

Pacific Islands

Trade policy and obesity prevention: challenges and innovation in the Pacific Islands

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Received 14 August 2013; accepted 14 August 2013

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Summary

The Pacific Island countries experience some of the highest rates of obesity in the world in part due to substantial dietary changes that mirror changes in the food supply in the region. Economic and political ties, donor aid, and trade links are key drivers of the changing availability and accessibility of processed and imported foods. Pacific Island countries have been innovative in developing trade-related policy approaches to create a less obesogenic food environment. Taxation-based approaches that affect pricing in the region include increased import and excise tariffs on sugared beverages and other high-sugar products, monosodium glutamate, and palm oil and lowered tariffs on fruits and vegetables. Other approaches highlight some higher-fat products through labeling and controlling the supply of high-fat meats. The bans on high-fat turkey tails and mutton flaps highlight the politics, trade agreements and donor influences that can be significant barriers to the pursuit of policy options. Countries that are not signatories to trade agreements may have more policy space for innovative action. However, potential effectiveness and practicality require consideration. The health sector's active engagement in the negotiation of trade agreements is a key way to support healthier trade in the region.

Keywords: Food policy, obesity, Pacific Islands, trade.

obesity reviews (2013) **14** (Suppl. 2), 150–158

Introduction

In the Pacific Ocean lie 22 small island states and territories with diverse populations, cultures and geographies. However, they share a growing burden of non-communicable diseases (NCDs), an issue their leaders have recognized as a 'human, social and economic crisis requiring an urgent and comprehensive response' (1). With NCDs responsible for 75% of deaths (1) and indications that life expectancy in some states is stagnating or declining due to NCDs (2–4), urgent action is certainly required. Extensive lifestyle changes are the major contributing factor in the developing problem of NCDs in the Pacific Islands.

In this paper, we document the challenges the Pacific Islands are facing with respect to the food supply and trade

and identify how trade and trade agreements may be contributing to the obesogenic food environment. We then highlight some of the existing policy interventions employed in the region to improve the food supply and their implications for how the Pacific Islands may work towards a healthier food environment that is less obesogenic.

Health and food context

The World Health Organization STEPwise Approach to Surveillance of NCD Risk Factors (STEPS) surveys in 13 Pacific Island countries have found that over half the population is overweight (body mass index $>25 \text{ kg m}^{-2}$); overweight rates as high as 93.5% and 74.6% obesity have

been found in American Samoa (5). Data on trends in the region are limited, but in Fiji rates of overweight doubled between 1993 and 2004 (6). In Samoa, the prevalence of normal-weight adults halved between 1970 and 2003, while the prevalence of obesity among Samoan women reached 50% by 2003 (7). Recent studies have also indicated significant problems of overweight and obesity among children and adolescents. For example, in Tonga, around 60% of 13- to 15-year-olds were found to be overweight (8), with indications that the weight gain trajectory is high in adolescence (9). In Fiji trend data have found that rates of overweight tripled among those under the age of 18 years between 1993 and 2004 (6).

In addition to the common problem of overweight and NCDs, the islands also share similar food supply and food environmental challenges (10,11). The region includes volcanic islands that are generally fertile and relatively infertile low-lying atolls that are particularly susceptible to sea-level increases. Many of the smaller countries, such as Tuvalu and Tokelau, consist only of atolls, while larger countries, such as Papua New Guinea and Fiji, include atolls and volcanic islands (12). Urban populations are mostly found near the coast. Urban drift is resulting in urban populations that cannot be food self-sufficient (13) and areas of fertile land left unproductive in more remote areas. Overall, the region is heavily import dependent (14), and this, combined with the impacts of climate change (12), population changes and other external factors, is resulting in substantial food insecurity (14). Food insecurity in turn is an important underlying driver of dietary change in the region and the associated increase in NCDs.

Trade and investment policy context

The Pacific Island countries and territories (PICTs) also face common challenges in terms of barriers to trade and regulatory capacity. The underlying premise of most trade agreements is to remove barriers to trade (15), although increasingly trade agreements go beyond trade in goods and services to include more stringent protection of rights related to investment, intellectual property and other issues (16). As such, trade policy making increasingly requires skilled negotiators who are able to not only understand the implications of trade for all sectors of the economy, but also to identify opportunities to improve the terms of negotiation for their countries. Pacific Island nations have limited negotiator resources, and even maintaining a presence at the World Trade Organization (WTO) is a financial drain in small island nations (17). Vanuatu's negotiating power during the WTO accession process was suggested to be very weak (18), and as a result its accession agreement contains far more onerous terms compared with much larger countries (18).

In addition, whereas the proposed advantage of trade agreements is to facilitate access to international markets and thus strengthen economies, PICTs face extensive challenges, including their remoteness, geography and limited natural resources, so their comparative advantage is thus limited (17,19). For example, with respect to the Economic Partnership Agreements (EPAs) currently under negotiation in the region, it has been suggested that Pacific Island countries have little to gain, as they can access all the involved benefits as developing countries anyway (20). Efforts to advance them seem largely driven by a push for European access to Pacific fish supplies (21). Similarly, in recent trade negotiations between Tonga and New Zealand, it is clear that the benefits to New Zealand companies would be much greater than those gained by Tongan companies (17), given that the value of Tonga's imports of food from New Zealand exceeds Tonga's exports by 20-fold (22).

It is also important to note that the region receives substantial aid from a number of key countries, including Australia, New Zealand, the United States and France, and increasingly China, Korea and Japan. The conflict between aid (including for health programmes) and trade is nowhere more apparent than in the case of mutton flap exports from New Zealand to the Pacific Island countries (23). New Zealand has provided aid for efforts to control NCDs, including the provision of renal dialysis, while at the same time exporting high-fat mutton offcuts (mutton flaps) to the region (23). It even threatened to pursue sanctions at the WTO when Fiji implemented a ban on importation of flaps (24).

The Pacific Islands are also involved in regional trade and have negotiated a number of regional and subregional trade agreements. Regional trade in food is increasingly significant, including both re-exported food – e.g. all of Tokelau's imports are sourced through Samoa – and local processing of imported food, some of which is then exported regionally. For instance, Fiji has one of the largest wheat mills in the region and acts as a hub for re-export of processed wheat and wheat-based processed foods (e.g. biscuits). The largest regional trade agreement is the Pacific Island Countries Trade Agreement (PICTA), which currently involves nine countries and requires the signatory countries to reduce tariffs and other barriers to imports from other member countries (25). PICTA has already led to disputes about the trade in biscuits, ice cream and canned meats between Fiji, Papua New Guinea and Vanuatu (19), with respective countries trying to protect developing local industries from imports through tariff and nontariff barriers. Using PICTA, the exporting countries ensured that their products were able to access the markets (19). While the basis for the disputes was not health, these examples do demonstrate how even a fairly 'simple' free trade agreement within the Pacific Islands can facilitate access to a variety of

unhealthy foods. Wider trade agreements (both bilateral and regional) similarly have the potential to increase access to less healthy foods and drinks.

Trade and food supply in the Pacific Islands

Traditional diets were largely consumed in the Pacific Islands until the early 1900s (26), and overall the islanders were relatively free of diet-related diseases (27). Traditional diets were based on local starchy staples, fish and seafood, and coconuts and other fruits (10). Food preservation techniques assisted islanders with dealing with natural disasters and other periods of food shortages (10,28). The region was fairly isolated in terms of trade links, and therefore food self-sufficiency was critical. Historical colonization, ongoing urbanization and more recently, tourism have opened up the region to trade and external influence and have supported extensive dietary changes (26). Rice has replaced local healthy starchy staples, canned meats and fish have replaced local fish and seafood, and a variety of processed snack foods and beverages have replaced local juices and fruits (10). This has resulted in increased intake of fats and sugars. These dietary changes are most pronounced in urban centers, where access is greater, and to date, evidence suggests that the more remote islanders follow a more traditional lifestyle and diet than their urban-dwelling counterparts (6,29).

Imported foods and changes to agricultural and fisheries policies to encourage trade are strongly associated with dietary changes and NCDs in low- and middle-income countries (30,31). The Pacific region is increasingly dependent on imports for foods such as rice, wheat and oils, and regional imports continue to rise steadily (26). Imported foods, although also including 'staples' like oils, wheat and rice, are primarily processed foods. As there is relatively little food processing in the region, most processed foods are therefore imported. A 2011 survey of stores in the region revealed that packaged foods and beverages from 52 countries were available in the region (Snowdon *et al.* Under review), but that relatively little was made locally. In Fiji, 21% of processed food items were made locally, while the other surveyed countries had only a small number of locally made products or even none. Imports therefore primarily provide the high fat, sugar and salt products that have been shown globally to be linked with risk of NCDs (32,33).

While food and beverages in the region are sourced from around the globe, the Pacific Islands maintain their historical and political links through trade. For example, more than half of the food products found in stores in Guam, which is a US territory, were from the United States. New Caledonia, a French territory, had a similar level of supplies from France. In Nauru, which is heavily reliant on Australian aid, 56% of the food items found in stores were manu-

factured in Australia. The influence of trade and trade links on local diets in this region is high, augmented by its import dependence and a shift away from traditional agriculture.

Access to local healthy food is a growing problem in the region and is also associated with trade (14). While local fish is still an important part of regional diets, commercial-scale fishing in the maritime economic zones is mostly for export, and much of the fish is not even landed in the region (12). The fees paid for the right to fish the waters are critical revenue for island countries, but concern continues about the risks of overfishing of both high-priced tuna (34) and local reef fish (35). The growing population in the region also requires sufficient fish for food security (14).

Export of other foods, such as coconut, squash, sugar and some root crops, is relatively small in comparison to that of fish (36). Most agriculture is small scale, intended for home consumption or local markets, and due to the low prices paid for these crops, export earnings have been small overall, with some exceptions. Agricultural policy has emphasized export promotion and import substitution at different times (26,37), leading to production of nontraditional crops, like lettuce, cucumbers and rice, and cash crops, such as sugar and cocoa. This has further contributed to reductions in the availability of traditional foods (31). It has been suggested that production of crops for export may reduce local supply due to competing interests for land; however, it is possible that substandard (e.g. small) products may be available locally, thus increasing supply (38). It is therefore unclear how much crop exports affect local produce supplies and diets overall.

Exposure to international trade is a critical factor influencing the quality of foods sold in the region. While trade links are in part influenced by historical and political relationships and shipping routes, they are also affected by trade agreements. Six Pacific Island countries are now members of the WTO: Fiji, Papua New Guinea, the Solomon Islands, Tonga, Samoa and Vanuatu, the latter two acceding in 2012. Since WTO accession, Tonga's exports as a percentage of imports have continued to decline, and imports have climbed (39,40). In the atoll countries, where food production is hampered by infertile soil, limited land and the additional problems of climate change, food import dependence is high (13). The heavy reliance on imported foods has been linked with the rise in NCDs in many Pacific Islands, including Nauru (41) and Kiribati (13). In particular, concerns have been raised about the importation of specific types of foods, including oils, fats, and high-fat meats.

However, the region has relatively weak and/or outdated laws that govern the quality of foods sold (14). This allows the importation and sale of substandard and poorly labeled products (14). While recent efforts have led to the development of more comprehensive legislation in some countries (42,43), enforcement challenges persist (44). In the

earlier-mentioned store survey (Snowdon *et al.*, unpublished data), only 6% of the foods had no nutrient information labels, but the extent and accuracy of the data provided was of concern.

Efforts to tackle obesity and non-communicable diseases through diet

Although there is high-level support for tackling NCDs in the region (1), financial commitments to enable sufficient action are often lacking (45), and cost-effective interventions are vital. Countries have been supported to develop national strategic plans on NCDs (46) with considerable emphasis on the diet component, including community-level and national-level actions to improve diets. Increasingly, countries are pursuing policy actions based on concerns about access to a healthy diet, evidence of the importance of price as a driver of food choice (47,48), and awareness of the limited impact of interventions in the absence of supporting policy change (9,49).

Taxation-based approaches

Efforts to alter the prices of healthier and less healthy foods have largely centered on tariff and taxation changes. Sugar-sweetened beverages (SSBs) are heavily taxed in several countries (50). Those taxes have been implemented for a

combination of health and financial reasons. The levels of taxation applied and approaches vary (Table 1). Unfortunately, assessment of the impacts of these taxes has been minimal.

French Polynesia has imposed excise and import taxes on SSBs, confectionaries and ice cream. Those taxes were initially channeled completely into a health promotion fund (50), but only a portion is now allocated for the fund. This combination of taxes made bottled water cheaper than SSBs (50), and has also been a significant source of revenue for health promotion efforts.

In Nauru in 2007, a 'sugar levy' of 30% was implemented for SSBs and a range of other high-sugar products, and at the same time a levy on bottled water was removed (50). This was implemented for both health and financial reasons, and it did result in increased costs of SSBs. However, it has been suggested that sourcing of cheaper Asian products has reduced the impact of the taxes on the prices of these products in the stores (50), although it may have increased the variety of no-sugar beverages available also (51). During its negotiation for its EPA, Nauru excluded these sugary products from its commitment list, meaning that it has no requirement to reduce the import levy under the proposed EPA (51). However, the store survey conducted in 2011 (Snowdon *et al.* under review) found no food products originating in Europe, so this exclusion may be inconsequential.

Table 1 Taxes applied on selected products in the Pacific Islands region

Country	Type of taxation	Size	Years	Data sources available for monitoring	Evidence on potential effectiveness of implementation
French Polynesia (50)	Excise and import tax on sugar-sweetened drinks, confectionaries and ice cream	40 CFP*/litre local tax; 60 CFP*/litre imported tax	2002–	Revenue levels only	Aim was to provide funds for health promotion work and impact is not expected.
Nauru (78)	Sugar levy on all high-sugar foods and drinks and removal of a levy on bottled water	30%	2007–	None	Informal reports suggest an increased range of lower-sugar beverages available.
Cook Islands (79)	Import duty on sugar-sweetened drinks	15% with a subsequent 2% rise per year	2013–	Import data (not local production data)	Unknown
Fiji (80)	Import duty and local excise duty	5% import duty; 5cents/litre local excise duty	2006–7	Too short-term to assess	Increase in cost of drinks reported.
Fiji (81)	Excise on raw materials	3%	2007	None	Very low-level tax, so impact unlikely
Fiji (55)	Import duty on palm oil and monosodium glutamate	32%	2012	Import quantities are available. Some price data are also being collected.	Not yet assessed
Fiji (55,56)	Import and excise duty on fruits and vegetables not grown locally	Removal of existing taxes, which were 5–32%	2012 and 2013 budgets		Not yet assessed

*CFP is French Pacific currency (Comptoirs Français du Pacifique).

The Cook Islands 2013 budget introduced a new, increased tariff on SSBs. The budget statement of the minister for finance emphasized the scale of obesity in the country and the sugar content of SSBs (52). The import tariff was initially increased by 15%, with a subsequent per annum increase of 2% to maintain 'the real value of the levy' (52). It is, however, an import duty and is not applicable to the small local producer. The long-term impact may therefore be minimal if local producers are able to expand their market share. Additionally, although sourcing of SSBs from within the region is currently low (less than 1% by value in 2008) (53), the lower rates of import tax required under PICTA (52) may result in more product sourcing from within the region, thus further reducing the health benefits of the tax.

Fiji has applied taxes to SSBs since 2006, including an import duty, a sales tax and an import tax on the raw materials (50). A recent move to implement higher levels of taxes on SSBs and to lower the taxes on bottled water by the Ministry of Health was unsuccessful largely due to industry pressure, which has also caused problems with this type of tax elsewhere in the region (54). Fiji was more successful in targeting some other unhealthy products in its 2012 and 2013 budgets (55,56), with the implementation of increased import tariffs on palm oil and monosodium glutamate following a Ministry of Health request. Both import tariffs are now at 32%, the maximum allowable level under the country's WTO accession. Palm oil imports into Fiji increased tenfold between 2000 and 2009, triggering concern about its use in home cooking and local food manufacturing (Ministry of Health, unpublished document, 2012). Import tariffs applied to fruits and vegetables not grown locally were substantially reduced in the 2012 and 2013 budgets (55,56) to support efforts to increase their intake. While local production of fruits and vegetables is high, inconsistency of supplies, particularly after natural disasters, may limit intake. The impacts of these changes have not yet been assessed, but evaluation is planned.

Efforts to influence the prices of foods have considered altering the foods included in price control systems that still exist in a number of PICTs (57) and aim to keep prices low by restricting markups at wholesale and retail levels. This has included recommendations to remove dripping (an animal fat) from price controls in Tonga (58). Little progress has been made in this regard in the region, however, and this may be linked to external pressure to remove price control systems completely in the long term.

Quality control and labeling

As indicated earlier, the food control systems in the region are generally weak. However, this has not stopped countries from attempting to limit the availability or consumption of specific products either directly or indirectly (Table 2). Fiji has introduced a requirement that nutrient information panels include sodium and trans-fatty acid values in addition to the previously required nutrients (59). As more than half the products found in the store survey (Snowdon *et al.*, under review) did not include this information, it is likely that the variety of products for sale will decrease. While this is intended to assist consumers in choosing healthier options, it is hoped that it will encourage product reformulation locally (60) and will also remove lower-quality products (unlabeled).

Two countries in the region have labeling regulations (42,43), although not yet enforced, that canned meat products with fat content over 20% must have warning labels on the shelves that the 'product is high in fat – for a healthy diet eat less.' This particularly targets corned beef and mutton, which have been found to contain up to 33% fat in the region. In the Solomon Islands, a similar warning would be required for turkey tails (43). As enforcement has not taken place, it is unclear how difficult to implement or how effective they might be. As the requirement relates to shelf labeling rather than product labeling, it would be unlikely to be challenged under any trade agreement.

Table 2 Summary of existing trade-related policy actions

Country	Type of action	Year	Data sources available for monitoring	Evidence on potential effectiveness of implementation
Fiji (59)	Required labeling of trans fatty acids and sodium on all processed foods	2013	Store surveys will assess changes in the level of labeling.	Not yet implemented
Fiji and Solomon Islands (43,59)	Requirement for shelf labeling to denote high-fat meats	2009 and 2012	None planned	Not yet implemented
Fiji (68)	Ban on sales of mutton flaps	2000	None	Reduction in availability of mutton flaps; unknown impact on overall diet
Samoa (71)	Ban on importation of turkey tails	2007–12	Importation data	Reduction in availability of tails; consumer survey suggests changing consumer behaviours

The region is perhaps most well known in the trade and obesity areas for its efforts to limit the availability of turkey tails and mutton flaps. These two fatty meats have been the subject of extensive debate, discussion and concern (61–64). These offcuts are rarely available unprocessed to consumers outside the Pacific Islands and can be up to one-third fat (61), which has led to concerns about ‘dumping’ (65) food ‘unfit’ for human consumption (61,65).

One application of quality control standards and labeling currently being considered is reduction of sodium in processed foods due to concern regarding the currently high levels of salt (sodium) in processed foods and its effect on health (66). Given the global sourcing of processed foods in the region and their increasing consumption, it will be challenging for countries to reduce salt intake. Setting maximum salt content levels on foods is being discussed in some countries (51). For countries that are not signatories to trade agreements, there would appear to be few barriers to this line of action if the approach is considered practically and politically feasible. For members of the WTO, the road may be more complex. South Africa has recently regulated maximum levels of sodium in a range of processed foods (67), including bread, butter and snack foods. As South Africa is a WTO member country, the response from other members of the WTO to this regulation will be of considerable relevance to the Pacific Islands.

Availability

Pacific Islands have also used trade-related policies to reduce the supply of unhealthy imported foods and other commodities. In 2000, Fiji banned the supply of mutton flaps under the Trading Standards Act (68). The ban resulted in a dramatic reduction in the import of flaps (68), yet some imports still occur in part because flaps can be imported for processing or other uses. Weakness of enforcement may also be an issue, and relabeling of flaps as other cuts of meat may occur. There has been no assessment of the impact of this ban on health or diets. Nevertheless, the ban remains in force, and no formal objections to it have been raised at the WTO. As discussed earlier, the mismatch between New Zealand’s export of this high-fat product to the region and efforts to promote health have been frequently discussed (23,62). Concern about raising the ire of this important donor in the region was an important factor in Tonga’s subsequent decision not to pursue controls on flaps (69). One journal article commented that ‘for the New Zealand Government to actively resist the attempts of PICTs to address the critical health burden of NCDs is inconsistent with promoting health in the region’ (23).

In the PICTs that do not import flaps, turkey tails are often a more common sight. These tails originate mainly in the United States, where they are usually destined for pet food (70). They are highly popular in a number of PICTs, includ-

ing Samoa. In 2007, Samoa banned their importation (71). While this was largely driven by health concerns, it was also influenced by the perceptions of low-quality products being ‘dumped’ in Samoa (61). Assessments of consumer response to this ban indicated that health campaigns had been effective in raising awareness of turkey tail fat content and the risks of high-fat diets (61). The impact assessment indicated that while some consumers probably switched to other high-fat meats, about a third made healthier changes (61). During discussions of Samoa’s accession to the WTO, the ban on turkey tail imports was raised with objections (72). The accession documentation indicates that a member of the panel ‘questioned the prohibition of a single food item in order to address the large and complex problem of obesity’ and indicated that ‘the import ban on turkey tails was unique and therefore discriminatory, as there are many high fat foods, imported and domestic, still available for purchase in Samoa’ (73). As part of the accession agreement Samoa therefore agreed to remove the import ban and replace with a sales ban (therefore allowing importation for private consumption). Additionally, Samoa was allowed to implement a 300% import levy on tails for 2 years. After this, period the sales ban would be revoked and replaced by an alternative measure based on evidence to be provided by Samoa (73). Because import bans are specifically proscribed by WTO trading rules (73), it was unlikely that Samoa could have maintained its ban, but it did successfully negotiate scope for alternative measures. This case demonstrates how policy space for controlling obesity can be constrained by trade agreements (74). Clearly Samoa’s progress could set a global precedent for control of unhealthy trade, and this will lead to considerable challenges as it negotiates with the WTO.

On a more positive note, there is also evidence that trading relationships and bilateral agreements can have a positive impact on the food supply. Tuvalu is an atoll country, and as such, crop production is challenging there. One of its nearest neighbouring countries is Fiji, with its highly fertile Rotuma Island. In 2011, the two governments signed a bilateral trade agreement allowing crops from Rotuma to be supplied directly to Tuvalu (75). Fiji is undertaking relevant biosecurity measures in Rotuma so that crops do not need to be routed via its central ports. Plans are underway for similar agreements between Fiji and its neighbor Kiribati, another atoll country. It is also possible for larger regional negotiations to take health into account. For example, PICTA excluded tobacco and alcohol from the tariff reduction following submissions on the health and financial implications of their inclusion (51).

Conclusion

The Pacific Islands are faced with considerable NCD and dietary challenges. The islands’ isolation, import and aid

dependence, exposure to natural disasters, and low soil fertility have resulted in high food insecurity. Trade agreements add further complexity to attempts to improve the food environment, limiting policy space and encouraging food imports.

The region is at the forefront, though, of efforts to improve food supply through both innovative and established techniques. In February 2013, a subregional workshop (51) was held to discuss the intersections of trade agreements, trade and NCDs with a particular emphasis on diets. The constraints that trade agreements may place on tackling NCDs were discussed extensively. Many countries in the region are fortunate in being signatories only to regional or bilateral trade agreements, which are less extensive compared with many of multilateral ones. They therefore have the opportunity to pursue a wider array of approaches, although donor pressure may still create problems. When countries consider trade agreements, it is essential that health professionals are involved (76) in the negotiations, and this was clearly recognized by the participants at the subregional workshop. Countries must also consider whether the benefits of trade agreements outweigh the risks. Will access to markets be of value if they have few goods to trade? Will opening their markets destroy their developing local businesses?

There does exist, however, scope for a number of trade-compliant measures (77), and the examples of fiscal interventions in the region are noteworthy. In addition, there may be opportunities to link intraregional trade agreements to broader goals of food security and improving the quality of the food supply.

Evaluating impacts is critical to creating an evidence pool to guide other countries regionally and globally. The interventions pursued and their impacts can place this region on the global map for obesity control. The region is experiencing an NCD crisis, and effective interventions are needed to improve the food supply.

Acknowledgements

We thank the Rockefeller Foundation's Bellagio Center for support for this meeting and funding of Dr Snowdon's international travel. We also thank the University of North Carolina Nutrition Transition Program for funding hotel and related surface travel costs, administrative support, editing and funding of this publication. We also thank the International Development Research Center, Canada for funding open access of this paper and Bloomberg Philanthropies for support of all phases of final paper preparation.

Conflicts of interest

No conflicts of interest were declared.

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