Superunie Due Diligence project:

Products opportunity hotspot analysis – Full report

15 juni 2020

Executive Summary

Superunie wants to know where its products are made, by whom and under what circumstances because Superunie wants to protect human rights and the environment to the maximum. Products with risks from high-risk countries have priority. Superunie's aim is to have insight into the chain(s) of their main products by 2025, which risks there are and how they can implement improvements. Superunie has consulted inclsve BV (inclsve) and Fair & Sustainable Consulting (F&S) to determine which products SU can best focus on, where SU is expected to make the most impact. A research model was used to determine this.

The aim is to arrive at a top 10 list of the most important products of the entire Superunie own brand range. The inclsve research model uses a range of different filters that were applied to all Product (P) & Product Origin Combinations (POCs). The following four main filter categories were used: high-risk origin, environmental and social risks, supplier relationships and hotspots. The following selection criteria have been determined within the filter categories:

1. Products and ingredients> 50%, not certified, coming from a high-risk country as indicated by Amfori and with an active supplier relationship

2. Severity of the social and environmental issues of the product / ingredient in the country of origin, including animal welfare (more serious problems mean higher on the list)

3. Duration of the relationship with the supplier (longer relationship and likelihood of carrying out sustainability project means higher on the list)

4. Number of hotspots per product / ingredient (higher number means higher on the list).

At the end of the filtering process, the shortlist of P & POCs that Superunie could work on consisted of rice, grapes, spices and cashews from India and rice from Pakistan (listed in order of importance). All of these products and product origins met the model's assessment criteria and were identified as product ingredients with various problems, multiple serious environmental and social risks and a long-term relationship making it more likely to start a project with its supplier than other P & POCs in Superunie's product portfolio.

The report indicates how this shortlist came about and explains the filter model as well as the results and analysis. The model filtered a total of 131,226 P&POC entries and all intermediate steps in the model were discussed with Superunie. After the first filter category, 1,810 entries remained and were entered in the next filter category and then the next until all four filter categories were run through. Supply chain complexity was discussed and defined as the likelihood that a supplier would undertake a sustainability related project with Superunie. Likelihood was determined based on their historical data, current liabilities and general available public information.

Before submitting the final result to Superunie, a series of tests were conducted to verify that the model was functioning properly and the results were validated by experts from inclsve and F&S. This showed that the generated shortlist raised well-known concerns from a sustainability point of view.

For further background information on the model we refer to the various appendices with reference lists, test results and specifically used data overviews.

In order to arrive at the final top 10 list of the most important products to work on, Superunie also asked the team to advise on the choice of current files in ICSR.

The team acknowledges that Superunie has made clear choices for products coming from inside and outside the EU showing known social and environmental concerns. However, the team's recommendation is for Superunie to focus on bananas (Ecuador, Colombia and Dominican Republic), orange juice (Brazil), cocoa (Ivory Coast, Ghana), tea (Sri Lanka), rice (Pakistan and India), cashew nuts (India) and fish (Asia).

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1.0 Introduction

The demand of procuring goods from a responsible source is increasing from various stakeholders. Organizations with a broad product portfolio are faced with the challenge of addressing sustainability issues within their supply chain; and identifying a set of product and product origin combinations (P&POC) along with their corresponding critical issues to prioritize on in the short or medium term can be difficult. Coöperatieve Inkoop Vereniging Superunie B.A. (SU) consulted inclsve B.V. (inclsve) and Fair & Sustainable Consulting (F&S) on which P&POC should they focus on within their product portfolio and provide recommendations according to SU's current situation.

The Superunie Due Diligence Project: Products Opportunity Hotspot Analysis aims to address the above-mentioned challenges and requests through scoring and filtering SU's product portfolio per P&POC, analyze the results of the filtering process and recommend actions to address critical issues from the identified P&POC. This report is a summary of the project; where the filtering process and methods are explained in Sections 1.1 to 1.3, results, analysis and conclusion of the study are discussed in Sections 2x and the recommendations for SU is documented in Section 3.

1.1 Filtering process overview

Filtering through SU's product portfolio is essential in order to generate a list of P&POC to prioritize their efforts on. A model with a set of different filtering rules was developed to process SU's product portfolio per P&POC. The model contains the following four filters categories: High Risk Origin, Environmental and Social Risks, Supply Chain Relations and P&POC Hotspots. The categories listed above is in the filtering sequence of which the model applied to generate a list of P&POC with multiple critical issues yet highly probable to successfully act upon for SU. In Figure 1, the filtering process overview is illustrated. The process begins with the original size of the product portfolio (orange bar, the number of unique P&POC is represented by the length of the bar). After the High-Risk Origin filter, the number of unique P&POC reduced (represented by shortened bar). The remaining entries from the High-Risk Origin filter became the input for the Environmental & Social Issues. Remaining entries after the Environmental & Social Issues filter were entered into the Supplier Relations filter. The results of the model are generated after passing the remaining entries from the Environmental & Social Issues filter into the P&POC hotspots filter. In the next section, the filter categories will be explained in detail.

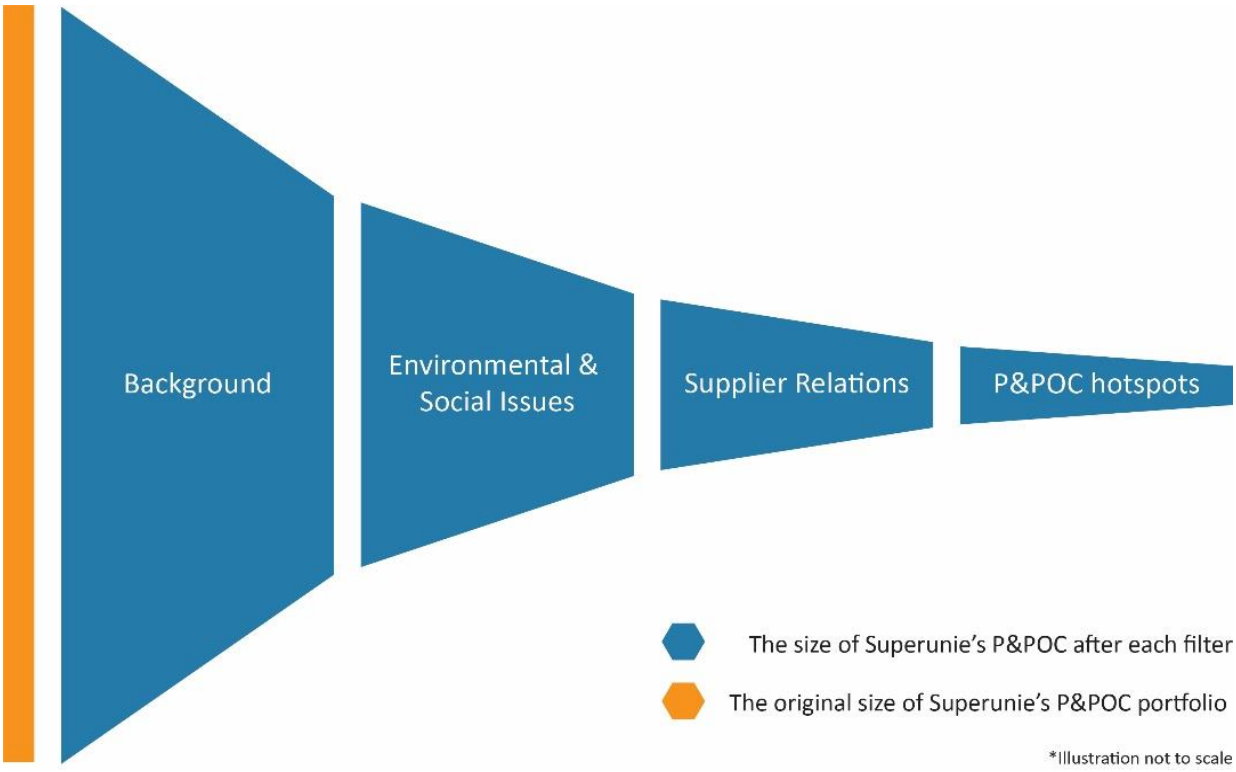

FIGURE 1: MODEL FILTER PROCESS OVERVIEW

1.2 Filtering categories and method

Every P&POC in the model is assessed against multiple criteria within each filter category; and in this section, the rationale behind why these criteria were selected and the details of these assessment criteria will be explained. These filter criteria are also known as model controllers, where the score assessments can be removed, added, or adjusted to the desired settings; and in turn affecting the outcome of the model. The Background category contains the following criteria:

- Active supplier
- Ingredient composition
- Certification
- Country of origin

Active supplier removes any P&POC indicated as inactive from the portfolio as these entries were irrelevant for SU's current situation. The ingredient composition criterion removes any P&POC that is less than 50% within a product. The threshold was selected to be at 50% because it would increase the efficiency of the filtering process by reducing the amount of unique P&POC and major ingredients in a product can provide SU with further leverage in communication.

In general, certifications require a supplier to continuously improve on the issues that didn't score well in the assessment during the next audit cycle or certification is not granted; and finding out the exact

certification progress from each SU supplier for every standard would increase the project duration beyond acceptable time limits. For the reasons mentioned above, P&POC with certifications were removed from this filter category.

The purpose of the country of origin criterion is to identify P&POC that were from a risk country. A country is classified as a risk country within the model when it's listed in amfori's Country Risk Classification document (See Annex 2). The risk classification of countries from amfori assesses the following elements from each country: Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption. Countries with an incomplete assessment from amfori's Country Risk Classification document weren't included in the list of risk countries under SU's request. Please see Annex 1 for the full explanations on these elements and Annex 2 for the list of risk countries.

The second filter category is the Environmental & Social Issues and it contains the following criteria:

Table 1: Environmental and social issues covered in the model

Social Issues	**Environmental Issues**
Child labor	Air pollution
Discrimination (overall)	Degradation of natural ecosystems (Species habitat)
Discrimination (gender)	Degradation of natural ecosystems (Protected area representativeness)
Excessive working hours and/or unpaid overtime	Degradation of natural ecosystem (species protection)
Forced labor (vulnerability)	Degradation of natural ecosystem (biome - global)
Forced labor (prevalence)	Degradation of natural ecosystem (biome - national)
Insufficient income/wage and/or income/wage insecurity	Degradation of natural ecosystem (tree)
Lack of freedom of Association and/or right to collective bargaining	Degradation of natural ecosystem (marine)
Lack of food security (affordability)	Excessive carbon emissions (intensity)
Lack of food security (availability)	Excessive carbon emissions (Black)
Lack of food security (quality & safety)	Harmful agricultural or aqua-farming practices

Violation of land rights	Lack of animal health and welfare
	Restricted access to natural resources
	Water mismanagement and/or contamination

The issues mentioned in Table 1 are common sustainability related issues within the industry and were provided by inclsve and F&S. Each issue is connected to a country based public index. For more information about the public indices used for the environmental and social issues, see Annex 3. P&POC with high environmental and social negative impacts across all twenty-six issues will be selected as input for the next filter category. Each issue is mapped in a scoring range of 0 to 2, a higher numerical value represents a hotspot reported in the public indices; whereas a low numerical value represents the particular country is classified as low risk. The score mapping specifications based on the score of the index used for each criterion for this filter category is also located in Annex 3. Every country from the list of risk countries in Annex 2 (except those decided not to be included in this study) were researched and documented into a datasheet with their corresponding score from each index. The Country of origin from each P&POC was matched with the country names in the above-mentioned indices score sheet using Microsoft Excel's Index and Match functions. The final scores per P&POC in this filter category is an aggregated value from merging the mapped values into a percentage out of the maximum score when every issue is considered a hotspot.

Although it would be beneficial for SU to know which of their own product lines are from countries with multiple alarming environmental and social issues; however, the results from the second filter wouldn't be helpful to SU if their suppliers aren't likely to be working alongside SU on sustainability related projects. The Supplier Relations filter category was put in place to identity opportunities with high probably to implement a project for SU and it contains the following two criteria: supply chain complexity and supplier relationship duration.

Supply chain complexity refers to the likelihood of a supplier engaging in a sustainability related project with SU based on their historical records, current commitments, general public information; and the suppliers were scored by the expertise from F&S. P&POC with the long supplier relationship duration and a high opportunity to engage in a sustainability related project were selected for the final filter category. Scores from these three criteria were merged as well and converted into a percentage similar to the environmental & social filter category. Suppliers that were new to SU (less than one year) were mapped to a score of 0, 5 years and above were mapped to a score of 2 and anything in between were given a value of 1. Suppliers who were likely to engage in a sustainability related project were given a score of 2, those who weren't were given a score of 0 and medium or unsure is given a score of 1.

The last filter category is the P&POC hotspot analysis and it contains two criteria: The Sustainability Consortium (TSC) Product Hotspot Classification and CSR Risk Checker. These two publications indicate hotspots per product categories as advised by inclsve and F&S. P&POC were assessed based on their product categories and the amount of overlapping issues mentioned between the two publications

manually. P&POC hotspots were identified and sorted according to the number of matches. See Annex 4 for the matching rules used for this filter category.

From the first filtering category, the resulting P&POC with product ingredients that were from risk countries, currently supplied by active suppliers and above 50% ingredient composition within their own product yet aren't certified. The second filter category captures concerning products from an environmental and social perspective. Supplier relations filter identifies P&POC and their corresponding suppliers that were likely to be working with SU on sustainability projects. The last filter captures and rank products that would be considered a hotspot and sort them into a final list of options of which SU could be placing their sustainability efforts into. The above-mentioned final list of options was considered the model results of this study.

Top 25% of the data entries were selected as input for the next filter for the first and second filter. Results with a 100% total supplier relation score were selected for the fourth filter. The last filter where the top 10 P&POC entries were selected as the results of the model. The results were sorted first based on the number of matches from highest to lowest; then sorted by the number of hotspots presented from the TSC Product Hotspot classification. The top 25% threshold was calculated based on the range of the data result population of each filter category and always rounded up if possible. Equation 1 is the formula used to determine the threshold. For example, if the range of the data population was between 17 and 59, the threshold was set by subtracting the difference multiplied by a quarter and from 59.

$$Top\ 25\%\ threshold = Top\ end\ of\ data\ population - ((Top\ end\ of\ the\ population - lower\ end\ of\ the\ population) * 0.25)$$

Equation 1: Filter threshold determining equation

Lastly, it is important to note that data fields with a regional area filled in for the Country of origin; or empty fields filled in for Ingredient composition or Country of origin within SU's product portfolio were filtered out in the first filter category as incomplete P&POC entries. Incomplete P&POC would negatively influence the results of the model as it would cause inaccurate scoring based on the methods chosen for this study. Empty fields can be explained by the data quality elements of completeness, time lag between updates and accuracy of SU's databases as explained further in Section 1.3. Products with an unknown supplier status were assumed to be active in this study. If a country isn't present in any given index for the second filter category, the indicator was given a score of 1. Most of the score mapping activities were done within Microsoft Excel using If statements given a range or exact value; see Annex 3. In this section, the underlying filter method was described, the data sources used for the input of the model and the scoring specifications will be described in the next section.

1.3 Sources of data

Data is required as the input of the model and to design the assessment and value mapping criteria for filter categories. There are two types of data sources: SU portfolio and Index publications. Two datasheets were used with regards to SU's portfolio; and they were provided by SU within their QlikView and SIM environment respectively. Qlikview's version contained supplier names, product ingredient and product origin information; while SIM's version contained supplier related information (supplier IDs and whether the supplier is active or not). These two datasheets were merged into one

single datasheet (Original Datasheet) using Microsoft Excel's Index, Match, and Pivot Table functions. The two datasheets contained Supplier IDs and the data entries were merged based on it. If a Supplier ID was unmatched, the matching fields will be empty and the P&POC entry will only contain information from the Qlikview dataset. Since the Country of origin field in some of the product ingredients contains multiple countries in the same cell, the Pivot Table function was used to expand them into separate rows with the same information in the other columns yet each containing a different origin. For more information on the specific steps taken in order to generate the Original Datasheet, please navigate to Annex 5. The total number of entries as a result of the merging the datasheets was 131.226 (European decimals) and each entry within the Original Datasheet contains the following information:

Table 2: Original Datasheet data fields

Supplier ID	Supplier name	Active supplier	Product name
Product ingredient	Ingredient composition (original)	Ingredient composition (converted)	Country of origin (ingredient)
Product certification(s)	Product weight or volume amount	Product weight or volume unit	Contains (equal of less than indicated ingredient composition)
SI (Code from Qlikview)			

The original value for the Ingredient composition field was listed in American numerical; therefore, a new column was added to convert it to European decimals for the Dutch version of Microsoft Excel provided by SU. This was done by taking the original value and dividing it by 10^9. Products without certifications were given a value of 0 instead of blank cells to ensure the datasheet was merged properly. The model only required several data fields per entry to generate results and these will be explained in Section 1.4.

The second type of data source is Index publications. There are 29 different indices and the details to 26 out of 29 of them are included in Annex 3. One of the remaining indices is documented in Annex 1 and 2 as it is the amfori BSCI Country Risk Classification and the other index is the CSR Risk Checker from MVO Nederland. The remaining index is the TSC Product Hotspot Classification. Annex 3 contains information about the name of the index, where is it published, which assessment criteria was using the index in the Environmental and Social filter category and a short description of what the index itself evaluates. Sections 1.1 to 1.3 explained the design of the model, including: the filter process, methods, model controllers and the data sources used for the model input and the design of the model controllers. In the next section, the specific data fields required for the model to generate results is documented.

1.4 Model input

As mentioned in the previous section, the Original Datasheet contained multiple fields; however, the model only requires a few data fields from each unique P&POC entry to generate a result. The minimum required fields are:

- Supplier name
- Active supplier
- Product ingredient
- Ingredient composition (converted)
- Certification
- Country of origin

The rest of the data fields were less important in terms of generating a result; however, they were included within the model throughout the filtering process until the end result to provide SU with all of the P&POC information about their product sustainability hotspots. The inputs were entered in the model and results were generated. The generated results are documented in Section 2.1 and the method used to verify the results of the model is documented in the next section.

1.5 Model verification

In order verify the results of the model, the model went through several tests to ensure the results generated were correct. In this section, the testing method used and process are explained. Each filtering category went through an individual test and one extra test for the Original Datasheet to ensure the entry expansions and the merging of the datasheets were correct. This was done manually by determining which entries would be filtered or altered based on the design of the model and then verify the hypothesis with the model results. The first filtered or altered entry for every criterion in each filter category was examined (except for the generation of the Original Datasheet); followed by a check on the unique values of a specific column (for example, if the criterion was to filter out non-active suppliers, the filter function within Microsoft Excel on the column of “Active Suppliers” shouldn’t contain any values of “No”). For more details of the verification process, please see Annex 7. The positive results from the verification phase indicates the model was designed and functioning correctly.

2.0 Conclusion, recommendations, model use and model validation

Based on the results and additional checks, this chapter draws conclusions (section 2.1) and recommendations (section 2.2) for SU. Section 2.3. describes how the model used was validated and in 2.4 the future use of the model is indicated.

2.1 Conclusion

Based on the model results of the study described in Section 2.2, the goal of identifying a set of P&POC along with their corresponding critical issues to prioritize on in the short or medium term was achieved through the design and application of the model. Rice, grapes, spices and cashew nuts from India and rice from Pakistan all met the assessment criteria of the model and were identified as the product ingredients with more issues, multiple environmental and social risks that were considered more severe than others, and yet highly probable to start a project with its supplier within SU's product portfolio can be concluded. Other common products with sustainability issues were analyzed in this study to gain insights on why the model results didn't contain them.

The analysis on products with oranges from Brazil in SU's product portfolio indicated most of the entries were filtered out because they are certified and certifications either mandate immediate improvement or continuous gradual improvement overtime to address environmental and social issues. The remaining entries without certifications were considered a low priority by a majority of the indices on the environmental and social issues included in the model. The analysis on products with bananas from Latin America were filtered out from the model results because they were either certified or below a 50% ingredient composition. By have an ingredient composition above 50% means that it is a major ingredient in the product. It would be more impactful to direct sustainability effort into a major ingredient and it would provide SU with more leverage when communicating with others to start a project or concerning public. . Shrimps from Indonesia, cacao and almost of the tea products had the same reasoning as bananas from Latin America for being filtered out of the model results. The remaining tea entry was disregarded as it was a product that was no longer supplied by an active supplier. In the next section, the recommendations derived from the conclusion of this study is documented.

2.2 Recommendations

Apart from identifying which P&POC SU should focus on within their product portfolio, SU also asked the team to advise on the choice of current files in ICSR. This would support SU to arrive at a final top 10 list of the most important products to work on.

Rice, grapes, spices, cashew nuts and rice all met the assessment criteria of the model and were identified as the product ingredients with multiple environmental and social risks that were considered more severe than other P&POC combinations. They also scored high on the potential to start a project as the supplier already works on CSR issues or shows a high interest in doing so.

The team looked at the product-country combinations suggested by CBL on potential human rights impact assessments in relation to SU's portfolio and other identified hotspots that could be followed up

with improvement project(s). Inclsve and F&S acknowledge that SU has, in terms of their ICSR commitments, made clear choices for products coming from inside and outside the EU showing known social and environmental concerns.

The team's recommendation for the coming years is therefore to focus on the following product-country combinations with specific issue(s) as focus areas.

Bananas in Ecuador, Colombia and Dominican Republic: working on living wage with a timeline until end 2025. As part of the IMVO commitment of SU there is ample opportunity for joint learning and project set-ups. From the filtering process Ecuador has 58 products in total with 10 products above 50% ingredient composition, Colombia with 17 products in total, 14 of them are 100% ingredient composition, and Dominican Republic with 3 products and all 100% ingredient composition.

Orange juice in Brazil: The team recommend working on living wage / improving working conditions as part of the Sustainable Juice Covenant commitment of Superunie. Currently a living wage study is being carried out in the orange production region of Sao Paolo, Brazil which will lead to possibilities to set up pilot projects with suppliers in the framework of this Covenant.

Cocoa: The team recommends to find common ground within DISCO as it is important to stay aligned with steps taken by other retailers like AH and Lidl. Further alignment with Fairtrade programs on improving female leadership or reaching living income for smallholders is a good opportunity and will generate positive publicity for Superunie. Most likely countries to focus on are Ivory Coast and Ghana.

Tea from Sri Lanka: focus on living wage / wage and working conditions. Scored high on social issues like working conditions and income. It also opens possibilities to work with a local NGO who could implement a project on SU's behalf.

Rice from Pakistan and India: first target could be to get all suppliers compliant with the standard developed by the Sustainable Rice Platform. However, the team recommend to add a wage component to this commitment as the SRP focusses only on compliance with minimum wages. This would then not be in line with the other projects where wage improvement is the focus with reaching living wage as the ultimate aim.

Cashew in India: this product made it to the shortlist of the model process. When the team experimented with the model by lowering the ingredient percentage to 25%, cashew in West Africa came up with a high score on social and environmental issues. The team recommends, however, to focus on India and instead of joining the Sustainable Nut Initiative explore the possibility of developing a joint project/improvement trajectory with other CBL members based on a human rights impact assessment.

Fish is another product category that is regularly mentioned, but not necessarily high on SU's priority list. However, if one or more of the above product-country combinations do not develop, but there is traction on fish, the team certainly recommend to follow up on it.

2.3 Model validation

The designed model in this study was verified using various tests as described in Annex 7 to ensure the filtering process of the model was functioning as intended; however, the question of to what extent did the model results reflect the situation in reality remained. The model results were discussed between SU, inclsve and F&S. Although the scoring for supply chain complexity didn't have a grading rubric within the assessment methods of the model; the results contained product origins that are common in the industry and therefore, the model results were considered valid in this study. Since the model didn't depend on any other random numbers, further results validation assessments were omitted as it was considered irrelevant.

2.4 Model use

The model can be used in different ways, as requested by SU at the beginning of the filtering process, and some of the recommended usage methods are described in this section.

Generate other version of shortlists

As indicated by SU, the model can be used when a supplier asks SU representatives about whether or not to switch source locations for a product. The specific instructions to how to do this is located in Annex 8.

Indication for risk mitigation

SU can revisit the model for any justification in their decisions or for any other communication purposes.

Future research usage

The model can be used for further research in the future. One of the possibilities is to use this model as the foundation for risk adaptation scenario simulations.

3.0 Explanation on results and analysis

This chapter indicates the results of the different filtering steps, meaning the ranking of P&POC's (see Table 3) and the analysis of these results which sometimes included additional checks. The additional checks were done to be sure why several of the 'usual suspects' (products from origin countries with publicly know social and/or environmental issues) were not surfacing.

3.1 Model results

Table 3 and Table 4 are the results of the model. Rice, grapes, spices, and cashew nuts from India and rice from Pakistan are the top P&POC hotspots with opportunities within SU's portfolio that the model suggested. Rice products from India and Pakistan are supplied by Van Sillevoldt Rijst BV. Grapes from India are supplied by Direct Source International B.V. and Olympic Fruit BV. Ginger, turmeric and laos are supplied by Verstegen Spices & Sauces B.V. Cashew nuts from India are supplied by Intersnack Nederland BV – Doetinchem. In Table 3 and 4, each row is highlighted with a different color to represent the ranking of the P&POC results. Rank 1 represents the highest priority and rank 5 is the lowest. Blue represents rank 1, orange is rank 2, grey is rank 3, green is rank 4, and yellow is rank 5.

Table 3: Model results – Ranking of P&POC categories

TSC hotspots count	Count matches	Ingredient	Country
14	13	Rice	India
14	13	Basmati	India
15	12	Grapes	India
14	12	Ginger	India
14	12	Turmeric	India
14	12	Laos	India
14	11	Rice	Pakistan
14	11	Basmati Rice	Pakistan
11	12	Cashew	India

Blue rank 1	Green rank 4
Orange rank 2	Yellow rank 5
Grey rank 3	

Table 4: Model results - Product and supplier ranking

Rank	Leverancier	Product
1	Van Sillevoldt Rijst BV	BK - Basmati rijst (1kg)
1	Van Sillevoldt Rijst BV	BK - Gele rijst
2	Direct Source International B.V.	AGF vers - Druiven (wk10-2020 - wk20-2020)
2	Direct Source International B.V.	AGF vers - Druiven (wk43-2018 - wk20-2019)
2	Olympic Fruit BV	AGF vers - Druiven (wk10-2020 - wk20-2020)
3	Verstegen Spices & Sauces B.V.	Sum & Sam - Djahe
3	Verstegen Spices & Sauces B.V.	Sum & Sam - Koenjit
3	Verstegen Spices & Sauces B.V.	Sum & Sam - Laos
4	Van Sillevoldt Rijst BV	BK - Basmati rijst (1kg)
4	Van Sillevoldt Rijst BV	BK - Gele rijst
5	Intersnack Nederland BV - Doetinchem	ASL - Notencups Cashewnoten Gezouten 170 gram
5	Intersnack Nederland BV - Doetinchem	ASL - Notencups Cashewnoten ongezouten 170 gram
5	Intersnack Nederland BV - Doetinchem	ASL - Notencups Notenmix macadamia's 150 g
5	Intersnack Nederland BV - Doetinchem	FM - Cashews ruw

The model began filtering from an input of 131.226 P&POC entries after the merging of the datasheets. After the first filter category, 1.810 entries remained and entered into the next filter category. There were 121 entries after the second filter category on environmental and social issues and 50 entries after the supplier relations filter category which spanned across 27 different product ingredient and country of origin combinations.

The common hotspots across the list of P&POC were: corruption, market distortion & competition, government influence, land use & property rights, community impact, freedom of association, labor conditions, forced labor & human trafficking, child labor, discrimination & gender, Health & safety at work, clime & energy, biodiversity & deforestation, water use & water contamination, air pollution. Wage & remuneration was only identified for rice from India, and environment & waste didn't apply for rice from Pakistan.

3.2 Model analysis

The model results were analyzed to find out why they were identified as the P&POC to focus on by the model for SU. From the first filter category, the model results all contained ingredient composition higher than 50%, had no certifications, matched the amfori BSCI list of risk countries and are currently supplied by an active supplier. From the second filter on environmental and social issues, India and Pakistan had a few issues that were considered hotspots. For India, lack of freedom of association, insufficient income/wage, lack of natural ecosystem protection, environmental degradation and harmful agricultural practices were areas with the highest score possible in those scoring indicators. For Pakistan, air pollution, harmful agriculture practices, water mismanagement or contamination, degradation of natural ecosystems, discrimination and forced labor were areas with the highest score possible in those scoring indicators. Since most of the other indicators for India and Pakistan were scored medium, the total score used for filtering brought them beyond the threshold and selected for the next filter. In the supplier relationship filtering category, the suppliers for the P&POC in the model results showed that SU had a long relationship with (5 or more years of partnership) and the suppliers have shown their willingness to participate in sustainability related projects by their historical track records or through the experiences from inclsve and F&S. In the last filter, the product category of rice presented the highest number of matches between TSC Product Hotspot Classification and the CSR risk checker provided by MVO Nederland. This means the rice product category from India have many hotspots along the supply chain and therefore, it was ranked the highest amongst the other. Although grapes from India had a higher hotspot count than rice from India, it was ranked the second because the P&POC ranking was designed to consider the number of matches first before the number of matches. Ginger, turmeric and laos had the same score as grapes from India in terms of the number of matches; however, the above-mentioned spices was ranked third as it contained less hotspots in the supply chain than grapes. The same case applies to cashew nuts from India when compared to ginger, turmeric and laos from India. The fifth rank P&POC, rice from Pakistan, had the same hotspot count as rice, ginger, turmeric and laos from India; however, the number of matches were the lowest within the model results. Apart from the above-mentioned products, common products with sustainability issues were analyzed to gain insights on why they weren't shown in the model results. Annex 6 contains further information about the breakdown of the scores for the common products below and the model results explained in Section 2.1.

<u>Products with oranges from Brazil, bananas from Latin America, shrimps from Viet Nam and Ecuador, melons, pineapples, avocados and mangos</u>

The above-mentioned products were analyzed in the model and most of them were filtered out during the second filter on environmental and social issues as they didn't make it to the top 25%. The threshold for Filter 2 score was 51% (lowest score was 17%, highest score was 63%). The only exception was pineapple from Swaziland, where it was filtered out in the supplier relation filter as it didn't receive any points for supply chain complexity.

TABLE 5: FRESH INGREDIENTS P&POC ABOVE 50% COMPOSITION AND FROM A RISK COUNTRY

Product Ingredient	Country of Origin	Combined Environmental Score (% - out of 100)	Combined Social Score (% - out of 100)	Filter 2 score (% - out of 100)
Pineapple	Swaziland	64	50	57
Pineapple	Kenya	46	50	48
Shrimp, mango, pineapple	Viet Nam	50	38	44
Melon	Honduras	43	42	42
Banana	Guatemala	43	38	40
Banana, pineapple	Philippines	43	38	40
Banana, shrimp, pineapple	Ecuador	39	38	38
Pineapple	Thailand	43	33	38
Orange, melon	Brazil	36	33	35
Avocado, pineapple	Mexico	39	29	34
Pineapple	South Africa	43	21	32
Banana, avocado	Colombia	29	33	31
Banana	Dominican Republic	32	29	31
Shrimp, pineapple, palm oil	Indonesia	43	29	31
Avocado, mango	Peru	29	21	25

Cacao

Cacao was analyzed and they were all filtered out from the first filter category as the ingredient compositions for them were below 50%. See Table 6 below.

TABLE 6: CACAO P&POC ABOVE 50% AND FROM A RISK COUNTRY

Product Ingredient	Country of Origin	Combined Environmental Score (%)	Combined Social Score (%)	Filter 2 score (%)
Cacao	Cameroon	61	58	60

Cacao	Ivory Coast	54	54	54
Cacao	Viet Nam	50	38	44
Cacao	Nigeria	36	50	43
Cacao	Ghana	36	33	35
Cacao	Dominican Republic	32	29	31
Cacao	Indonesia	43	29	31

Tea

There was one P&POC with ingredient compositions above 50%; however, they were filtered out as they didn't meet the top 25% score requirement for the second filter category.

TABLE 7: TEA P&POC ABOVE 50% AND FROM A RISK COUNTRY

Product Ingredient	Country of Origin	Combined Environmental Score (%)	Combined Social Score (%)	Filter 2 score (%)
Tea	Sri Lanka	39	38	38

Coffee

Although some of the coffee P&POC were above the top 25% threshold requirement for the second filter, all coffee P&POC were filtered out in the first filter category as they were all certified.

TABLE 8: COFFEE P&POC ABOVE 50% AND FROM A RISK COUNTRY

Product Ingredient	Country of Origin	Combined Environmental Score (%)	Combined Social Score (%)	Filter 2 score (%)
Coffee	Burundi	64	79	72
Coffee	Ethiopia	43	63	53
Coffee	Togo	54	50	52
Coffee	India	61	42	51
Coffee	Kenya	46	50	48
Coffee	Tanzania	36	58	47
Coffee	Rwanda	50	42	46
Coffee	Uganda	43	50	46
Coffee	Viet Nam	50	38	44
Coffee	El Salvador	46	38	42
Coffee	Honduras	43	42	42
Coffee	Bolivia	39	42	40

Coffee	Congo	39	42	40
Coffee	Guatemala	43	38	40
Coffee	Belize	36	42	39
Coffee	Ecuador	39	38	38
Coffee	Nicaragua	36	38	37
Coffee	Brazil	36	33	35
Coffee	Mexico	39	29	34
Coffee	South Africa	43	21	32
Coffee	Columbia	29	33	31
Coffee	Indonesia	43	29	31
Coffee	Panama	32	21	26
Coffee	Peru	29	21	25