Sipping Sustainably: A Case Study on DAOU Family Estates

A Senior Project

presented to

the Faculty of the Department of Experience Industry Management

California Polytechnic State University, San Luis Obispo

In Partial Fulfillment

of the Requirements for the Degree

Bachelor of Science

by

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March, 2021

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ABSTRACT

SIPPING SUSTAINABLY: A CASE STUDY ON DAOU FAMILY ESTATES

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MARCH 2021

In today’s era, year 2021, there is a high emphasis placed on sustainability in a business. Companies are adopting practices that encompass environmental, social, and economic sustainability. The purpose of this study was to examine the three pillars of sustainability at DAOU Family Estates. DAOU Vineyards is a winery located in Paso Robles, California, that is known for its production of Cabernet Sauvignon. Data were gathered through a case study guide that outlined the current sustainability efforts put into place at DAOU Family Estates. A case study guide was assembled by the researcher to evaluate the different categories of sustainability at the winery. The results of this study indicate that DAOU Family Estates has implemented various sustainability tactics in its vineyard, production area, and tasting room.

Keywords: three pillars of sustainability, environmental sustainability, social sustainability, Sustainability in Practice Certification, Certified California Winegrowing
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Background of Study

The term sustainability has evolved over centuries to not only include sustainability in terms of the environment, but also in terms of economic and social practices. The three pillars of sustainability were introduced in 2002 at the World Summit on Sustainable Development. This model indicates that each aspect of sustainability, economic, environmental, and social, all have an equal importance. Previously, there was a higher emphasis placed solely on environmental practices rather than the blending of social equity, economic, and environmental principles (Hooey, Mason, & Triplett 2019). This shift to a more holistic approach is crucial because it aids in preserving resources for future generations in all three pillars.

The results of a United States and United Kingdom study concluded that 96% of people believe that their everyday actions have some kind of an effect on the earth as a whole, and 88% of consumers actively chose to purchase products from companies that have sustainable practices in place (Townsend 2018). People are looking to brands and companies to help in their everyday efforts to minimize their social, and environmental impact on the world. Industries play a larger role in sustainability than individuals do, and it is imperative that companies adopt practices that are sustainable to the environment, and to social and economic resources.

The emerging interest in sustainability in the wine sector have prompted the experience industry to not only adopt more sustainable practices, but to become experts
holding various certifications representing these practices. Consumers expect the experience industry to shift away from a sole focus of profitability and practice operations that encompass their sustainable expectations. The wine industry has recognized the impact it can make on these sustainable categories. The purpose of this study was to examine the three pillars of sustainability (environmental, social, and economic) at DAOU Family Estates.

Review of Literature

Research for this review of literature was conducted at the Robert E. Kennedy Library on the campus of California Polytechnic State University, San Luis Obispo. In addition to books and other resources, the following online databases were utilized: Google Scholar and Statista. This review of literature includes the following subsections: history of sustainability, the three pillars of sustainability, sustainability in the winery industry and Certified California Sustainable Winegrowing.

The term “sustainability” was coined in 1713 by Hans Carl von Carlowitz when he published a German handbook on forestry. This handbook outlined how harvesting more than the forest can regenerate should not be done because it would be detrimental to the environment. Alternatively, sustainability has become defined as the need to merge the needs of the juxtaposing complex systems of man’s world and nature’s needs (Evans, 2020). In 1987 the term went through another shift. The Brundtland Commission of the United Nations defined sustainable development as development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Miller, 2020 p.89).
In 2002 the definition of sustainability was edited by the World Summit on Sustainable Development. This change shifted the focus of sustainability from only the environment to include the social and economic aspects as well. The new definition incorporated what is now known as the three pillars of sustainability: environmental, social, and economic sustainability (Cardonna, 2014). The decision to add three categories was to broaden the concept to include different aspects of society. For complete sustainability to be reached, all three pillars must be utilized (Cardonna, 2014).

The three pillars of sustainability can be viewed in two ways. First, society needs an equal balance between the environment, social equity, and economics to be considered sustainable. Secondly, the environment is the foundation of sustainability. These concepts are not mutually exclusive. The economic and social aspects of sustainability cannot exist without environmental sustainability.

Environmental sustainability is best defined as the responsible interaction with the planet to avoid the depletion or exploitation of natural resources, thus ensuring they are maintained for the ongoing needs of future generations (Evans, 2020). This connection will allow for long-term environmental quality. Environmental sustainability ensures that the needs of today's population are met without risking the future availability of these resources through the balance between human culture and earth’s ecosystems (Evans, 2020).

The next pillar is social sustainability. The five aspects of social sustainability are: diversity, learning, self-organization, trust, and common meaning. Diversity in a corporate setting entails having a wide representation of personalities, ages, skills, gender, and ethnicity (Missimer et al., 2017). Diversity in a team setting fosters
innovation because people bring skills and knowledge from various backgrounds. The learning aspect of social sustainability entails that one is able to learn and adapt to the environment around them. Whether in one’s professional or personal life, learning facilitates flexibility and development. Self-organization is defined by the ability to organize oneself and complete certain goals. Self-motivation without predetermined structure ensures that an individual is able to adapt to constant change. It has been reported that in the coming years company management in numerous industries will shift to a model of self-directed work teams. This change to a more participative management style will lead to less supervision and a new emphasis on employee self-motivation skills (Mayer, Davis, & Schoorman, 1995).

In the business setting more and more companies are making a shift so that their everyday operations incorporate environmentally sustainable efforts. Individuals are seeking out and making conscious decisions about what companies they support with their dollars. People realize that as individuals they can impact the environmental decisions corporations make through supporting or not supporting a particular brand (Gimpel, et al., 2019). According to a 2018 study on the most important factors for corporate sustainability among finance executives, 30% of executives ranked brand reputation as the most important reason to engage their company in sustainable practices (Statista). Because of this, a majority of industries are converting their services and products to be more environmentally friendly and advertising these sustainable efforts.

The business world’s move towards collaborative teams has led to the third component of social sustainability, trust. Mayer, Davis, & Schoorman describe why trust is such an important part of social sustainability:
Working together often involves interdependence, and people must therefore depend on others in various ways to accomplish their personal and organizational goals. Several theories have emerged that describe mechanisms for minimizing the risk inherent in working relationships. These theories are designed to regulate, to enforce, and/or to encourage compliance to avoid the consequences of broken trust. In order to avoid self-serving behaviors as well as potential litigation, many firms utilize control mechanisms and contracts, and they alter their decision-making processes, internal processes, reward systems, and structures. (p. 710)

Hence trust is not inherent in the workplace. It must be regulated, monitored, and rewarded in order to become solidified as a company cornerstone.

The last aspect included in social sustainability is common meaning. This is an intangible resource that is crucial to social sustainability as a whole. A sense of meaning in the workforce as well as private life has a strong coloration to one’s mental and emotional health (Klinger, 2012). In a socially sustainable society people are entitled to purposeful conditions instead of solely structural obstacles. Human lives need to be purposeful or significant because it is necessary for one’s psychological functioning (Klinger, 2012). This contributes to fundamental motivation and the wellbeing of future generations.

Economic sustainability is the final pillar in this model. It can be broken down into three categories: production of goods and services at a steady pace, avoiding debt, and meeting the demands of the economy. These categories foster economic growth without negatively impacting the environmental or social aspects of a company or community (Miller, 2020).
Relating back to the fundamental definition of sustainability, economic sustainability focuses on how a company can meet current stakeholders needs without exploiting resources to meet future stakeholders’ needs. These can be indirect or direct stakeholders such as employees, clients, shareholders, or communities (Cardoni, et al., 2020). Economic development plays a crucial role in identifying what goods and services should be offered and who should be the target audience. This careful evaluation attempts to avoid damaging decisions that will break future relations with stakeholders.

All three pillars of sustainability are incorporated into the wine industry. Generally, wineries have remarked that acquiring certificates of sustainable practices has bettered their business as a whole and has had various impacts on the winery. Wineries that are certified have reported that recycling practices are one of the most effective environmental impacts that also have a positive return economically (Pomarici & Mariani, 2015). When wineries transition to incorporating sustainable practices into everyday operations, overhead costs increase while variable costs decrease. When factored together cost overall decreases with time, creating the economic incentive to recycle and improve profits (Pomarici & Mariani, 2015).

There has been a marked increase in consumer interest in environmental attributes when purchasing wine. Consumers are more aware of their environmental footprint and are choosing to purchase from wineries that have certified sustainable practices (Ortiz, Rama, & Armengot, 2016). With wine tourism on the rise, consumers are becoming educated on winery practices through their visits to tasting rooms and thus shaping the narrative on wine purchase motivation (Montella, 2017).
Certified California Sustainable Winegrowing (CCSW) is the largest and most in-depth sustainable certification in the wine industry. This certification places a high emphasis on production and quality of California wines. The “Certified Sustainable” seal is issued by the California Sustainable Winegrowing Alliance to wineries that are environmentally conscious, socially fair, and economically sound (Clarke, 2018). California is the fourth largest wine region in the world, which allows for the state to be a leader in the commitment to sustainable practices in the industry. This certification is unique to others because vineyards and wineries are evaluated separately for the Certified Sustainable seal by a third party (Clarke, 2018). This makes this certification more thorough and less general than other sustainable wine certifications that only look at the vineyard and winery as a whole.

The California Sustainable Winegrowing workbook has been used as a tool to assess and measure a winery’s level of sustainability since 2010. This handbook is constantly under review to reflect current sustainability practices. The criteria focused on is environmental, social, and economic equity with ways to measure each area of performance (California Sustainable Winegrowing Alliance). There are 15 chapters that include 191 criteria that must be met in order to earn the Certified Sustainable seal. These chapters include: Sustainable Business Strategy, Viticulture, Soil Management, Vineyard Water Management, Pest Management, Wine Quality, Ecosystem Management, Energy Efficiency, Winery Water Conservation and Quality, Material Handling, Solid Waste Reduction and Management, Sustainable Purchasing, Human Resources, Neighbors and Community, and Air Quality and Climate Protection (California Sustainable Winegrowing Alliance).
Purpose of the Study

The purpose of this study was to examine the three pillars of sustainability (environmental, social, and economic) at DAOU Family Estates.

Research Questions

This study attempted to answer the following research questions:

1. What environmentally sustainable practices are being implemented at DAOU Family Estates?

2. What socially sustainable practices are being implemented at DAOU Family Estates?

3. What economically sustainable practices are being implemented at DAOU Family Estates?

4. How effective are the environmentally sustainable practices being implemented at DAOU Family Estates?

5. How effective are the social sustainable practices being implemented at DAOU Family Estates?

6. How effective are the economic sustainable practices being implemented at DAOU Family Estates?
Chapter 2

METHODS

The purpose of this study was to examine the three pillars of sustainability (environmental, social, and economic) at DAOU Family Estates. This chapter includes the following sections: description of organization/s, description of instrument, and description of procedures.

Description of Organization/s

A case study was conducted on DAOU Family Estates. DAOU Family Estates was founded in 2008 by two brothers, Daniel and George Daou. The brothers were born and raised in Lebanon but moved to France in 1975 during the Lebanese civil war. This is where their passion for wine stemmed.

The Daou brothers moved to the United States in the early 1980s to attend college. Daniel Daou started to learn how to make wine in his garage while attending University of California, San Diego. In 2007, they bought land in Paso Robles, California which has transformed into DAOU Family Estates. Daniel Daou is the winemaker for the company, while George Daou leads the hospitality department.

DAOU Family Estates produces roughly 30,000 cases of wine per year. Their most featured wine is the Cabernet Sauvignon. Prices for DAOU wine ranges based on grape varietal and is sold internationally. The vineyard sits on 600 acres in the Adelaida District in Paso Robles that has excellent soil and climate conditions for winegrowing. The business employs 200 people. (DAOU Family Estates, 2020).
Description of Instrument

The instrument utilized in this study was a best practices guide developed by the researcher (see Appendix A). The guide was created to measure environment sustainability, social sustainability, economic sustainability, and Certified California Sustainable Winegrowing. A pilot study was conducted by the researcher on Halter Ranch Winery. This winery was chosen because it is also a large production winery that is located in Paso Robles. After completing the pilot test the researcher decided to change the category “Certified Organic” because this certification is solely based off of the crop conditions and does not encompass all three pillars of sustainability. Because of this, Certified Organic was eliminated from the instrument and Certified California Sustainable Winegrowing (CCSW) was added.

Description of Procedures

A case study was conducted on DAOU Family Estates. The instrument utilized in this study was a best practices guide developed by the researcher. Research for this case study was conducted over two weeks between February 10, 2021 and February 24, 2021. The DAOU Family Estates website was the primary source for gathering information as well as the Certified California Sustainable Winegrowing website.
Chapter 3

PRESENTATION OF THE RESULTS

The purpose of this study was to examine the three different pillars of sustainability (environmental, social, and economic) in the wine industry. A case study was utilized to examine DAOU Family Estates. This chapter includes the following sections: environmental sustainability, social sustainability, economic sustainability, and Sustainable in Practice (SIP) Certification.

The DAOU vineyard and production area is referred to as “the mountain” because it is located at 2,200 feet elevation in Paso Robles, California. This is one of the highest vineyards in the region and has an almost constant ocean breeze which moderates the high temperatures. From the early days of production on this mountain, DAOU Family Estates has made it their goal to utilize sustainable practices from the beginning of production in 2007. Since then, DAOU Winery has incorporated sustainability into their vineyard, production area, and tasting room.

Environmental Sustainability

Daniel and George Daou have expressed that they both believe in the power of sustainability in the agriculture industry. They have implemented sustainable practices into the vineyard soil. Soil health is a crucial part of winemaking. Because of this, the Daou brothers have devoted an abundant amount of time working with the estate gardener to create the best possible soil conditions. An organic mixture of bark covers the vineyard ground to hold in the moisture of the soil in the high temperatures that the
mountain can reach. In this bark mixture, homemade compost is also added. The goal of this is to add microorganisms to the soil that break down organic matter in it to feed the soil with nutrients.

The last environmentally sustainable practice involved with the winery soil is the absence of the use of pesticides. The purpose of this is to allow native ecosystems to flourish and not destroy them. Additionally, the Daou brothers have taken small initiatives such as relandscaping the tasting room with drought tolerant plants that attract insects that pollinate. The purpose of this is to attract numerous native bugs to create diversity in the environment while limiting water usage.

**Social Sustainability**

DAOU Family Estates also has practices in place that reflect social sustainability. First, the company employees 200 people from various locations. The majority of the employees are located across the United States with a small number of people located abroad in Europe. In addition to having a geographically diverse team, DAOU also has a team that is a wide range of ages. DAOU’s commitment to hiring new graduates is augmented by recruiting employees with established careers in the wine industry. This results in a diverse age range among employees.

Another aspect of social sustainability that DAOU Family Estates incorporates into their company is education. The winery has every team member go through extensive training upon being hired and throughout their employment. Once hired, every employee is required to learn the profiles of each of the 18 DAOU wines. This includes the grape varietals, vintage, tasting notes, production facts, and what food would
potentially pair well with the wine. In addition to this, employees learn the background of the winery. DAOU Family Estates places a high emphasis on the history of the Daou family and trains their employees extensively on this topic. In this training the Daou brother’s childhood is taught, the Daou family immigration from Lebanon to the United States of America, how wine production started, and the specific jobs George and Daniel Daou oversee and complete for DAOU Family Estates.

The final two subcategories of social sustainability are trust and self-organization. DAOU Family Estates does not have any information published on these topics.

Economic Sustainability

The last pillar of sustainability that DAOU Family Estates incorporates is economic sustainability. The company is a large production winery and produces approximately 30,000 cases of wine annually. The vineyard is constantly growing its production and releasing new varietals of wine. DAOU has a large target audience, and their wine prices reflect this. The price per bottle of wine can range from $40 to $140. The Daou brothers are working on the release of their most exclusive wine yet. This wine will be a Cabernet Sauvignon with a projected market price of $300. Another stream of revenue is the tasting room. Tastings at DAOU Mountain currently cost $45 waived with a $300 purchase. The DAOU winery generates $20 million annually in revenue.

Sustainability in Practice Certification

DAOU Family Estates holds the Sustainability in Practice (SIP) Certification. The winery attained this certification in 2012. There are numerous criteria that DAOU Family
Estates had to meet in order to obtain this recognition. First, the winery had to fulfill the social responsibility requirements that SIP sets as a core value. To do this, DAOU must pay their employees above minimum wage at either a competitive salary or hourly rate. Secondly, medical insurance must be provided to fulltime employees. Lastly, they must offer continued training and education to all staff whether part-time or full-time.

The next standard DAOU has to maintain to be considered SIP Certified is water sustainability. Water quality and conservation is evaluated. Water quality is assessed on the three attributes of biological, chemical, and physical components. Once the quality is determined then it is evaluated for primary and secondary usage. Water conversation is also scored in this category. This includes reusing water when it is appropriate. DAOU reuses rainwater to water landscape as well as reusing rinse water for barrel cleaning.

Packaging and recycling are also topics covered in the SIP Certification. DAOU Family Estates must implement these sustainable practices in their vineyard, tasting room, and production area to maintain the SIP Certification. Wine must be bottled in bottles that can be recycled and reused. When this is done, the winery can either choose to power wash the bottles for reuse or recycle the bottles by destructing them and recycling the glass for future bottles to be made from this material. The corks that are used for the winery’s production are recycled wood that are modeled into natural corks. In addition to these production practices, standards are also placed in the tasting room to be compliant with the certification. All dishware including plates, utensils, cups, and glasses are reusable to produce zero waste.

The last category of the SIP Certification that DAOU Family Estates is compliant with is the energy conservation component. In the tasting room, DAOU has installed
large windows and skylights to aid in electric lighting usage. Light dimmers and sensors are used in the production area as well as the wine cellar to minimize light use. Well insulated tanks are used in the winemaking process to minimize natural gas and electricity. Lastly, DAOU has reduced the amount of tractor usage to meet energy efficient requirements.
Chapter 4
DISCUSSION AND CONCLUSIONS

There are numerous efforts in place to promote sustainability in the California wine industry. The California wine industry is one of the largest and therefore has a major impact on worldwide sustainability practices. This study was conducted to present the sustainability procedures that DAOU Family Estates incorporates in its business. This concluding chapter includes the following: a discussion of the findings, limitations of the research, conclusions based on research questions, and recommendations for the future.

Discussion

DAOU Family Estates constantly revises their production and tasting room operations to work towards the incorporation of more sustainable practices. DAOU Family Estates has more environmental sustainability practices in place compared to social and economic sustainability. Cardonna (2014) stated that for complete sustainability to be achieved all three pillars of sustainability must be utilized. For DAOU Family Estates to be considered a holistically sustainable business, it will need to effectively add more social and economic sustainable practices to achieve long-term quality. Evans (2020) discussed how environmental sustainability is the foundation of sustainability and how society needs an equal balance between all three pillars of sustainability. Based off of this finding, DAOU Family Estates is on the path to be
considered fully sustainable and should add more social and economic sustainability practices.

The winery does an adequate job incorporating environmentally sustainable practices into the production of the wine as well as the tasting room. The Sustainability in Practice Certification that DAOU holds thoroughly covers multiple aspects of the winery’s operations. According to Miller (2020) the goal of environmental sustainability is to meet the needs of today without the exploitation of resources for future generations. DAOU Family Estates is able to generate large productions of wine as well as replenish the vineyard to preserve the land for generations that come after to also produce wine or use the land for other purposes. DAOU should continue to renew its Sustainability in Practice certification annually. In addition, DAOU should also work towards attaining the Certified California Sustainable Winegrowing (CCSW) certification. According to Clarke (2018) the CCSW certification is the largest sustainability certification a winery can hold and encompassing all three pillars of sustainability. Because this certification is so well known, it will aid customers to make confident wine purchases. According to Gimpel, et al., (2019) people are more conscious about what companies they put their money into and look for businesses that are environmentally conscious. Because of this, DAOU Family Estates should work towards earning the CCSW seal that would be printed on all individual wine bottles to notify consumers of the winery’s environmental efforts.

DAOU Family Estates incorporates three out of five categories of social sustainability into its winery (diversity, learning, self-organization, trust, and common meaning). The company does an excellent job educating the employees on its wine and history of the vineyard. While the company has employees across the United States of
America and Europe, they should hire people from other countries as well to create a more culturally diverse team because DAOU wine is sold internationally. In addition to this, diverse teams are stronger because they generate creativity and innovation from peoples’ various upbringings and locations. The winery is successful at instilling common meaning into the company. All employees have a shared goal to produce and sell high quality wine and provide hospitality to all consumers and visitors of DAOU winery. An aspect of social sustainability that DAOU could approve upon is self-organization. While the employees are very focused on the DAOU company as a whole, according to Missimer et al. (2017) is also important for employees to have their own personal goals to achieve. DAOU managers should meet with their employees periodically to hold one-on-one meetings to discuss individual business goals as well as personal goals. The researcher also discovered there is no documentation of trust which is the last component of social sustainability. According to Mayer, Davis, & Schoorman, (1995) trust is a vital part of social sustainability in a business setting because employees need to be able to rely on one another for interdependence. DAOU Family Estates should hold frequent meetings where employees and managers have the opportunity to work on team building. This will lead to forming connections with each other that would ultimately result in trusting one another.

DAOU Family Estates is relatively successful at fulfilling the needs of economic sustainability. The researcher found that the winery produces a large production of wines to meet the needs of consumers. According to Cardoni et al., (2020) the production of goods at a steady pace is a large component of being considered economically sustainable. In addition to this, Montella (2017) stated that consumers look for
sustainable attributes when purchasing wine. DAOU Family Estates SIP certification possibly leads to more wine sales. Because of this, DAOU should continue to advertise this certification to promote sales. As DAOU Family Estates continues to grow as a company, it should consider ways to foster economic growth without compromising the environmental and social sustainability practices in place.

There were several limitations involved with the research of this case study. First, all research was conducted online, and this could have possibly created a bias because this was the only information accessible. There could be new information about DAOU Family Estates that has not been published yet which could result in absent information on sustainability. Secondly, the researcher enjoys drinking DAOU wine periodically. This could be a limitation because the researcher had prior knowledge of the winery before conducting this study. Lastly, the researcher has visited the DAOU winery tasting room in the past. This could have created a bias because the researcher has seen first-hand how DAOU Family Estates incorporates sustainable practices into their tasting room. These limitations could have created bias, but the researcher was meticulous and made sure to focus solely on the information published on DAOU Family Estates sustainable efforts.

The results reflect what sustainable practices are in place at DAOU Family Estates. DAOU Family Estates has incorporated environmental, social, and economic sustainability efforts into its vineyard, production, and tasting room. The Paso Robles wine region is continuously growing and DAOU Family Estates should continue to integrate the three pillars of sustainability into its everyday operations. This case study
can be utilized as a mechanism for the experience industry to assess the three pillars of sustainability in a large production winery setting.

Conclusions

Based on the findings of this study, the following conclusions are drawn:

1. DAOU Family Estates has implemented the Sustainability in Practice certification, recycling and reusing of production materials, reduction of electricity use, and has lowered water use for environmentally sustainable efforts.

2. The following DAOU Family Estates social sustainability practices are in place: education, diversity, and common meaning.

3. The economic sustainability practice that are being utilized at DAOU Family Estates is the production of wine at a rapid rate to meet the needs of its consumers.

4. The owners of DAOU Family Estates, George and Daniel, are continuously reevaluating how to implement new environmentally sustainable efforts into their vineyard, production, and tasting room.

5. DAOU Family Estates is somewhat socially sustainable since it incorporates three out of five social sustainability topics into its business.

6. Economic sustainability is effectively utilized at DAOU Family Estates to generate sales and meet the production needs of its consumers.

Recommendations

Based on the conclusions of this study, the following recommendations are made:
1. DAOU Family Estates should incorporate more social and economic sustainability practices into the business.

2. DAOU Family Estates should continue to renew its Sustainability in Practice certification annually.

3. DAOU Family Estates should attain the Certified California Sustainable Winegrowing certification.

4. DAOU Family Estates managers should hold individual meetings with employees to discuss and set goals in the work environment as well as in the employee’s personal lives.

5. DAOU Family Estates should instill a sense of trust with and among their employees through holding frequent team bonding events and meetings.

6. DAOU Family Estates should advertise its sustainability certifications to increase sales.

7. For future researchers, there should be a comparative analysis between DAOU Family Estates and another large production winery in California to see what sustainable practices are similar and different.
REFERENCES

https://www.sustainablewinegrowing.org/swpworkbook.php


https://doi.org/10.3390/su12072594


https://www.thebalancesmb.com/what-is-sustainability-3157876


Appendix A

Instrument
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<td>• <em>Avoid exploitation of resources</em></td>
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