and also to ascertain it’s quality to promote fair trade.

If the CCNASWP should decide to recommend to the Codex Alimentarius Commission to consider and approve this proposal for new work, a CCNASWP Codex Standard for dried Kava will be drafted in accordance with the Codex uniform layout for food products. The proposed standard will cover dried kava varieties, plant parts, kava products in the form of dried (in form of chips or roots), powdered and water extract, process, quality, safety, labeling in order to provide certainty and assurance to consumers.

5. An Assessment against the Criteria for the Establishment of Work Priorities:

a. Volume, Value and Pattern of Trade of Kava from the Pacific Countries

With the increasing populations of Pacific Islanders in New Zealand and the United States, export of kava products has increased significantly to these nations in the past 30 years to ensure that their traditional drink is readily available among the diaspora. [data to be collated and inserted by eWG] Traditionally, males are the main consumers of kava, but socially, women also partake. The inclusion of women and increasing numbers of consumers from other ethnic groups have increased demand so that dried kava has become one of the major export commodities and foreign exchange earnings for some of PICs, particularly Fiji and Vanuatu.

b. Diversity of national legislation and apparent resultant or potential impediments to international trade.

[Text to be updated by eWG to reflect technical and commercial issues relevant to all kava producing PICs] Current impediments to trade include the lack of an internationally accepted kava quality standard; the absences of relevant information on toxicological confidence on varietal differences; quality issues; and poor publicity have contributed to the decline of trade of kava products in several countries. PICs are developing national standards for kava. In 2001, the Secretariat to the Pacific Community published a Guide for Production of kava (SPC, 2001). Vanuatu enacted the Kava Act 2002 amended in 2008, with Samoa, Tonga and Fiji undergoing a similar process. In 2013 Vanuatu published a Kava Quality Guideline Manual as an awareness tool to help improve quality of dry kava for from Vanuatu. Vanuatu is currently working on development of a national dry kava quality standard for export with reference to the Vanuatu Kava Act and having been enabled by the research undertaken by Lebot and Legendre (2014) (FTNIR and HPTLC). It is recognized that the Pacific Island kava-producing Countries are committed to establishing uniform standards at national level4.

In 2005, the Australian Therapeutic Goods Administration (TGA) set kava quality standards with respect to plant part, extraction medium, and treatment modalities (TGA, 2005). In 2005, Food Safety Australia and New Zealand reported the health risk assessment of kava and the associated hepatotoxicity from commercial acetonic or ethanolic kava extract marketed as regulated medicinal drugs rather than

4 International Kava Executive Council (2008)
unregulated dietary supplements (FSANZ, 2005). This is in line with the recommendation by WHO to put in place "adequate quality control measures standardized across the producing countries with agreed quality standards and operating procedures should be instituted for growth, harvesting and processing of the kava root".  

Key Points:

i. Regional and International market potential, a significant amount of dried kava is being traded within the countries of the region (data to be collated and inserted). All dried kava being imported in developed countries, such as Japan, NZ, Canada, China, Europe and USA is sourced exclusively from the Pacific Island Countries. There is therefore a case for the development of a standard(s) relevant to both regional and international trade in Codex Standard format.

ii. Impediments to trade are the lack of uniform standardization which should eliminate the quality problems of the dry kava products considered as the concern for the safety of consumers. The standards should then be the basis of kava legislation to ensure the quality of kava products that do not threaten health, safety and trade and provide all stakeholders with the ability to make informed choices.

iii. It is possible to standardize dried kava to some degree, because the parts of the plant used for food purposes are uniform throughout all countries. The varieties in the proposed standard are those that have been traditionally consumed in the Pacific for centuries and can be identified by standard taxonomical means.

iv. The proposed standard will ensure consumer health protection by identifying suitable varieties of kava, parts of the plant and the process of preparation that over centuries have not shown any undesirable health effects. The standard is expected to enhance trade opportunities for the kava producing/exporting countries by providing assurance to importing countries that they will receive safe, high quality dried kava and products derived from it. The codex standard will promote harmonization of national standards and thereby contribute to facilitate international trade in dry kava products.

5. Relevance to the Codex Strategic Objectives:

The proposed standard meets the criteria outlined in Goals 1, 2 and 5 of the Codex Strategic Plan.  

Goal 1: It will provide a sound regulatory framework harmonized across countries of the region. As mentioned earlier, Pacific producing countries are currently at various stages of establishing national level legislation on kava to ensure fair trade in high quality kava products and to protect the health of consumers. In view of harmonizing these national standards, the development of a Codex Standard for kava has been proposed by member countries to regulate the use of varieties and parts of the plant prepared for consumption in accordance with the Recommendations, Codes of Practice and Standards laid out in Codex.

Goal 2: It will promote wide and consistent application of scientific principles and risk analysis, including promoting the collection of data from developing countries and from all regions of the world so that the risk analysis is based on global conditions and requirements. The standard will be based upon findings of the recent WHO/FAO review (Abbott, 2014) and on unequivocal scientific analytical data (Lebot and Legendre, 2014).

Goal 5: It will promote maximum and effective participation of members – Pacific Island Countries are already collaborating on a regional basis through the International Kava Executive Council (IKEC) and electronic/physical working groups and this will be continued and further intensified in the development of the proposed standard.

6. Information on the Relation between the Proposal and Other Existing Codex Documents:

This proposal is an initiative of PICs to promote safe production of dry kava, as there is currently no such existing standard within codex. It will refer as much as possible to other general codex standards (e.g. hygiene, labeling, food additive and contaminants, etc).

7. Identification of Any Requirement for and Availability of Expert Scientific Advice:

Scientific advice is required on the following:

i. Methods of analysis of kava lactone.

ii. Methods that use defined parameters to show data correlation between a kava product and a particular kava variety or varieties.


CODEX ALIMENTARIUS COMMISSION STRATEGIC Plan 2008–2013
iii. Modalities of use with regards to maximum daily kavalactone dose and duration of usage.

8. Identification of Any Need for Technical Input to the Standard From External Bodies so that this Can Be Planned and Accommodated

Technical assistance by WHO and/or FAO to substantiate the scientific advice in Section 7 above, as appropriate.

9. The Proposed Time-line for Completion the New Work, Including the Start Date, the Proposed Date for Adoption at Step 5, and the Proposed Date for Adoption by the Commission

[To be determined by eWG]

References


Pacific Health Research Council: Kava and Pacific Health, Suva, Fiji, 2002