UBC Social Ecological Economic Development Studies (SEEDS) Sustainability Program

Student Research Report

Palm Oil Sustainability at UBC Food Services

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LFS 450

Themes: Procurement, Food, Land

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I. Executive Summary

Without realizing it, it is likely that your grocery purchases are directly contributing to the deforestation of tropical rainforests (WWF *a* n.p.). This is due to an ingredient known as palm oil. Paradoxically, palm oil is as elusive as it is pervasive; its processing qualities have made it a staple oil ingredient in a variety of products from chocolate to shampoo to biofuels (WWF *b* n.p.). An increased global demand for this oil has incentivized unsustainable production practices, with conservationists often citing this industry for contributing to biodiversity loss.

The main goal of this Community-Based Action Research (CBAR) project was to provide a baseline on palm oil for our community partner, UBC Food Services. They have raised concerns over the controversial oil, questioning whether or not it is consistent with the sustainable procurement standards outlined in their Food Vision and Values (UBC Food Services). This project investigated the impacts of palm oil production and the prevalence of palm oil at three UBC Food Services locations. Based on our findings we provided strategies to address conventionally sourced palm oil in the food supply.

Our methods are both quantitative and qualitative. We conducted an environmental assessment, utilizing primary literature and secondary sources to assess the environmental and social ramifications of palm oil expansion. This assessment included research into sustainable production and procurement options. Afterwards, we conducted a visual audit at three UBC Food Services outlets to determine palm oil prevalence in the food supply; a document audit filled in gaps in the data. Finally, we conducted an interview with Alexis Heeren from the University of Edinburgh to determine their motivation for introducing sustainable palm oil procurement into their Good Food Policy.

Our visual audit revealed that 25% of oil containing goods audited contained palm oil. While 29% of the products were manufactured from companies that had acquired some level of palm oil sustainability certification, only one brand in the food supply procured 100% sustainable palm oil. The “worst offender” food types were frozen desserts, cookies, and candies/chocolates; collectively, these food items made up 39% of palm oil containing products .

This project represents the first step in understanding how sustainable procurement strategies can mitigate the negative implications of palm oil production. Future research should:

- Conduct a cost analysis of palm oil containing foods (especially the worst offenders) relative to sustainable alternatives, in order to develop more a economically prudent approach to supply chain changes. Obtaining dollar values for those goods may also provide more insights into the prevalence of worst offenders.
- Involved a visual audit on cleaning products and food products from other UBC Food Services locations.

Due to the environmental and social impacts of conventional palm oil, we also endorse the following sustainable procurement strategy for UBC Food Services to consider:

- 80% of palm oil containing food items in the food supply should be RSPO certified, within a 5 year timeframe. Implementation of a sustainable procurement strategy will contribute to UBC’s reputation as a global leader in sustainability.

II.

III.

II. Introduction

Palm oil is an ingredient that is widely used in consumer goods, food, and as a biofuel (WWF *a* n.p.). The demand for palm oil has doubled over the past decade and is expected to double again by 2050 to reach 240 million tonnes (WWF *a* n.p.). This growing demand is rationalized by the low-cost of palm oil and its versatility as an ingredient in cooking and processing (Wilcove and Koh 1; WWF *a* n.p.). Additionally, palm oil is the highest yield oil crop which contributes to increasing plantation development and production by both large-scale and smallholder producers (Corley 137). Our project was initiated as a result of concern on the UBC campus about the environmental and social impacts of palm oil production. These concerns are growing globally and through this project we assessed opportunities for UBC Food Services to support a reduction of conventionally sourced palm oil or a movement towards more sustainable alternatives.

The goal of addressing conventionally sourced palm oil falls within policy from various perspectives and scopes. While there is no overarching policy surrounding sustainability in the global palm oil industry, the United Nations' Sustainable Development Goals are relevant to such initiatives. A number of goals including the need to "protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss" and development towards "sustainable consumption and production patterns" clearly apply to increasing palm oil sustainability at a global scale (United Nations 13-16). Within the scope of the UBC Vancouver campus, the Framework for Food Action indicates a goal for establishing ethical and fair procurement that is verified by third-parties (UBC Food System Project Committee 1). This goal ecompasses the potential need to identify procurement strategies of sustainable palm oil in order

to contribute to achieving campus food system sustainability (UBC Food System Project Committee 1). Additionally, the UBC Campus Sustainable Food Guide features the goal of promoting food system sustainability at both a local and global level (UBC Food System Project 4). The effects of palm oil production are not experienced in North America, yet consumers and organizations have the ability to drive demand that enhances global food system sustainability while promoting environmental and social health. UBC Food Services, is one such organization that can be a driving force of this change through its procurement strategies.

The findings from this project will be the foundation for UBC and UBC Food Services to enact new standards for food system sustainability through addressing conventional palm oil. Additionally, it will raise awareness of these issues among the campus community. It is hoped that other universities and institutions will start a similar campaign and adopt strategies that promote sustainable palm oil procurement. Change that arises from this project may encourage suppliers to find manufacturers that use sustainably sourced palm oil.

This project aligns with UBC Food Services "Food Vision & Values", which are their guidelines for the organization and decision-making (UBC Food Services n.p.). A better understanding of palm oil in the food supply supports the vision to provide foods in a "socially and ecologically conscious manner" (UBC Food Services 1). Furthermore, this project aligns with its definition of sustainability in food, which strives to make "simultaneous improvements in human and environmental wellbeing; not just reductions in damage or harm" (UBC Food Services 2).

Project Goal and Objectives

The goal of our project was to provide insight into the ramifications of palm oil production and opportunities in sustainable palm oil for UBC Food Services. It was intended that this information would be utilized to further UBC Food Services' sustainable procurement strategies and support change towards a more sustainable food system across the UBC Vancouver campus.

Through collaboration with our stakeholder, UBC Food Services, we accomplished the following objectives to meet our goal: 1) Identify the social and environmental impacts associated with palm oil production; 2) Discover palm oil sustainability strategies employed at other universities; 3) Assess the prevalence of palm oil containing products in products procured by UBC Food Services; 4) Recommend strategies for UBC Food Services to address this sustainability issues of palm oil.

III. Methodology and Methods

Research Methodology

Our research project was guided by the methodology of Community-Based Action Research (CBAR). This approach emphasizes “action” and “change-oriented” research while prioritizing the needs and wants of the community partners. In the context of our research, this meant engaging with our community partners so that they were extensively involved in the project development and execution. This was achieved by maintaining close communication with our community partners through regular meetings and email correspondence throughout the course of the project.

Research Methods

Environmental Assessment

We conducted a literature review of the environmental and social impacts of palm oil production to gain insight into the concerns associated with the increasing demand for palm oil. The UBC Library Summon tool and Google Scholar were used to find secondary data sources. Peer-reviewed articles and online technical reports from governments and non-governmental organizations (NGOs) were the primary sources of information based on search results. Keywords used in the search engines were: palm oil, sustainability, environmental impacts, social impacts, deforestation.

Common Palm Oil Names

In order to increase our awareness of the names that palm oil can be listed as on ingredient labels we conducted web searches and reviewed government regulations. We limited our findings to ingredient names that would be found in Canada. This information assisted us when conducting our visual audit because it provided us with the background to identify palm oil on ingredient labels on food products.

Sustainable Palm Oil Certifications and Food Products

In order to develop strategies to address conventional palm oil we researched the different sustainable palm oil certifications and their credibility. To source this information we utilized the websites of the certification bodies, their documents, and the documents of third-party auditors. To find food products that contain sustainable palm oil we assessed company policies and certification audit documents to determine the extent of sustainable palm oil used by these food production enterprises. With this information that was collected, we compiled a list of the best and worst offender companies in regard to sustainable palm oil use and their degree of sustainability certification.

Sustainable Palm Oil Strategies

From a global scope we looked for other institutions and businesses that have adopted sustainable palm oil strategies or policies. Our primary goal was to find other universities that are conducting similar work to our own. We accomplished this through web searches where we used keywords such as palm oil policy, sustainable, university, and procurement. We also utilized university sustainability department websites and the Sustainability Tracking, Assessment & Rating System (STARS) to gain more information about specific palm oil sustainability initiatives.

Visual Audit and Document Audit

On the day of March 3rd, our team collected data through visual audits of food products at the following UBC Food Services locations: Open Kitchen (retail and store rooms), Harvest (retail), and Hero Cafe (retail section only). Through this visual audit we were able to assess the prevalence of palm oil in food products sold by UBC Food Services. Additionally, the audit provided us with information to help develop strategies specific to UBC Food Services that address a lack of sustainable palm oil in the food industry. UBC Food Services' staff were aware of our project, granted us permission to conduct the audit, and provided us with access to the store rooms. The rationale for conducting the audit at these locations was because they were accessible and provided a wide range of food products that could be assessed. The food products that were examined included retail items, dry goods, frozen processed foods, and in-house baked good ingredients. For food products that were found to contain any type of oil we recorded the following information: UBC Food Services location, general product type, product name, brand, supplier, type(s) of oil, and if applicable the specific name of the palm oil that is listed on the ingredient list. We also included baked goods that contained butter in the audit since this was considered an alternative to some types of oil for these product types based on the literature research. The data was collected in a survey format that was utilized by each group member and then exported into an Excel spreadsheet. Additionally, we took photos of some of the products as visual evidence to accompany our spreadsheet. During the audit process we successfully collected data for 209 products. Please refer to Appendix A to view a sample of our visual audit spreadsheet.

Following the visual audit data collection we conducted a document audit where the procurement department of UBC Food Services referred to their documents to assist us with

filling in gaps in our data such as the supplier and ingredients of certain products. Through an internet search of the brands and parent companies we also determined if the products were produced from local businesses. Additionally, we utilized publicly available RSPO documents available on their website to determine which brands and/or parent companies were RSPO members and what was the major type of RSPO certification that they used.

During the data analysis we organized the products that contained palm oil by product type, brand, parent company (if applicable), and supplier. We grouped the products into these categories because it allowed us to determine any trends in the palm oil prevalence in foods procured by UBC Food Services. We additionally sorted the palm oil containing products based whether or not the manufacturer was a RSPO member or not and the type of RSPO certification trademark that they held. The purpose of this was to estimate the number of palm oil containing products that were produced by companies that were using at least some certified sustainable palm oil.

Interviews

Based on the secondary data collection of other institutions that have implemented strategies to address unsustainable palm oil we contacted representatives from the universities when available. The rationale for conducting interviews with institutions is to gain insight into the motivations and best practices that are currently being undertaken at other universities. These strategies will be useful to help guide the recommendations to UBC Food Services. Due to the low number of universities that are taking action to address the effects of palm oil production, we had found contact information to conduct 1 interview. We contacted Alexis Heeren, who is a Project Coordinator for the University of Edinburgh's Social Responsibility and Sustainability Department, via email to request if she would like to participate in our research and share

information with us about the University of Edinburgh's palm oil sustainability project. On March 14, 2018, we conducted the interview via Skype. See Appendix B for the institution interview questions.

To gain more information on the health risks associated with palm oil, we consulted the UBC Food Services' Dietitian via email based on the recommendation of our stakeholder. With the experience and knowledge from the dietitian we can supplement the health information for palm oil that we gained from the literature review. See Appendix B for the interview questions.

IV. Results

Environmental Assessment

Environmental Implications

Based on current research and government reports, the ongoing expansion of palm oil production has resulted in land-use change. This issue exists in tropical regions of Indonesia, Malaysia, Africa, and Latin America (Ancrenaz et al. 1). To develop palm oil plantations, deforestation and peatland conversion occurs (Koh and Wilcove 60-64). Mature rainforests and peatland soils sequester extensive amounts of carbon and are important global carbon sinks (Wicke et al. n.p.). These land-use changes and the associated practices such as slash-and-burn land clearing result in the release of carbon emissions into the atmosphere, contributing to climate change (Corley 134-138; Wicke et al. n.p.). Biodiversity is also negatively impacted by land-use change and palm oil production practices. These tropical areas have the richest biodiversity yet many of the species are endangered (Ancrenaz et al. 28). Tan et al. (423) found that plantation development in rainforests contributes to biodiversity loss through a reduction in habitat area and continuity, forest fires, and human-wildlife conflict.

Social Implications

With palm oil production, issues involving land ownership conflicts, rural livelihoods, and food insecurity have arisen. The land ownership conflicts are ongoing as producers or corporations begin palm oil plantation development on abandoned or unused land without possessing legal ownership or permission to do so (Corley 137; Merten n.p.). As this impacts local peoples, food insecurity and poor water quality are also prevalent (Merten n.p.; WWF *a* n.p.) Many smallholder farms will convert arable land typically used for general food production into palm oil plantations (Merten n.p.). In rural areas this impacts food supply and contributes to

food insecurity (Merten n.p.). The pollution from palm oil mills and agro-chemicals used on plantations also negatively impact rural livelihoods by reducing water quality (WWF *a* n.p.)

Common Palm Oil Names

From the literature review we found that palm oil is known to persist in consumer goods products and it is referred to under many different names. The Canadian Food Inspection Agency requires that any food products containing palm oil must specifically include the word “palm” when referring to this type of oil on the ingredient list (CFIA n.p.). As a result of this requirement, fractions of palm oil cannot be generally listed as “vegetable oil” and it is commonly listed as modified palm oil or palm kernel oil (CFIA n.p.).

Sustainable Palm Oil Certification

From the literature we found that a number of organizations have developed standards for the production and supply of sustainable palm oil for food production and biofuels.

One such regulating body is the Roundtable on Sustainable Palm Oil (RSPO). The RSPO has developed a set of global standards for sustainable palm oil which ensures the credibility of palm oil sustainability claims. All farms, processors, and other companies producing or purchasing RSPO certified sustainable oil palm products are required to be RSPO members and adhere to the organization’s principles and standards (RSPO n.p.). These standards were developed and are revised every 5 years by ISEAL Alliance, a third-party that works continually to address sustainability issues and certification credibility in various industries (RSPO n.p.). Transparency, regulation compliance, production best practices, environmental responsibility, employee rights, and responsible development of new plantations are key RSPO principles that guide their standards for sustainable palm oil (FONAP n.p.). RSPO members are also audited regularly by third-party auditors to verify that they are continuously adhering to the certification

standards (RSPO n.p.). The RSPO offers 2 types of certification trademarks that are applicable to supply chain stakeholders such as consumer goods manufacturers. These certifications are broken down into RSPO certification supply chain models which are used to track the movement of sustainable palm oil throughout the supply chain (RSPO, n.p.) The "certified" certification trademark ensures that the products contain 100% sustainably sourced palm oil and is available to companies who follow the identify preserved or segregated supply chain models (RSPO n.p.). The "mixed" certification trademark is provided to companies that use the mass balance supply chain model and this certification indicates that the product contains both conventional and sustainable palm oil (RSPO n.p.). An additional supply chain model from the RSPO is the Book & Claim model where manufacturers purchase credits that represent a quantity of sustainable palm oil that is purchased from RSPO certified smallholder farms and processors (RSPO n.p.). The limitation of this model is that the actual quantity of sustainable palm oil is not monitored as it is traded so there is no guarantee of the amount of sustainable palm oil used in the end products that are produced by the manufacturers. As a result of this, the Book & Claim supply chain model is not recognized in either of the RSPO certification trademark types.

In 2016, the RSPO developed a set of voluntary palm oil industry standards known as RSPO NEXT which build on the existing RSPO standards (Ancrenaz et al. 70). These standards further include criteria such as no deforestation, no fires, no peatland conversion, greenhouse gas emissions tracking and reduction, and respect for human rights (Ancrenaz et al. 70).

The Palm Oil Innovation Group (POIG) is another organization that is working to improve the industry's definition of sustainable palm oil. This group is comprised of RSPO members who adopt additional standards that focus on workers' rights, environmental responsibility, and corporate integrity (POIG n.p.). There is no certification system for the POIG

but members are audited regularly in order to maintain membership in the organization (POIG n.p.).

Rainforest Alliance also offers their existing voluntary certification to palm oil producers who adhere to their sustainable agriculture standards (Rainforest Alliance n.p.). The standards set by Rainforest Alliance are related to management, biodiversity conservation, natural resource conservation, and improving livelihoods and workers' well-being (Rainforest Alliance n.p.). The certification for achieving these standards is well-established and widely recognized around the world.

Sustainable Palm Oil Strategies by Other Institutions

From searching the web and university websites we found a couple of institutions that are taking action to address the impacts of conventional palm oil production. The University of Wisconsin-Milwaukee is utilizing the power in their investment portfolio to support sustainability such as in palm oil production and procurement (STARS n.p.). This is accomplished through the proposed condition that companies implement a sustainable palm oil policy in their business in order to receive investment funds from the university (STARS n.p.). The University of Edinburgh in another institution that is addressing sustainable palm oil use through their Good Food Policy which involves the development of a sustainable palm oil procurement policy (University of Edinburgh 2).

Visual Audit and Document Audit

Through the visual audit we assessed 209 products and found that 25% of the products contained any fraction of palm oil (Figure 1). The raw data collected from the visual audit is available in Appendix C. The prevalence of palm oil in each of the UBC Food Services locations that were audited was found to be lowest in the Open Kitchen Store Room, followed by Hero

cafe, Harvest, and highest in the Open Kitchen Retail (Figure 2). Many products contained more than one type of oil. Among all of the oils present in the products that were audited canola was the most prevalent, followed by palm oil (Figure 3).

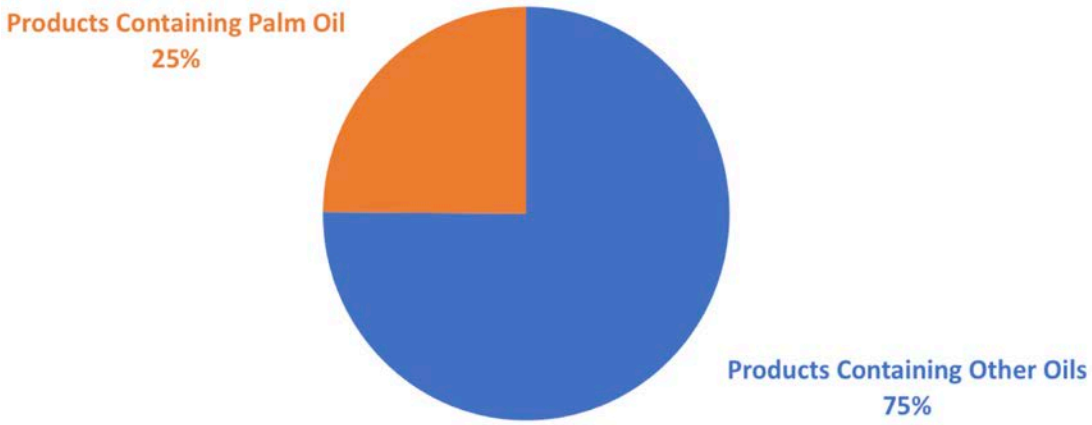

Figure 1. Percentage of palm oil containing products and products containing other types of oils assessed in the visual audit.

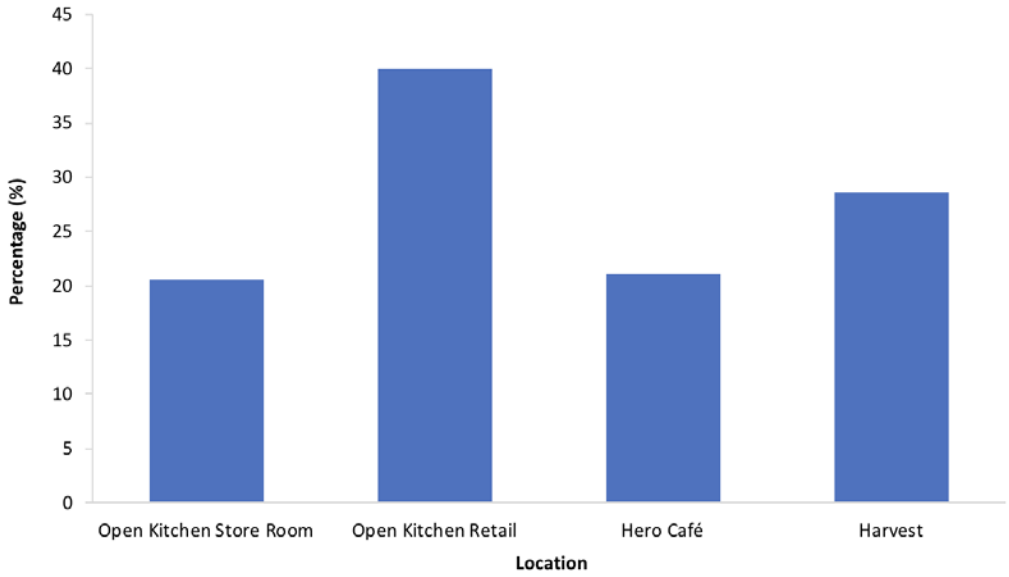

Figure 2. Percentage of palm oil containing products at each of the UBC Food Services locations visited for the visual audit.

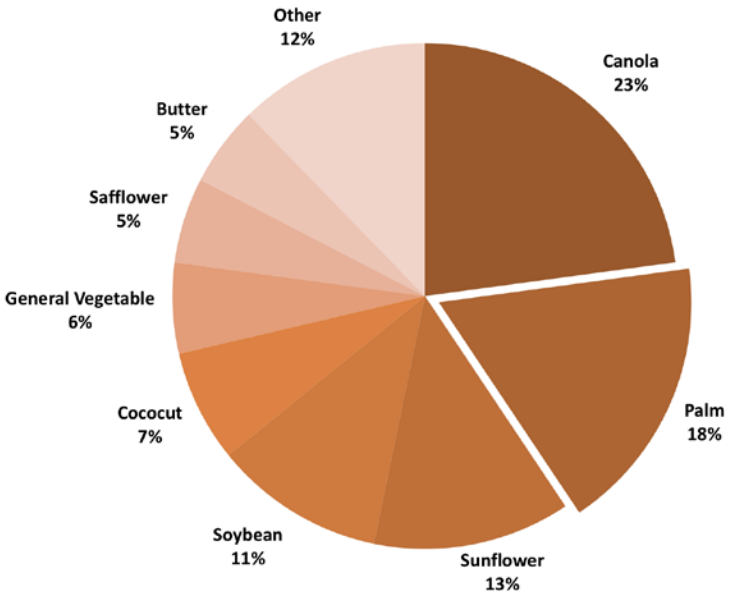

Figure 3. Percentages of different oils in all of the products assessed during the visual audit. Some products contained multiple types of oils.

The palm oil containing products organized by product type revealed that frozen desserts, candy/chocolate, and cookies were the worst offenders (Figure 4). Baked goods were assessed for palm oil prevalence and were separated into two categories: processed baked goods and in-house baked goods. The processed baked goods category included purchased breads and frozen pastries. The baked in-house category included baked goods made from scratch and those made with purchased frozen batters. It was found that processed baked goods had a higher incidence of containing palm oil compared to the in-house baked goods (Figure 5). For the in-house baked goods the source of palm oil was found to solely come from purchased frozen batter.

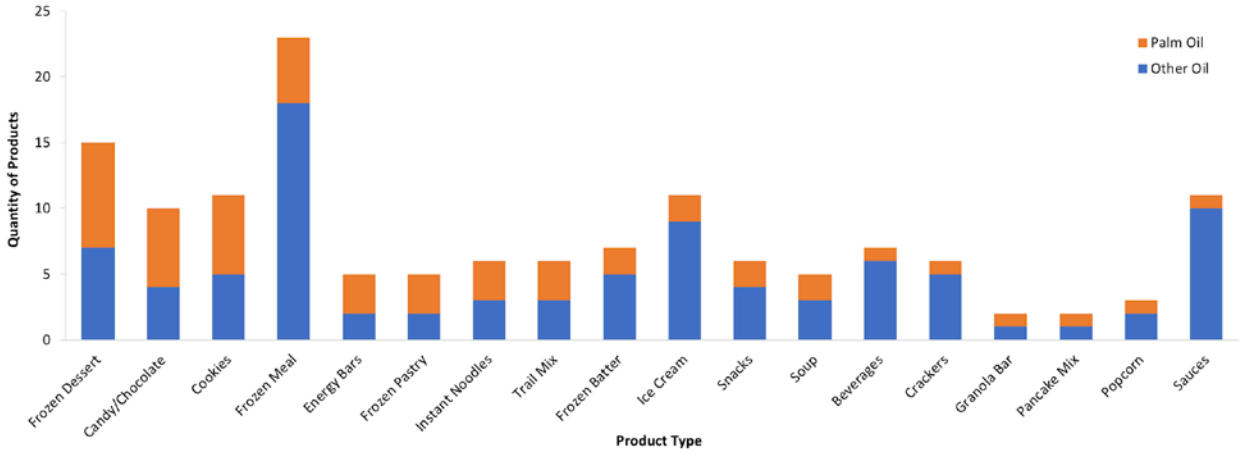

Figure 4. Proportion of products containing palm oil and other oils as organized by product type. The proportion of palm oil containing products decreases from left to right. Audited product types that did not contain any palm oil products are not included in this figure.

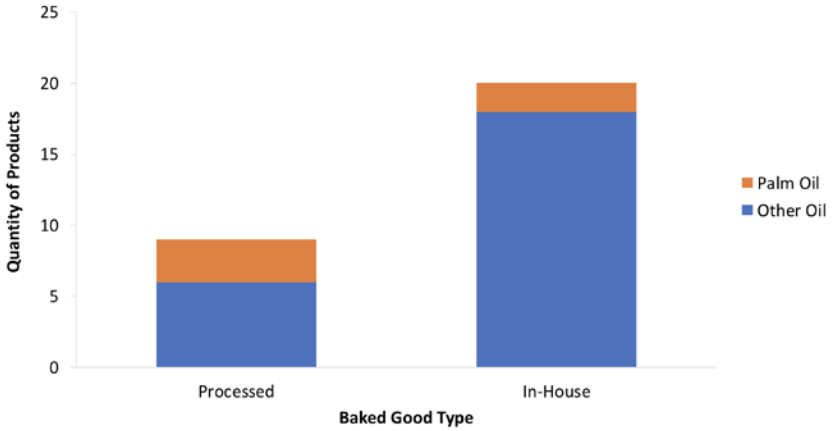

Figure 5. Palm oil prevalence in baked good products. Processed baked goods included purchased breads and frozen pastries. In-house baked goods included products made from scratch and from frozen batter.

Food products that contain palm oil did not show dominant trends when categorized by brand and parent company. Many brands found in the audit have a few palm oil containing products while five brands have 3 or more palm oil containing products. Similarly, several parent companies found in the audit have a one or two of palm oil containing products. Solo GI Nutrition and Unilever are the only two companies found in the audit that have 3 or more palm oil containing products procured by UBC Food Services. By organizing the visual audit data by supplier, it was found that palm oil products are distributed mainly through GFS, Buy-Low, and

Snow Cap (Figure 7). These three suppliers account for 63% of all the palm oil containing products procured at UBC Food Services as determined by the visual audit.

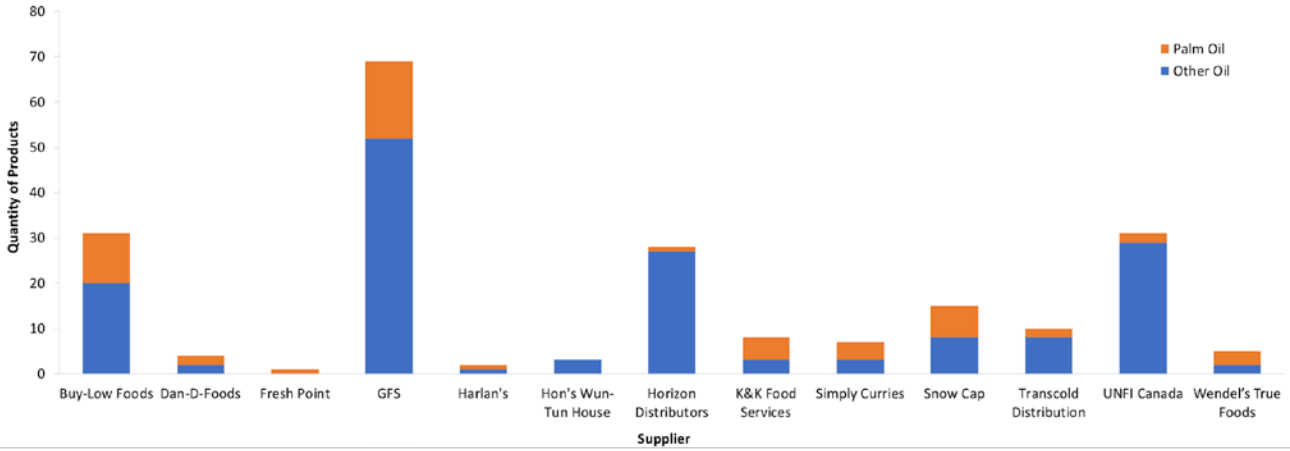

Figure 7. Proportion of products containing palm oil and other oils as organized by supplier. Suppliers that did not contain any palm oil products found in the visual audit are not included in this figure.

For the palm oil containing products it was found through the document audit that 29% of these products came from brands or parent companies that are RSPO members (Figure 8). These RSPO members and their supply chain model are listed in Table 1. Ferrero is the only brand that uses 100% sustainably sourced palm oil in its products (Table 1). In contrast, Nestle and Nissin are both companies that primarily source conventional palm oil (Table 1).

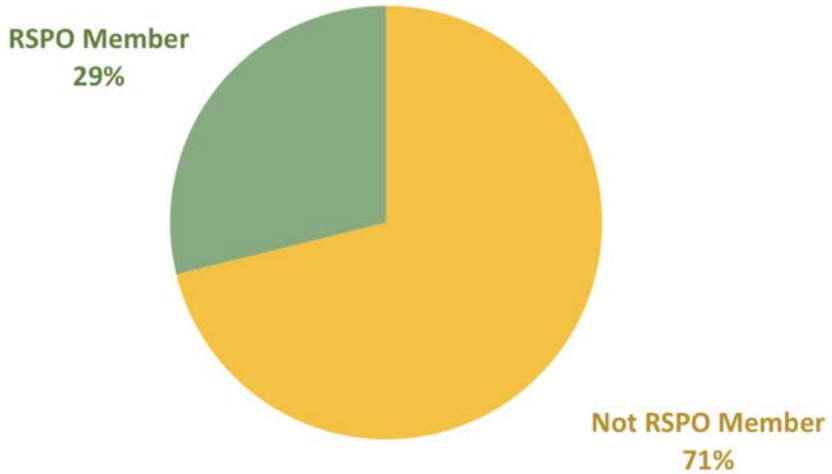

Figure 8. Percentage of palm oil containing products from the visual audit that are from RSPO member brands or parent companies.

Table 1. RSPO member brands or parent companies of palm oil containing products found in the visual audit. The trademark certification type for the major supply chain model type is colour-coded accordingly: “Certified” - green; “Mixed” - yellow; Uncertified - red.

Brand / Parent Company	Major Supply Chain Model Type	Other Supply Chain Model Types
Campbell Soup	Segregated	Mass Balance
ConAgra Brands	Book and Claim	Mass Balance
Ferrero	Segregated	—
Foley’s Candy	Mass Balance	—
Kind	Mass Balance	—
Kraft Heinz	Mass Balance	Segregated
Nestle	Uncertified (conventional)	Segregated, Book and Claim
Nissin	Uncertified (conventional)	Mass Balance
Toyo Suisan Kaisha	Book and Claim	—
Unilever	Book and Claim	Segregated, Mass Balance

Interviews

During the interview with Alexis Heeren from the University of Edinburgh, we found that a variety of factors motivated the institution to approach removing unsustainable palm oil from the campus food supply. Please see Appendix D for the complete responses to the interview questions. In the UK, the concern for sourcing sustainable palm oil arose as the government committed to using 100% RSPO certified palm oil while high profile businesses made similar statements (Heeren n.p.). This awareness was further increased through “No Palm Oil” food product labelling and media coverage (Heeren n.p.). At a policy level, sustainability action at the University of Edinburgh encompasses developing proposals and policies that fit within the objectives of their University Strategic Plan, Climate Strategy, and University Procurement Strategy (Heeren n.p.). Examples of these objectives are for the University to “support improvement in supply chain sustainability and social responsibility” and make a “significant, sustainable and socially responsible contribution to the world” (Heeren n.p.). Additionally,

student interest in the topic motivated graduate research on campus in August 2016. This research involved examining the environmental and social impacts of palm oil production, and palm oil sourcing strategies were identified (Heeren n.p.; Heeren and King 1). In 2016, a visual audit of products containing palm oil was conducted and the bakery goods and confectionary items were found to contain the majority of the palm oil (Heeren n.p.). Current efforts to identify palm oil and the sustainability of its production for products procured by the University involves sending surveys directly to suppliers (Heeren n.p.).

Based on this research and other recommendations, it was determined that sustainable palm oil would be defined as RSPO certified in the campus efforts to move towards the sole procurement of products containing sustainable palm oil (Heeren n.p.). However, it was decided that the "RSPO credits / book and claim" supply chain certification type would be excluded from what constitutes sustainable palm oil because it was not considered strict enough to meet the University's sustainability goals (Heeren n.p.). At the University of Edinburgh the scope of a sustainable palm oil policy would include food and cleaning supplies procured by the Department of Accommodation, Catering, and Events for use in locations such as student dorms, residential catering, on-campus cafes, and delivery catering (Heeren n.p.).

In the process of developing a sustainable palm oil procurement policy, challenges that were identified by Heeren included defining the scope at the beginning of the process, considering what is achievable, and emphasizing the importance of the issue in order to sell the proposal to the stakeholders (Heeren n.p.). Another difficulty in procuring products containing certified sustainable palm oil is finding a balance between purchasing products from large businesses that are RSPO certified and supporting local businesses that are unable to access the

RSPO certified supply chain or do not know if the palm oil that they use is sustainably sourced (Heeren n.p.).

At the end of the interview, Heeren indicated that she was not aware of any other universities that were conducting similar work towards sustainable palm oil procurement (Heeren n.p.). However, she mentioned that socially conscious businesses such as IKEA and Waitrose have developed their own sustainable palm oil policies (Heeren n.p.).

A nutritional perspective of palm oil was provided through email correspondence with Melissa Baker, who is a dietician and UBC Food Services' Nutrition and Wellbeing Manager. The full interview response in available in Appendix D. From this interview we were informed that palm oil is used in processed foods to improve texture and shelf-life (Baker n.p.). It is high in saturated fats and is used as a replacement for other oils that are high in trans fats (Baker n.p.). Palm oil is not healthy when consumed in large amounts and there are better options which include olive oil, canola oil, avocado oil, and walnut oil (Baker n.p.).

V. Discussion

Palm Oil Prevalence at UBC Food Services

Palm oil was a constituent in 25% of the oil-containing food items audited (Figure 1). While we argue that this highlights an opportunity to improve sustainability in the food supply, one must preface such an argument by recognizing that UBC Food Services appears to be performing relatively better than NGO projections for the average North American supermarket (Steele n.p.; WWF *b* n.p.). A possible explanation for this is that UBC Food Services emphasizes freshly made food items, especially Open Kitchen, whereas supermarkets emphasize shelf stable food items and palm oil is most prevalent in processed goods.

Worst Offenders: By Food Type

Collectively, the top three "worst offender" food types—frozen desserts, cookies, and candies/chocolates—made up 39% of the audited palm oil containing foods (Figure 8). These three food types are all common culprits highlighted in consumer education web pages, publicized by environmental NGOs such as the World Wildlife Fund (WWF *b* n.p.). In this regard, our findings are consistent; neither of the three food types are surprising.

A reduction strategy could target these food types. Fortunately, for all three food types, there is a large diversity of items in the marketplace. For most of the products within these food types, it likely would not be difficult to find similar goods that are either palm oil free, or sourced from brands with sustainable procurement commitments. With this in mind, there is a risk that these supply chain changes may be expensive. UBC Food Services is rightfully cognizant about not passing additional costs onto UBC students—many of whom may already be facing food insecurity (Rideout and James n.p.). In the Recommendations section of this report, we provide

insights into the future research that should be conducted for determining the economic feasibility of making supply chain changes.

The fact that our audit revealed that canola oil was more prevalent in the food supply than palm oil may provide insights into costs (Figure 3). As oil crop prices tend to converge on the global commodities market, it is possible that in Canada, canola oil is a more affordable option than palm oil (In and Inder 455-470). This is because of the locality of canola oil; palm oil requires more international transport, increasing the cost. As this is speculative, a cost analysis would also provide more insights into this phenomenon.

Worst Offenders: By Supplier

Gordon Food Services (GFS), Buy-Low Foods, and Snow Cap were found to be the major suppliers of palm oil containing products (Figure 7). Interestingly, UNFI Canada and Horizon Distributors—both being largely organic suppliers (UNFI n.p., and Horizon Distributors, n.p.)—supplied very little palm oil containing foods, despite not having any palm oil commitments in place.

All of the audited products supplied from Snow Cap are Snow Cap brand frozen desserts and pastries. This presents an opportunity for UBC to utilize its purchasing power, and encourage Snow Cap to ascertain RSPO certified oil, or substitute out of palm oil where possible. Snow Cap is a local food manufacturer and supplier; however, other local brands of similar scale, such as Foley's Candy Ltd., have obtained RSPO certifications (Table 1). In fact, Foley's decision to obtain a mixed RSPO certification was directly to satisfy local demand for certified sustainable products; additionally, they plan to be 100% RSPO certified by 2030 (Foley Candies Ltd. 3-5).

Worst Offenders: By UBC Food Services Location

Based on the presumption that retailers are more likely to contain more palm oil, it would be feasible to predict that Harvest contained the largest relative share of palm oil containing foods. In fact, 40% of audited items were found at Open Kitchen Retail which is higher than Harvest (29%) and Hero Cafe (21%) (Figure 2). While all of the prepared foods and entrees at Open Kitchen did not contain palm oil, the likely cause for this high prevalence was due to the high number of processed desserts and snack items found near the cashier areas. This is supported by the fact that the Open Kitchen Store Room had the least amount of palm oil containing items (Figure 2). Between the other two retail locations, there was a mix of both freezer items, processed goods, and "healthy" alternative items. It is likely that the higher number of specialty products offered at Harvest and Hero Cafe, which included chips or crackers that are made with less common oils such as avocado or pumpkin seeds, contributed to the lower percentage of palm oil containing products (Figure 2).

Challenges with RSPO Certification

A limitation when looking at RSPO certification is that there are multiple RSPO certified sustainable palm oil supply chain models with different certification processes. In the Book & Claim model, the supply chain is not monitored, instead, credits are purchased from RSPO-certified growers (RSPO n.p.). These manufacturers do not need to directly use sustainable palm oil in order to be recognized within the RSPO. Furthermore, under the Mass Balance model, conventional and sustainable palm oil are mixed in the supply chain. This makes it difficult to determine the ratio of conventional and sustainable palm oil actually being utilized by mixed-certified companies.. Among the analyzed companies, 29% of them are RSPO members, but only one of them—Nutella manufacturer Ferrero—is 100% committed to sustainable palm oil

(under the segregated certification model). The procurement of products containing sustainable palm oil can be difficult with the differences in the definitions of this product and the associated practices. Ensuring proper execution of these standards is key in order to verify the credibility of these approaches for achieving sustainability.

Which Strategy is Best: RSPO or Complete Palm Oil Removal?

These concerns raise the question of whether sustainable procurement strategies should incorporate RSPO certification at all, or if we should aim to eliminate palm oil from the food supply altogether. Indeed, the RSPO has received bad press due to cases of lack of oversight; furthermore, of primary concern is the criticism that the growth of RSPO certified companies in the global supply chain has not drastically slowed down the rates of deforestation (Balch n.p.). We attribute this to the Roundtable's slow movement towards robust, mandatory criteria for certification (RSPO n.p.).

Fortunately, with their 2016 rollout of the RSPO NEXT program (which is currently voluntary), the organization appears to be genuinely moving towards more robust certification criteria (RSPO n.p.). Furthermore, the RSPO is transparent, third party audited, and utilizes a multi-stakeholder approach for decision-making that includes both representatives from the private sector and representatives from environmental organizations (RSPO, n.p.). As well, firms have the option to compound their RSPO certification with a POIG or Rainforest Alliance certification, improving the robustness of both environmental and social criteria.

Despite the RSPO's limitations, complete abstinence of palm oil would be a logistically herculean feat for UBC Food Services, due to its pervasiveness. The RSPO approach is being utilized by the University of Edinburgh and the UK government, and was motivated by similar concerns (Heeren n.p.).

Unfortunately, the numerous environmental and social externalities associated with palm oil expansion are well documented (Koh and Wilcove 60-64, and Merten n.p.). Considering that palm oil is not necessarily healthy (Baker, n.p)—and in fact is largely found in dessert foods—we believe that a sustainable procurement strategy that utilizes the RSPO certification aligns best with the commitments in UBC Food Services Food Vision and Values to socially and ecologically conscious procurement (UBC Food Services, n.p.).

Project Limitations

Due to the time limitation of the class and the project, we had to keep the scale of the visual audit relatively small, where only three of the UBC Food Services' outlets were visited and audited. Considering the size of the UBC Food Services, including its cafes, retail/market outlets, dining halls and catering operations, our visual audit could not reflect the whole picture of the prevalence of palm oil containing products on campus.

VI. Conclusion

In short, palm oil production has developed rapidly at the expense of deforestation and biodiversity degradation (Ancrenaz et al. 28). The conversion of peatland, mature rainforest deforestation and slash-and-burn land clear release carbon dioxide into the atmosphere, which contributes to the global warming (Corley 134-138; Wicke et al. n.p.). Furthermore, the conversion from general food production to oil palm plantations sparks the concern of food insecurity and impacts the food supply. The illegitimate claiming of plantation land also causes land ownership conflicts (Merten n.p.), where the social impacts and the livelihood of the locals are worrying.

The major sustainable palm oil certification is the Roundtable of Sustainable Palm Oil which issues various certifications in both production and supplying sides. Its progressive RSPO NEXT standards go beyond and develop criteria that better cope with palm oil production sustainability. Palm Oil Innovation Group membership is built on the RSPO standards but require its member to achieve a high level of commitment in sustainable production.

Among the audited product in the three UBC Food Services' outlets, we have found out that frozen desserts, candy/chocolate, and cookies were the worst offenders, which have a higher percentage of palm oil container. Besides, we do not see any significant result of locality and the companies that carry palm oil containing products.

From the interview, it is clear that the UK government and the University of Edinburgh are improving policies regarding sustainable palm oil. In the Scottish institution, audits have been done and further actions are under review to determine the procurement strategy. The development of the action will be challenging where the the boundaries and the scopes of the shift are uncertain.

VII. Recommendations

Recommendations for Future Research

In order to get a clearer perspective of the palm oil prevalence at UBC Food Services we recommend a more thorough audit which includes cleaning products and expands to the remainder of UBC Food Services locations, similar to the audit conducted at the University of Edinburgh (Heeren n.p.). A more comprehensive audit would expand scope, allowing for a better understanding of the number of palm oil containing products at UBC. Based on this, decision-makers can reflect, and have a stronger foundation in which to improve sustainable practices. Furthermore, it would be useful within this audit to review the dollar amount spent on palm oil containing goods by UBC Food Services, in order to identify the demand for the products in general. For example, if Harvest carries several brands of palm oil containing cookies—but the cookies only make up an extremely small portion of sales (and overall food supply)—then we may be overemphasizing the prevalence (and negative impacts) of these goods.

Additionally, we recommend a cost analysis on palm oil containing products and their sustainable alternatives. We should consider the cost of conventional palm oil containing products, sustainably certified products and alternatives, and their financial impacts on UBC Food Services, a 100% self-funded department in UBC, and its consumers which are mainly students. Due to the unexpectedly high amounts of canola oil unveiled within our audit, a cost analysis should consider including canola containing goods as well, if permitted by time. This will provide insights into whether this finding was a coincidence, or whether food manufacturers are finding that it is a lower cost input than palm oil in Canada.

Recommendations for Action and Implementation

Based on the findings for the cost analysis, we recommend procurement changes which target the "worst offenders" identified in the audits. Improving sustainable procurement by switching out some of the "worst offenders"—in concert with UBC publicly representing action towards sustainable palm oil—will enhance the awareness of palm oil in the food chain and encourage suppliers to seek out certifications or other sustainable alternatives. As these actions are implemented, using a symbol on the UBC shelf labels for products that are palm oil free or contain 100% sourced sustainable palm oil would be useful for consumers to make purchasing decisions. Additionally, these labels may be an opportunity to raise awareness of the impacts of conventional palm oil production and the efforts that UBC Food Services is taking to address them.

Over a longer period of time, we hope to see the incorporation of RSPO Principles and Criteria or RSPO NEXT standards into the UBC Food Services' policy. We believe that this change is justified since the organization has an established certification system and effective strategies for tracking the movement of certified sustainable palm oil. Within a five year time frame, we challenge UBC Food Services to achieve 80% of the palm oil containing products to be procured from RSPO-certified manufacturers.

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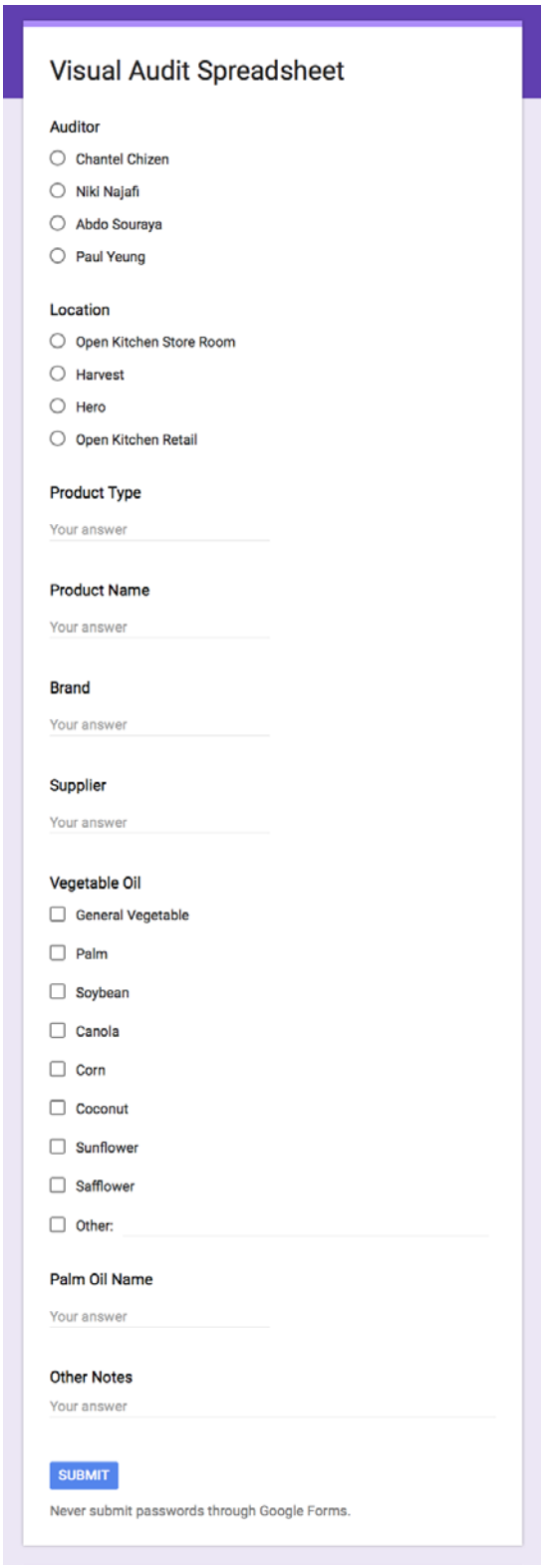
Appendix A - Visual Audit Data Collection Survey



Visual Audit Spreadsheet

Auditor

- Chantel Chizen
- Niki Najafi
- Abdo Souraya
- Paul Yeung

Location

- Open Kitchen Store Room
- Harvest
- Hero
- Open Kitchen Retail

Product Type

Your answer

Product Name

Your answer

Brand

Your answer

Supplier

Your answer

Vegetable Oil

- General Vegetable
- Palm
- Soybean
- Canola
- Corn
- Coconut
- Sunflower
- Safflower
- Other:

Palm Oil Name

Your answer

Other Notes

Your answer

SUBMIT

Never submit passwords through Google Forms.

Appendix B - Interview Scripts

University of Edinburgh - Alexis Heeren
Social Responsibility and Sustainability Project Coordinator
Interview Script

1. What motivated you to start the process of removing unsustainable palm oil from the food supply?

2. What is the scope of the Sustainable Palm Oil Policy?

3. Has an audit on the U of E food system been conducted?

4. What are the proposed methods/recommendations for reducing unsustainable palm oil and procuring sustainable palm oil?

5. What constitutes sustainable palm oil? Which suppliers are you hoping to procure from?

6. What were the challenges to developing the implementation strategy?

7. Do you know of any other universities or large procurement stakeholders that have worked towards sustainable palm oil procurement?

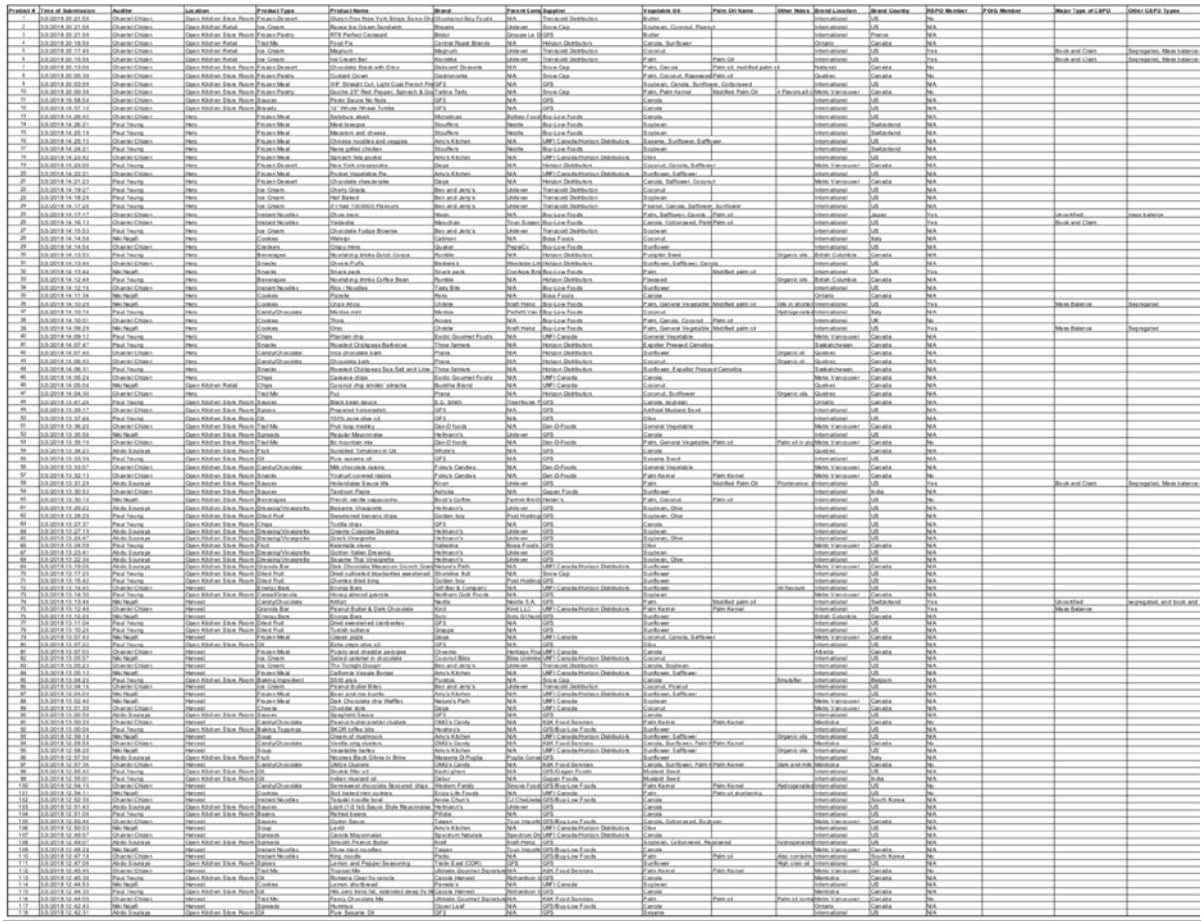
University of British Columbia - Melissa Baker
Interview Questions via Email

Regarding Palm Oil:

1. Does it have health benefits when consumed?
2. Is it harmful to public health when consumed?
3. Are there healthier and what might those be?

Appendix C - Visual Audit and Document Audit Raw Data

Please note that this document is available in excel format.



Appendix D - Interview Responses

University of Edinburgh - Alexis Heeren
Social Responsibility and Sustainability Project Manager
Interview Questions and Responses via Skype - March 14, 2018

1. What motivated you to start the process of removing unsustainable palm oil from the food supply?
    - Palm oil in the media / UK product labelling for no palm oil
    - High profile organizations and brands committed to sustainable palm oil
    - UK government. Committed RSPO certified palm especially in government buildings
        i. "From the end of 2015 all palm oil (including palm kernel oil and products derived from palm oil) used for cooking and as an ingredient in food is required to be sustainably produced. Palm oil supported by RSPO certification or equivalent will be deemed to comply with this requirement." https://www.gov.uk/government/publications/uk-statement-on-sustainable-palm-oil-final-progress-report
    - Students interest - Masters dissertation from self interest "Living Labs" on sustainable palm oil options - August 2016
    - Student research
    - Growing recognition of unsustainable palm oil production issues
    - Climate strategy - aiming to be carbon neutral - this does not necessarily extend to goods and services but recognizing that it can be applied to procurement
        i. Alexis - "In terms of other relevant policies, the University's Procurement Strategy also includes a commitment to sustainability, with one of the priorities for 2017/18 being "support improvement in supply chain sustainability and social responsibility"" https://www.ed.ac.uk/procurement/policies-procedures/university-procurement-strategy
        ii. Alexis - "Additionally, our Strategic Plan (the most high-level governance document, which all other strategies / policies are meant to hang off) states the University seeks to make a seeks to make a "significant, sustainable and socially responsible contribution to the world" – which is rather helpful when justifying new proposals that will improve sustainability!"

2. What is the scope of the Sustainable Palm Oil Policy?
    - Procurement for campus restricted to catering (student dorms, cafes ~21, delivery) and cleaning supplies

3. Has an audit on the U of E food system been conducted?
    - 1.5 yrs ago as a part of the masters dissertation - out of date
        i. Palm oil mainly found in bakery and confectionary items
    - More recent in-depth audit on hold
    - Currently focusing on contacting suppliers directly with a survey

4. What are the proposed methods/recommendations for reducing unsustainable palm oil and procuring sustainable palm oil?
    - Bakery suppliers (family bakery unknown whether or not)
    - Communication strategy (campaign, outreach, or through suppliers, or high level policy)
        i. The policy is still a draft and may change (*REQUEST*: do not publish draft with our report)
        ii. Not very well known on campus
        iii. Educational engagement is included in the policy
        iv. Possible roundtable event after policy is approved

5. What constitutes sustainable palm oil? Which suppliers are you hoping to procure from?
    - RSPO certified
        i. Most viable option
        ii. RSPO credits / book and claim supply chain type is excluded since it is not considered as strict enough to meet sustainability goals
        iii. Recognizes the limitations of the certification ie. work exploitation
        iv. Hope to engage with RSPO to promote sustainability
        v. Goal to eradicate any non-certified RSPO palm oil

6. What were the challenges to developing the implementation strategy?
    - Conduct and audit first to provide scope
    - Consider what is really achievable
    - Selling what is being proposed and emphasizing that it is an important issue
    - Buy from larger businesses who are RSPO certified vs. support local business
        i. Alexis - “Trying to balance all the trade-offs, such as - Does a commitment to source physical palm oil exclude smallholders that cannot access physical RSPO supply chains (so rely on book and claim)? And could the policy have a disproportionate effect on SMEs with fewer resources than larger companies?”

7. Do you know of any other universities or large procurement stakeholders that have worked towards sustainable palm oil procurement?
    - Not aware of any other universities
    - Socially conscious businesses
        i. Ikea
        ii. Waitrose (high-end grocer)

University of British Columbia - Melissa Baker
Interview Response via Email - January 28, 2018

"Palm oil is a high saturated fat oil that has become very popular in processed foods as manufacturers are trying to work trans fats out of their foods. Palm oil has been a replacement. This is better than trans fats but still not a healthful fat to consume in large amounts. There are many other fats (olive, canola, avocado, walnut etc) that are healthier choices. I think what matters most is finding a fat that has similar properties to palm oil that manufactures are looking for: Palm oil is odorless, tasteless, and solid at room temperature. This makes it ideal for enhancing the texture, mouthfeel, and shelf life of commercially produced foods. What would be the ideal replacement? I am not sure there is one.. but maybe there is! Generally, consumers just need to stop eating so many processed foods!"